THE CATFISH FAMILY ARIIDAE (TELEOSTEI) IN NEW GUINEA AND AUSTRALIA: RELATIONSHIPS, SYSTEMATICS AND ZOOGEOGRAPHY

Volume 2

FIGURES 1 to 251

TABLES 1 to 40

APPENDIX A _ Extralimital ariid material

APPENDIX B - Gazeteer

APPENDIX C - Raw data on Australo-Papuan ariids

APPENDIX D - Published Papers

Figure 1. Geographical distribution of the family Ariidae.

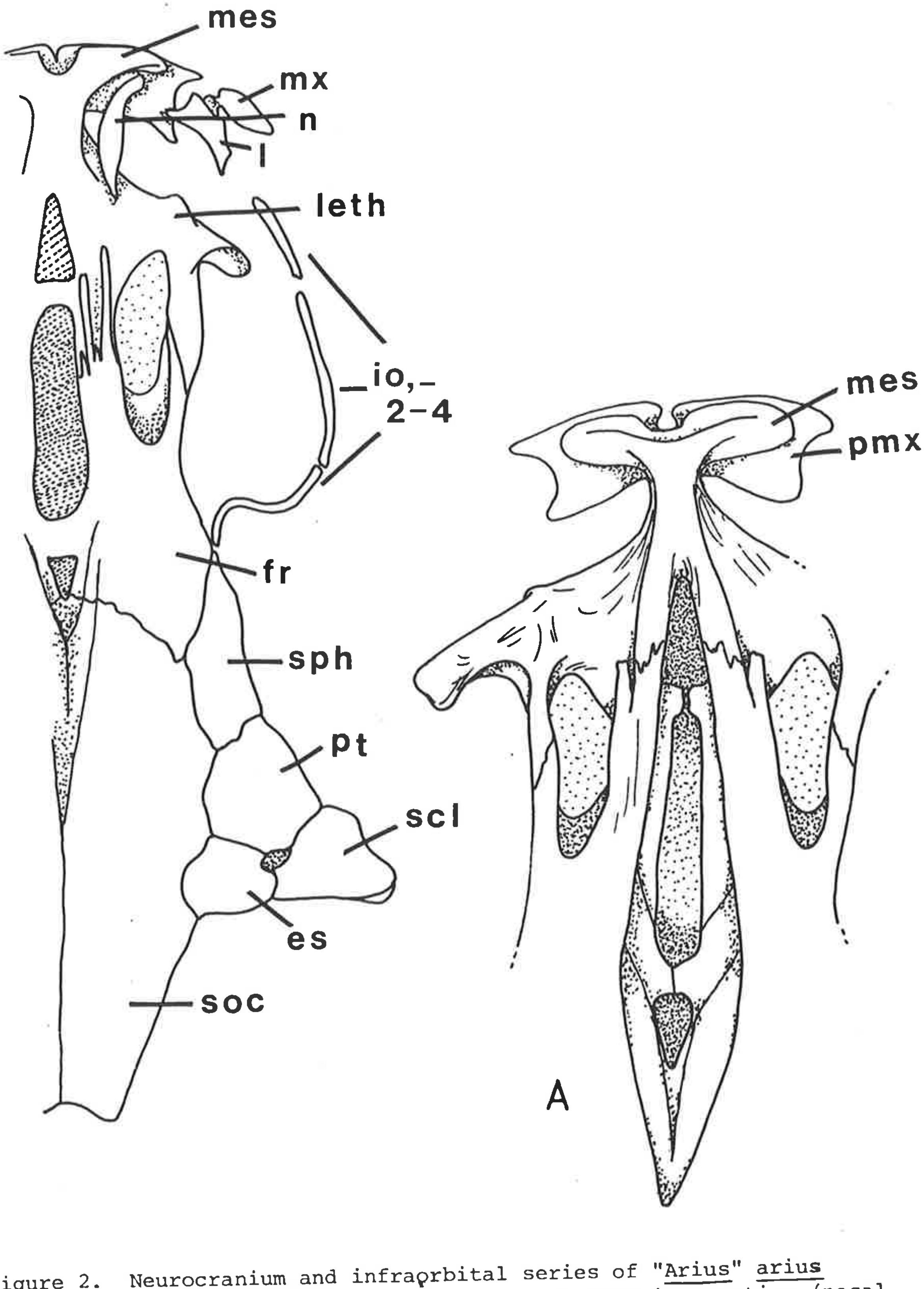


Figure 2. Neurocranium and infraorbital series of "Arius" arius (RHS, 112mm SL. A) enlargement of anterior portion (nasal not shown).

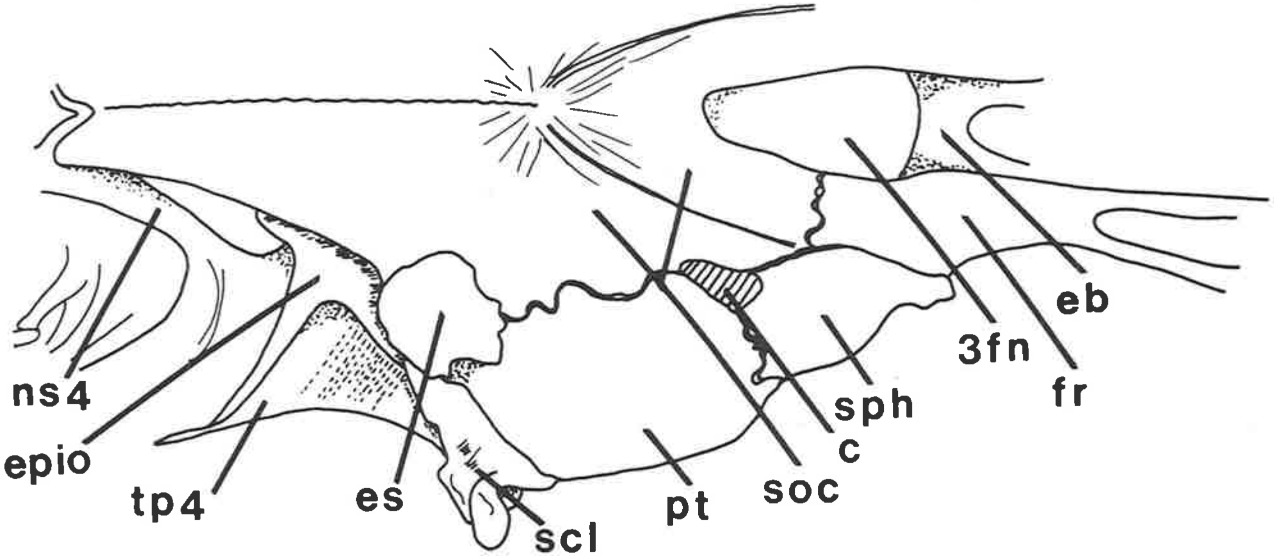


Figure 3. Posterolateral view of Hemipimelodus borneensis neurocranium (RHS, 123mm SL).

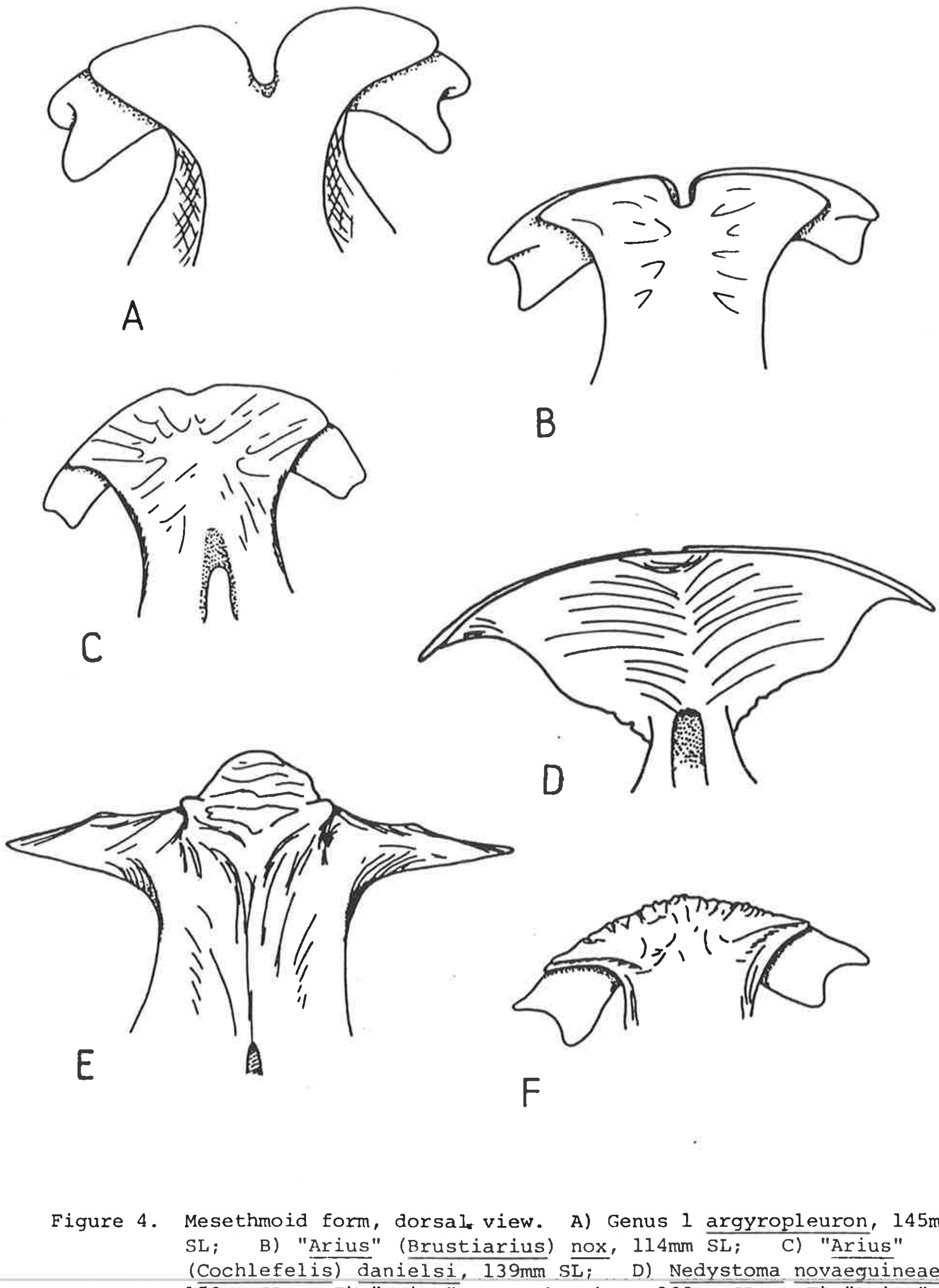


Figure 4. Mesethmoid form, dorsal view. A) Genus 1 argyropleuron, 145mm SL; B) "Arius" (Brustiarius) nox, 114mm SL; C) "Arius" (Cochlefelis) danielsi, 139mm SL; D) Nedystoma novaeguineae, 150mm SL; E) "Arius" macrorhynchus, 300mm SL; F) "Arius" thalassinus, 138mm SL.

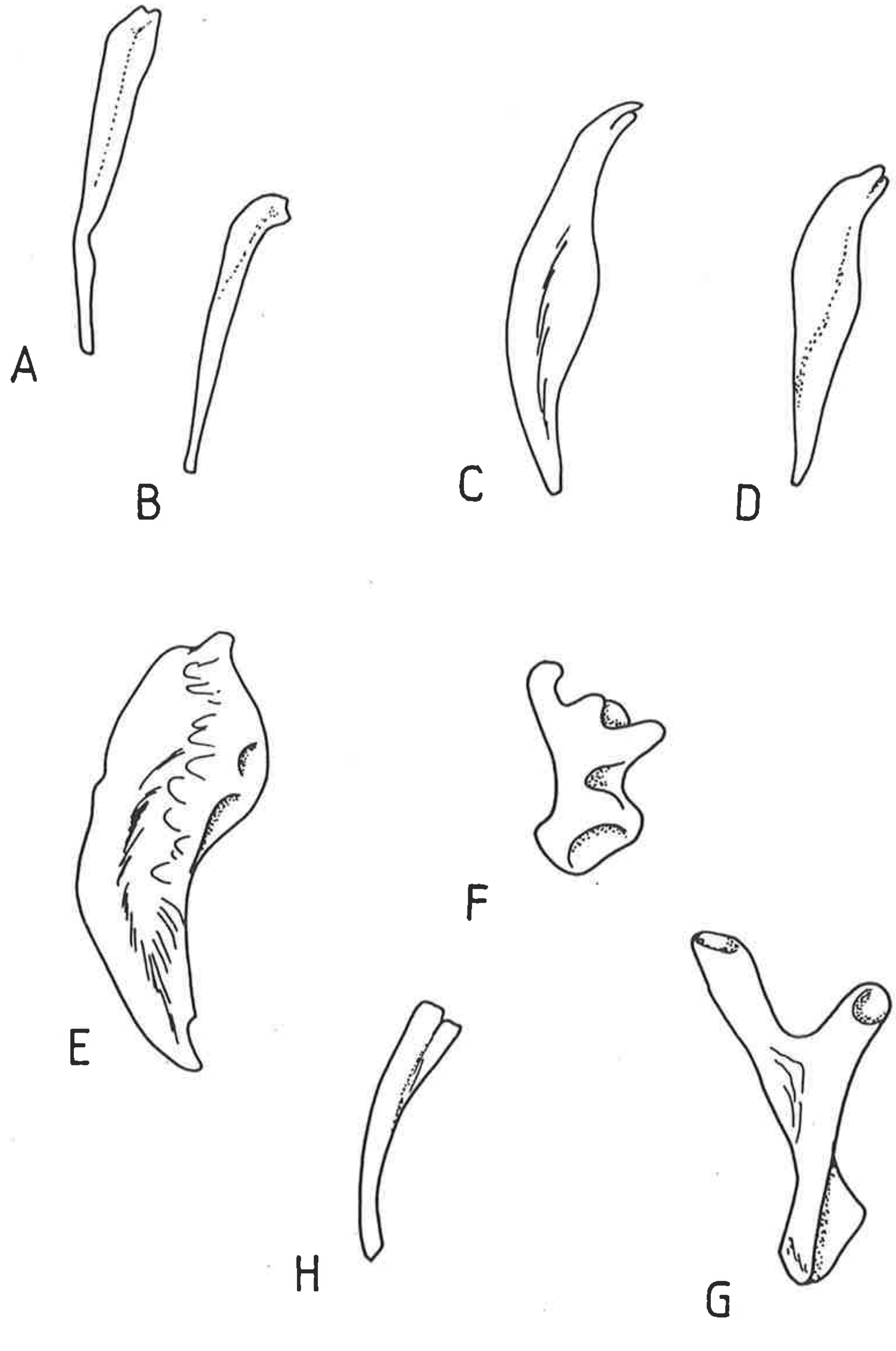


Figure 5. Nasal bones, dorsal view: A) Genus 1 nella, 149mm SL (RHS); B) Cinetodus froggatti, 172mm SL (RHS); C) "Arius" armiger, 176mm SL (RHS); D) "Arius" (B.) nox, 114mm SL (RHS); E) "Arius" macrorhynchus, 300mm SL (RHS); F) Nedystoma novaeguineae, 150mm SL (LHS); G) species 5, 188mm SL (LHS); H) "Arius" (C.) spatula, 143mm SL (RHS).

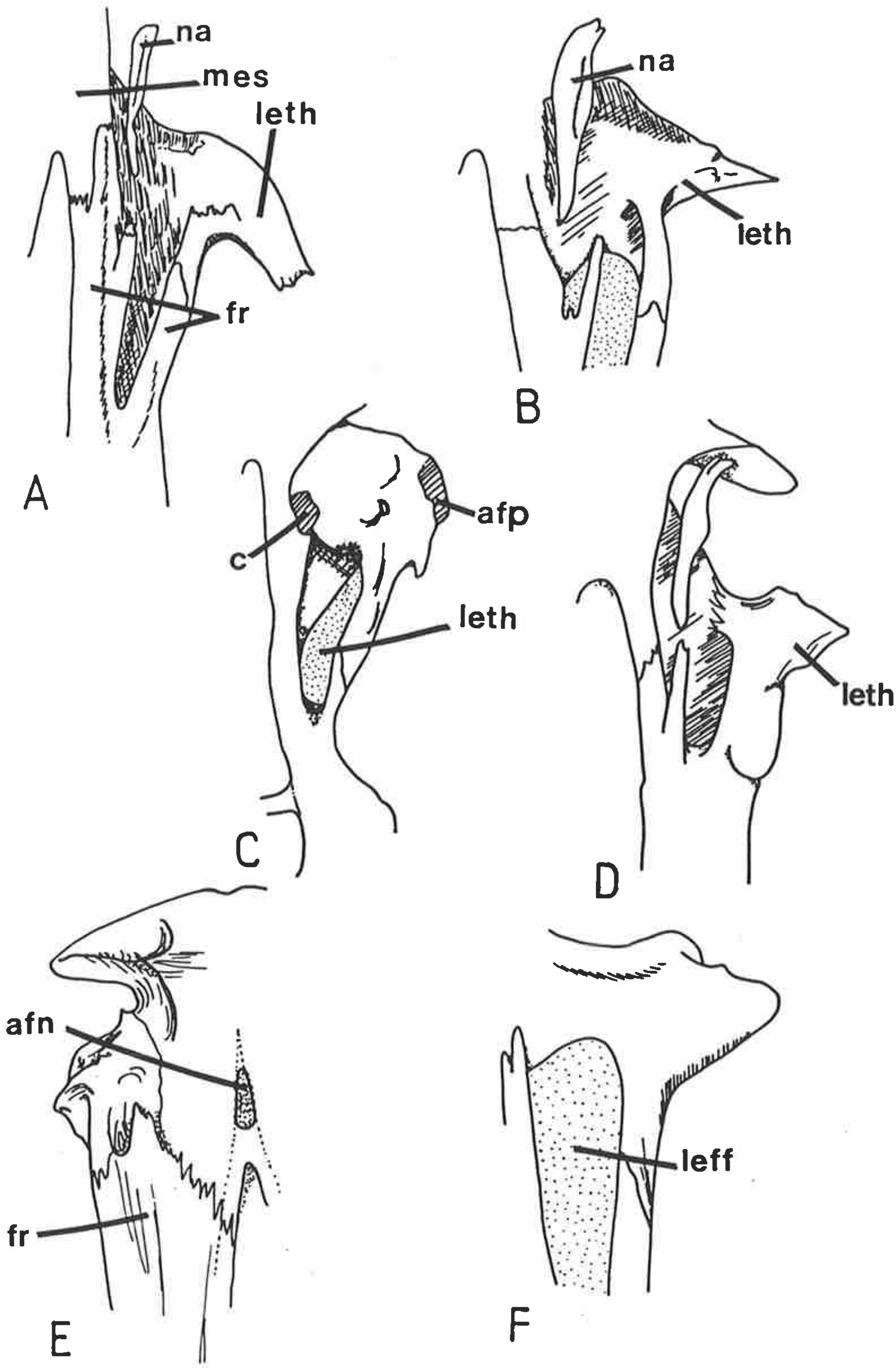


Figure 6. Lateral ethmoid, dorsal view: A) Genus 1 nella, 149mm SL (RHS); B) "Arius" (B.) nox, 114mm SL (RHS); C) Nedystoma novaeguineae, 150mm SL (RHS); D) "Arius" thalassinus, 127mm SL (RHS); E) "Arius" (C.) spatula, 143mm SL (LHS); F) Nedystoma dayi, 158 mm SL (RHS). In D and E the lateral ethmoid obscurs the lateral ethmoid-frontal fossa below; in A, the metapterygoid partly obscurs the fossa.

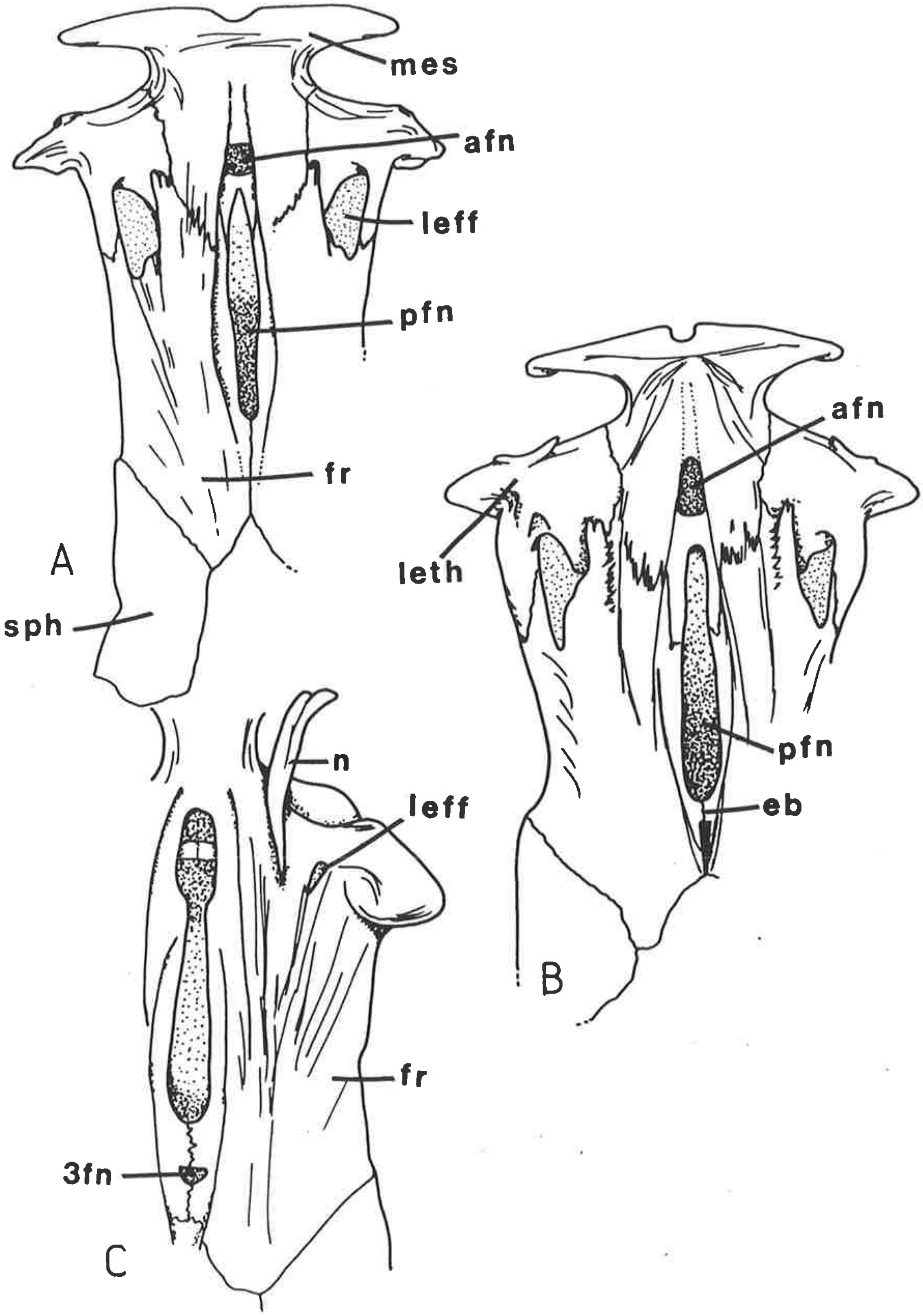


Figure 7. Anterior dorsolateral view of three Australo-Papuan ariids: A) "Arius" leptaspis, 162mm HL; B) "Arius" latirostris, 147 mm HL; C) "Arius" bilineatus, 128mm SL.

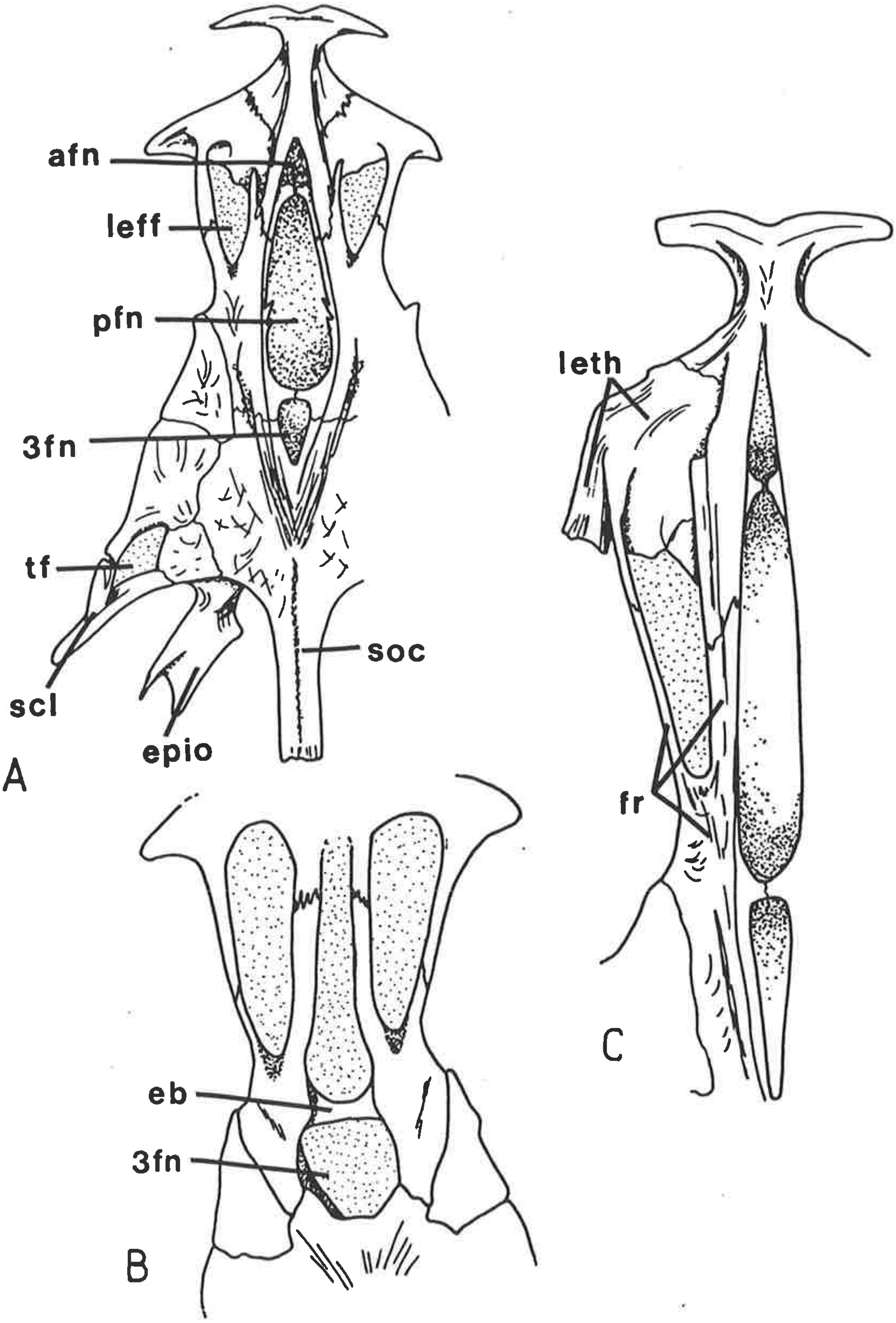


Figure 8. Anterior dorsolateral view of three southern New Guinea ariids: A) "Arius" taylori, 108mm HL; B) Nedystoma dayi, 158mm SL; C) Cinetodus (P.) crassilabris, 136mm HL.

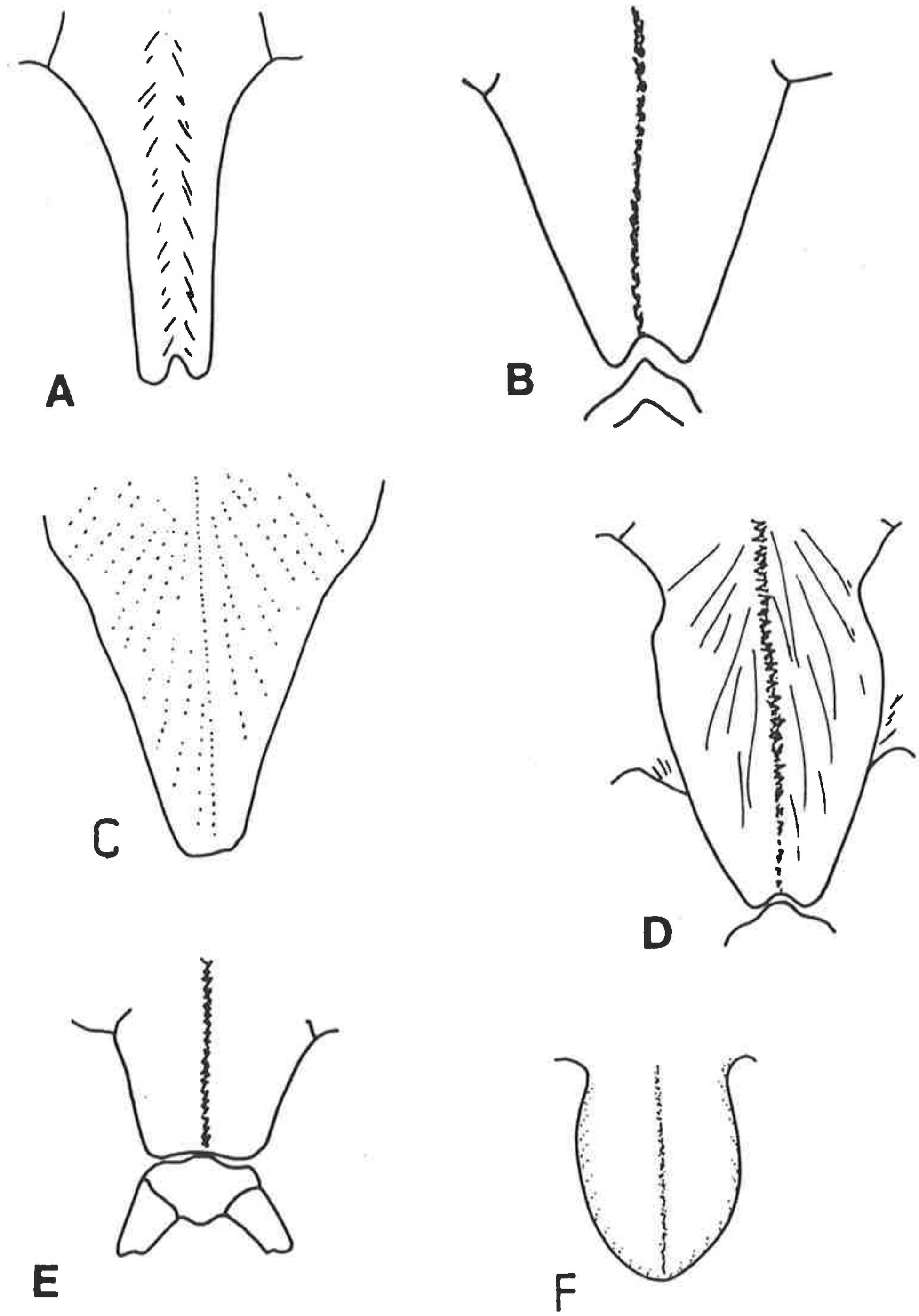


Figure 9. Outline of the posterior supraoccipital process in various ariids: A) Nedystoma dayi; B) "Arius" arius; C) "Arius" thalassinus; D) Cinetodus carinatus; E) "Arius" mastersi; F) adult of Genus 1 nella.

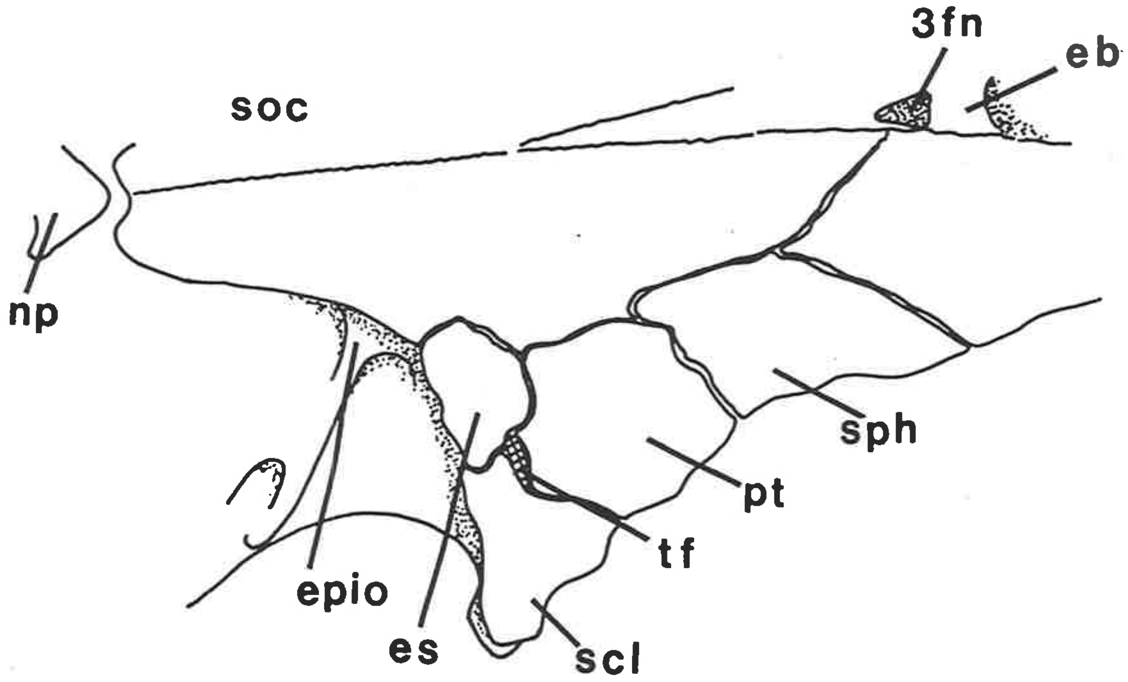


Figure 10. Posterolateral view of the neurocranium in "Arius" arius (RHS, 190mm SL).

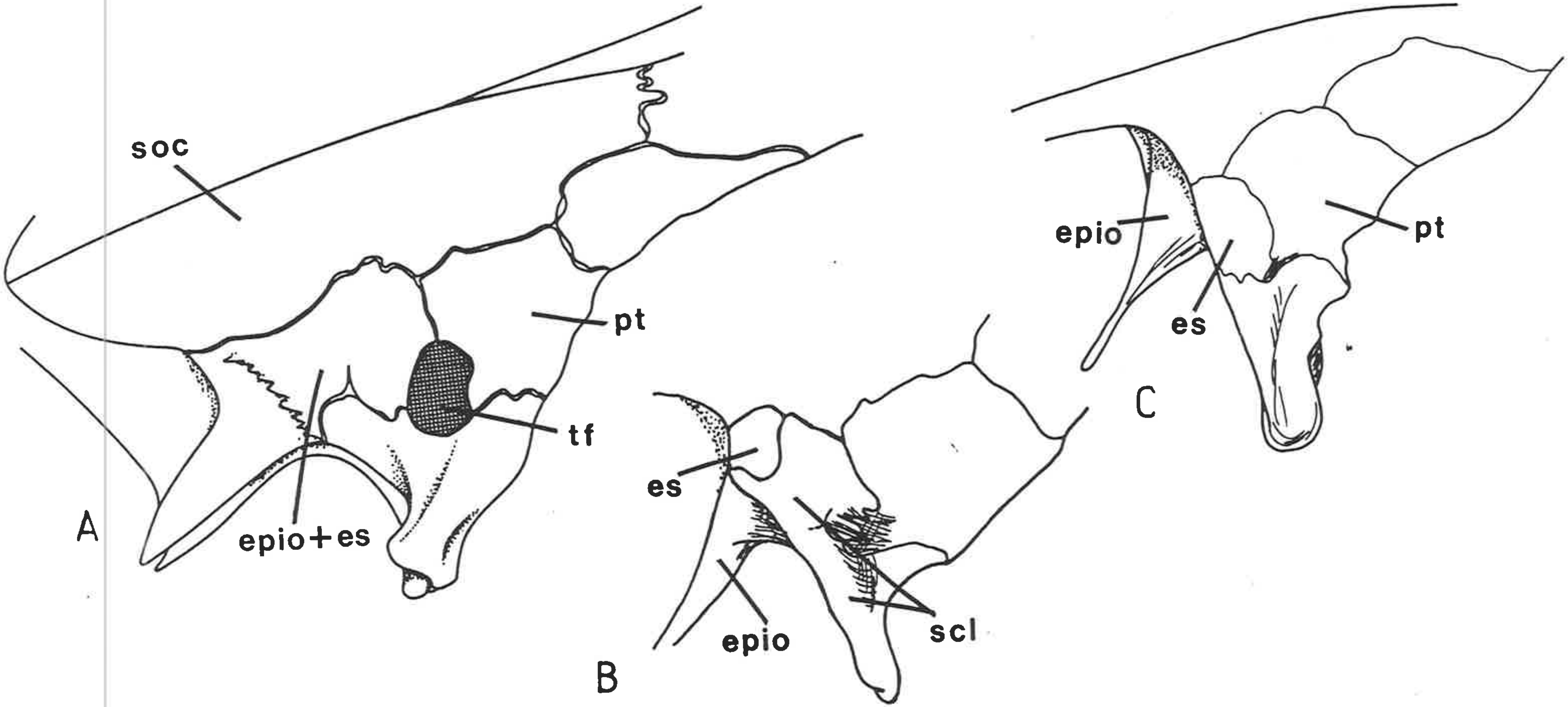


Figure 11. Posterolateral view of the neurocranium in three Australo-Papuan ariids (RHS): A) Cinetodus (Cinetodus) carinatus, 122mm SL; B) Nedystoma dayi, 158mm SL; C) "Arius" bilineatus, 128mm SL. In B and C, the temporal fossa is represented by a deep groove or much reduced opening.

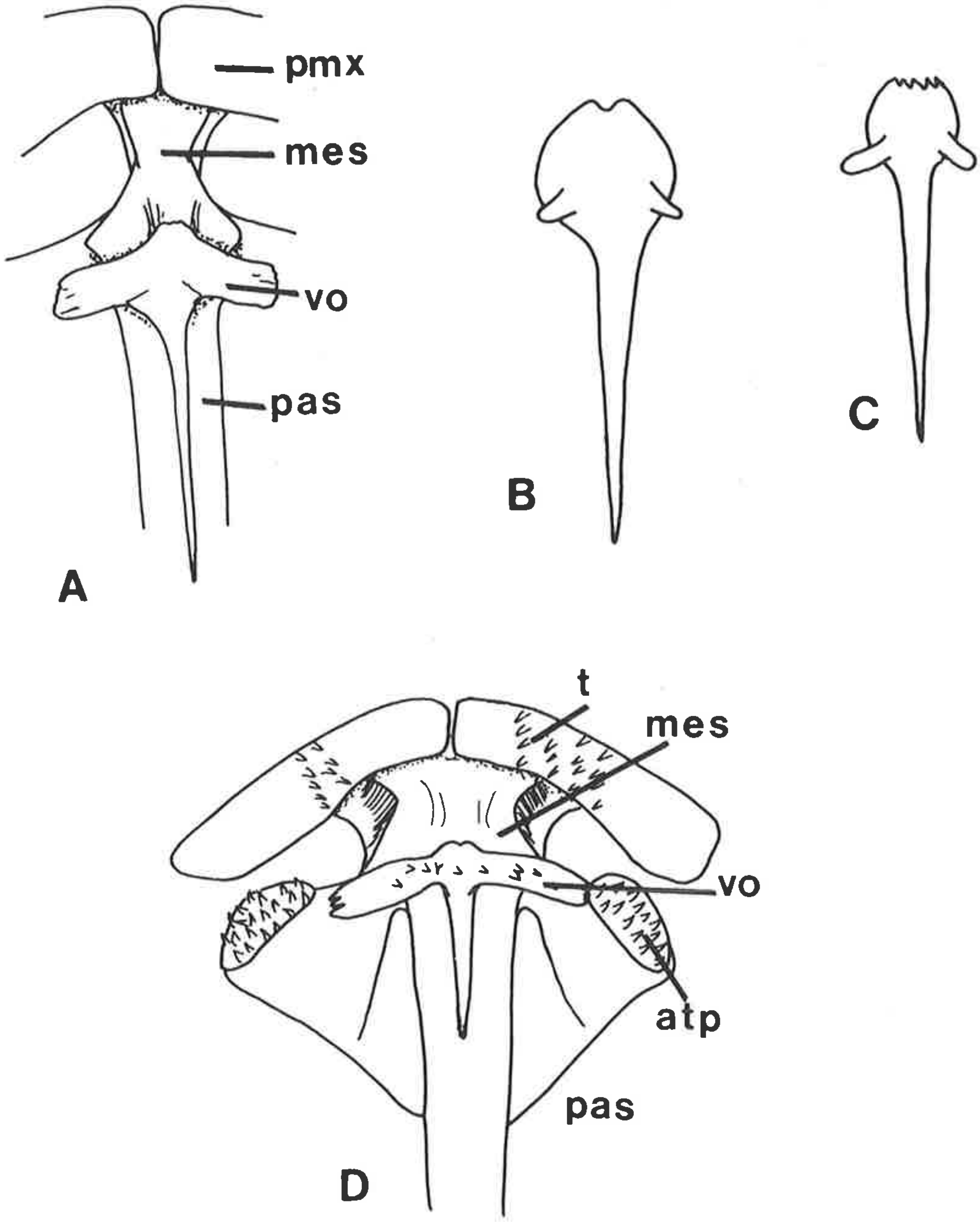


Figure 12. Vomer shape in ariids: A) "Arius arius, 112mm SL; B) Genus 1 argyropleuron, 70mm SL; C) same species, 162mm SL; D) species 1, 90mm SL.

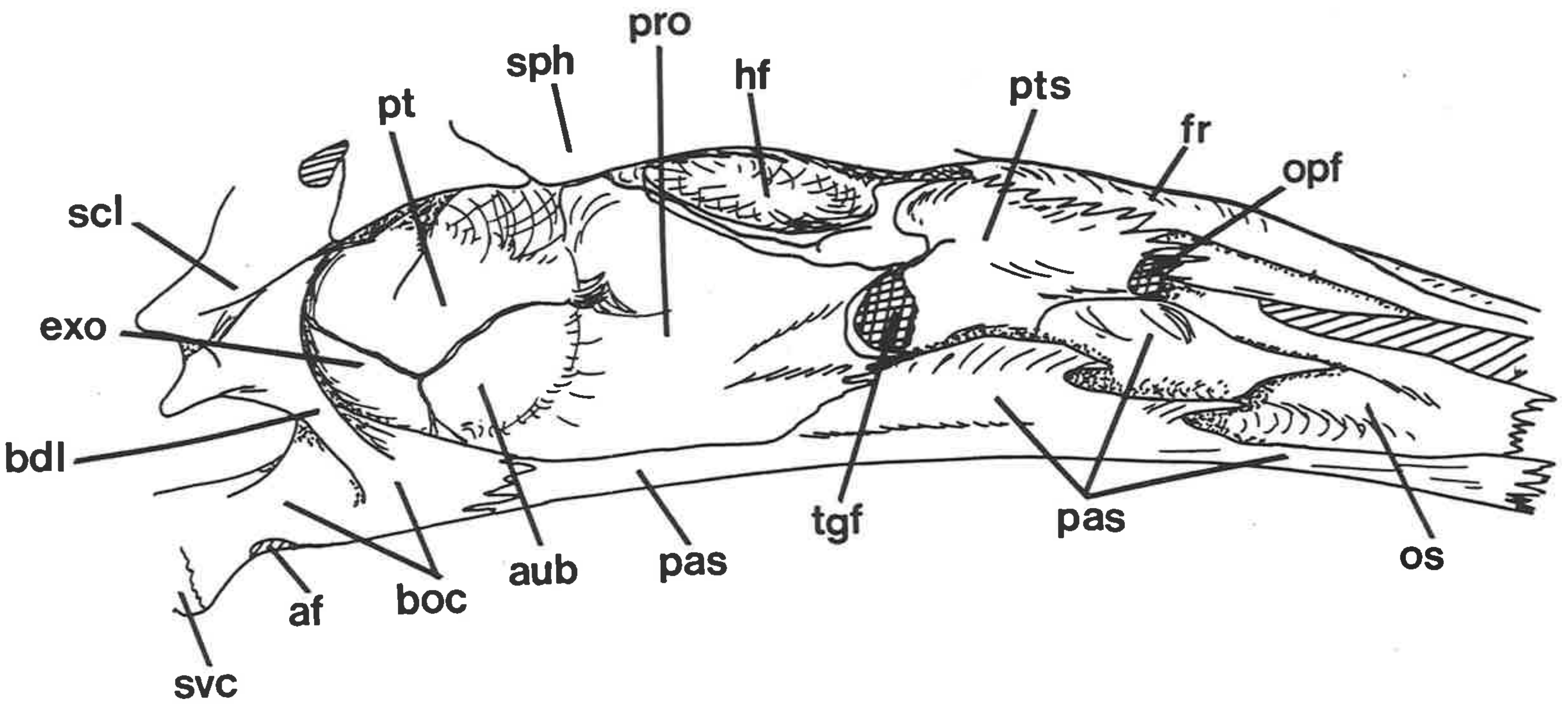


Figure 13. Lateral view of neurocranium in "Arius" arius, 190mm SL (RHS).

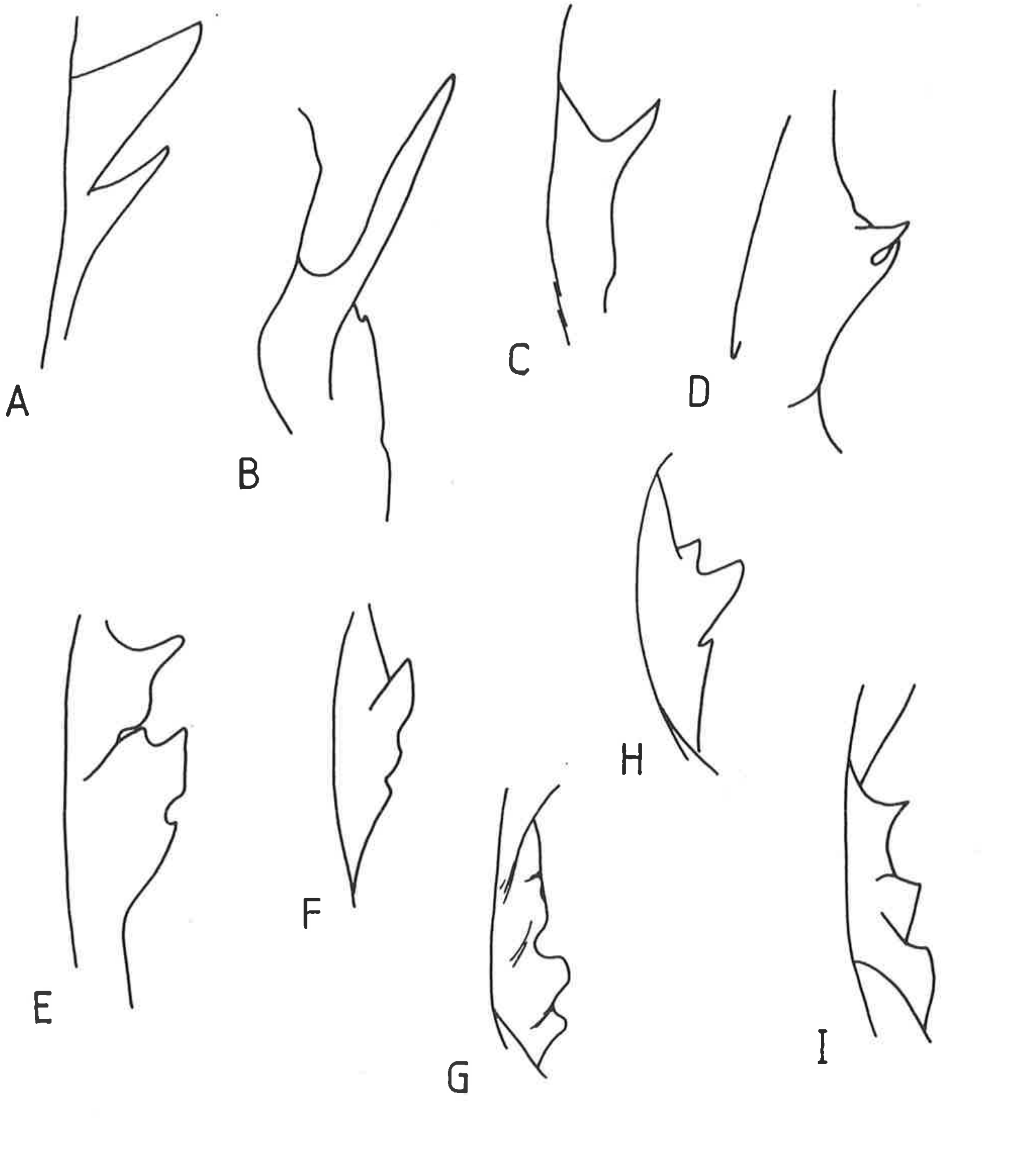


Figure 14. Shape of the parasphenoid "wings" (alary processes) in Australo-Papuan ariids (LHS; diagrammatic): A) "Arius" (B.) nox, 192mm SL; B) "Arius" augustus, 185mm SL; C) species 2, 175.5mm SL; D) "Arius" velutinus, 156mm SL; E) species 4, 151mm SL; F) "Arius" (C.) spatula, 143mm SL; G) "Arius" graeffei, 118mm SL; H) "Arius" (H.) mastersi, 130mm SL; I) "Arius" bilineatus, 128mm SL.

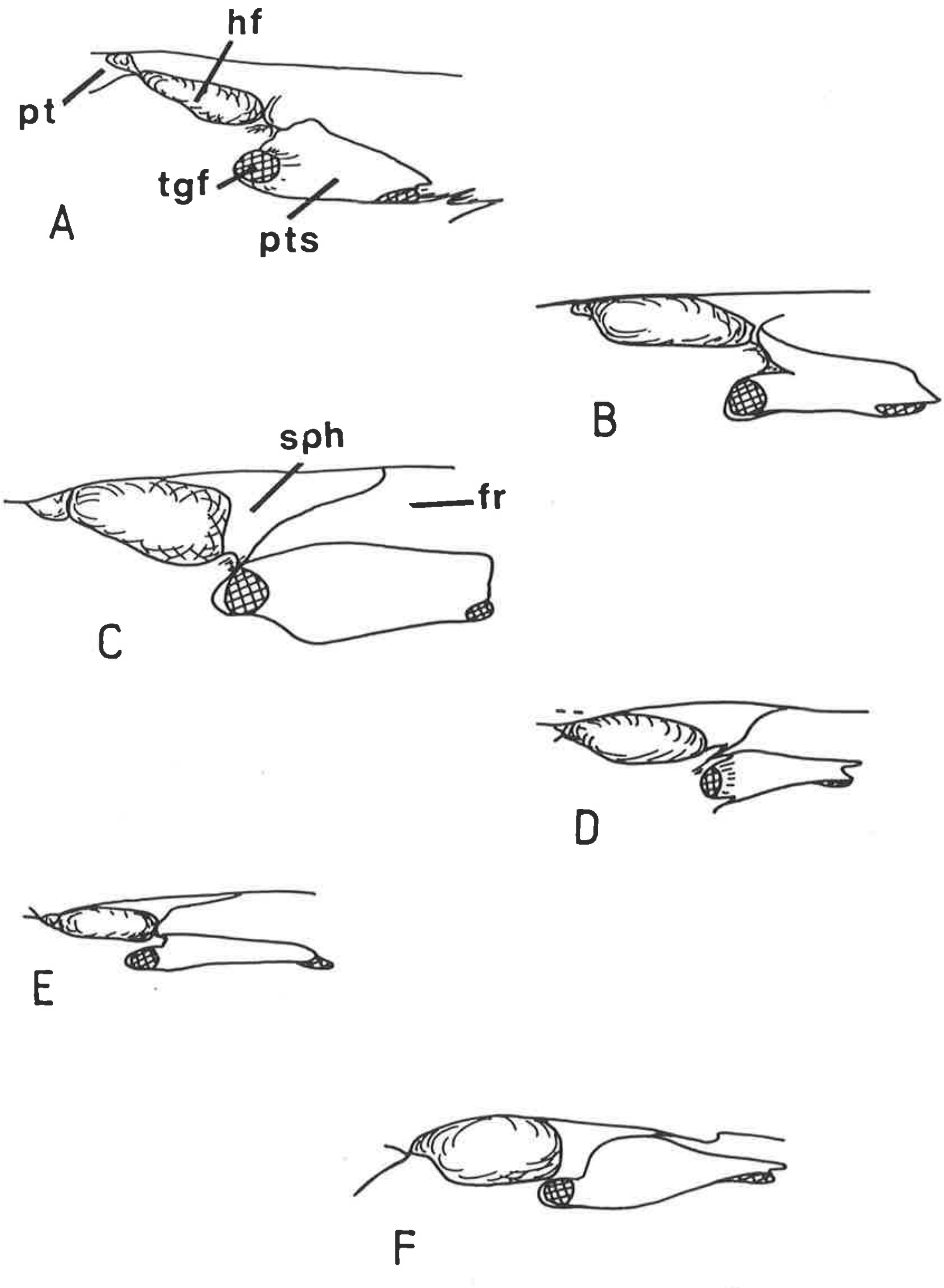


Figure 15. Pterosphenoid and articular facet for the hyomandibular in Australo-Papuan ariids. A - D, facet extends onto the pterotic; E, F, facet solely on the sphenotic or extending only as far as the suture. A: "Arius" latirostris; B: "A". leptaspis; C: "A". augustus; D: "A". taylori; E: "A". (Cochlefelis) spatula; F: Cinetodus (Pachyula) crassilabris.

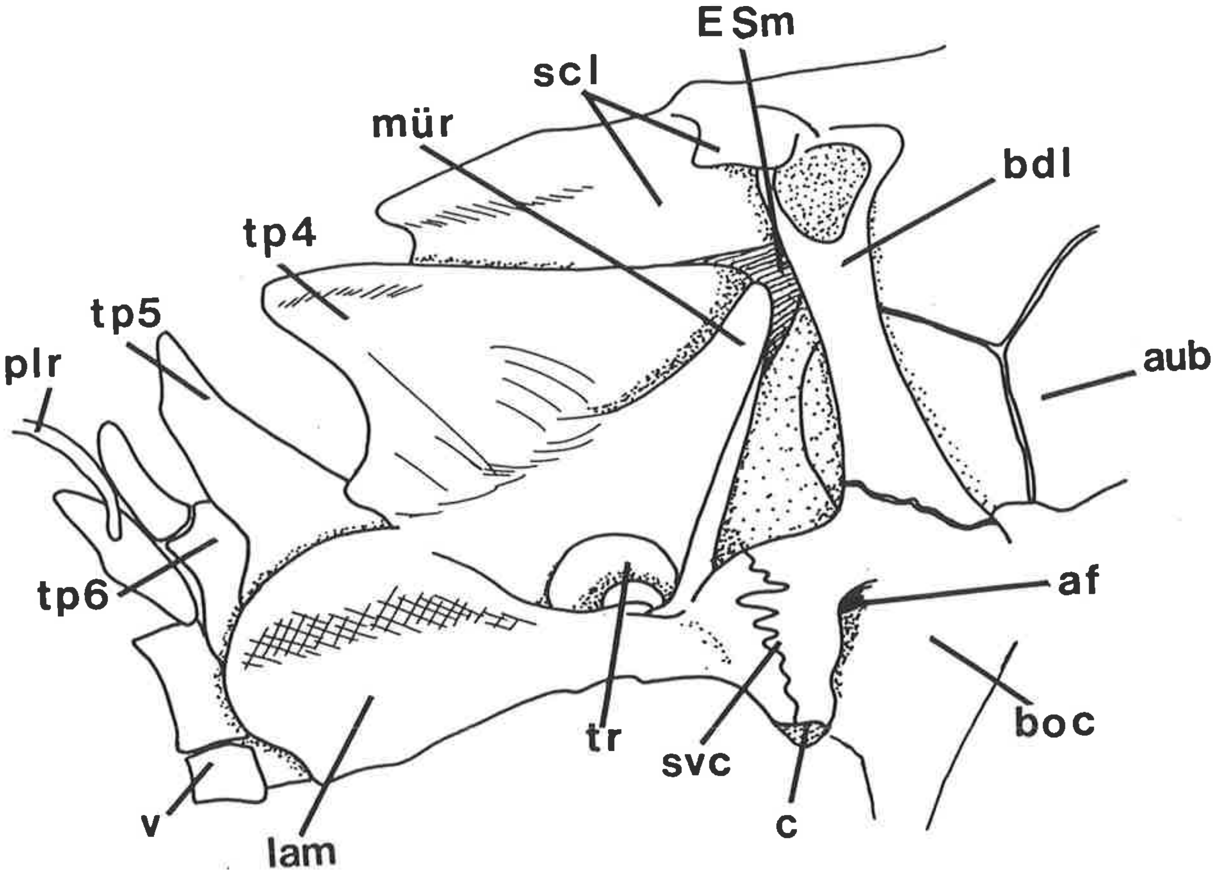


Figure 16. Ventrolateral view of the posterior part of the skull in "Arius" arius (RHS; 112mm SL).

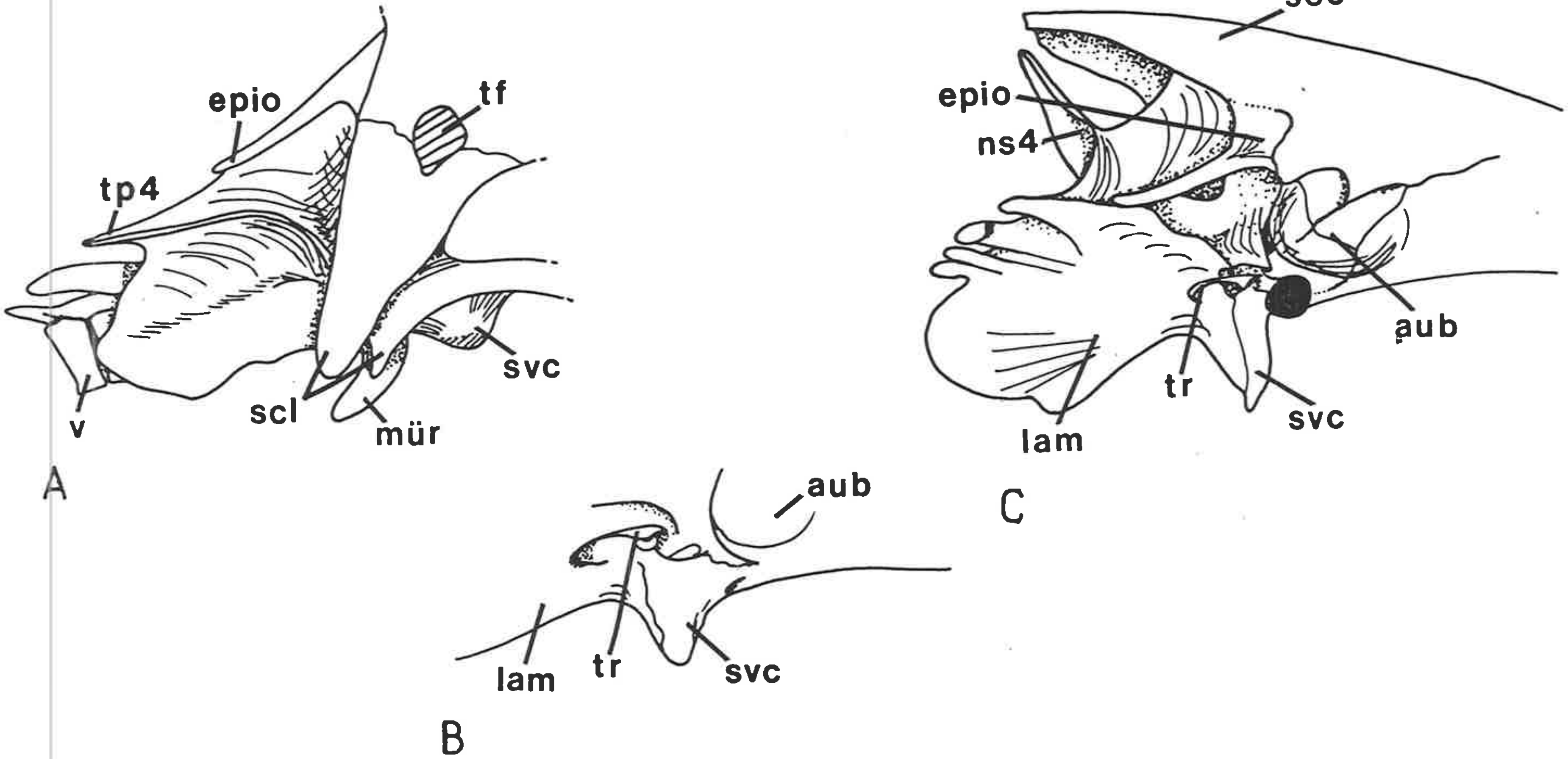


Figure 17. Relative size of the subvertebral cone in species of ariid: A) LOW - species 7, 237mm SL; B) MODERATE - "Arius" taylori, 108mm HL; C) HIGH - Cinetodus (P.) crassilabris, 136mm HL.

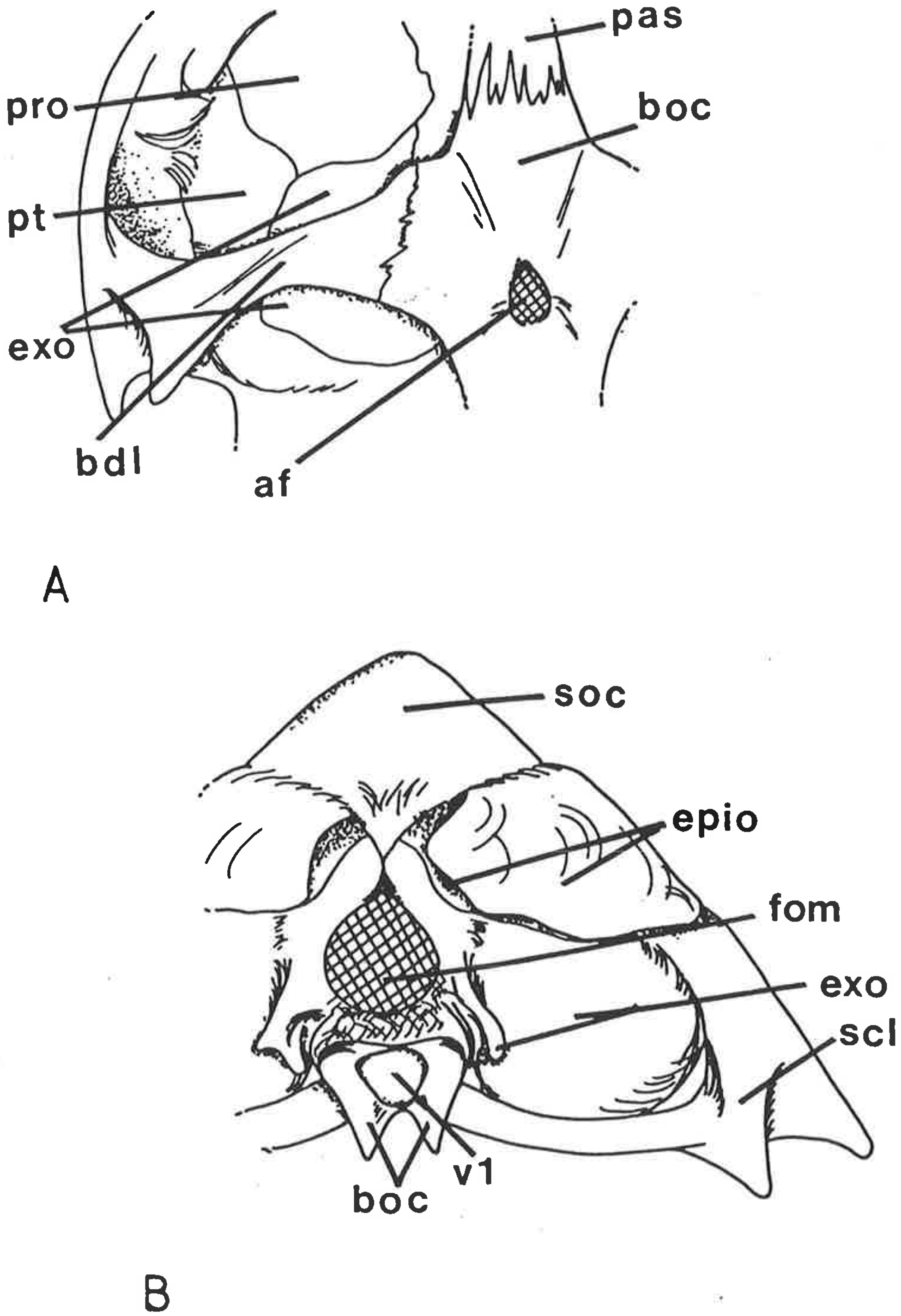


Figure 18. Skull of "Arius" arius: A) posteroventral view, 112mm SL; B) posterior view, 190mm SL.

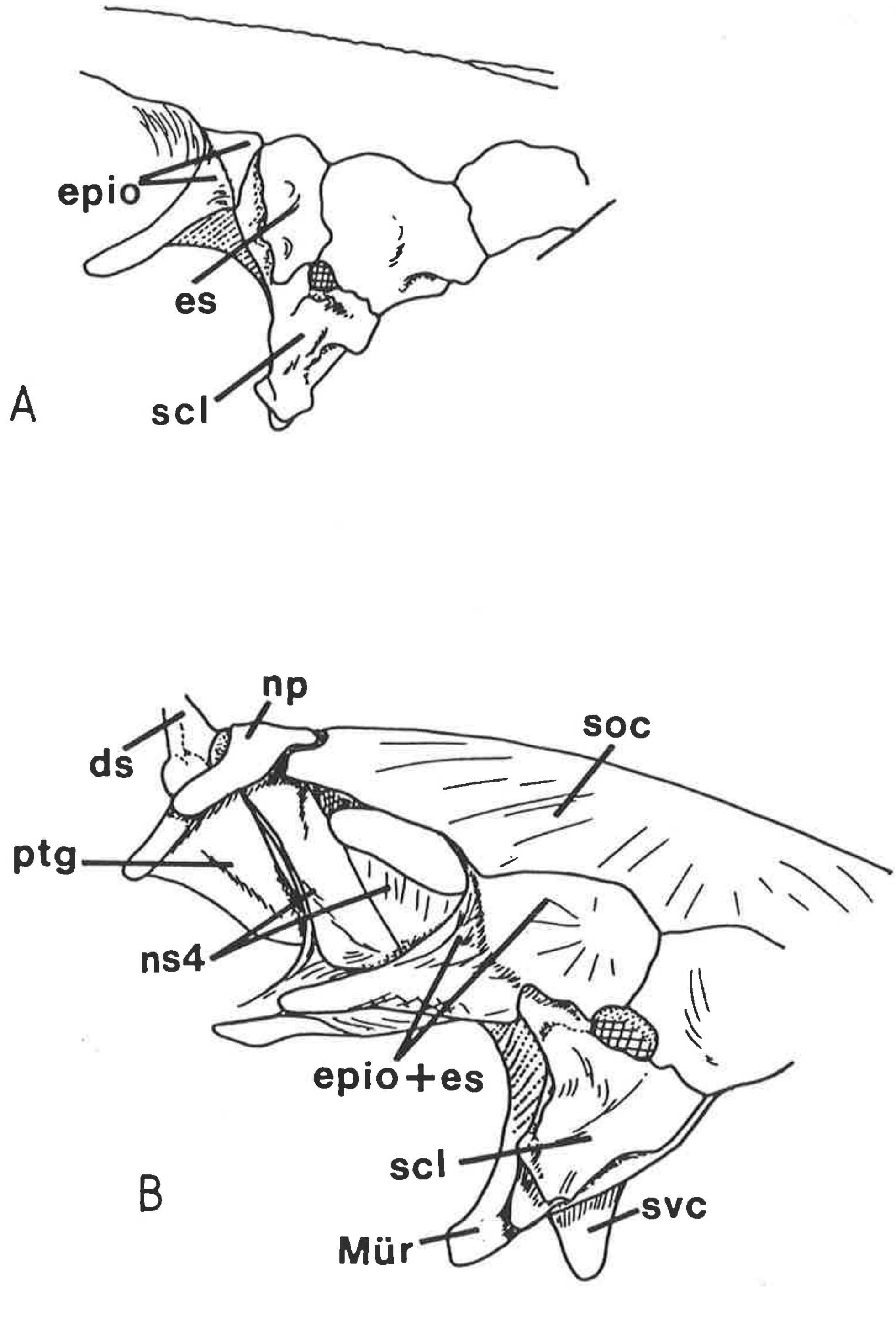


Figure 19. Posterolateral view of the neurocranium in certain Australo-Papuan ariids: A) Genus 1 <u>nella</u> (149mm SL), in which the epioccipital invades the skull roof; B) <u>Cinetodus</u> (<u>C</u>.) <u>froggatti</u> (172mm SL), in which the epioccipital and extrascapular form a single unit.

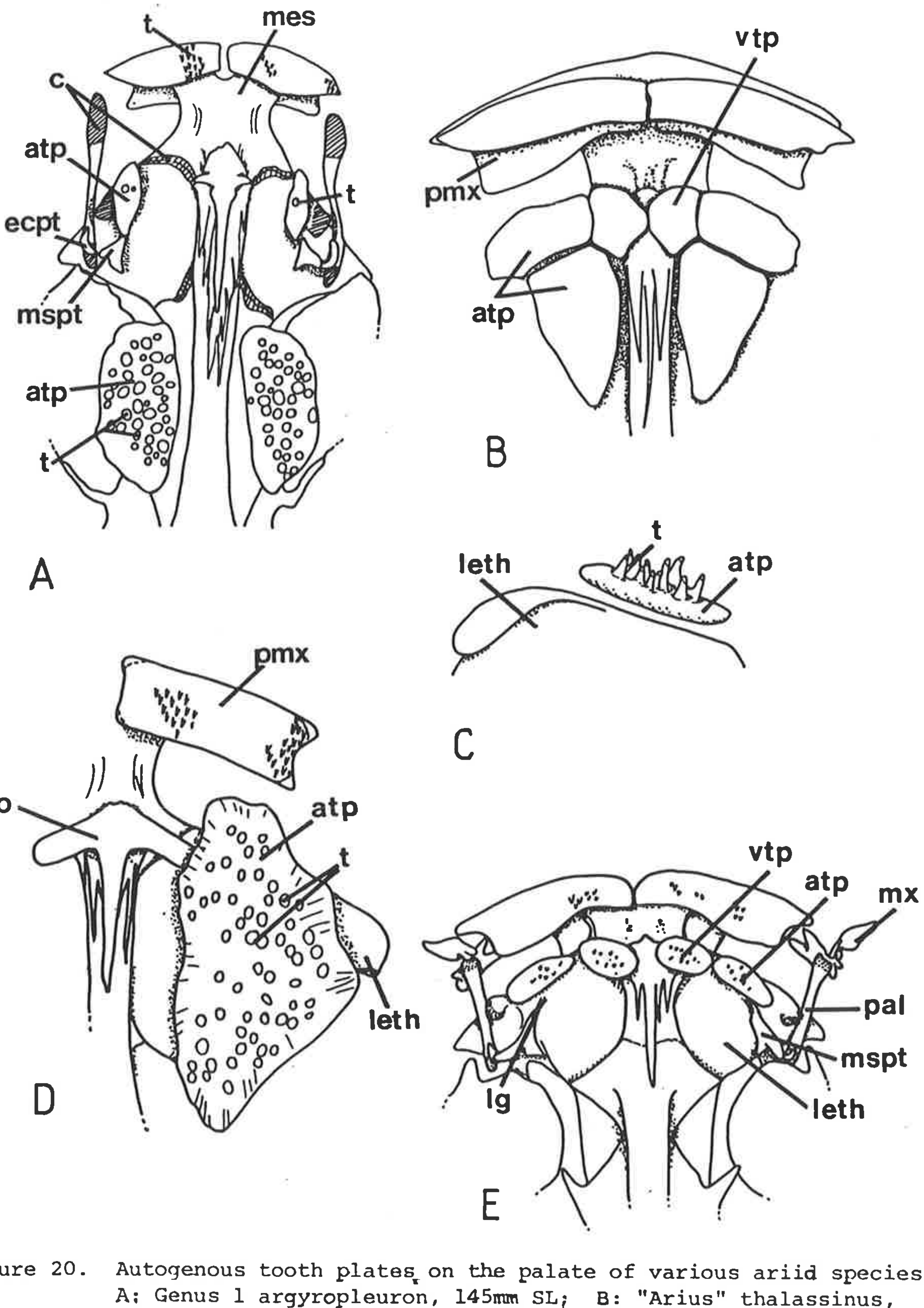


Figure 20. Autogenous tooth plates on the palate of various ariid species. A: Genus 1 argyropleuron, 145mm SL; B: "Arius" thalassinus, 127mm SL; C: "A". velutinus, 156mm SL (vertical view, RHS); D: "Arius" arius, 190mm SL (LHS); E: species 2, 175.5mm SL.

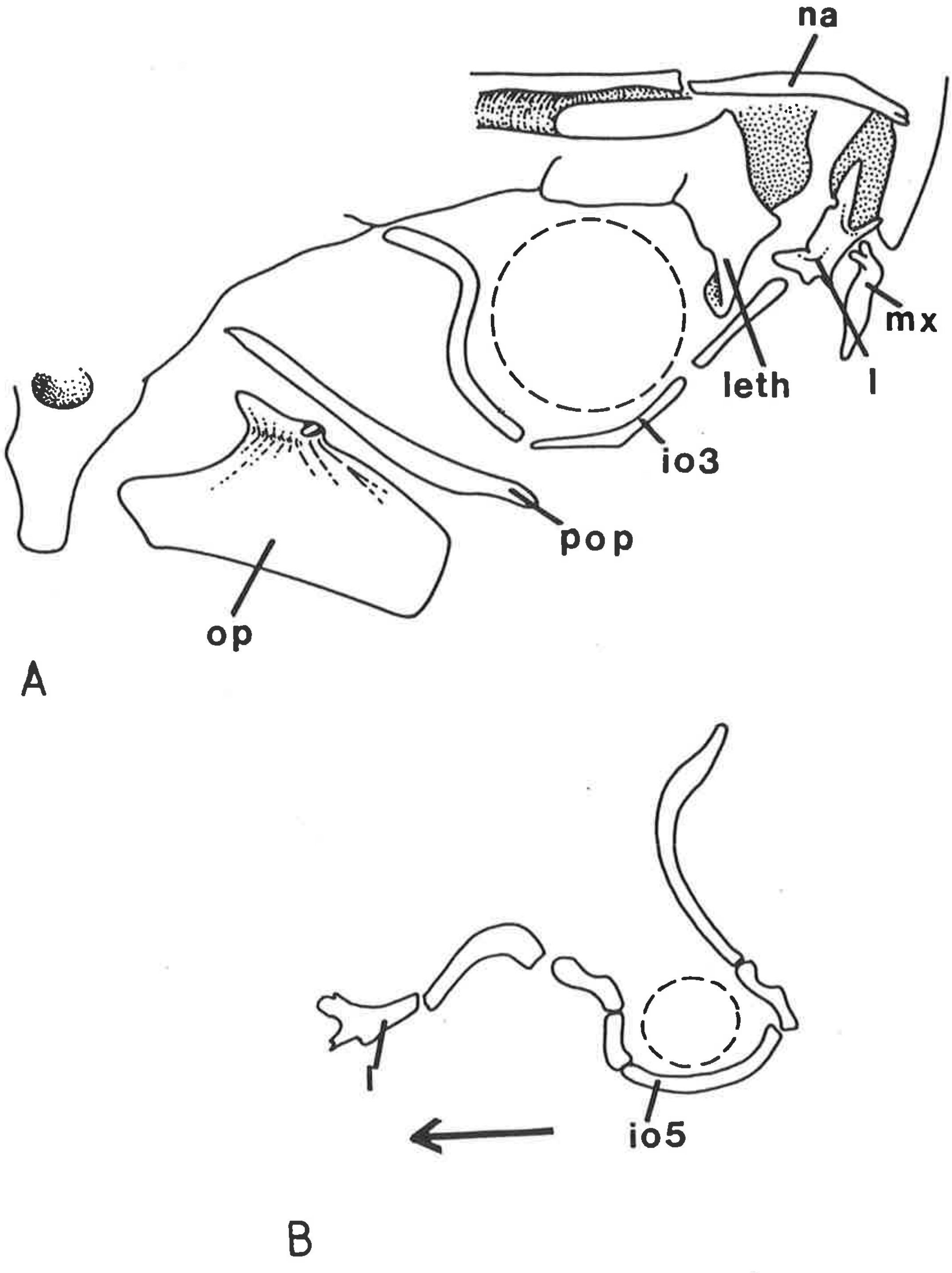


Figure 21. Infraorbital series of A: "Arius" thalassinus (LHS, 127mm SL); B: Nedystoma novaeguineae (RHS, 150mm SL). (Eye position indicated by a dashed line; arrow indicates front of body).

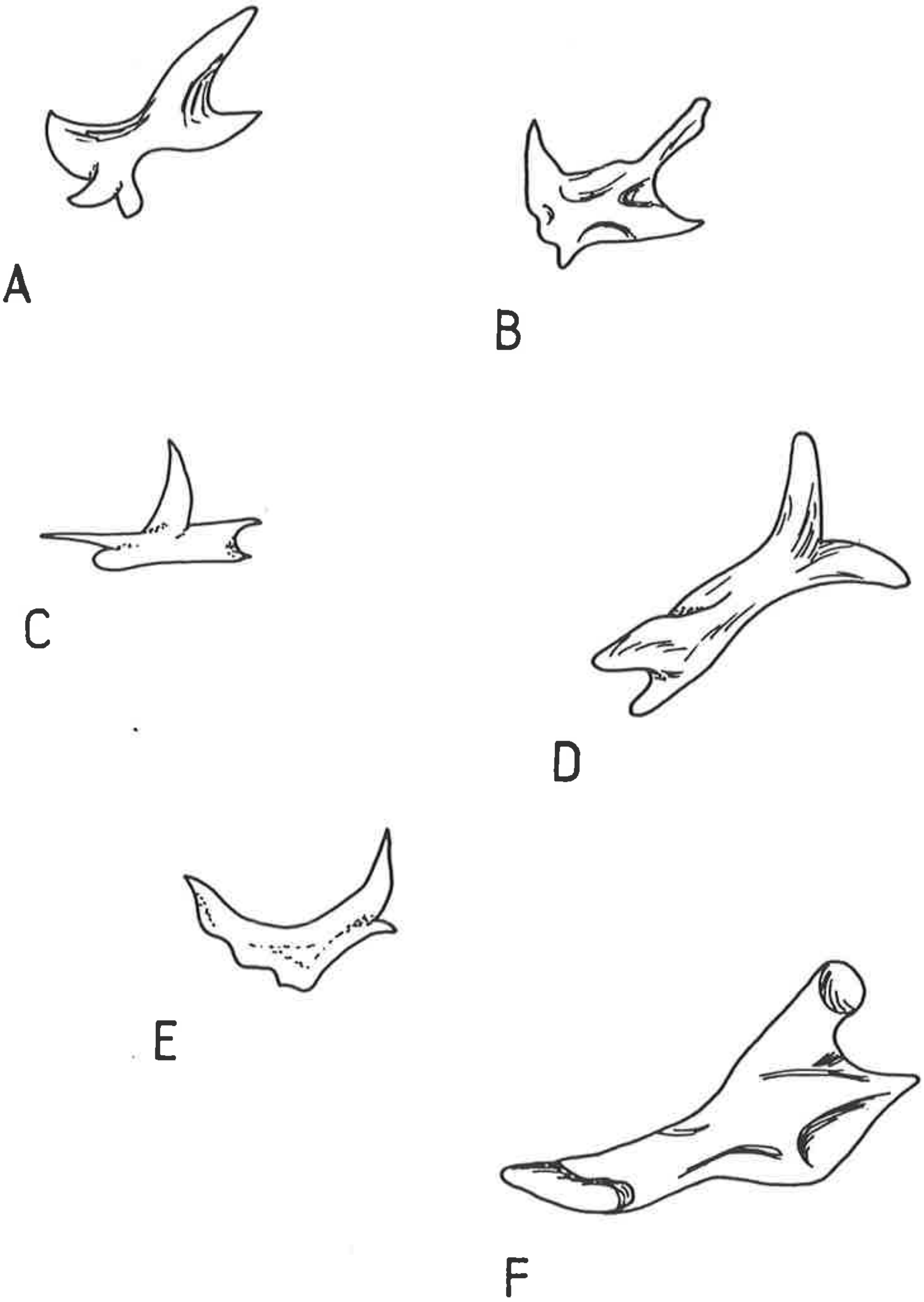


Figure 22. The lachrimal of various Australo-Papuan ariids (front of body indicated by an arrow). A: "Arius" (Cochlefelis) spatula, 143mm SL; B: "A". (C.) danielsi, 139mm SL; C: "A". species 4, 108mm SL; D: "A". macrorhynchus, 300mm SL; E: Genus 1 nella, 149mm SL; F: Nedystoma novaeguineae, 150mm SL.

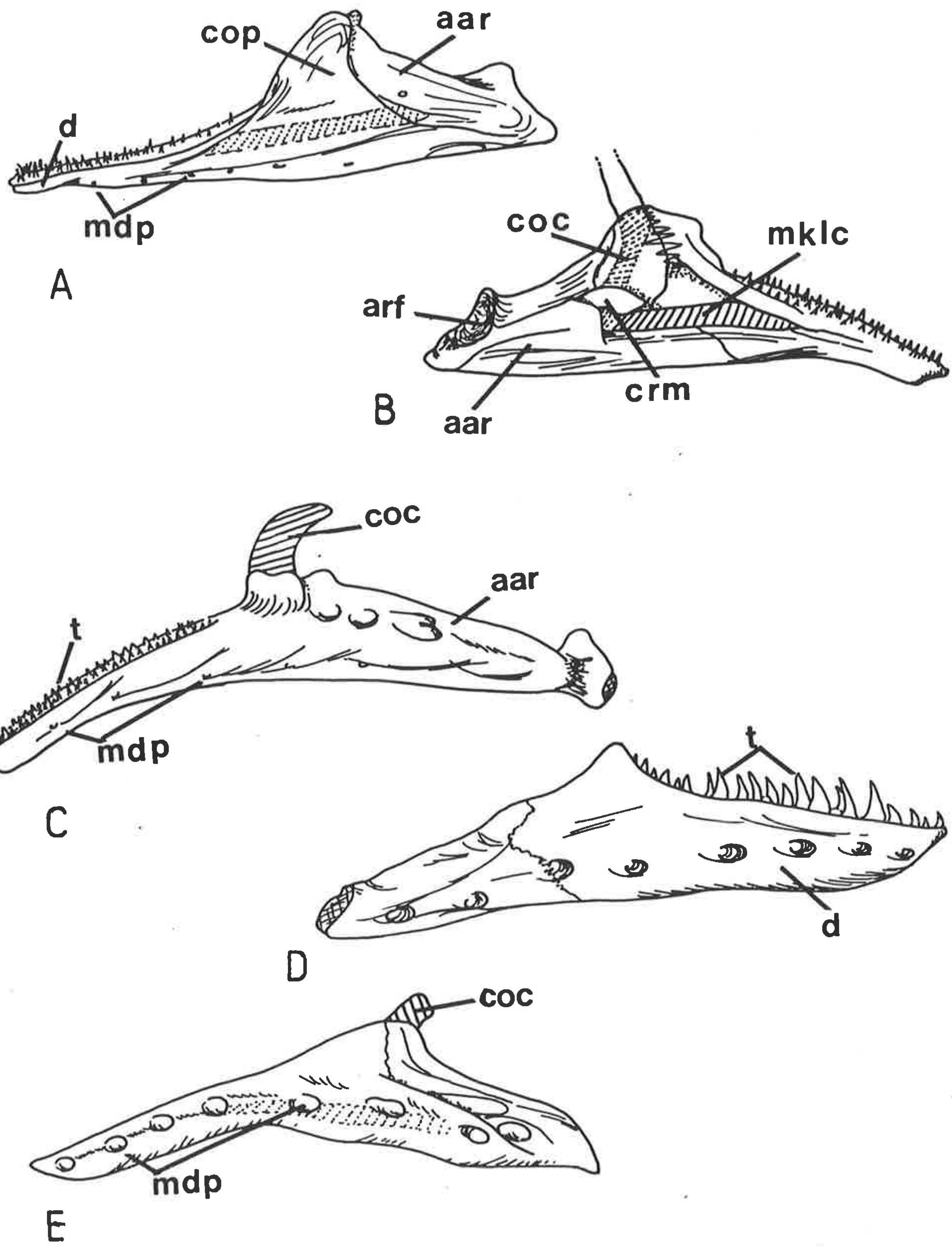


Figure 23. Outer views (except B) of the mandible in ariid species. A: "Arius" arius (LHS, 112mm SL); B: same mandible, mesial view; C: "A". (Cochlefelis) spatula (LHS, 143mm SL; D: "A". (Hemiarius) species 5 (RHS, 188mm SL); E: Nedystoma novaeguineae (LHS, 150mm SL).

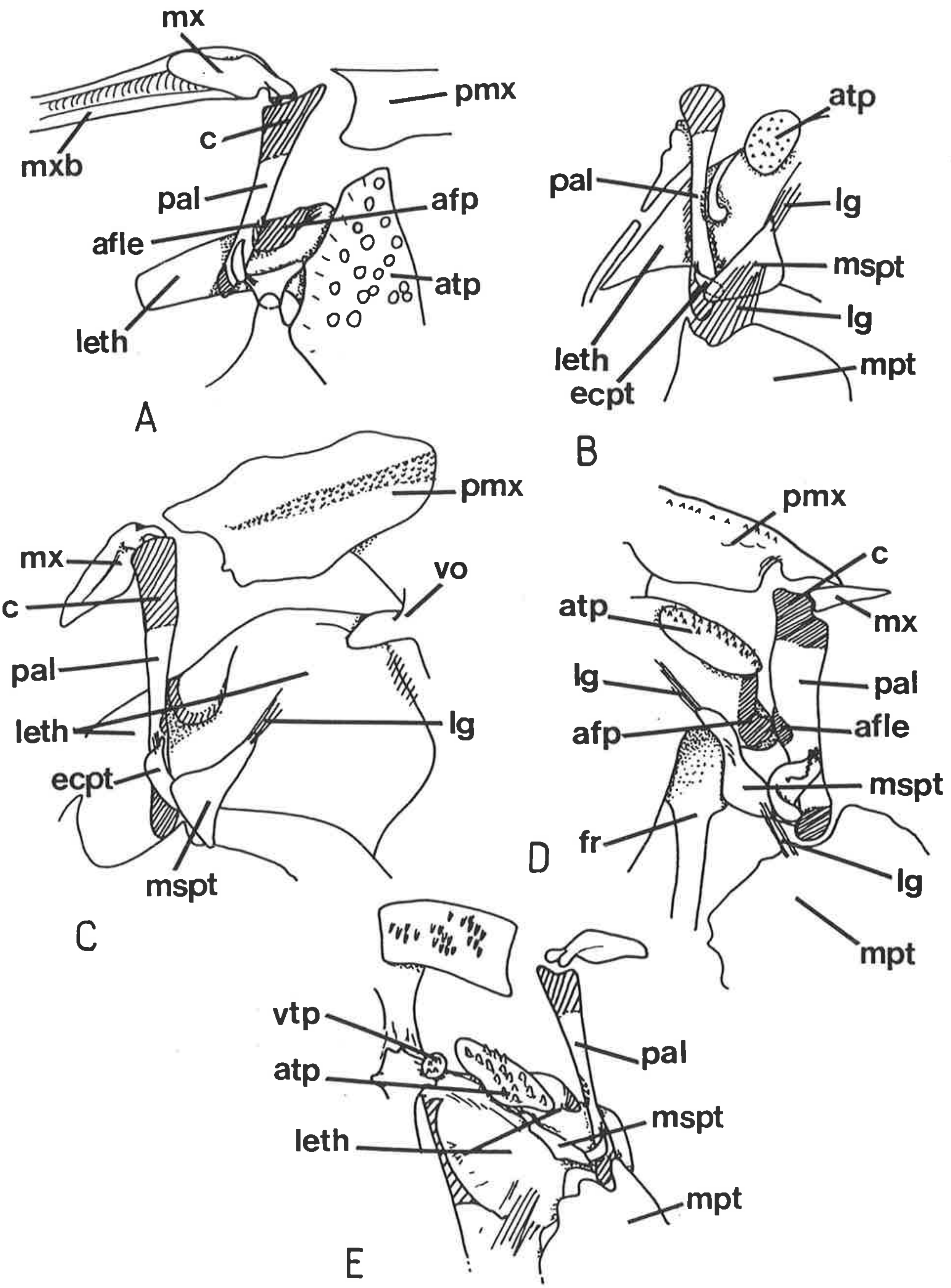


Figure 24. Palatine and part of suspensorium in various ariid species. A: "Arius" arius (RHS, 112mm SL); B: "A". (Brustiarius) nox (RHS, 114mm SL); C: Nedystoma dayi (RHS, 158mm SL); D: N. novaeguineae (LHS, 150mm SL); E: Cinetodus carinatus (LHS, 216mm SL).

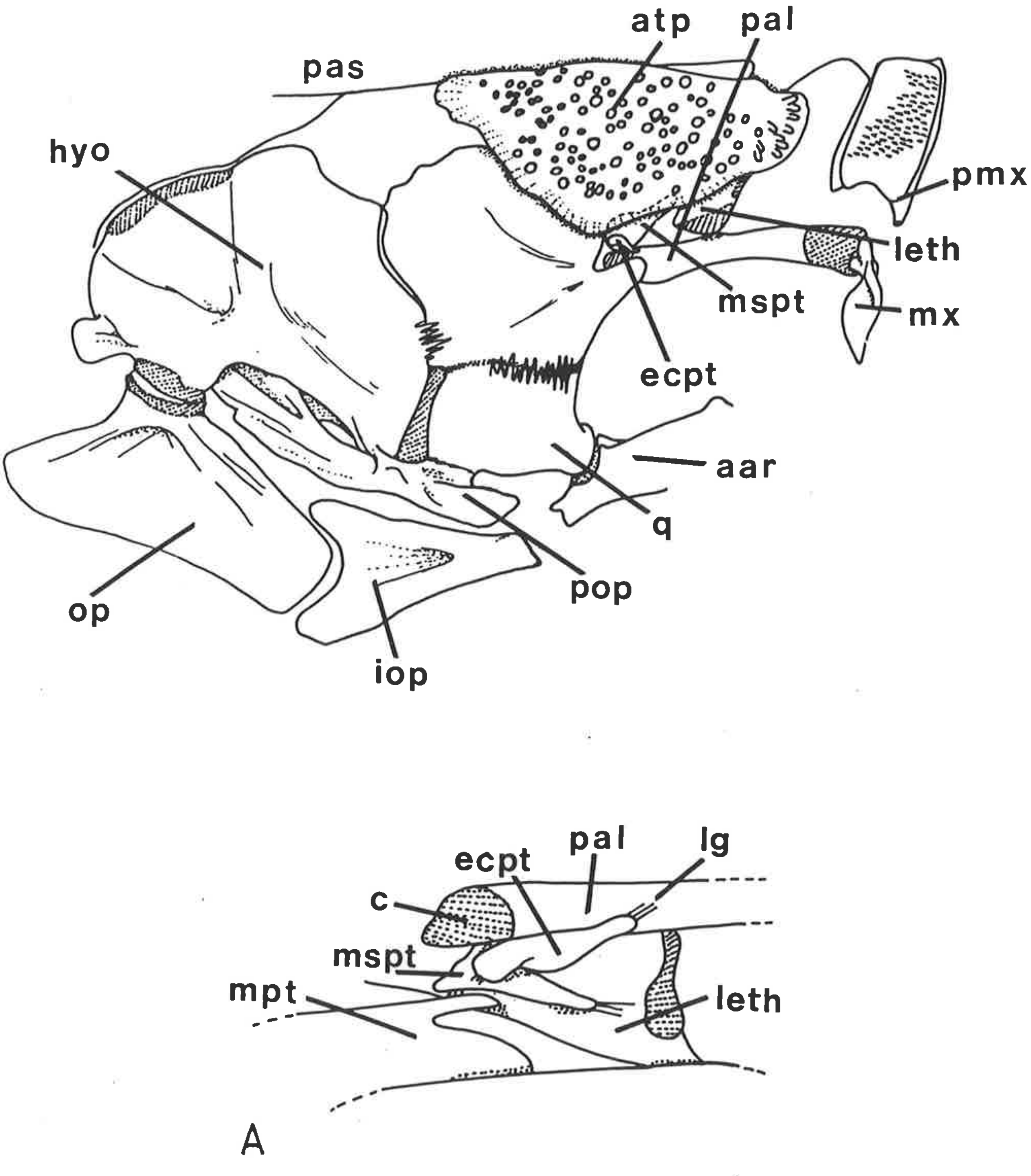


Figure 25. Mesial oblique view of the suspensorium of "Arius" arius (LHS, 190mm SL). A) palatine and pterygoid region of same species (RHS, 112mm SL). Stripes indicate ligament attachment.

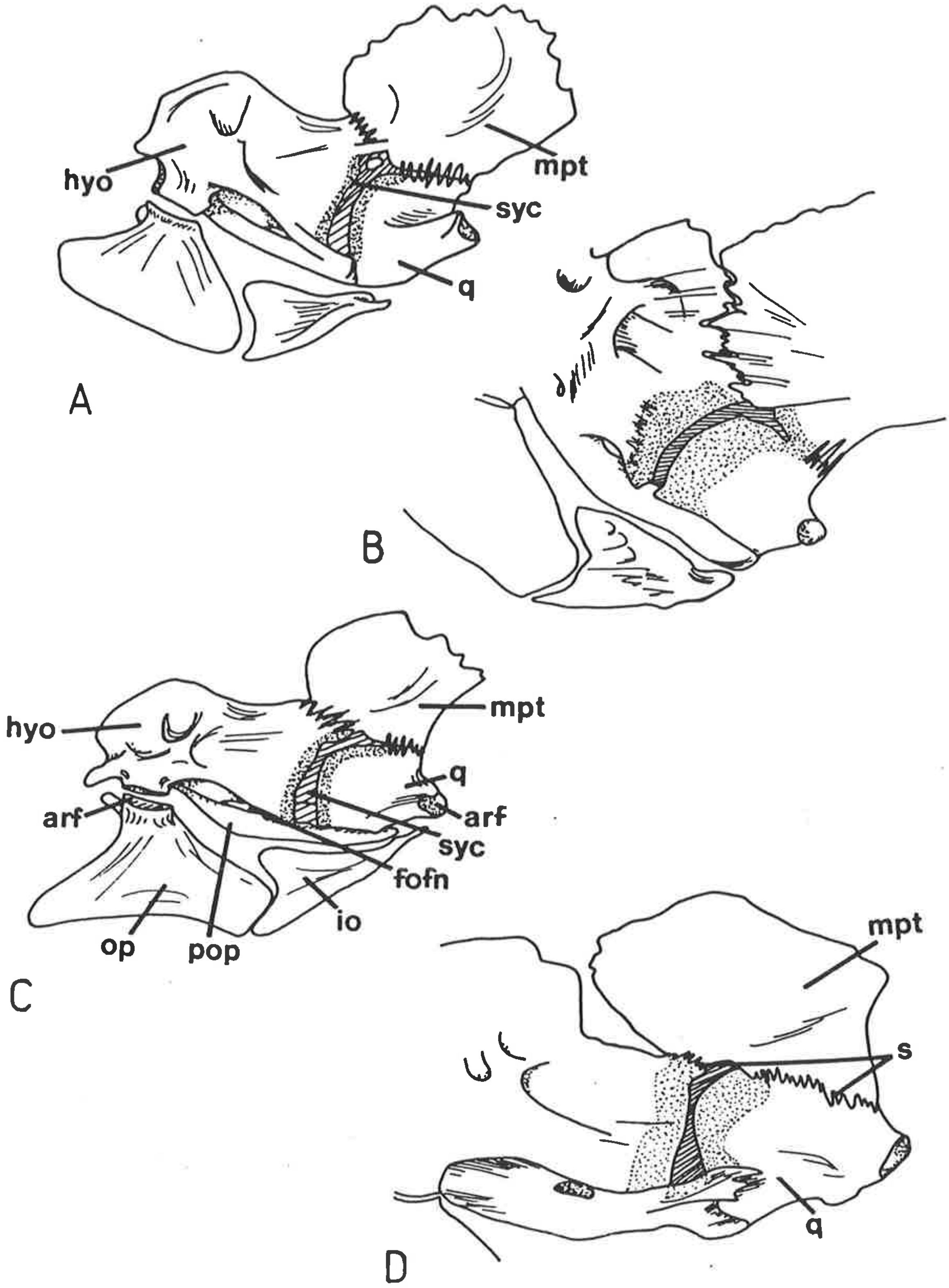


Figure 26. Mesial view (LHS) of suspensorium in Australo-Papuan ariids. A: "Arius" (Cochlefelis) spatula, 143mm SL; B: Nedystoma dayi, 158mm SL; C: Cinetodus carinatus, 122mm SL; D: Genus 1 nella, 149mm SL.

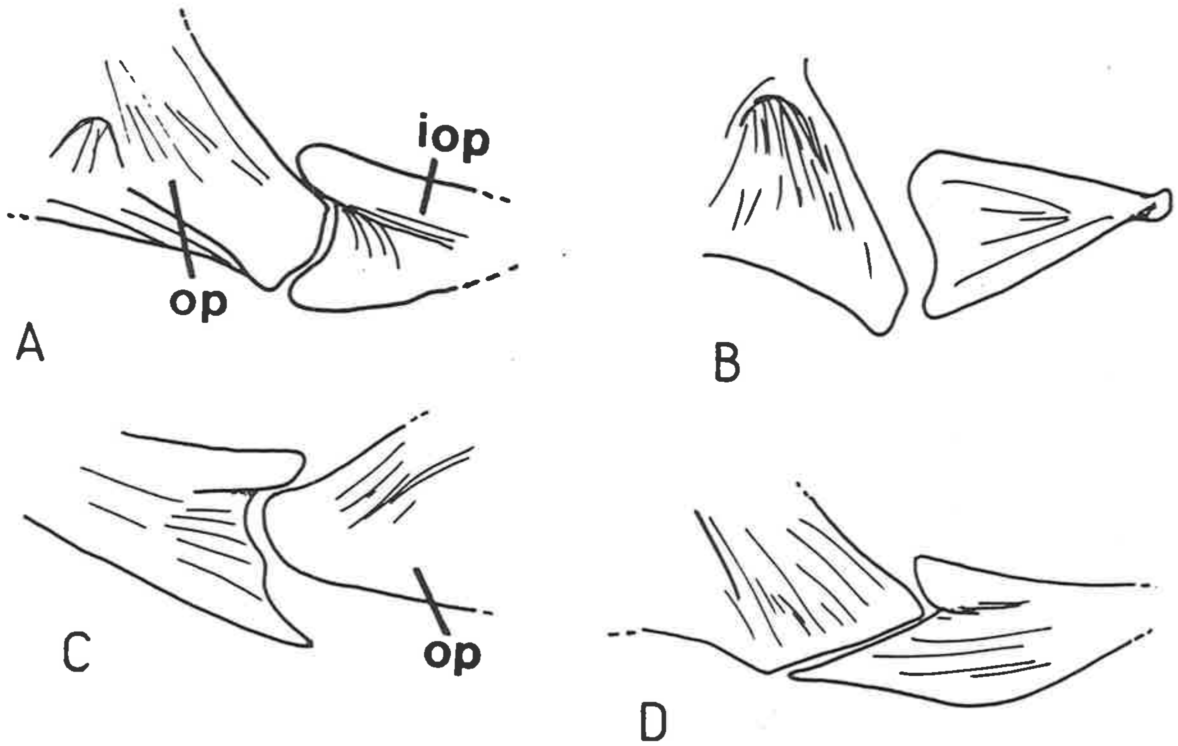


Figure 27. Operculum - interoperculum shapes of various ariids. A: "Arius" arius (RHS, 112mm SL); B: "A". (Cochlefelis) spatula (RHS, 143mm SL); C: Nedystoma dayi (LHS, 158mm SL); D: Genus 1 argyropleuron (RHS, 162mm SL).

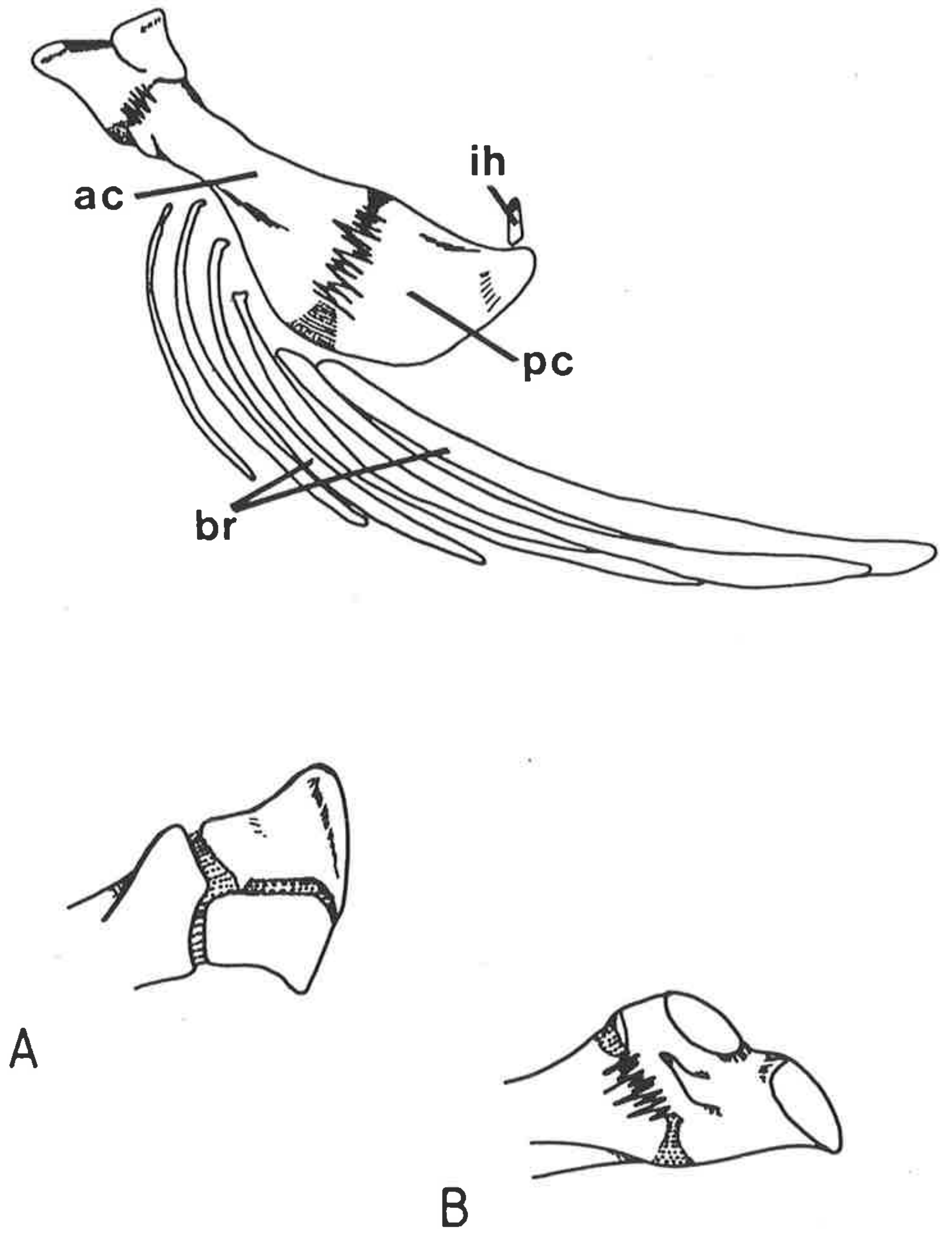


Figure 28. Hyoid apparatus of "*Arius*" *arius* (LHS, 112mm SL). A: dorsal view of hypohyal; B: mesial view of hypohyal.

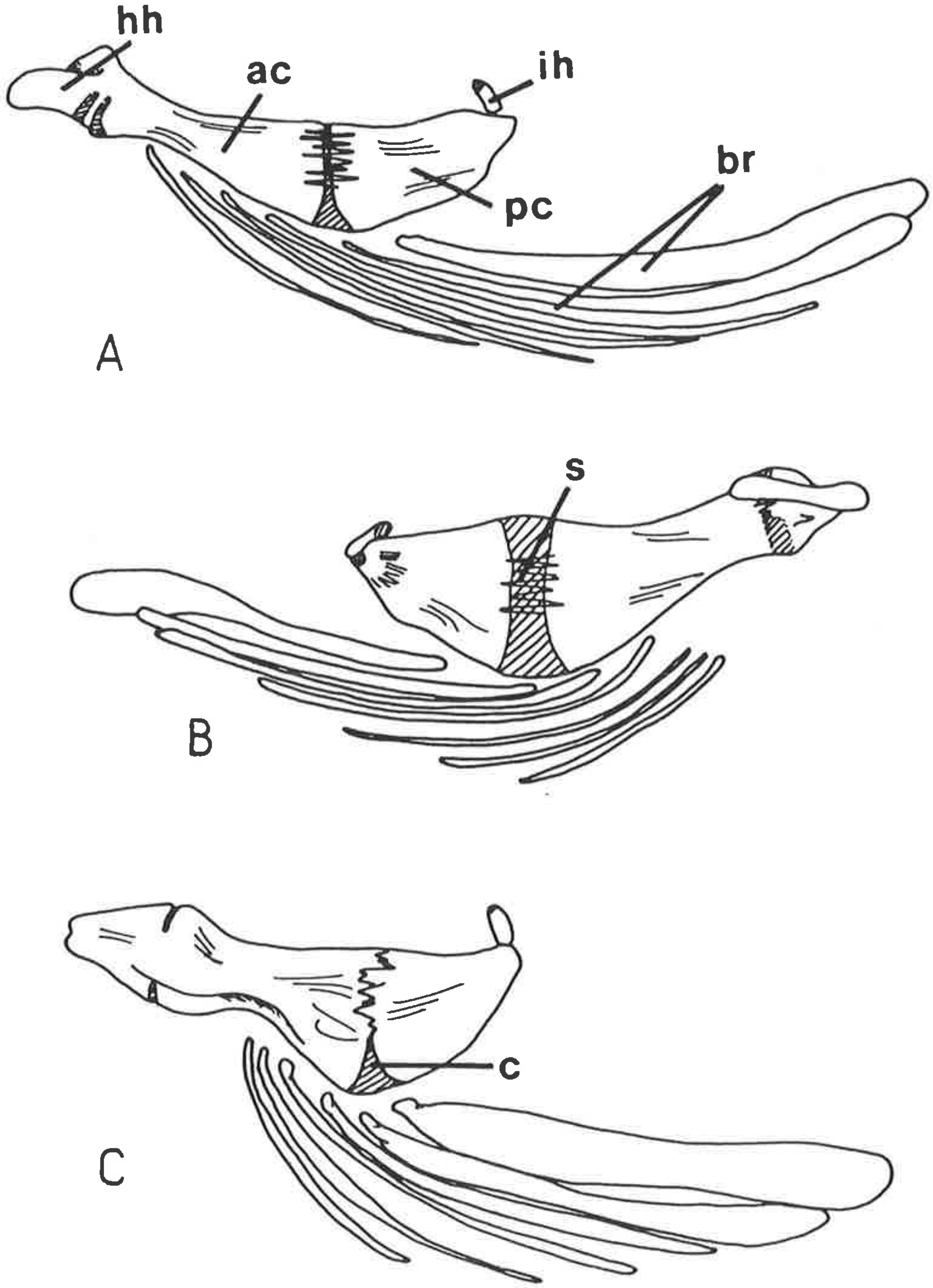


Figure 29. Hyoid apparatus in Australo-Papuan ariids. A: "Arius" (Brustiarius) nox, 114mm SL; B: "A". (Hemiarius) species 1, 90mm SL; C: Genus 1 polystaphylodon, 165mm SL.

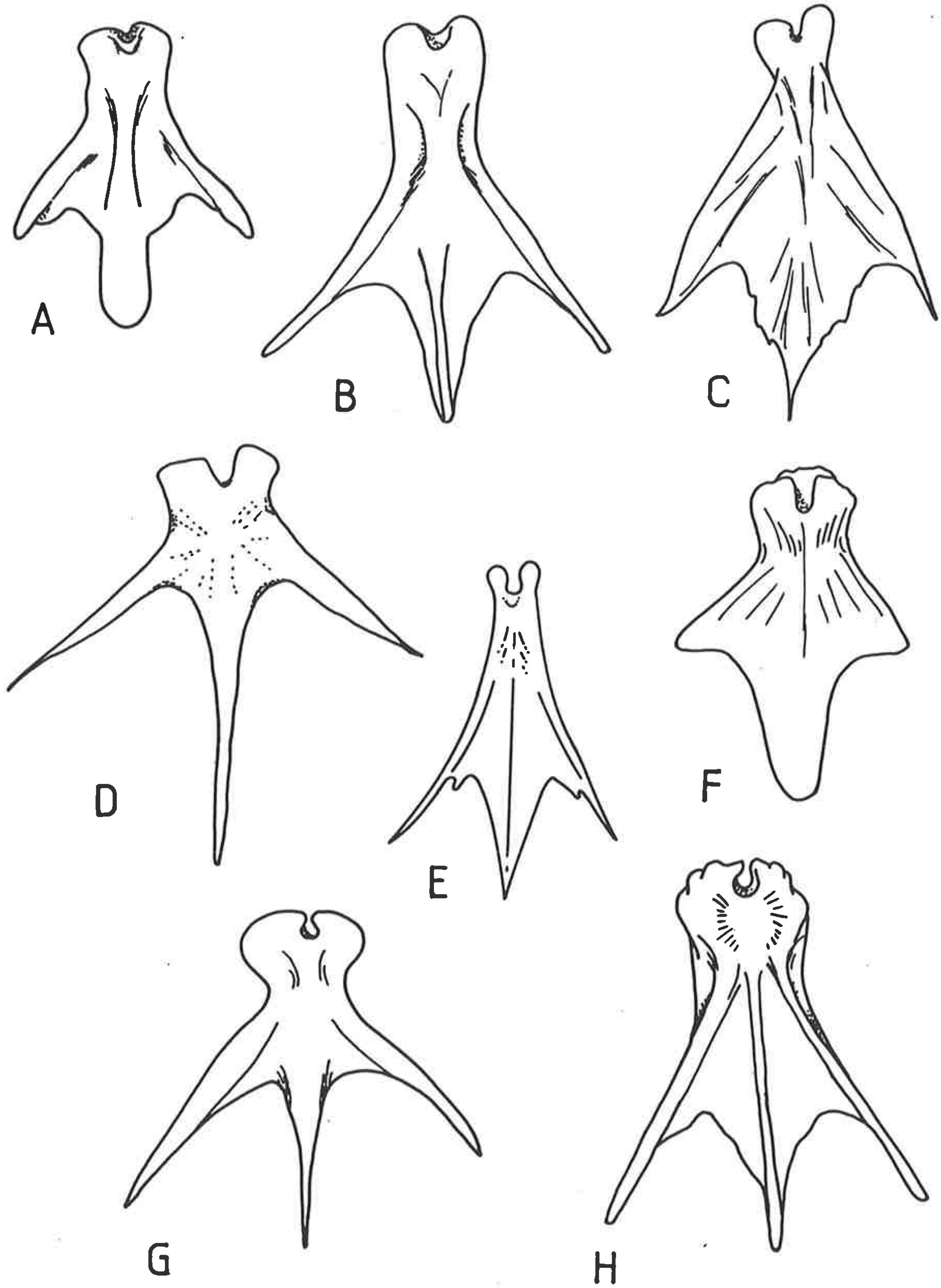


Figure 30. Variation in form of the urohyal (ventral view) within ariids. A: "Arius" arius, 190mm SL; B: "A". thalassinus, 127mm SL; C: "A". (Hemiarius) species 5, 188mm SL; D: Cinetodus froggatti, 172mm SL; E: "A". (Brustiarius) nox, 114mm SL; F: Genus 1 polystaphylodon, 165mm SL; G: "A". species 7, 237 mm SL; H: "A". (Cochlefelis) spatula, 143mm SL.

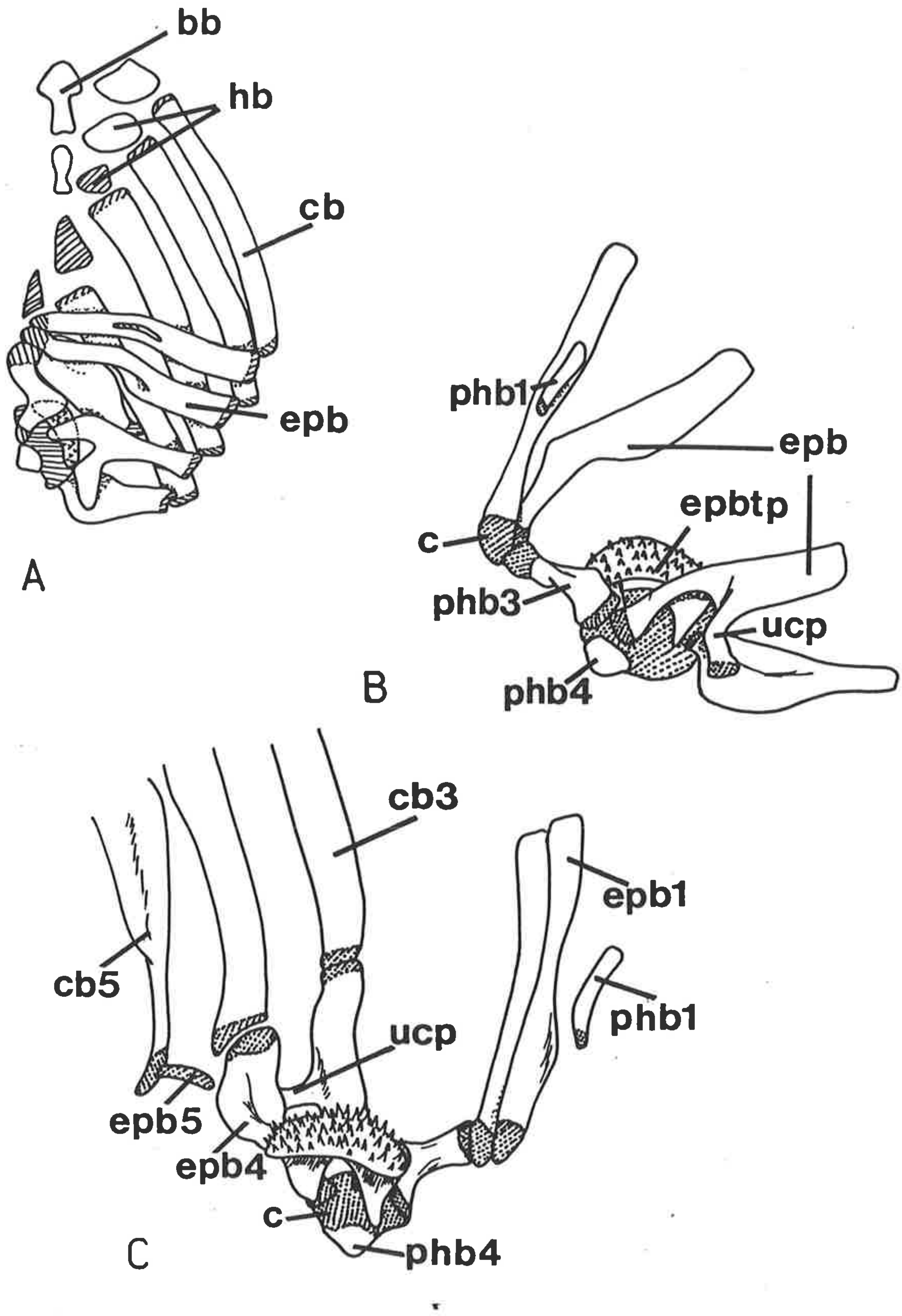


Figure 31. Branchial basket of "Arius" arius (112mm SL) (gill rakers and filaments not illustrated). A: complete view, RHS; B: dorsal view section, RHS; C: ventral view section, RHS.

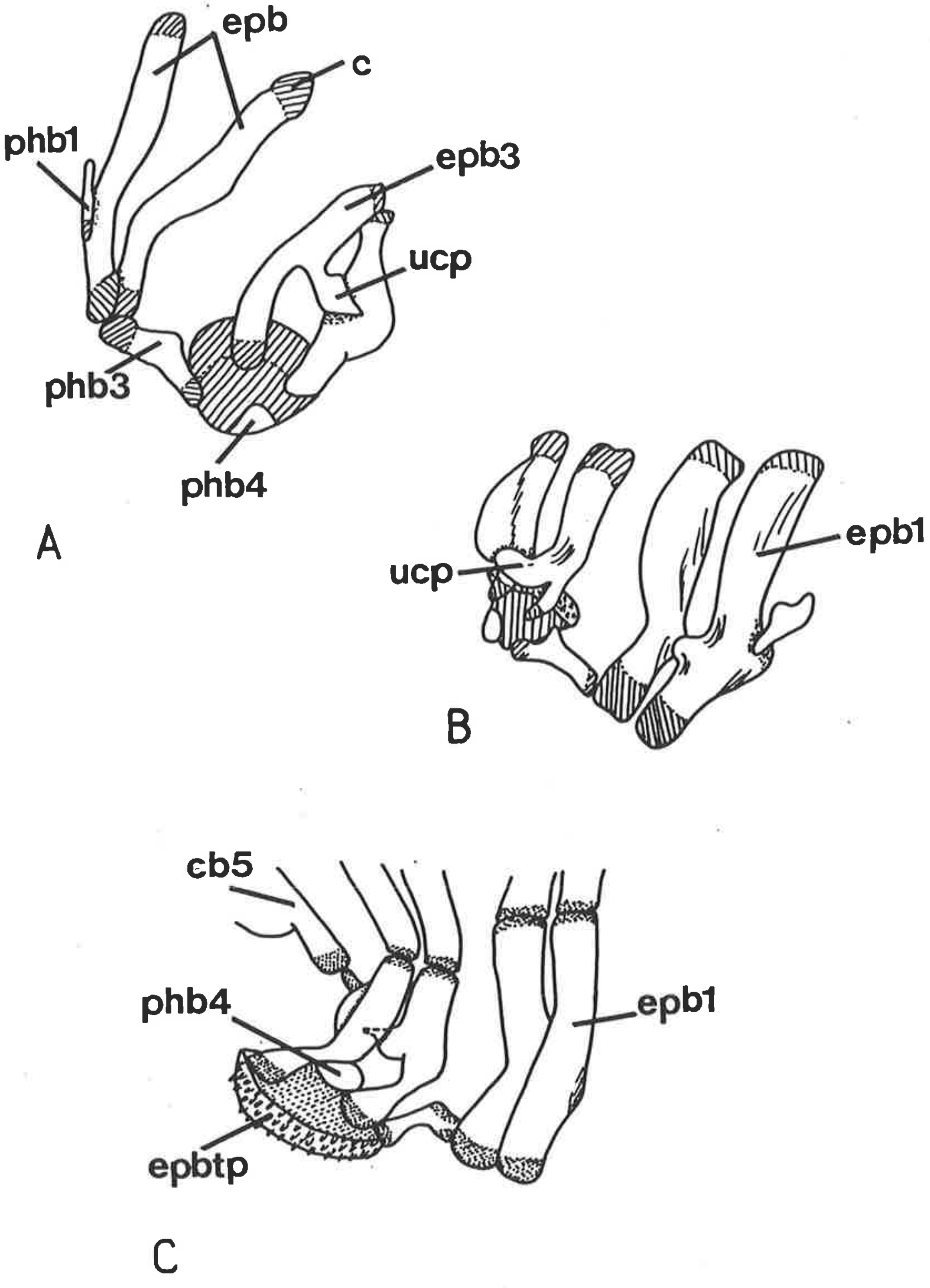


Figure 32. Branchial apparatus segments of Australo-Papuan ariids.
A: "Arius" (Hemiarius) species 1, dorsal view, 90mm SL;
B: Genus 1 argyropleuron, dorsal view, 162mm SL; C: Cinetodus froggatti, ventral view, 172mm SL.

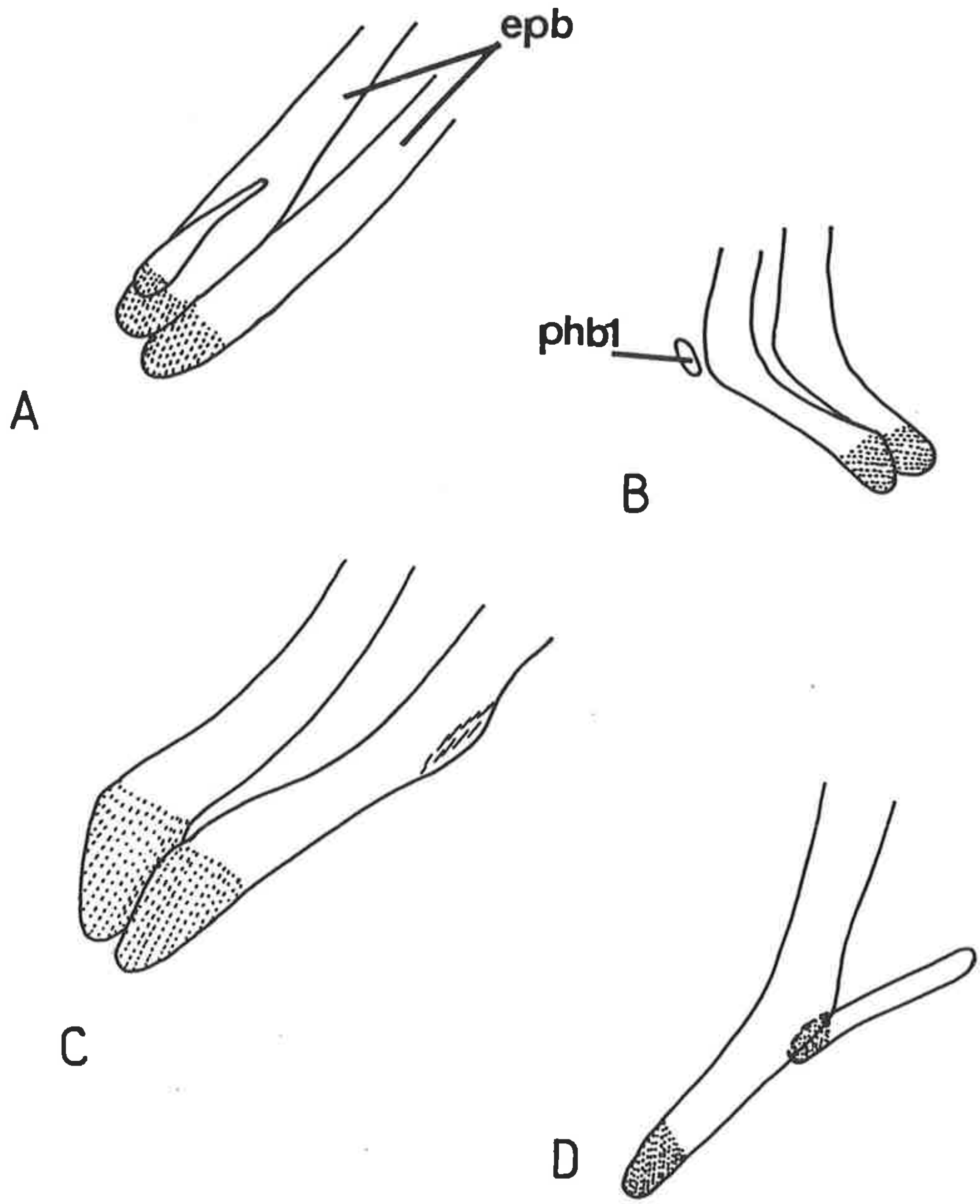


Figure 33. First two epibranchials and first pharyngobranchial in ariid species from New Guinea. A: *Nedystoma novaeguineae*, 150mm SL; B: "*Arius*" (*Brustiarius*) *solidus*, 81mm SL; C: *Cinetodus carinatus*, 122mm SL; D: "*Arius*"(*Hemiarius*) species 1, 90mm SL.

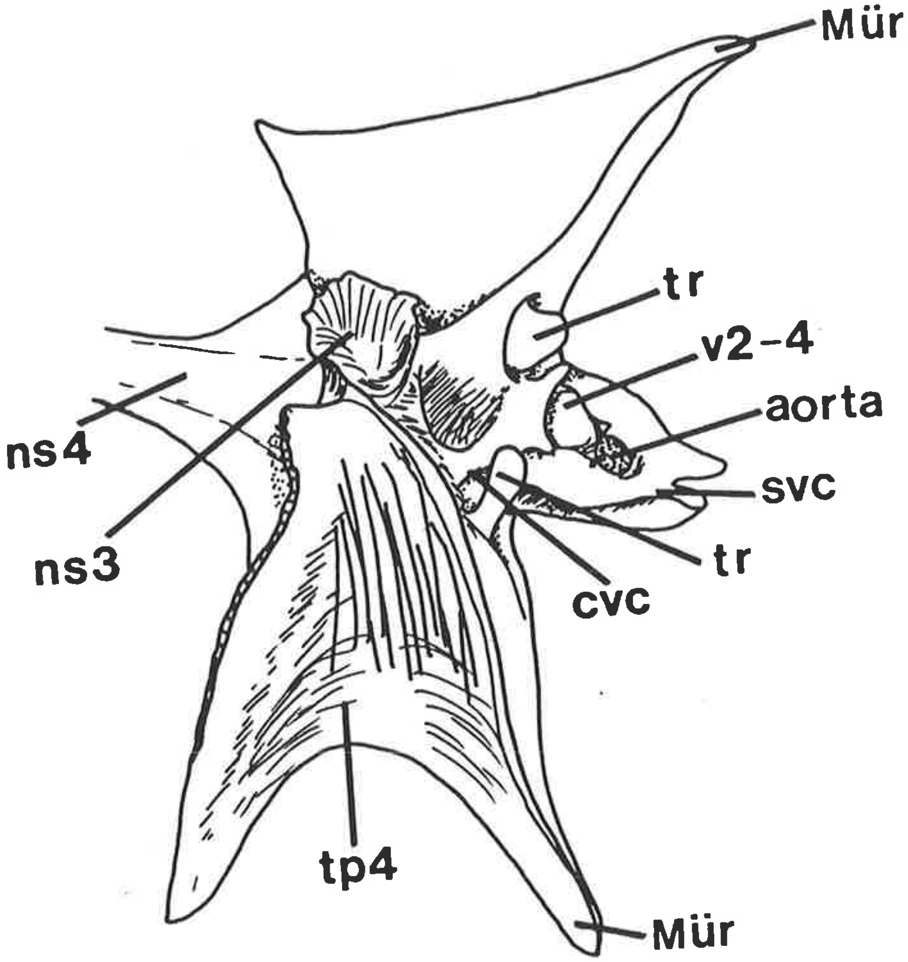


Figure 34. Dorsolateral view of compound vertebral region (centrum) of "Arius" arius (190mm SL specimen), separated from neurocranium.

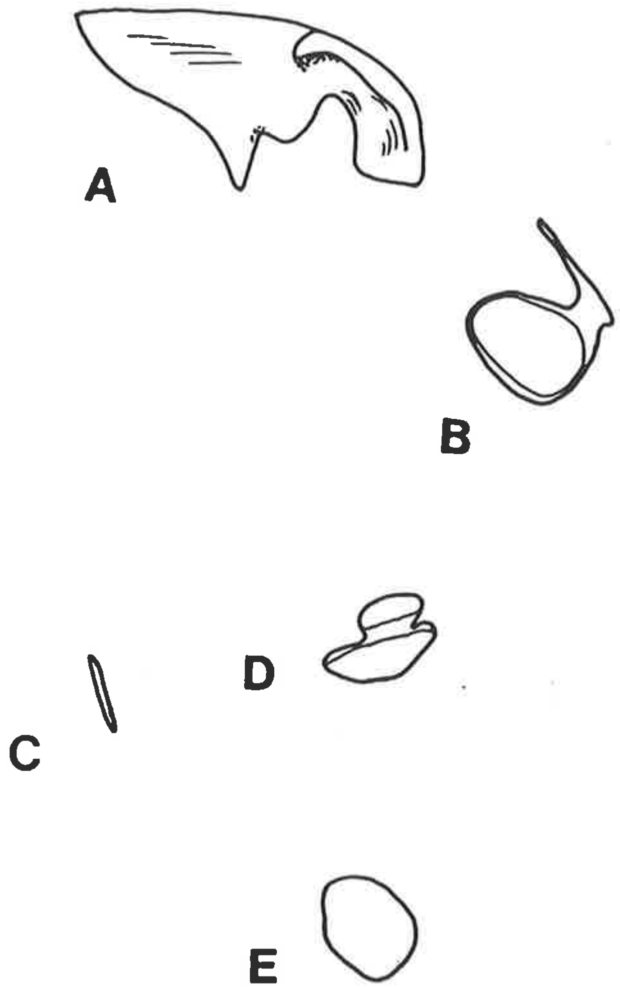


Figure 35. Weberian ossicle removed from "Arius" arius, 190mm SL specimen. A) tripus, B) scaphium, C) intercalarium, D) claustrum (lateral view), E) claustrum (anterior view).

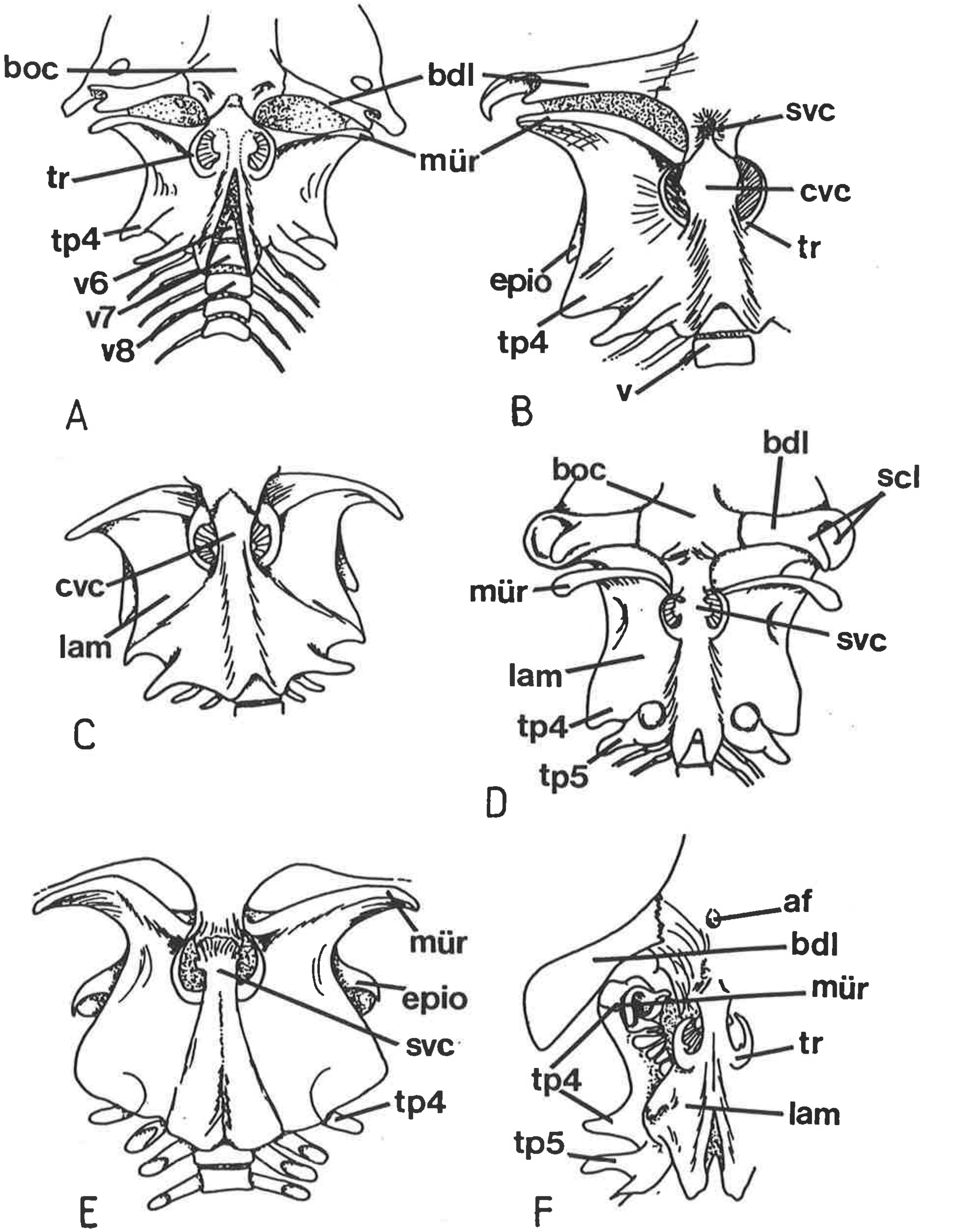


Figure 36. Compound vertebral region in various ariid species. A: "Arius" (Hemiarius) species 1, 90mm SL; B: "A". arius, 112mm SL; C: "A". thalassinus, 137mm SL; D: Cinetodus froggatti, 172mm SL E: Nedystoma dayi, 158mm SL; F: "A". (Hemiarius) species 5, 188mm SL.

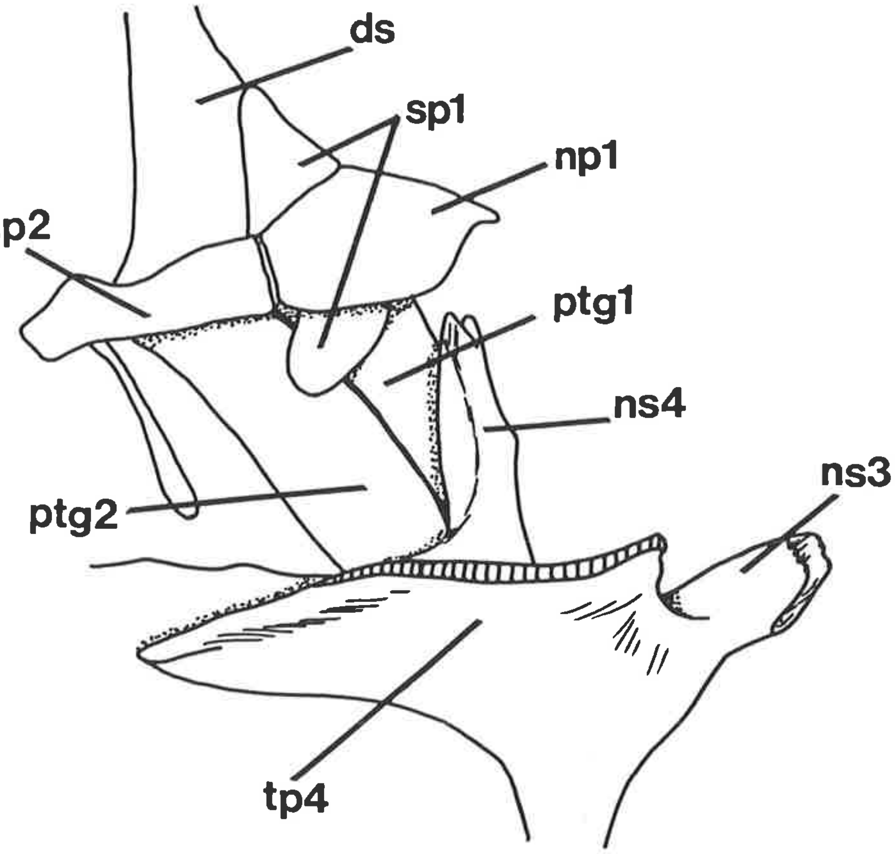


Figure 37. Fourth neural spine, compound vertebral region and dorsal spine in "Arius" arius. Ventrolateral view, 190mm SL specimen.

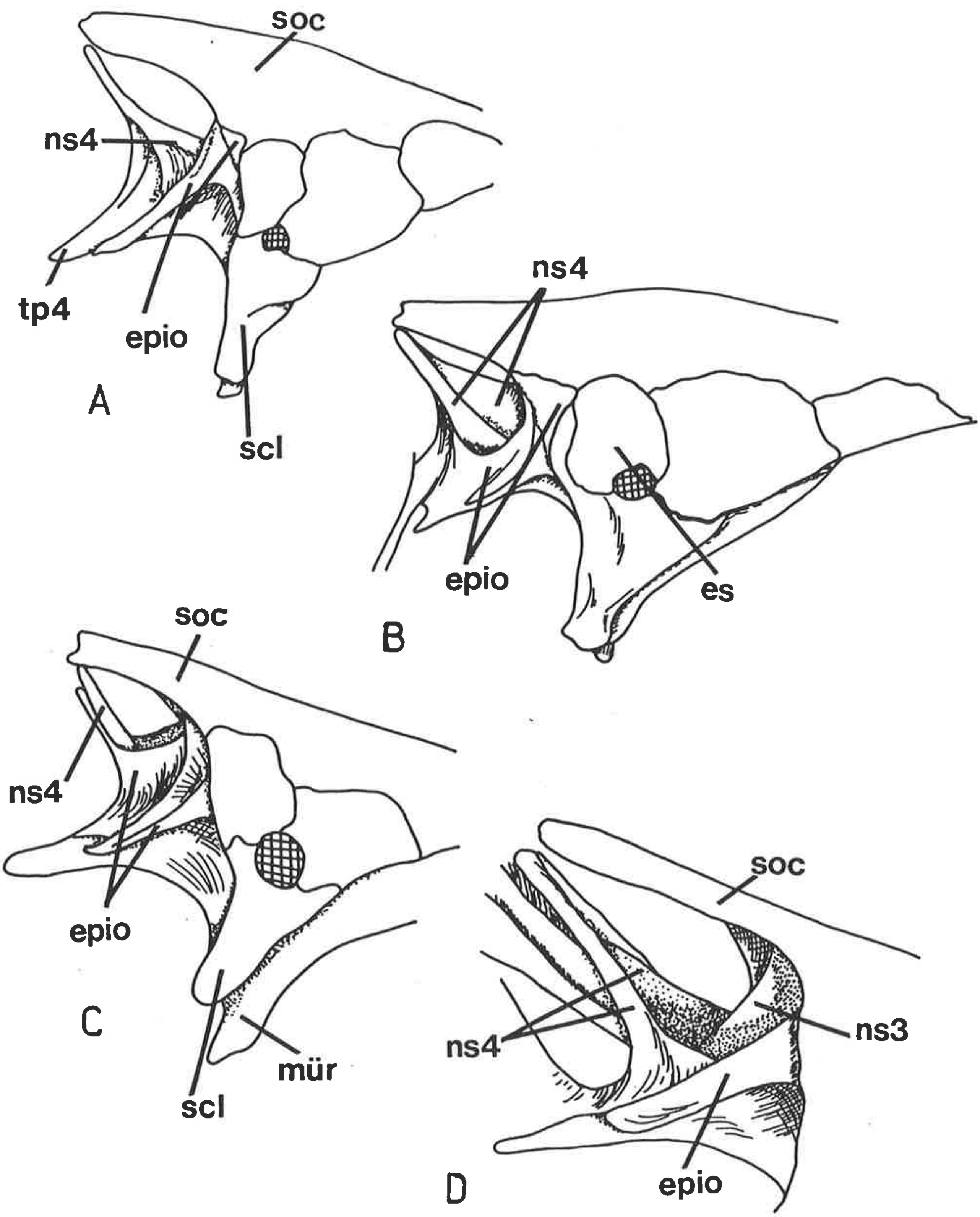


Figure 38. Fourth neural spine - epioccipital developments in Australo-Papuan ariids, LHS. A: "Arius" proximus, 158mm SL; B: "A". species 6, 60mm SL; C: "A". armiger, 176mm SL; D: Nedystoma dayi, 158mm SL. (See also, figs 3, 17).

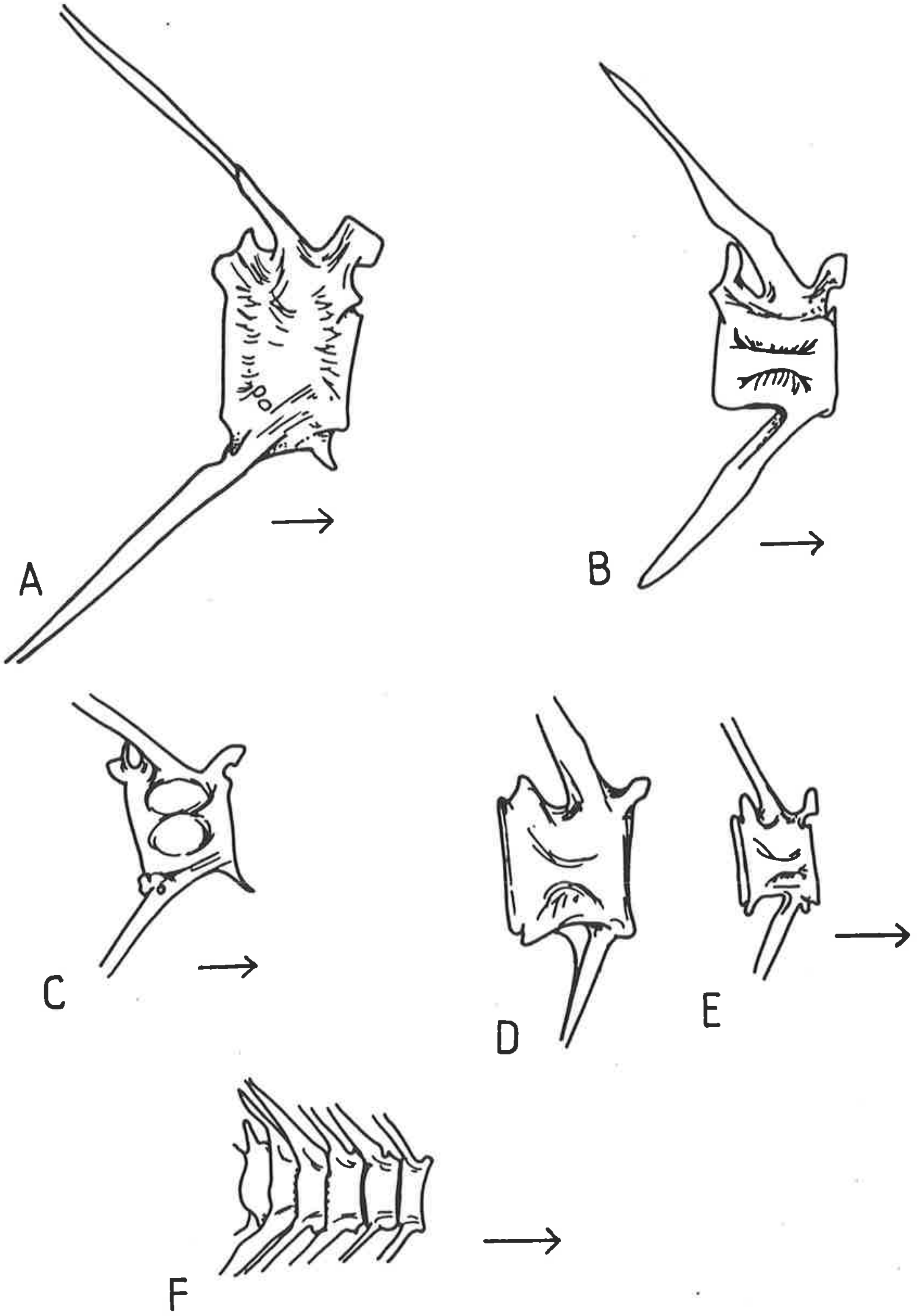


Figure 39. Individual caudal vertebrae from several ariid species. A: "Arius" arius, 190mm SL; B: "A". (Cochlefelis) spatula, 143mm SL; C: Nedystoma dayi, 158mm SL; D: "A". thalassinus, 127mm SL; E: "A". bilineatus, 128mm SL; F: Genus 1 argyropleuron 162mm SL. Both D and E are drawn to the same scale, and the vertebra drawn is the 15th forward of the hypural complex. In F, the drawn vertebrae are those immediately before the hypural complex. Arrows indicate front of body.

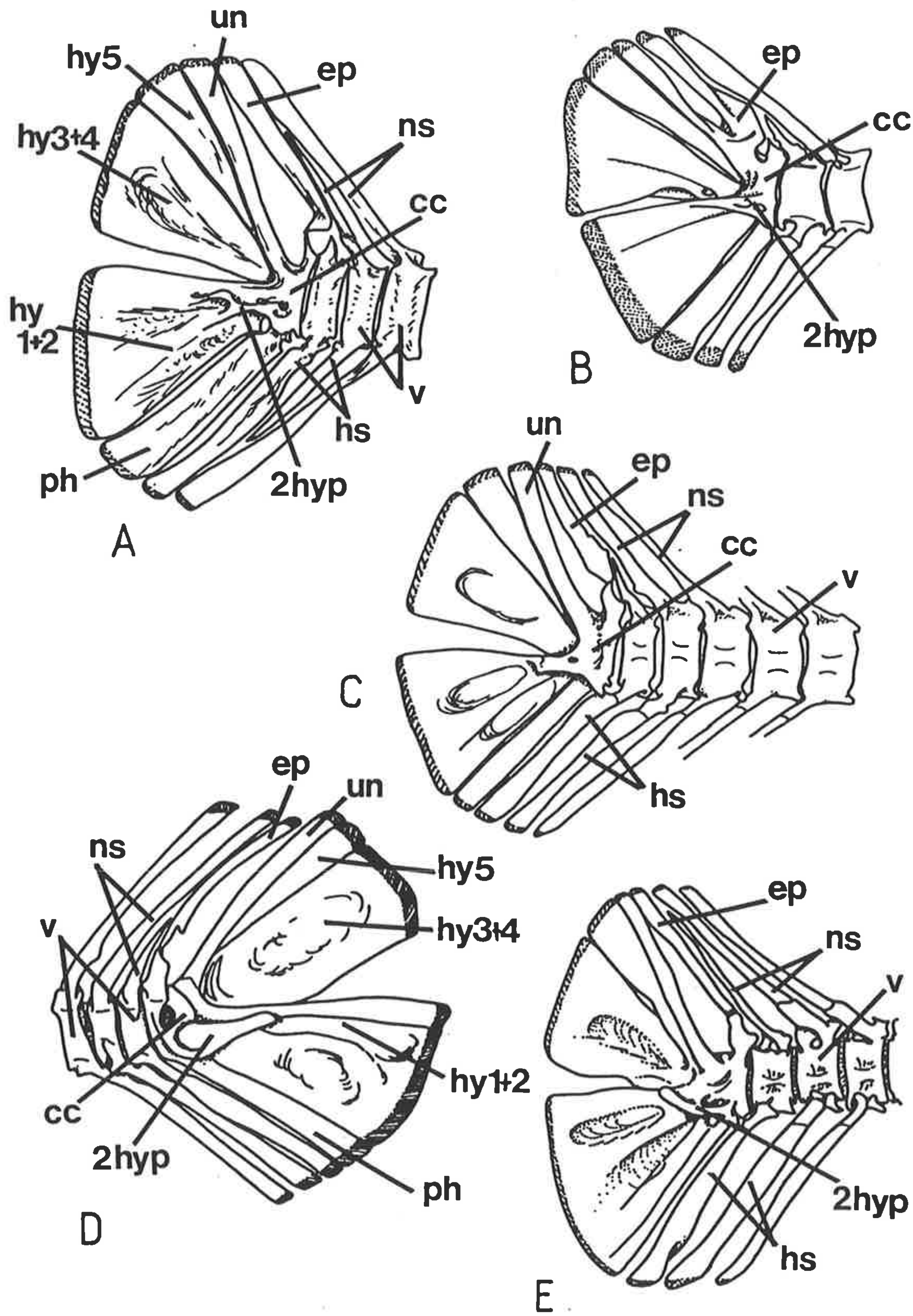


Figure 40. Caudal skeleton of various ariid species. A: "Arius" arius, 190mm SL; B: Cinetodus froggatti, 172mm SL; C: "A". velutinus, 156mm SL; D: Genus 1 argyropleuron, 145mm SL; E: "A". thalassinus, 127mm SL.

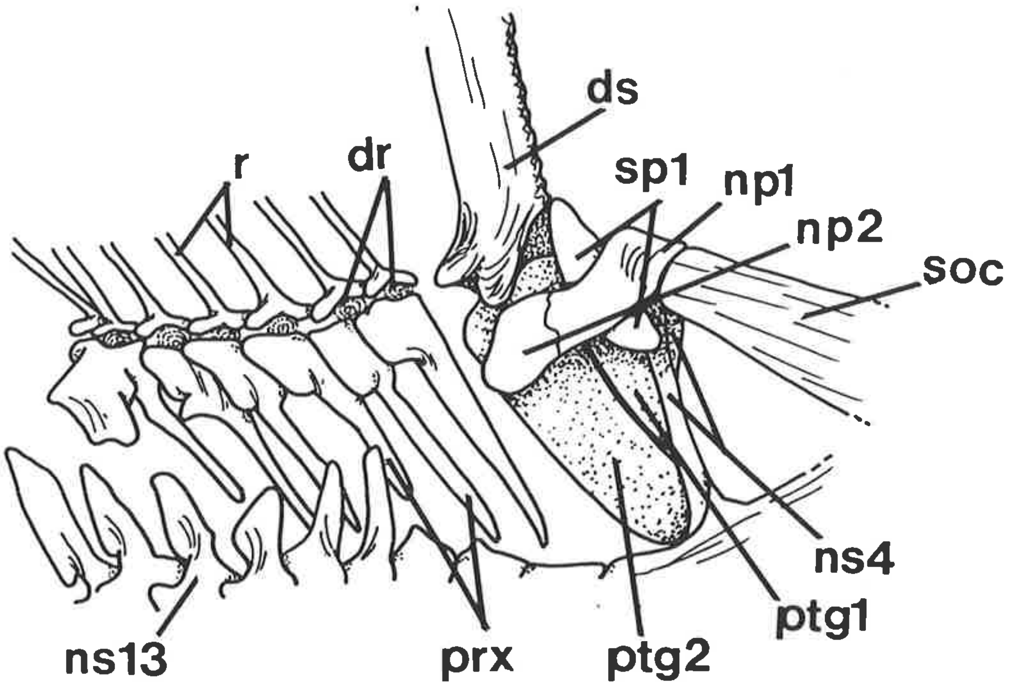


Figure 41. Dorsal fin - anterior vertebral region of "Arius" arius, 112 mm SL specimen.

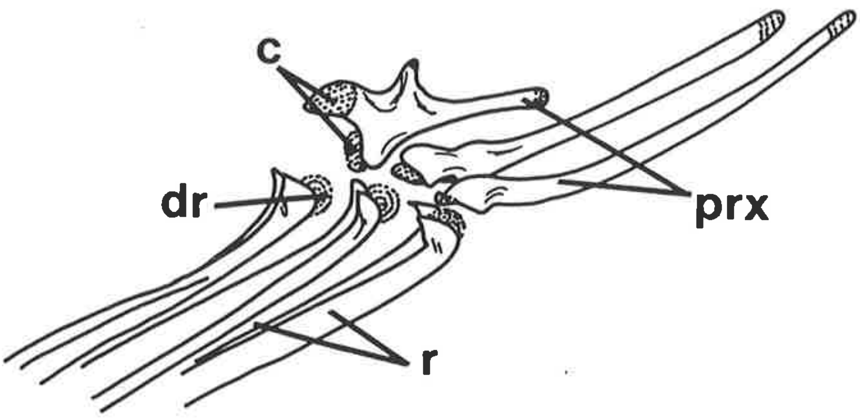


Figure 42. Distal termination of anal fin, "Arius" arius, 190mm SL specimen.

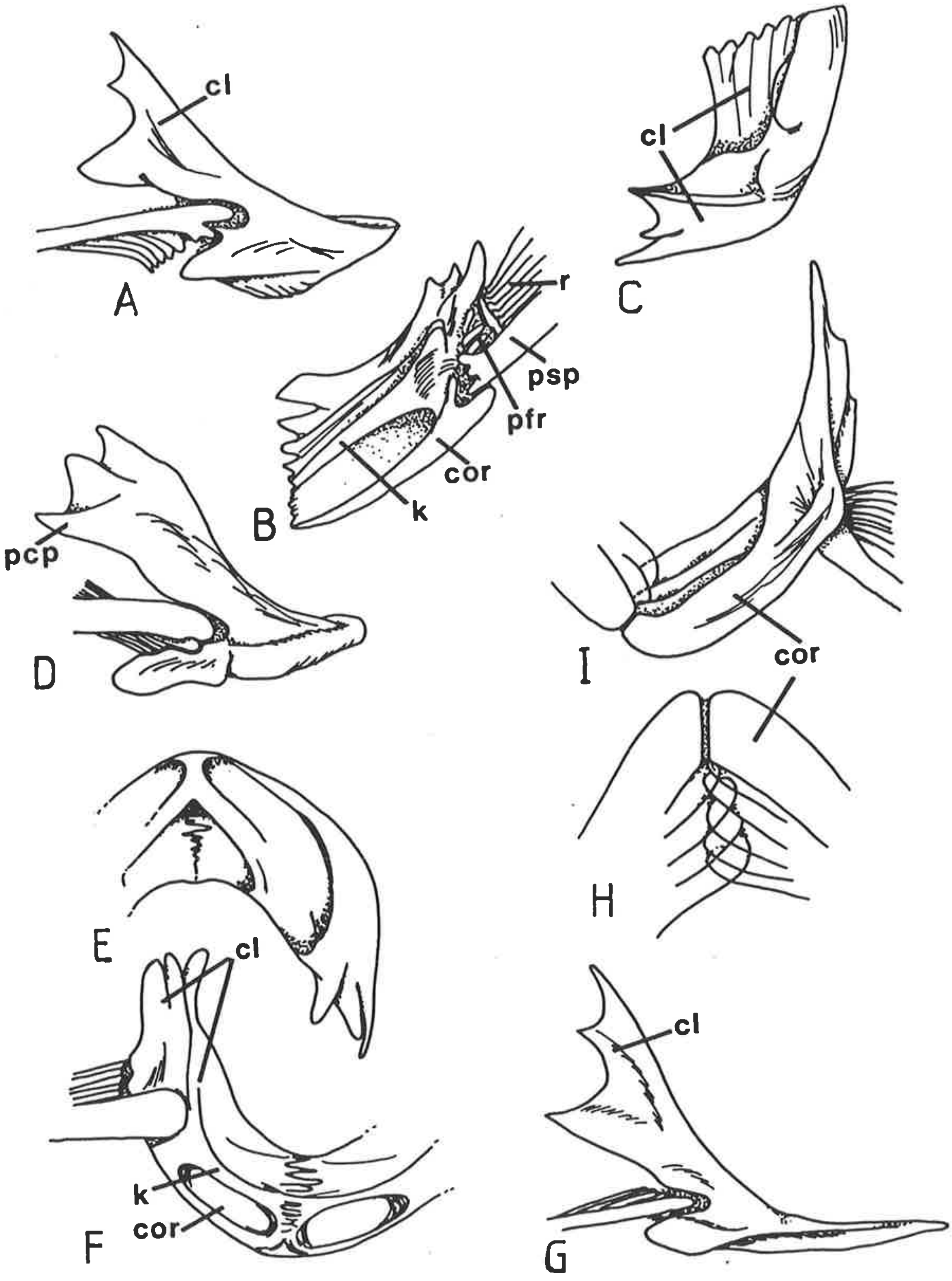


Figure 43. Pectoral girdle of three ariid taxa. A – C: "Arius" arius, 112mm SL (A: RHS lateral view; B: RHS ventral view; C: RHS dorsal view); D – F: Cinetodus froggatti, 172mm SL (D: RHS lateral view; E:RHS dorsal view; F: LHS ventral view); G – I: "Arius" (Brustiarius) nox, 101mm SL (G: RHS lateral view; H: centre, dorsal view sketch; I: LHS dorsal oblique view).

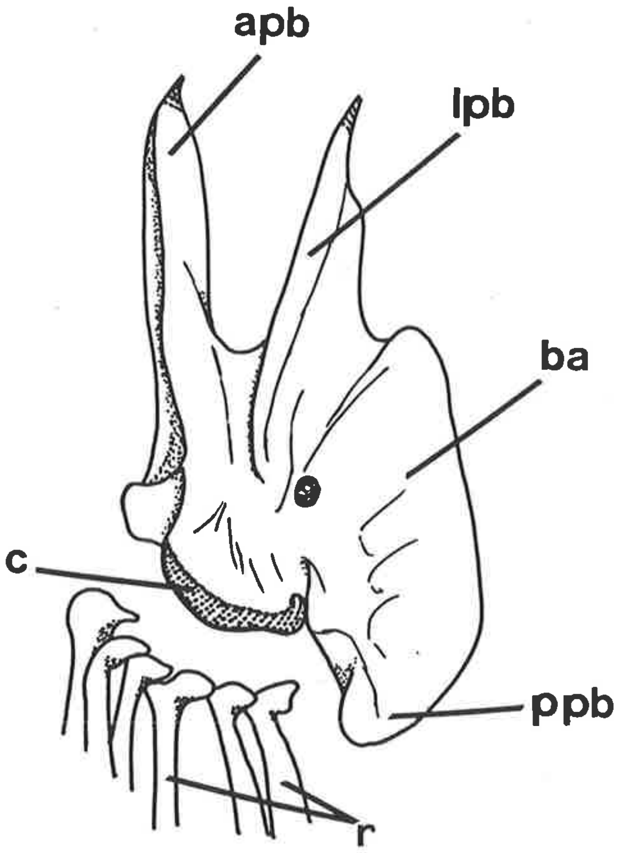


Figure 44. Pelvic girdle (basipterygium) in "Arius" arius, 190mm SL specimen (RHS dorsal view).

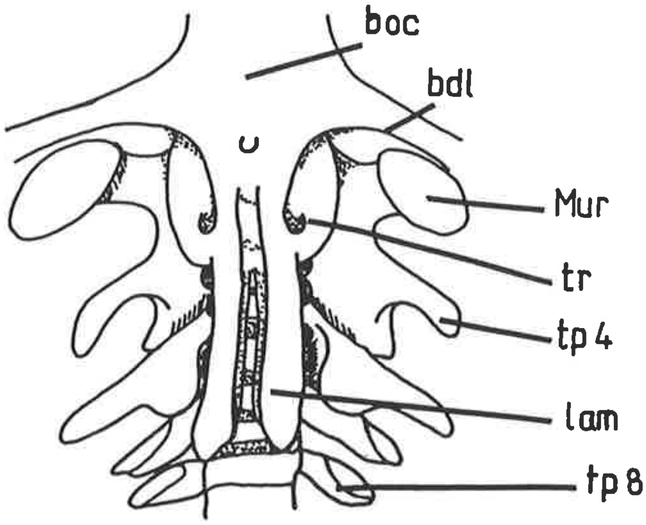


Figure 45. Anterior vertebral section of *Ancharius fuscus*, ventral aspect (131mm SL specimen). Refer Chapter 2.2.1 for explanation of abbreviations.

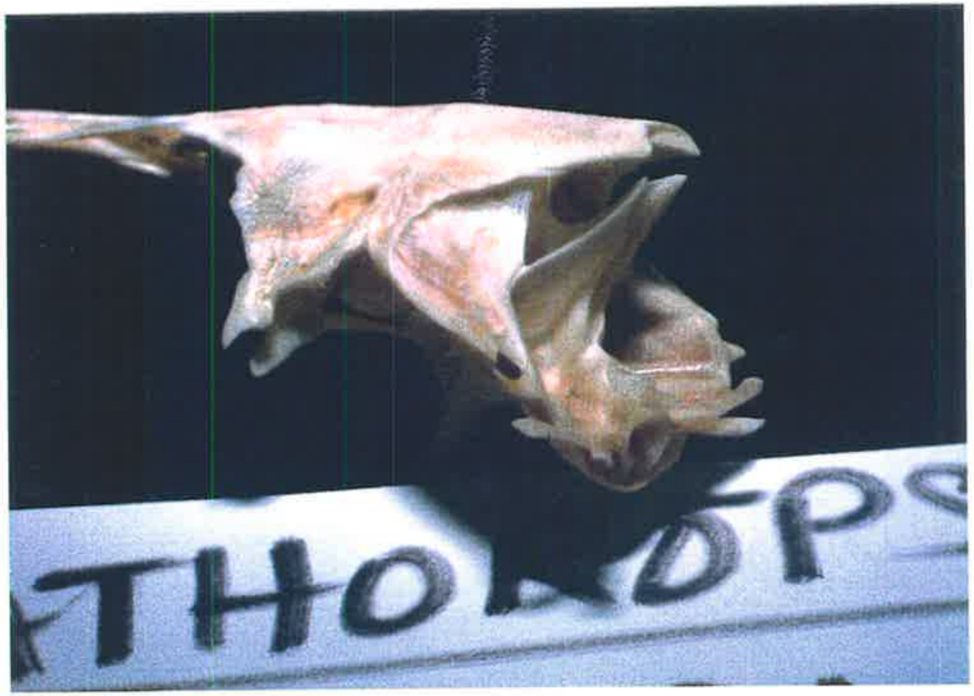


Figure 46. Posterolateral aspect of skull of "Cathorops" species (USNM specimen). The extensive laminae of the neural spine and epioccipital are very apparent. Note also the long subvertebral cone and form of the anterior vertebral lamina.

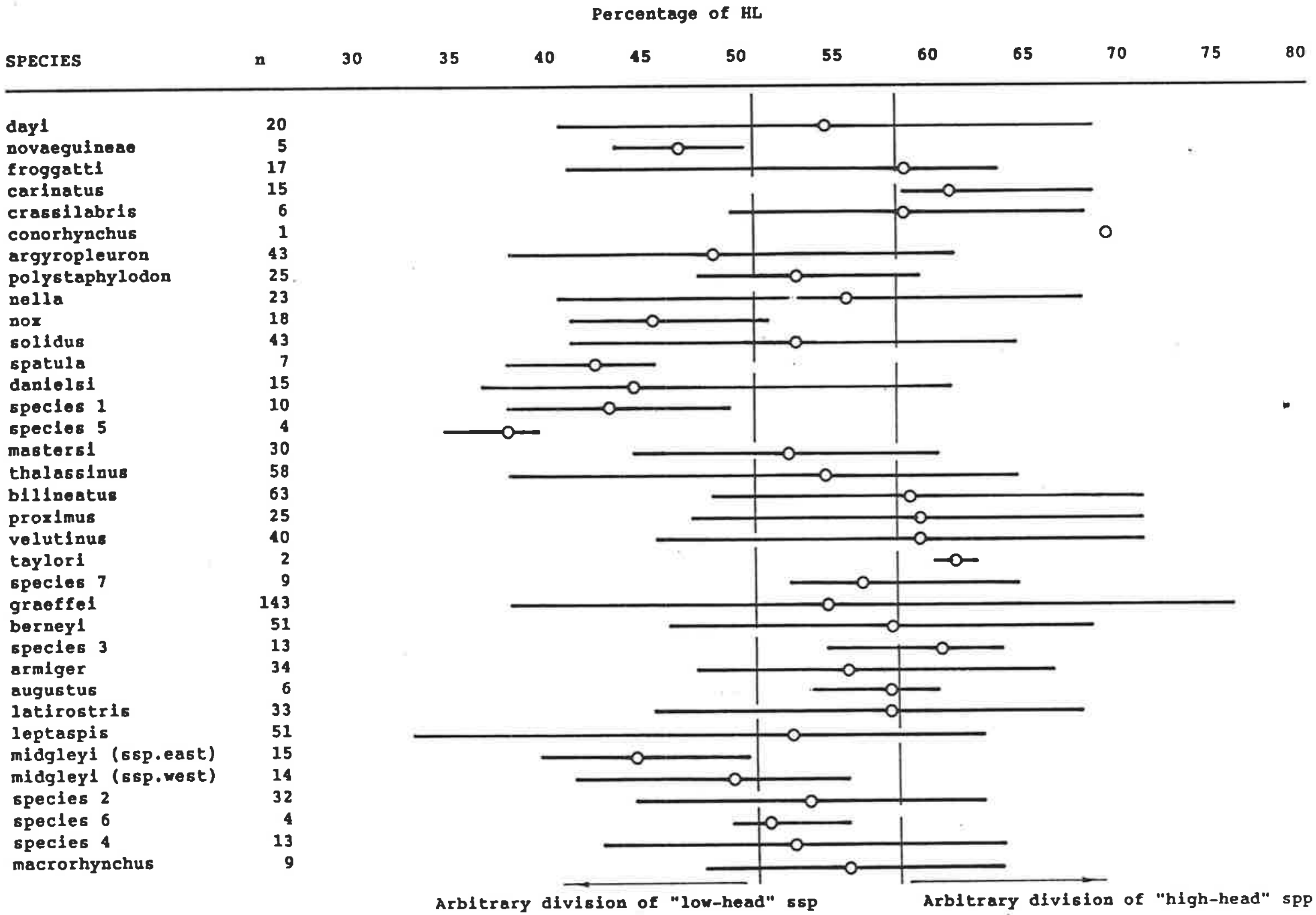


Figure 47. Head height as % HL in Australo-Papuan ariids. (Bar represents range of values; O represents mean; n represents number of specimens. Refer figure 71 for direction of measurement.)

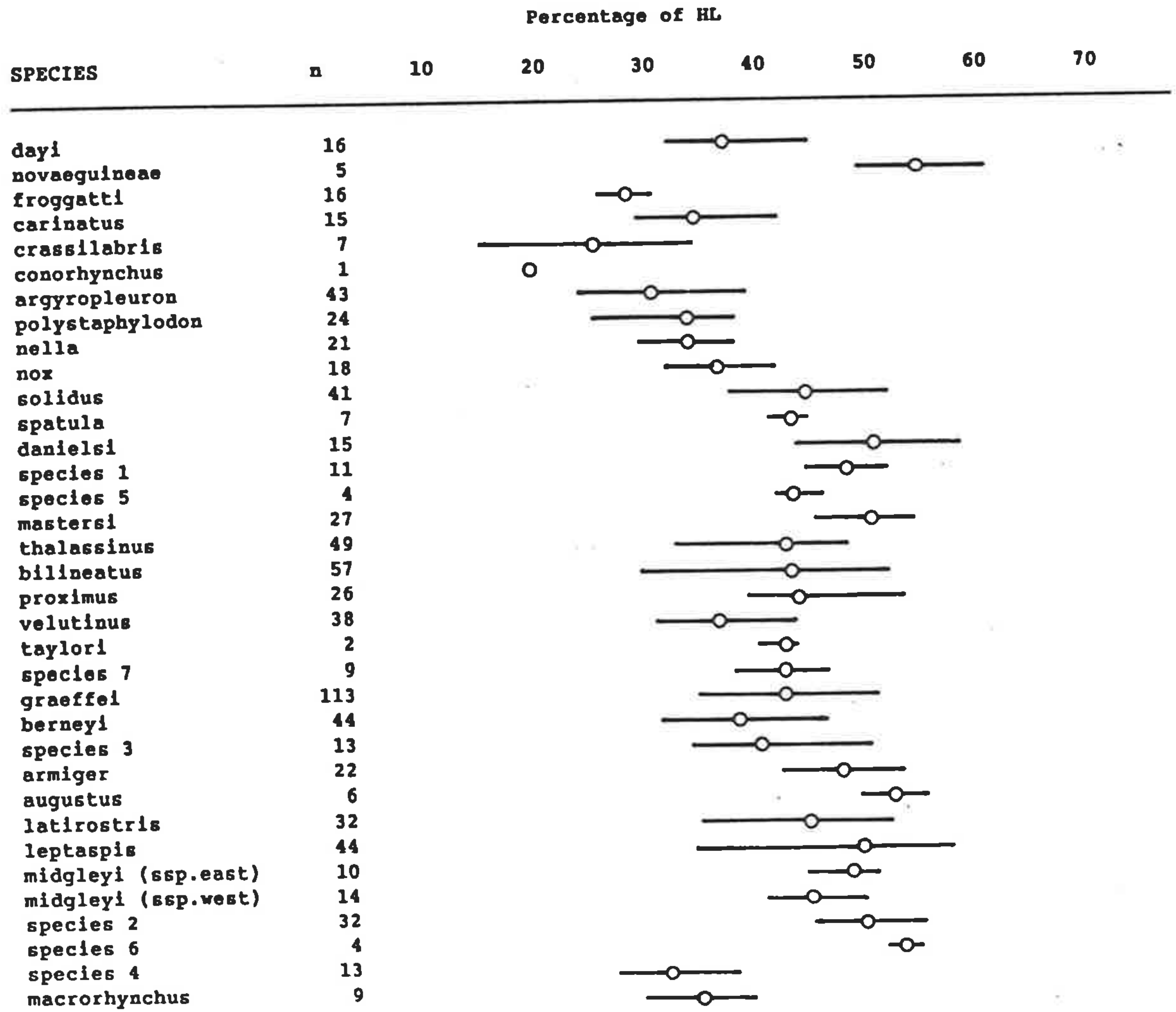


Figure 48. Mouth width as % HL in Australo-Papuan ariids. (Bar represents range of values; O represents mean; n represents number of specimens. Refer figure 74 for direction of measurement.)

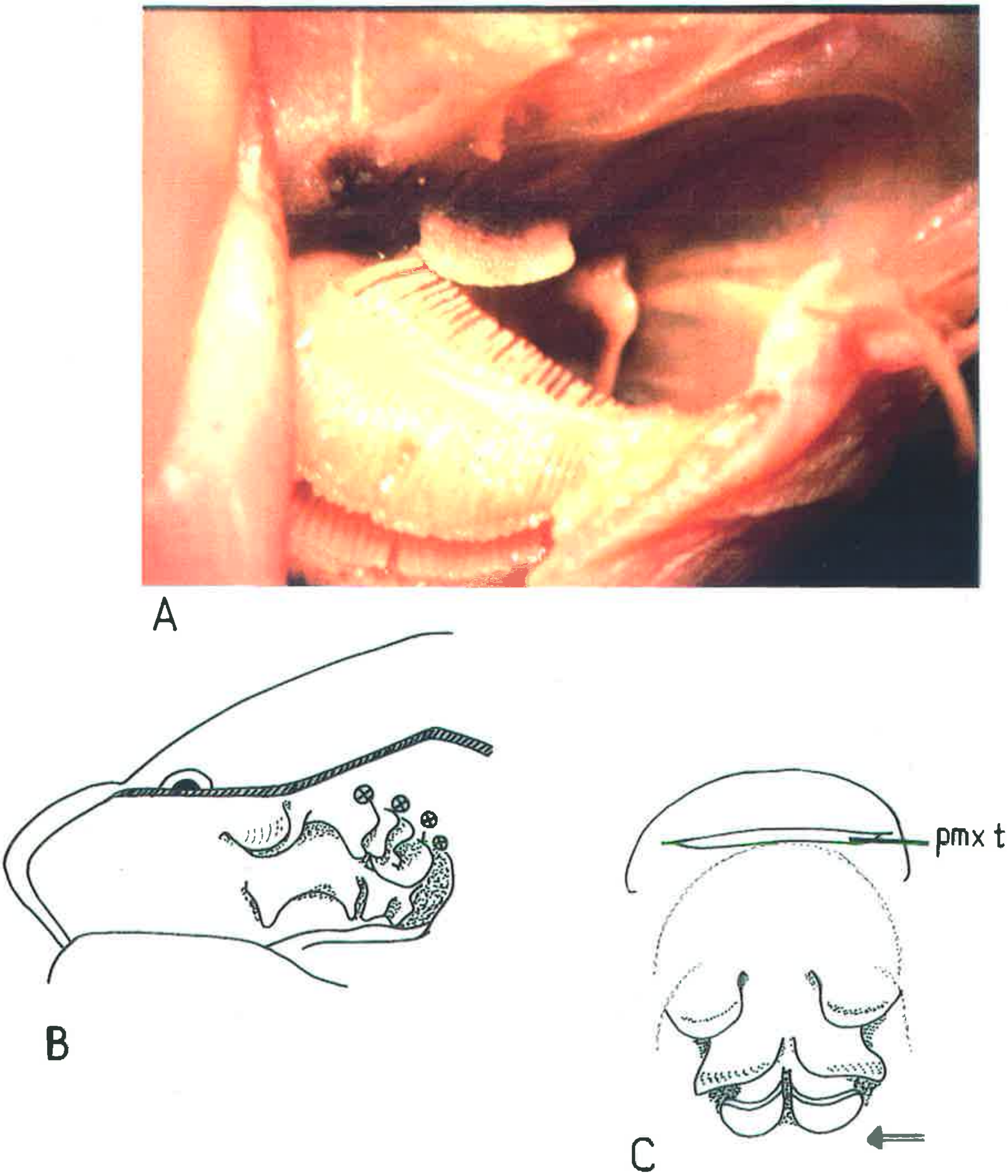


Figure 49. Palatal flaps in A) "Arius" species 4, arrowed (89mm SL specimen; mouth severed on RHS); B) Nedystoma dayi (196mm SL specimen; LHS, diagrammatic, position of gill arches indicated by a circled cross); C) Nedystoma dayi, same specimen, position of 4th gill arch arrowed.

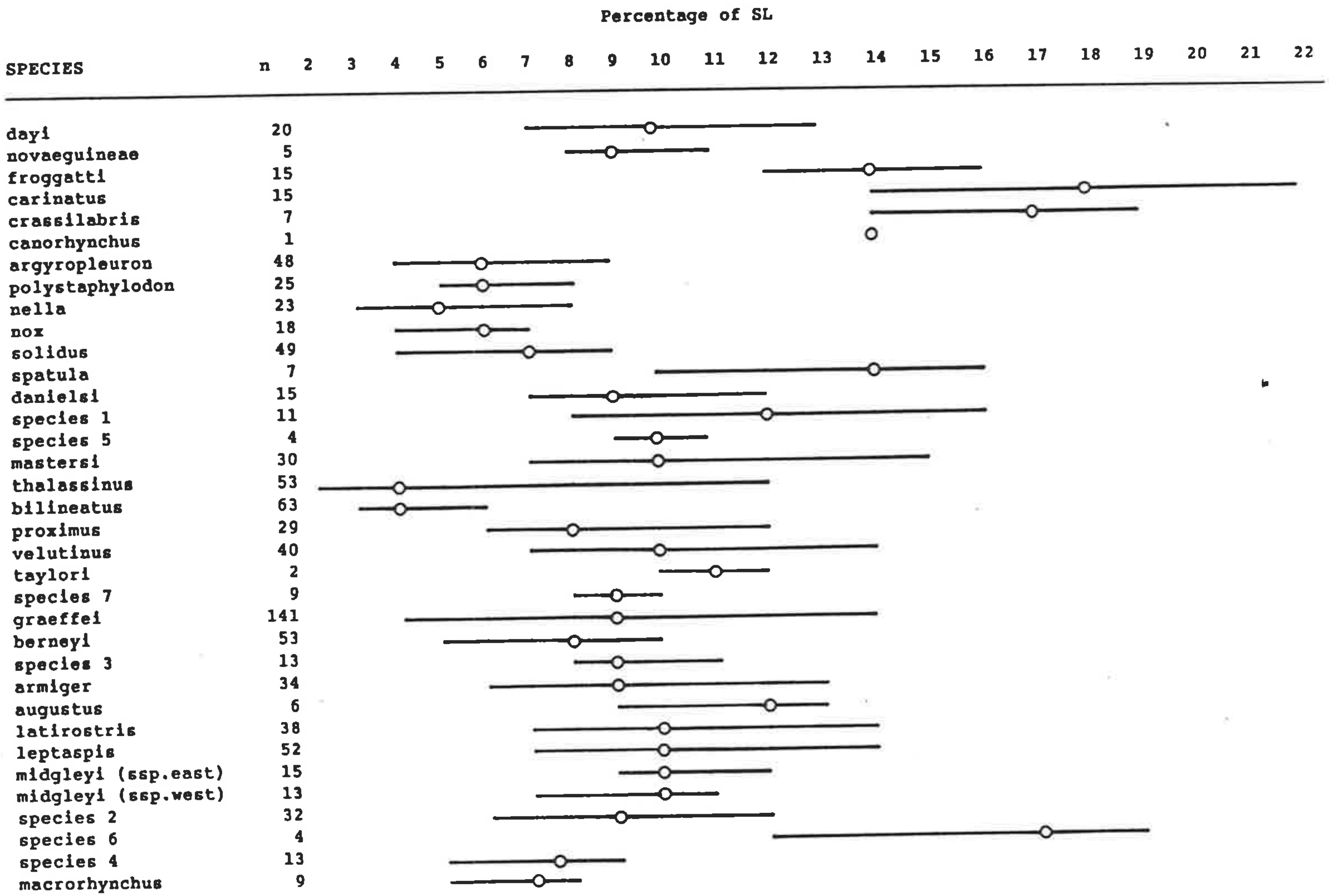


Figure 50. Length of adipose fin base as % SL. (Bar represents range of values; O represents mean; n represents number of specimens. Refer figure 72 for direction of measurement.)

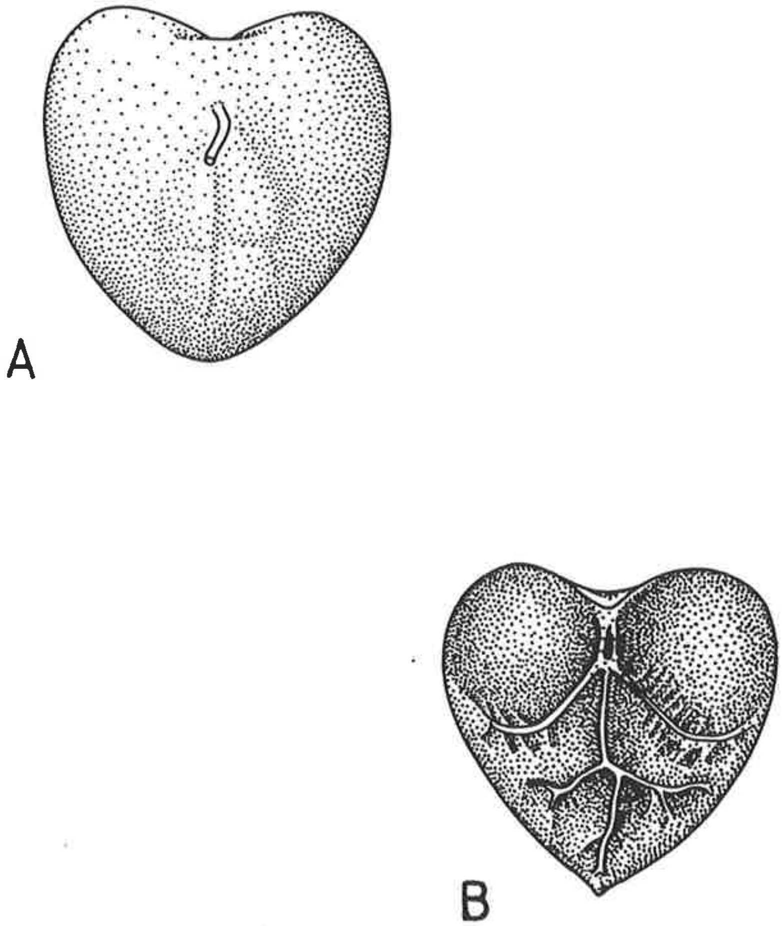


Figure 51. Swimbladder of <u>Nedystoma dayi</u>, 158mm SL: A) ventral aspect; B) internal view, one longitudinal section.

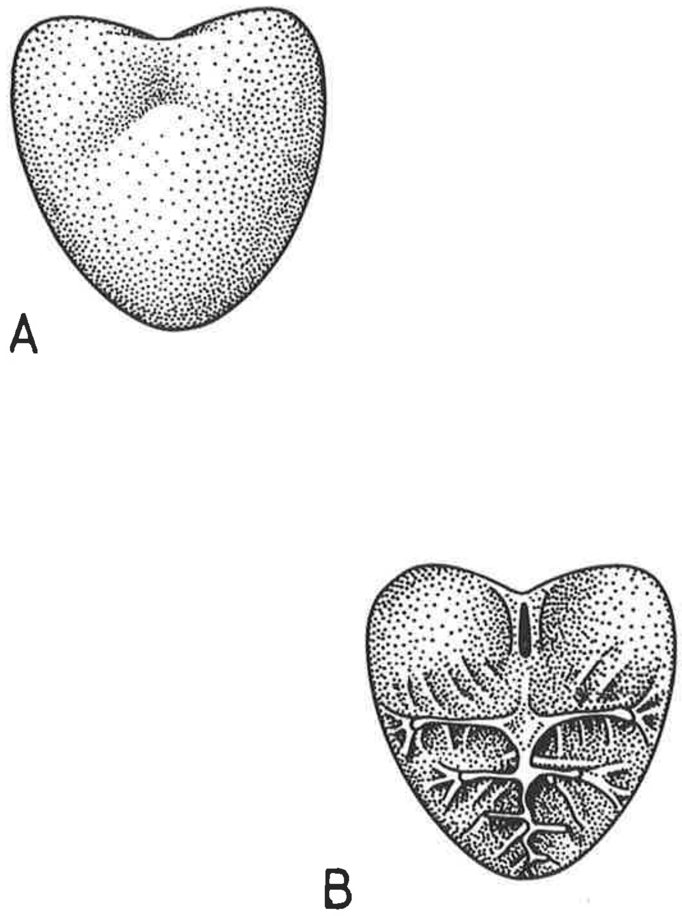


Figure 52. Swimbladder of "Arius" species 7, 237mm SL: A) ventral aspect; B) internal view, one longitudinal section.

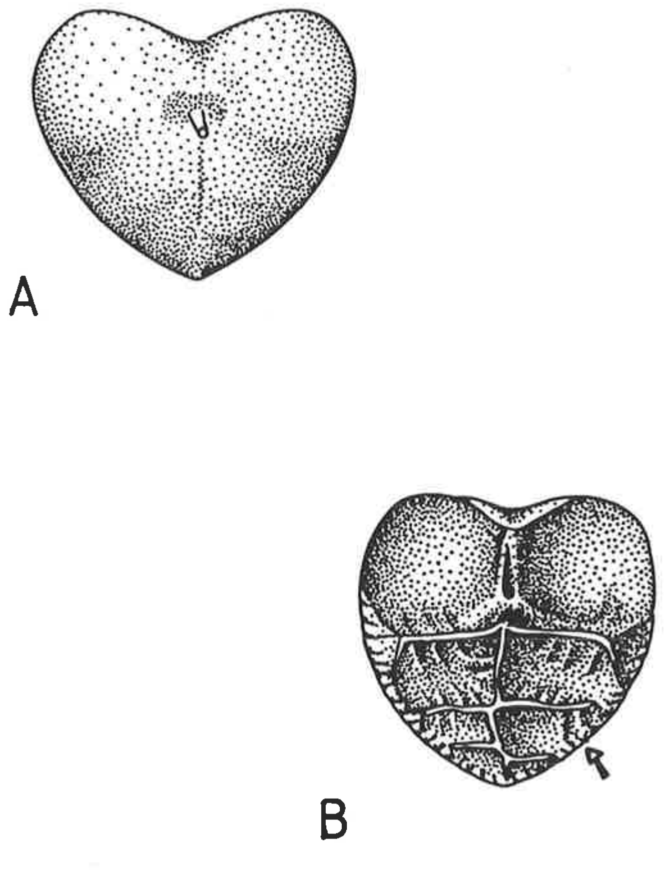


Figure 53. Swimbladder of Genus 1 polystaphylodon, 160mm SL specimen: A) ventral aspect; B) internal view, one longitudinal section. Arrow indicates scalloping.

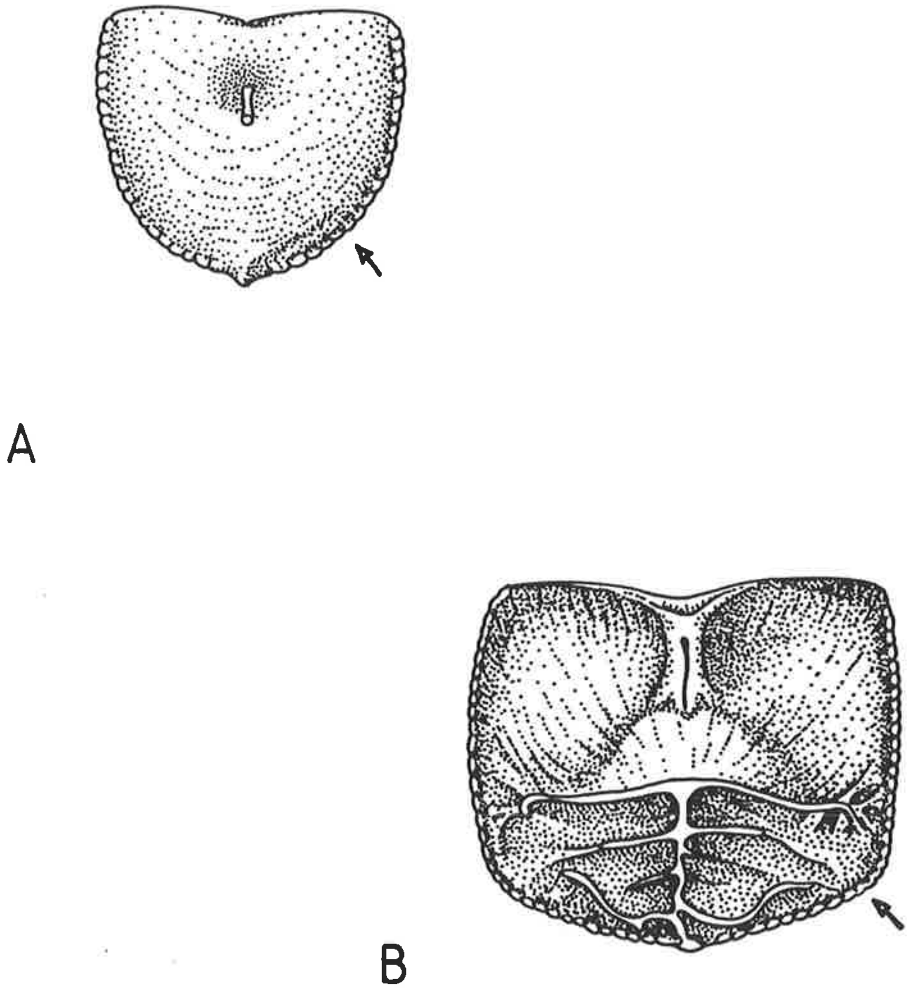


Figure 54. Swimbladder of Genus 1 argyropleuron, 162mm SL specimen: A) ventral aspect; B) internal view, one longitudinal section. Arrow indicates scalloping.

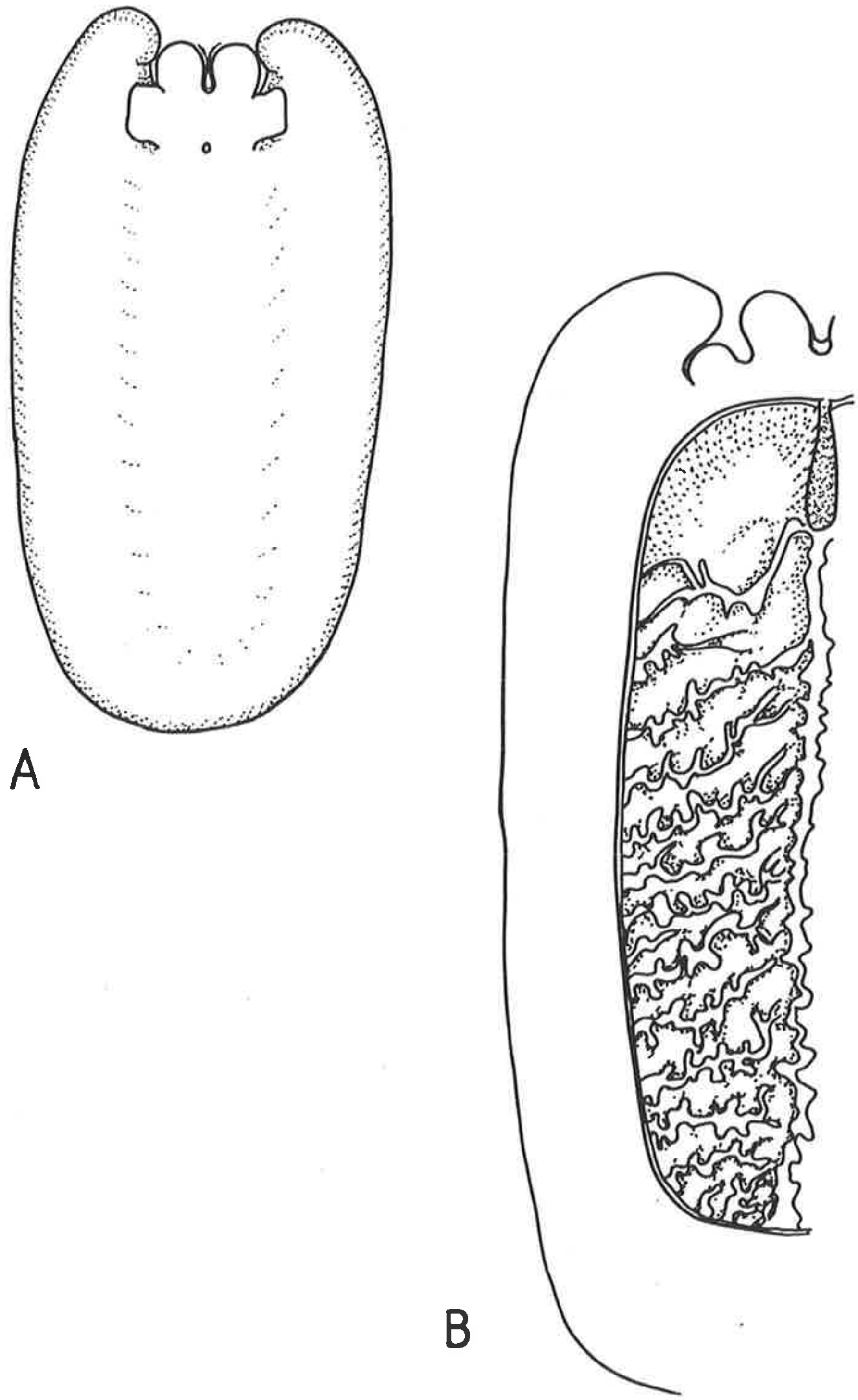


Figure 55. Swimbladder of "Arius" (Hemiarius) species 5, 188mm SL specimen: A) ventral aspect (x 1.5); B) internal view, RHS section (x 2) (outer wall cut through).

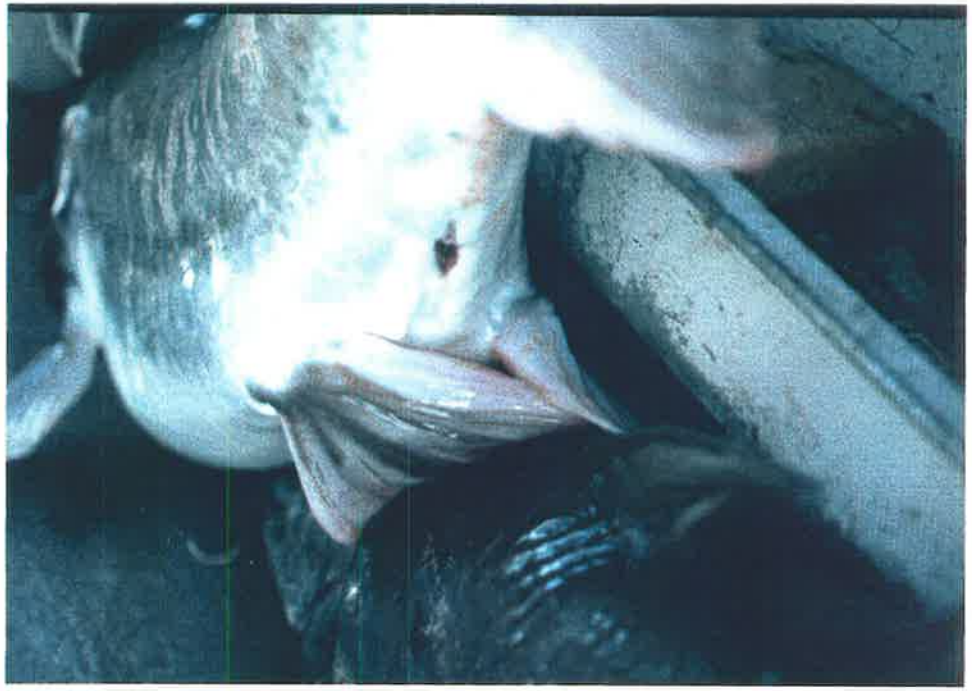


Figure 56. Thickened pads of epithelial tissue on inner ventral rays in sexually mature "Arius" midgleyi (gonadal stage VI; Lake Argyle, WA, October 1987).

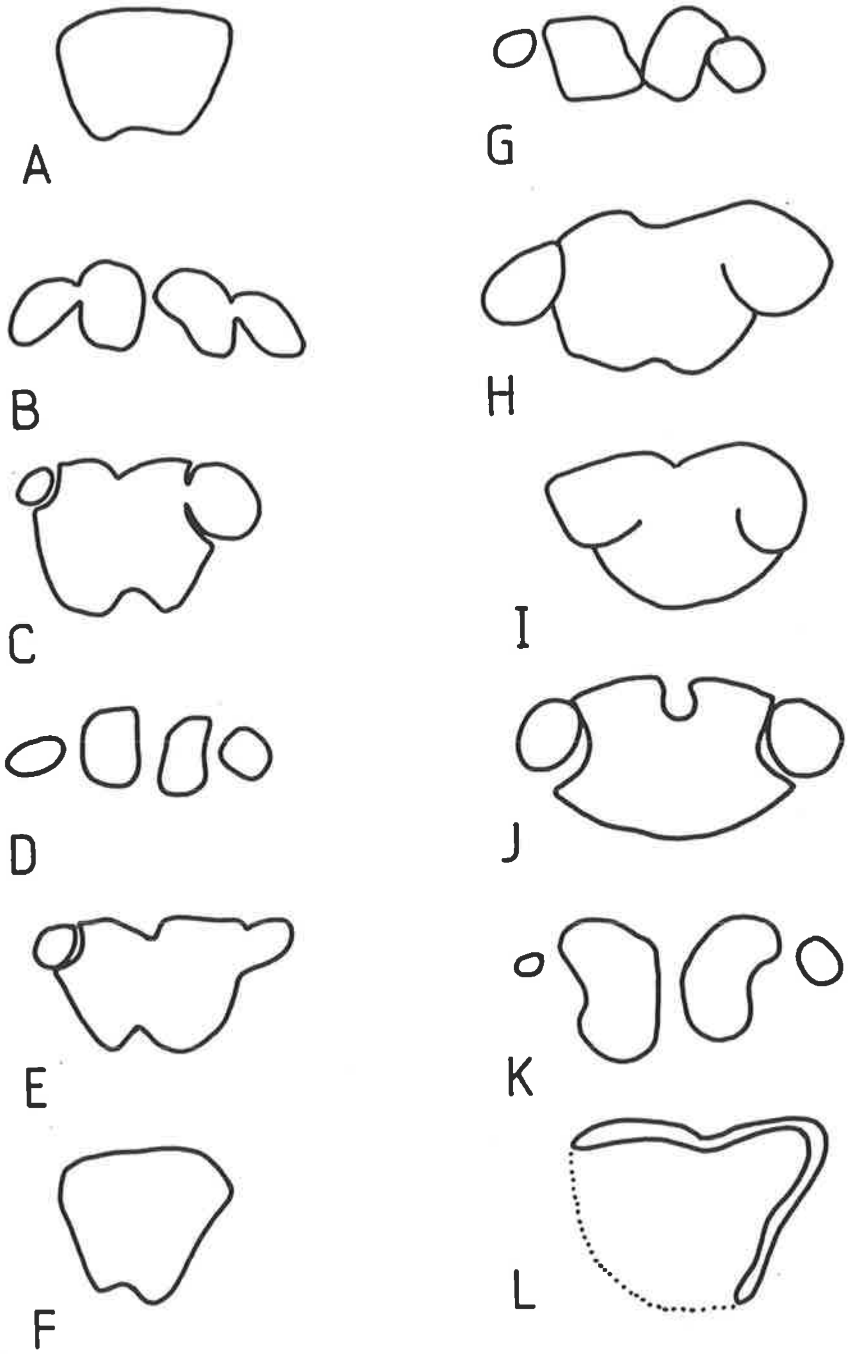


Figure 57. Variation in palatal dental arrangement in "Arius" (Brustiarius solidus: A) 185mm SL specimen; B) 80mm SL; C) 101mm SL; D) 114mm SL; E) 155mm SL; F) 230mm SL; G) 195mm SL; H) 146mm SL; I) 154mm SL; J) 260mm SL; K) 270mm SL; L) 247mm SL (dotted line indicates margin of tooth plate).

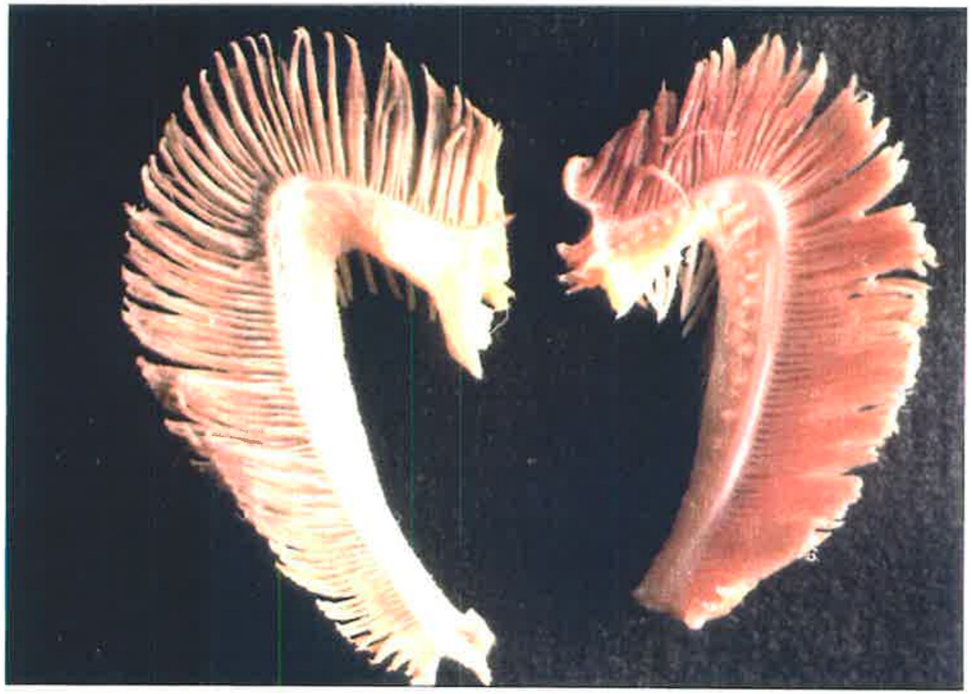


Figure 58. Posterior face of first gill arch of juvenile specimens of "Arius" leptaspis (LHS),with no posterior rakers and "Arius" graeffei (RHS) with posterior rakers.

Figure 59. Ventral aspect of skull of Sciadeichthys species, USNM 214864. Parasphenoid tooth patches (arrowed) are fixed to the bone, distal to the autogenous tooth patches.

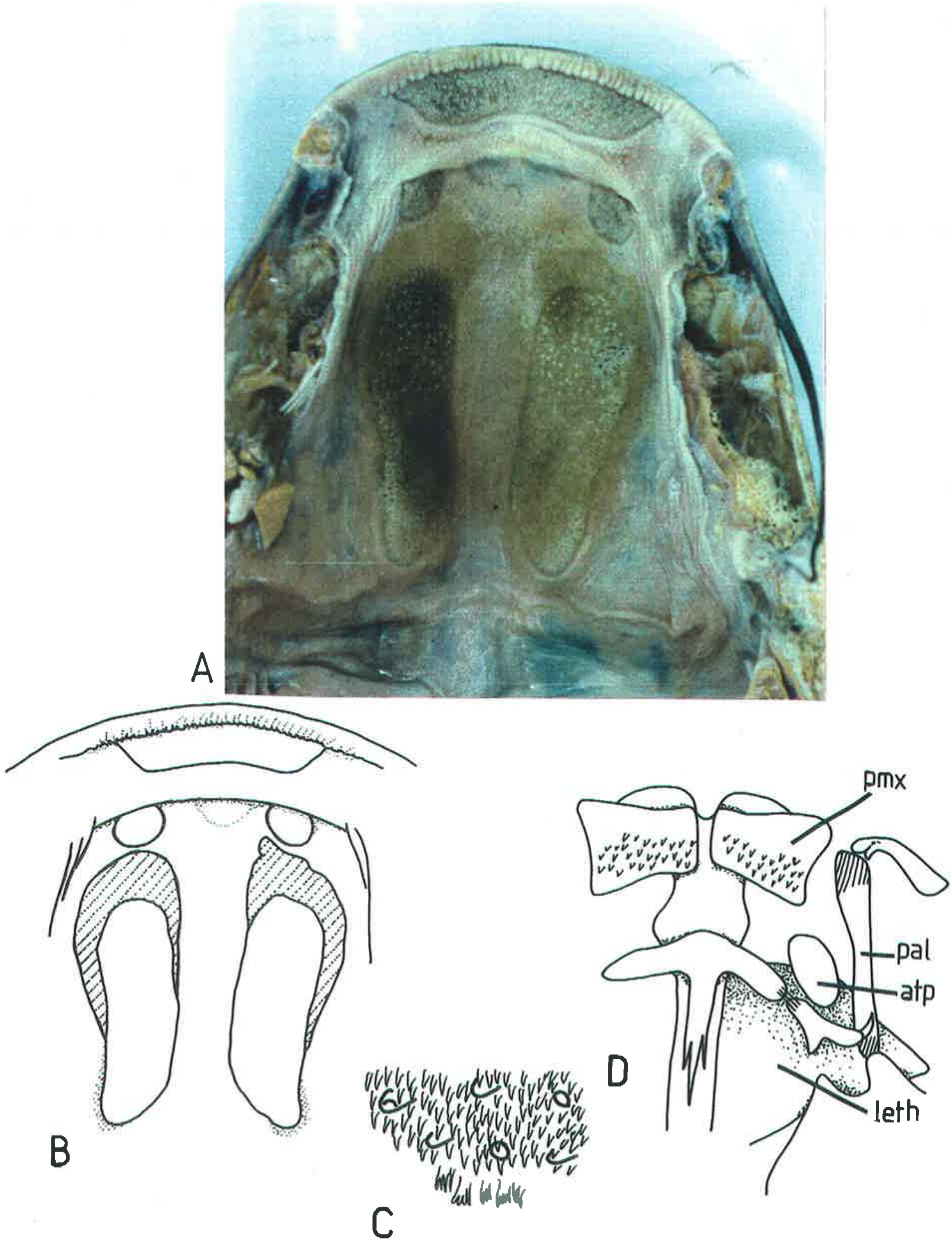


Figure 60. Palate of Genus 1 nella brooding male, est. 400mm SL. Many teeth have been shed from palatal patches, and soft, villose tissue has developed on and around the patches. B) drawing of the same; C) drawing of tissue-enveloped tooth section. D) autogenous tooth patch(es) of "Arius" species 4 (151mm SL) - always present yet never toothed (refer Chapter 2.2.1 for explanation of abbreviations).

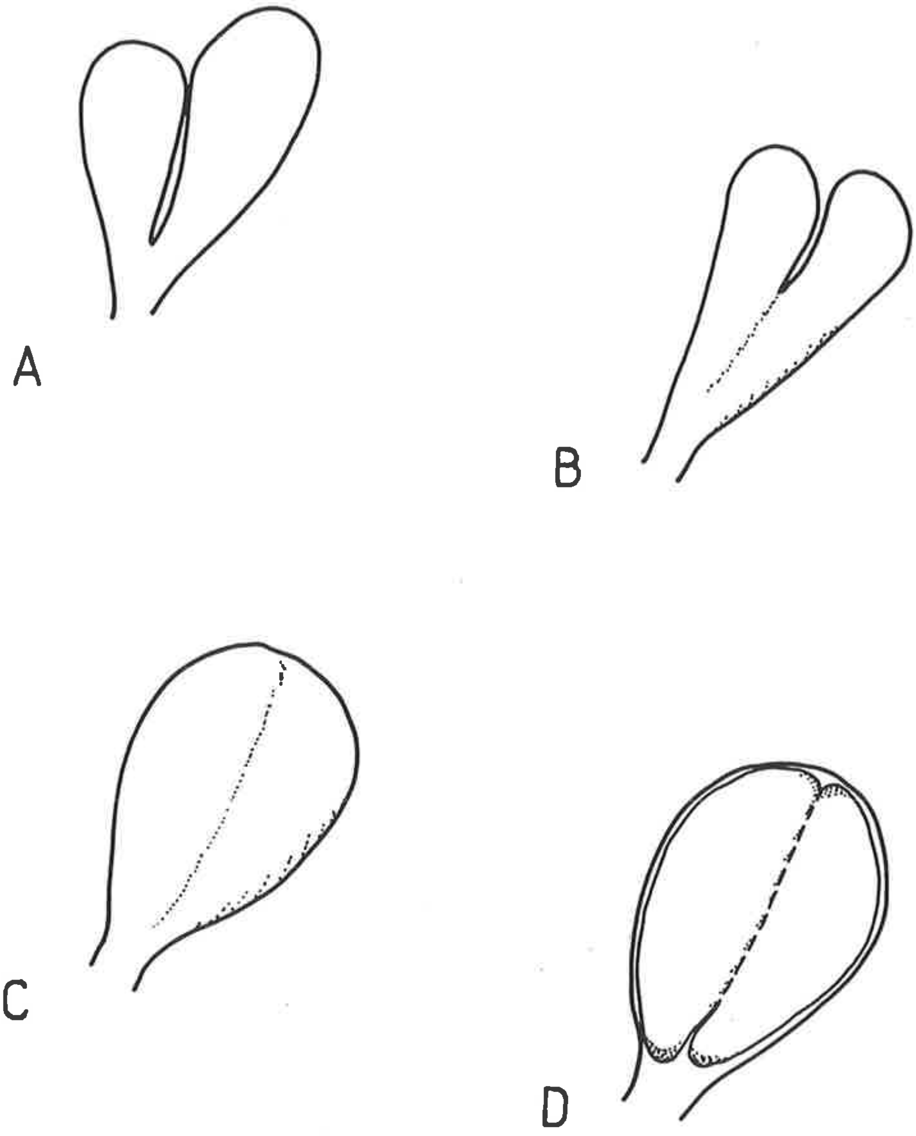


Figure 61. Diagram of ovaries of A) most ariids, where ovaries are clearly bilobate; B) "*Arius*" species 4, where the ovaries are united in the proximal third; C) *Nedystoma novaeguineae*, where ovaries externally form a single unit; D) cross-section through united gonads in *N. novaeguineae*.

Figure 62. Skull of "*Arius*" *grandicassis* (90mm HL; USNM 214876) showing expanded supraoccipital process.

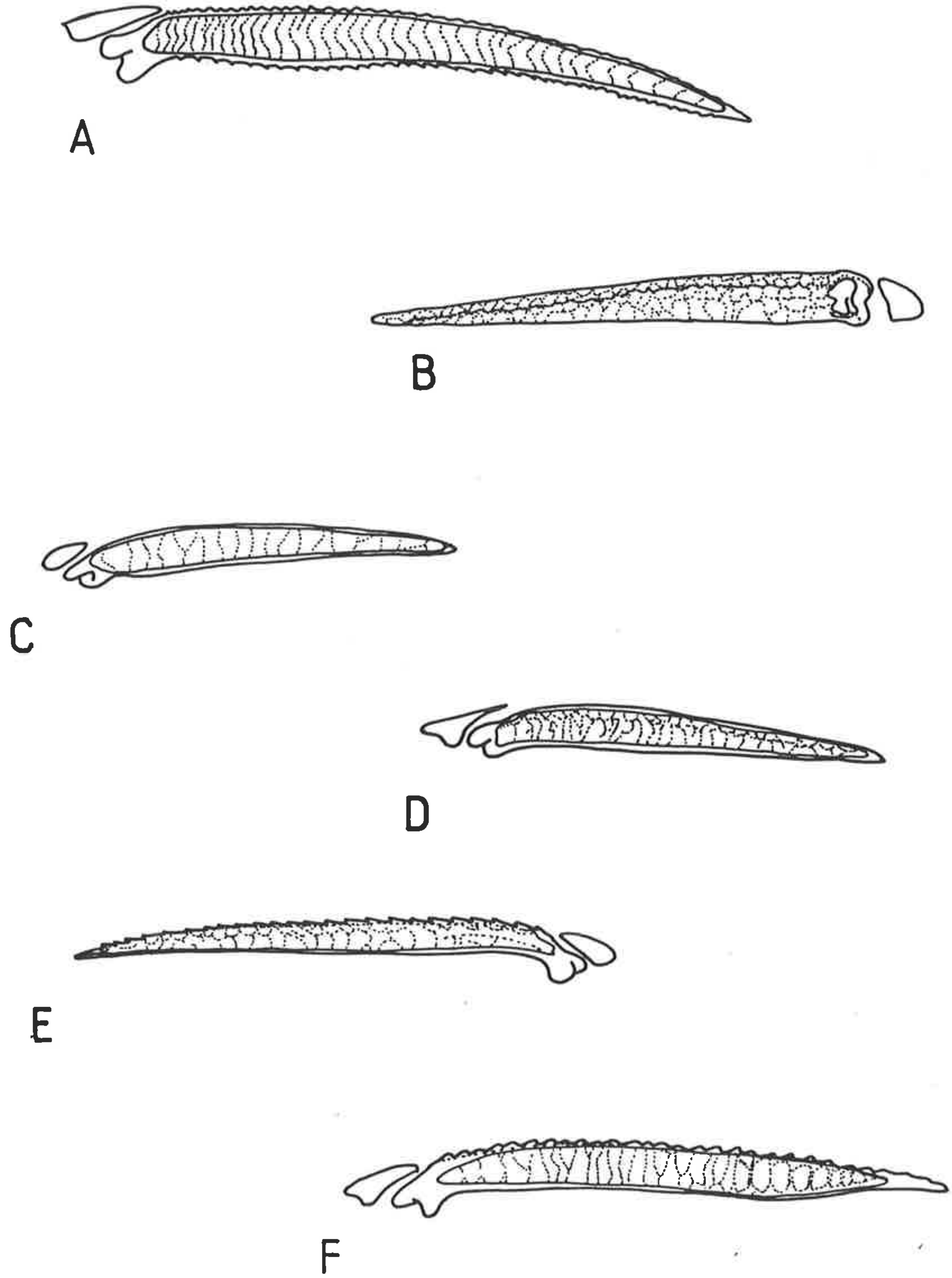


Figure 63. Drawings from radiographs of chambered fin spines in: A) "Arius (Hemiarius) stormii; B) "Arius" macronotacanthus; C) Genus 1 dussumieri; D) Cephalocassis melanochir; E) "Arius" thalassinus F) Genus 1 nella.

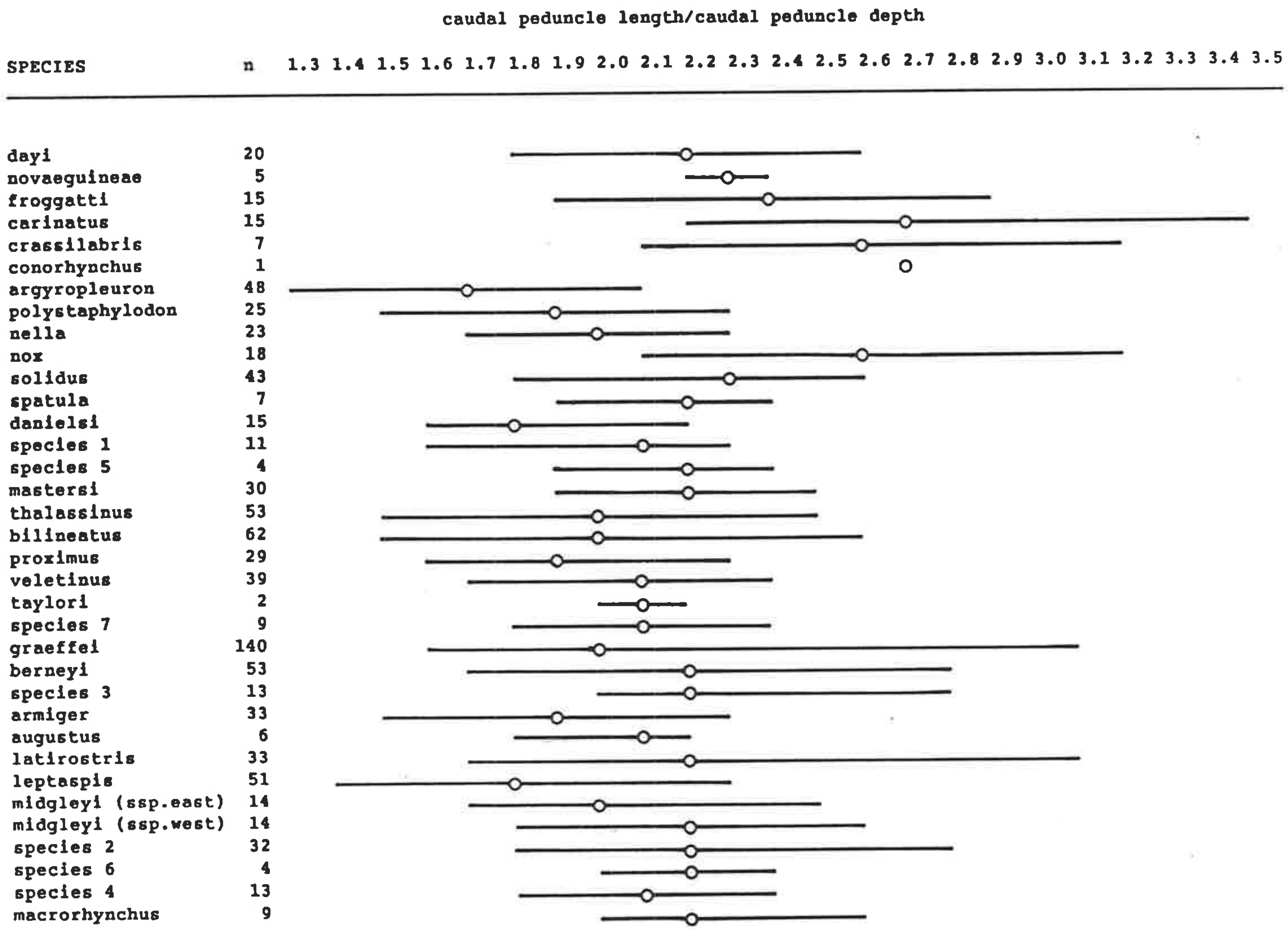


Figure 64. Caudal peduncle length divided by peduncle depth ratio for Australo-Papuan ariids. (Bar represents range of values; O represents mean; n represents number of specimens. Refer figure 71 for direction of measurement.)

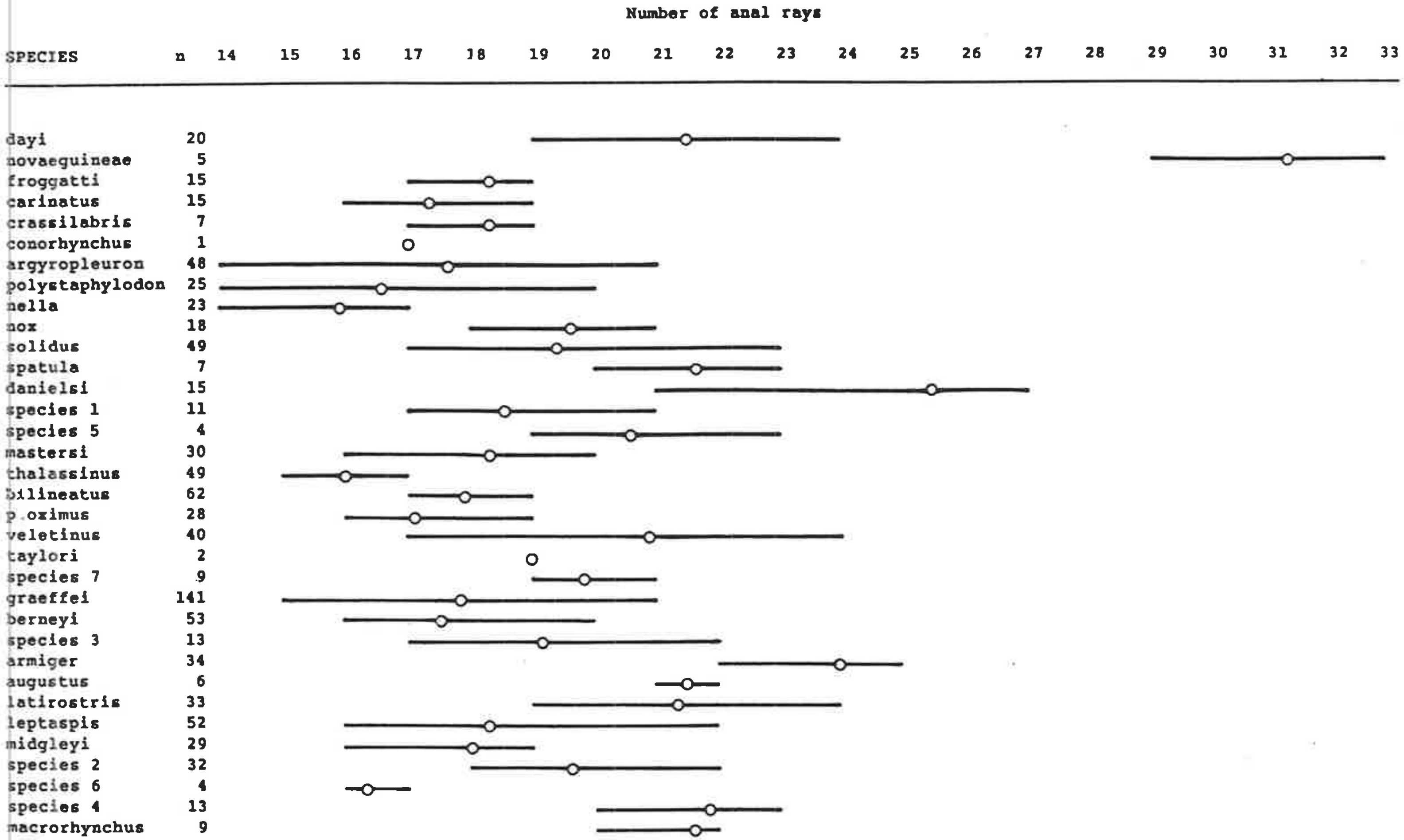


Figure 65. Anal ray count (total elements) in Australo-Papuan ariids. (Bar represents mean; O represents range of values; n represents number of specimens.)

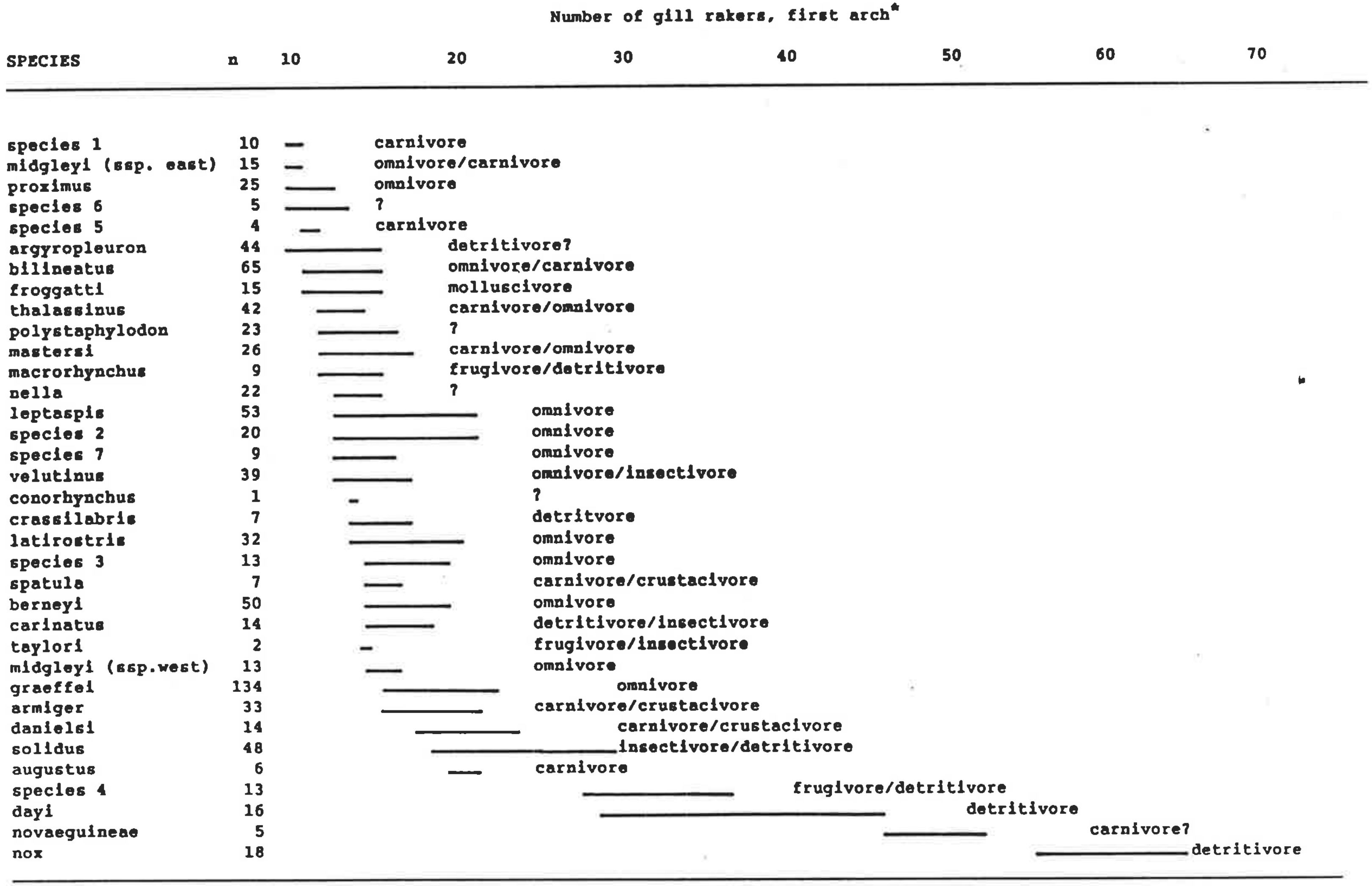


Figure 66. Gill raker count (total, first arch) compared with diet in Australo-Papuan ariids. (Bar represents range of values; n represents number of specimens.)

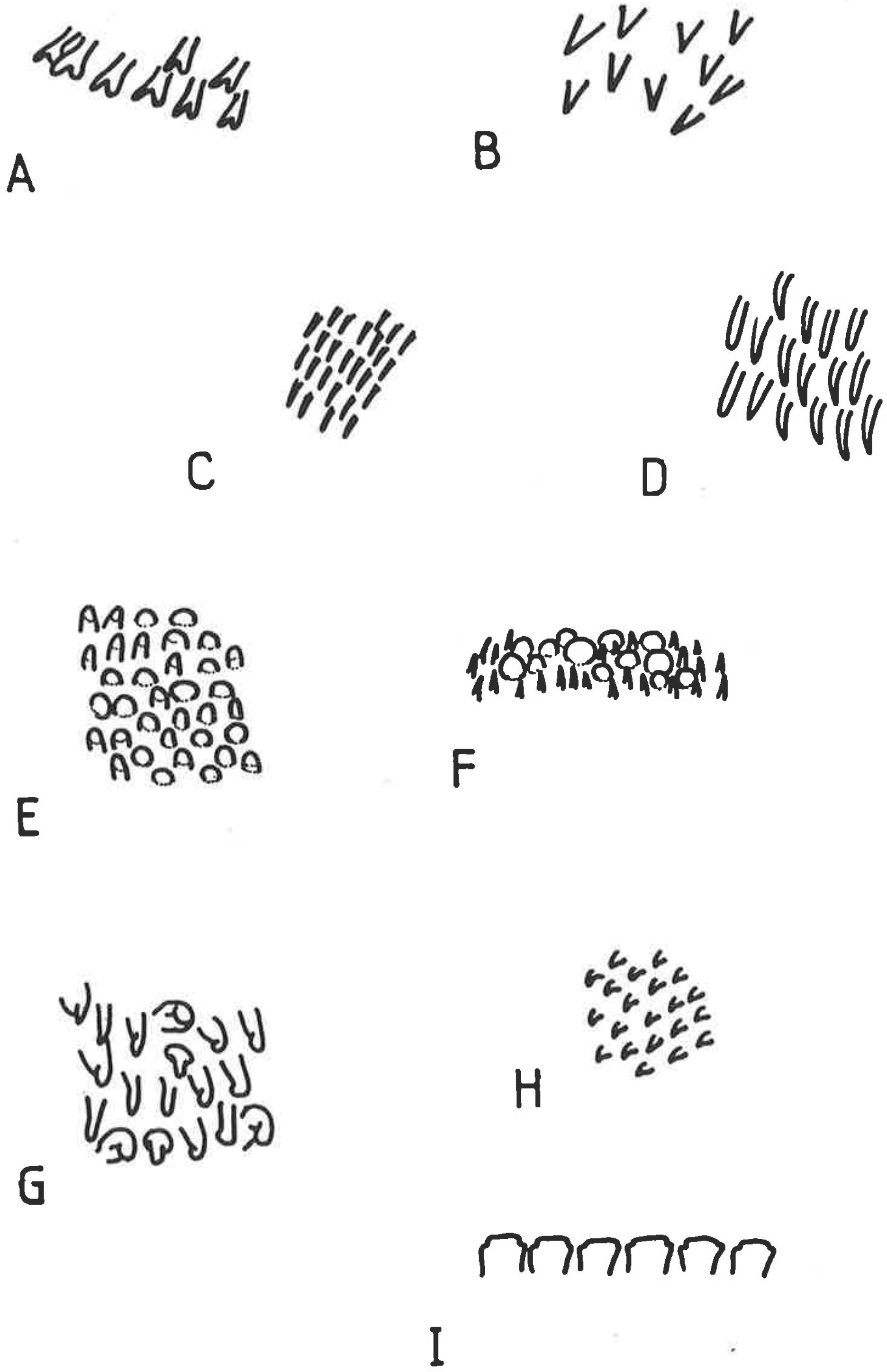


Figure 67. Range of tooth shapes in ariids (except A, which is *Ancharius*) (not to scale): B) *Hemiarius* species 1, premaxillary; C) *thalassinus*, premaxillary; D) *argyropleuron*, premaxillary; E) *polystaphylodon*, palatal; F) *Cathorops*, mandibulary; G) *spatula*, premaxillary (various aspects); H) *nox*, premaxillar I) *Ketengus*, premaxillary.

SPECIES	n	Head "1/4"
dayi	20	A
novaeguineae	5	A-B
froggatti	17	B
carinatus	15	B
crassilabris	7	B
conorhynchus	1	B
argyropleuron	48	B-C
polystaphylodon	25	B-C
nella	23	B-C
nox	16	B
solidus	49	B
spatula	7	A-B
danielsi	15	B
species 1	11	A-B
species 5	4	A
mastersi	30	A-B
thalassinus	55	B
bilineatus	63	B-C
proximus	29	B
veletinus	40	B
taylori	2	B
species 7	9	A-B
graeffei	148	B
berneyi	53	B
species 3	13	B-C
armiger	34	B
augustus	6	A-B
latirostris	33	B
leptaspis	52	A-B
midgleyi (ssp.east)	15	B
midgleyi (ssp.west)	13	A-B
species 2	32	A-B
species 6	4	B
species 4	13	B-C
macrorhynchus	9	B

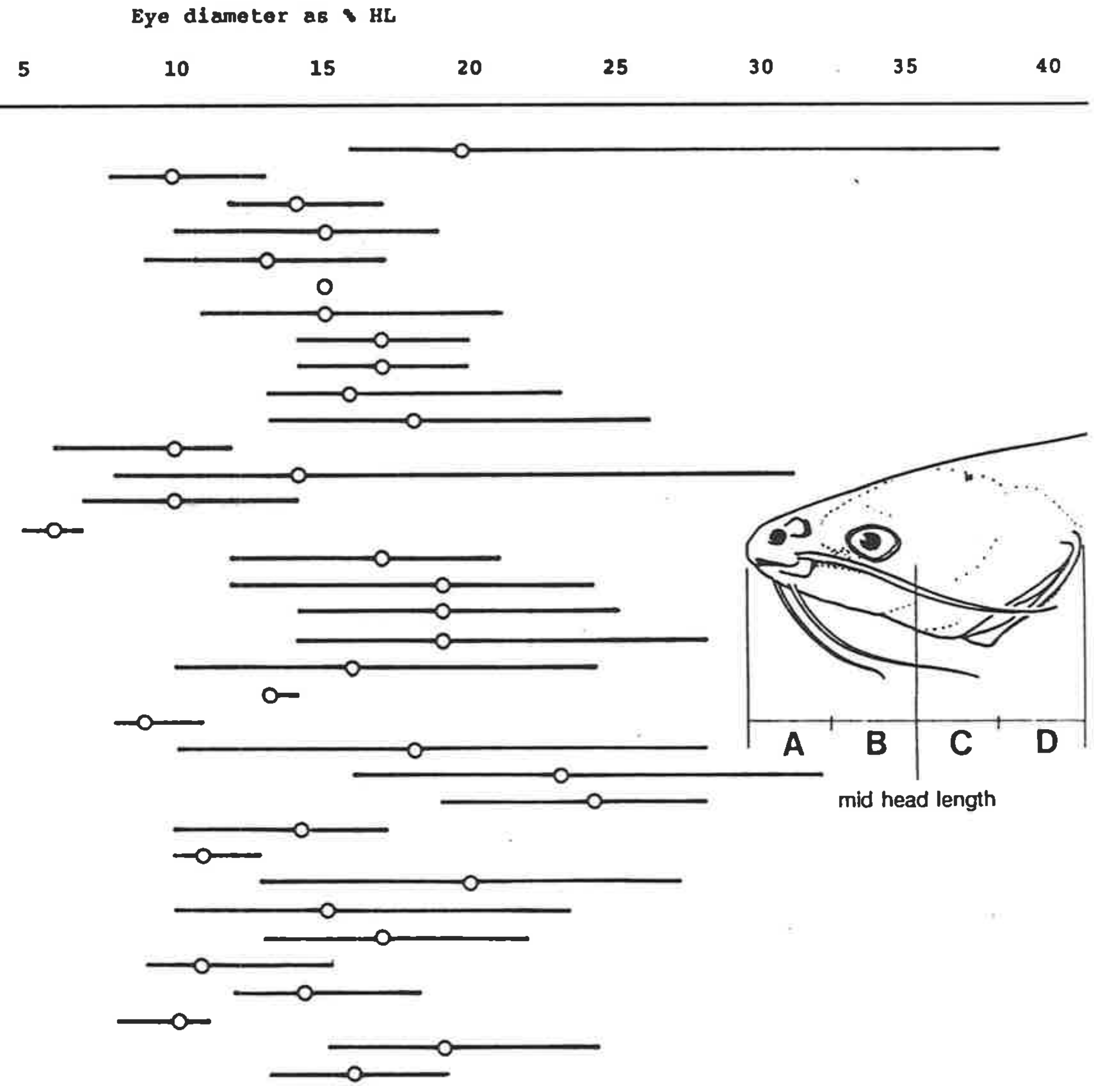


Figure 68. Eye size (as diameter as % HL) and position in Australo-Papuan ariids. Position is assessed by "1/4" of HL (inset: A, B, C, D). (Bar represents range of values; O represents mean; n represents number of specimens.)

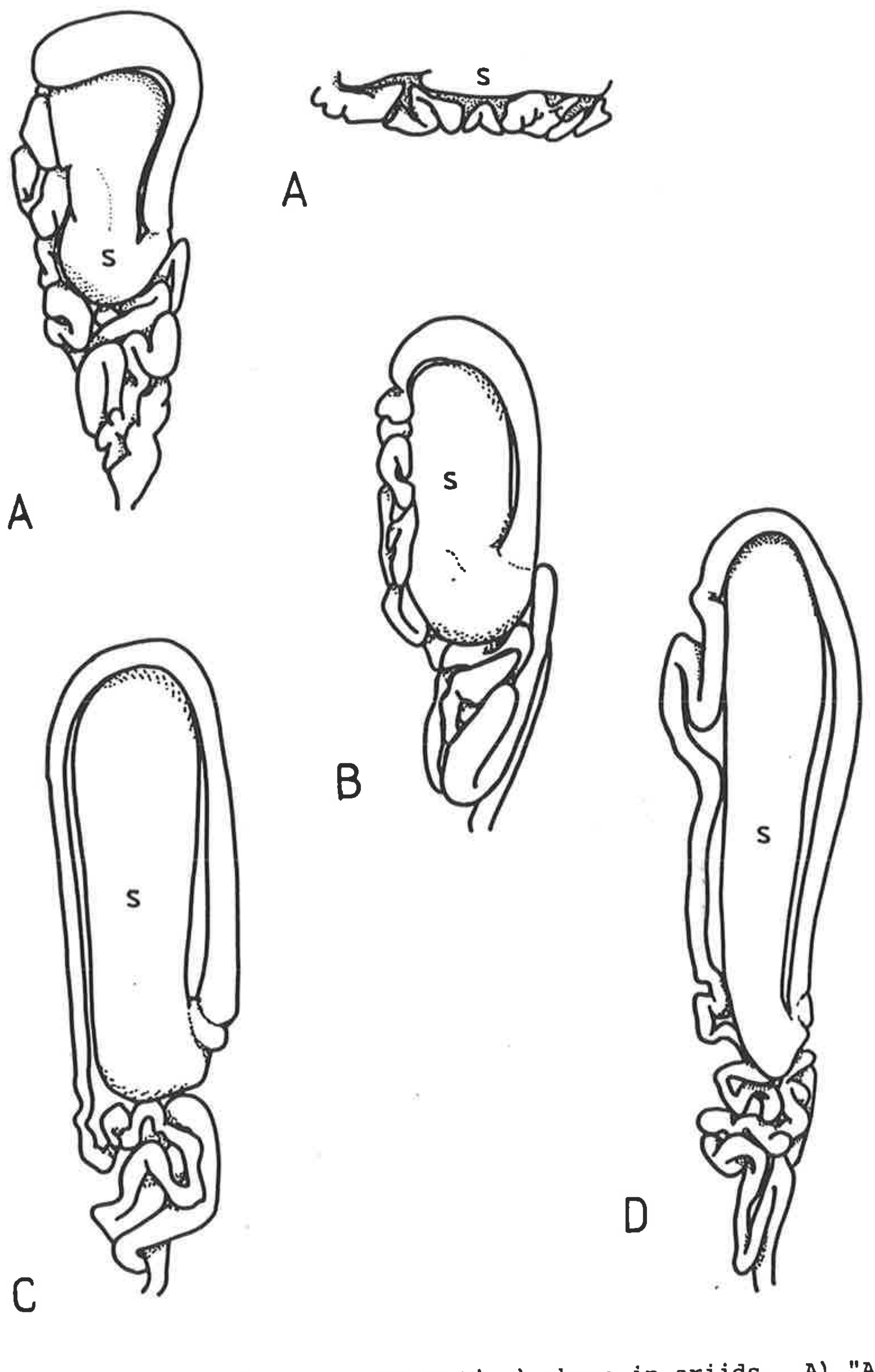


Figure 69. Comparative gut (intestine) shape in ariids. A) "Arius" thalassinus, 169mm SL specimen (ventral view and RHS lateral view); B) Genus 1 argyropleuron, 178mm SL specimen (ventral view); C) "Arius" (Hemiarius) species 1, 200mm SL specimen (ventral view); D) "Arius" (Hemiarius) species 5, 282mm SL specimen (ventral view). (s = stomach)

NAME
state (pres/fresh)

measurements (mm)
TL
SL
head
depth
eye
G.R.
G. fil.
P. sp.
D. sp.
Ad. d. base
A. base
D. base
interd.
pred.
mx b. RHS
LHS
md b. RHS
LHS
mt b. RHS
LHS
length OP
breadth OP base
apex
long D. ray
long A. ray
last D. ray
last D. ray
V. fin length.
Interorb.
interorb. (bony)
mid ant. n. to eye
pred. pl. w.
c.p.d.
c.p. l.
width mx t.b.
length mx t.b.
Sn.
hd. ht
hd. w.
postorb.
ad. d. ht.
P. fin ht.
mth width
Internostr. dist.
Teeth

COLLECTION DATA

description.

(mm)
mt - mt
mt - md
VF - an
an - AFO
l. lat. at end?
barbel positn?
Vertebr. no. (free)

orb. rim.

D.
A.
P.
G.R.
G.R. last
C. fin
mx b. to
mt b. to
D. + P. sp.

Ax pore
6th V. ray
ad. D. wrt A + shape

V. fin ~ Anal
post. n.
eye shape + posn
pred pl + OP / OP shape
humeral process

head shield
OP
F

D. profile (° from horiz)
interd. ridge + f. fil.
C. fin
Colour

Mouth

G.R. at back + pad.

Additional. e.g. freedom of g. membr. below.

wt. (fr / pres.)
Otol. wt. (comb.)
sex + stage
gut contents (+ kept?)

Otoliths, spines, vert. kept?

Anat / biol.

Figure 70. Standard form on which information on individual species was recorded. Refer 6.2 for explanation of abbreviations.

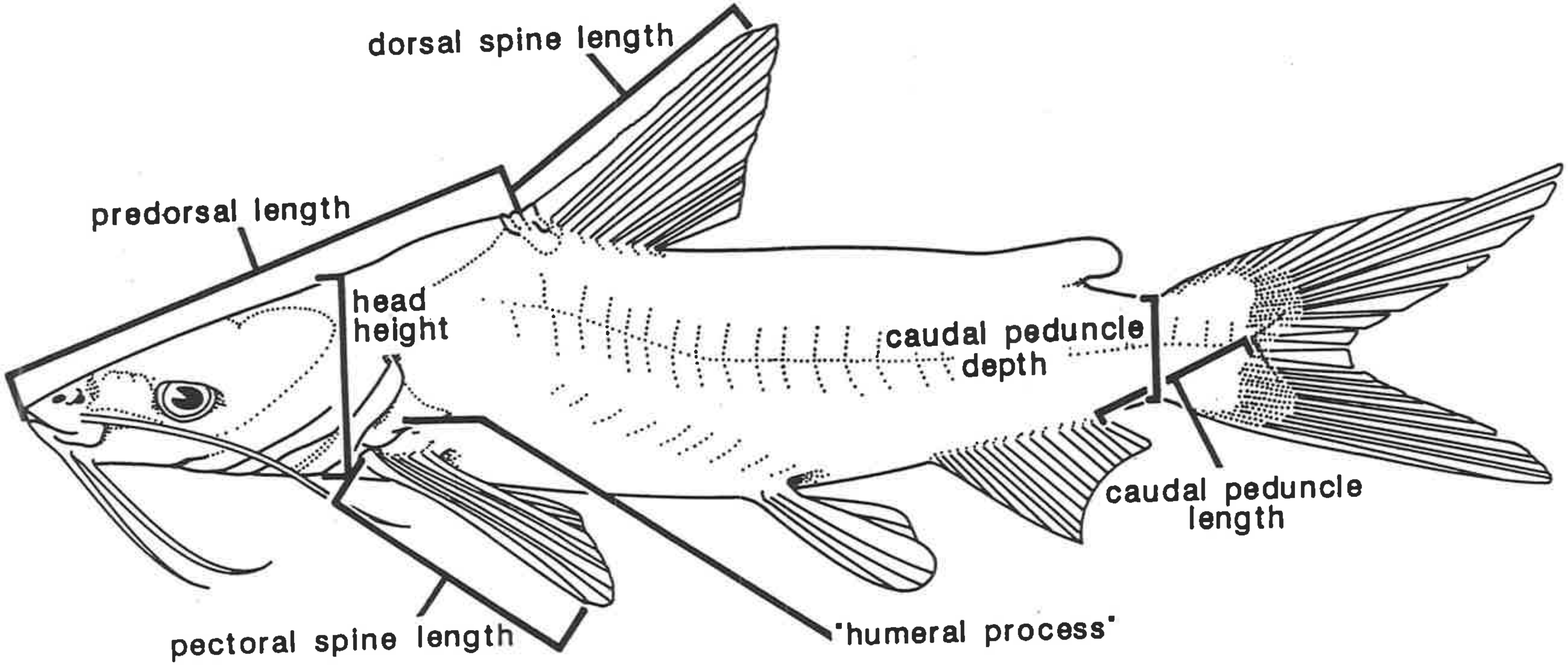


Figure 71. Direction of measurement of six features of ariids.

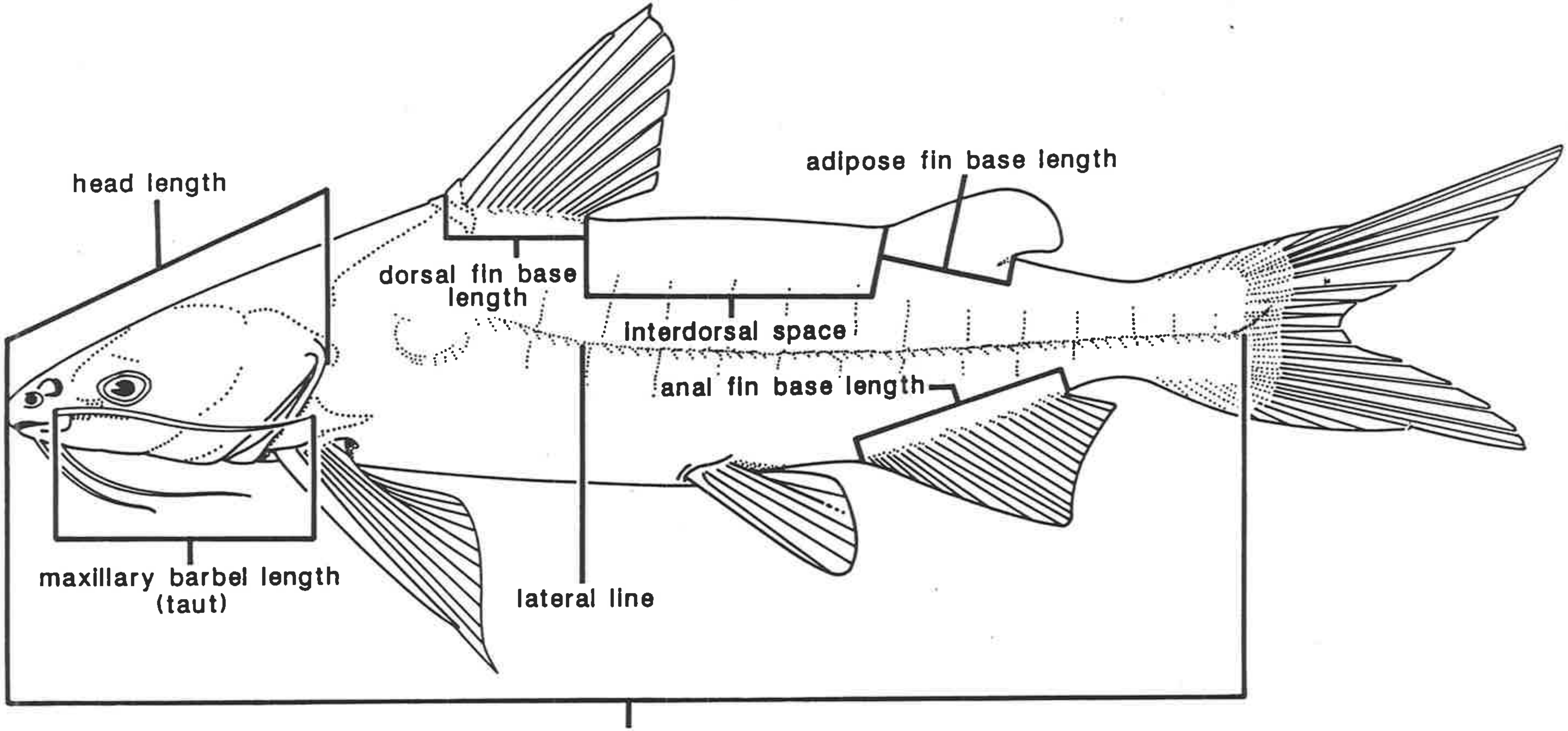


Figure 72. Direction of measurement of seven features in ariids.

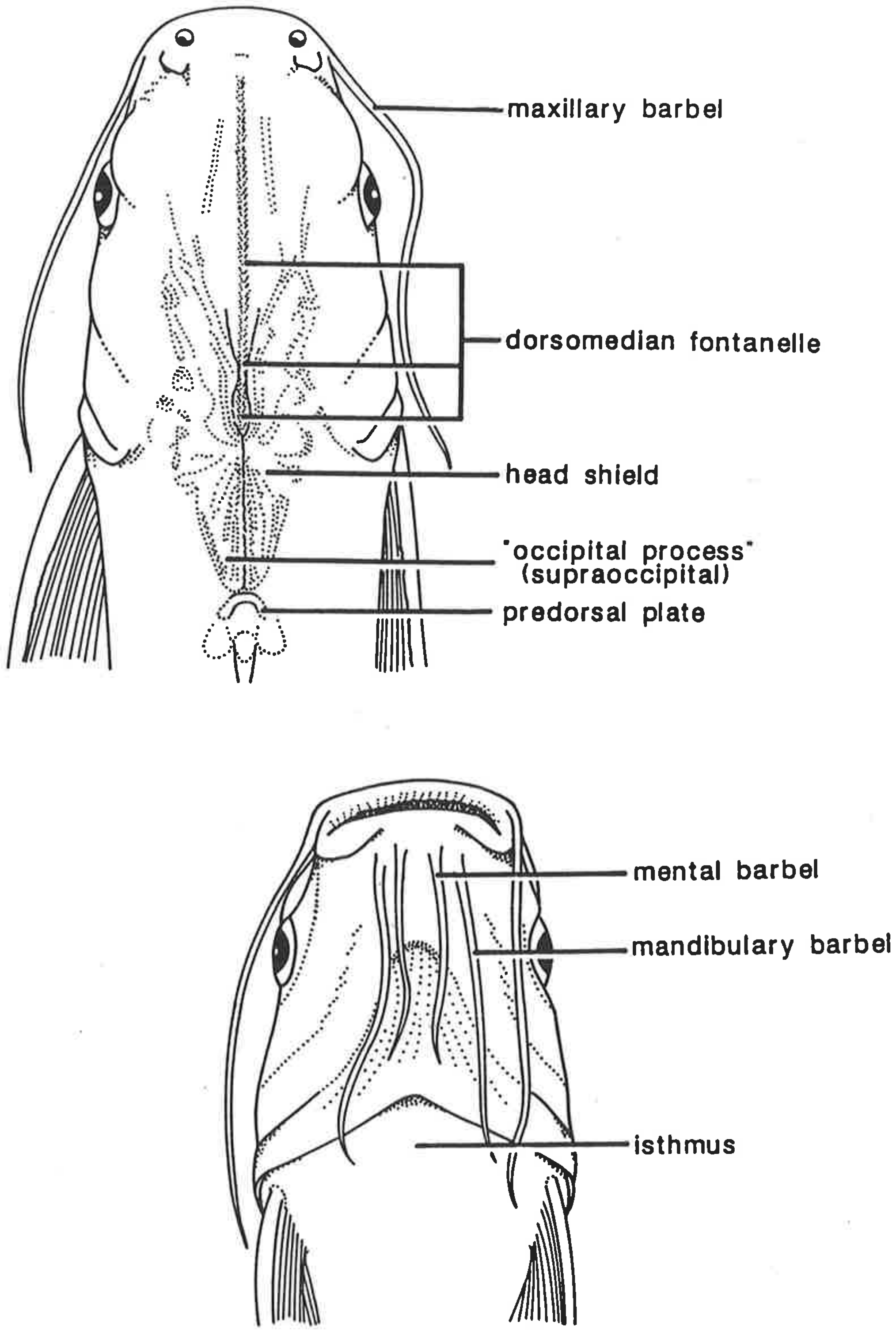


Figure 73. Head characteristics in ariids.

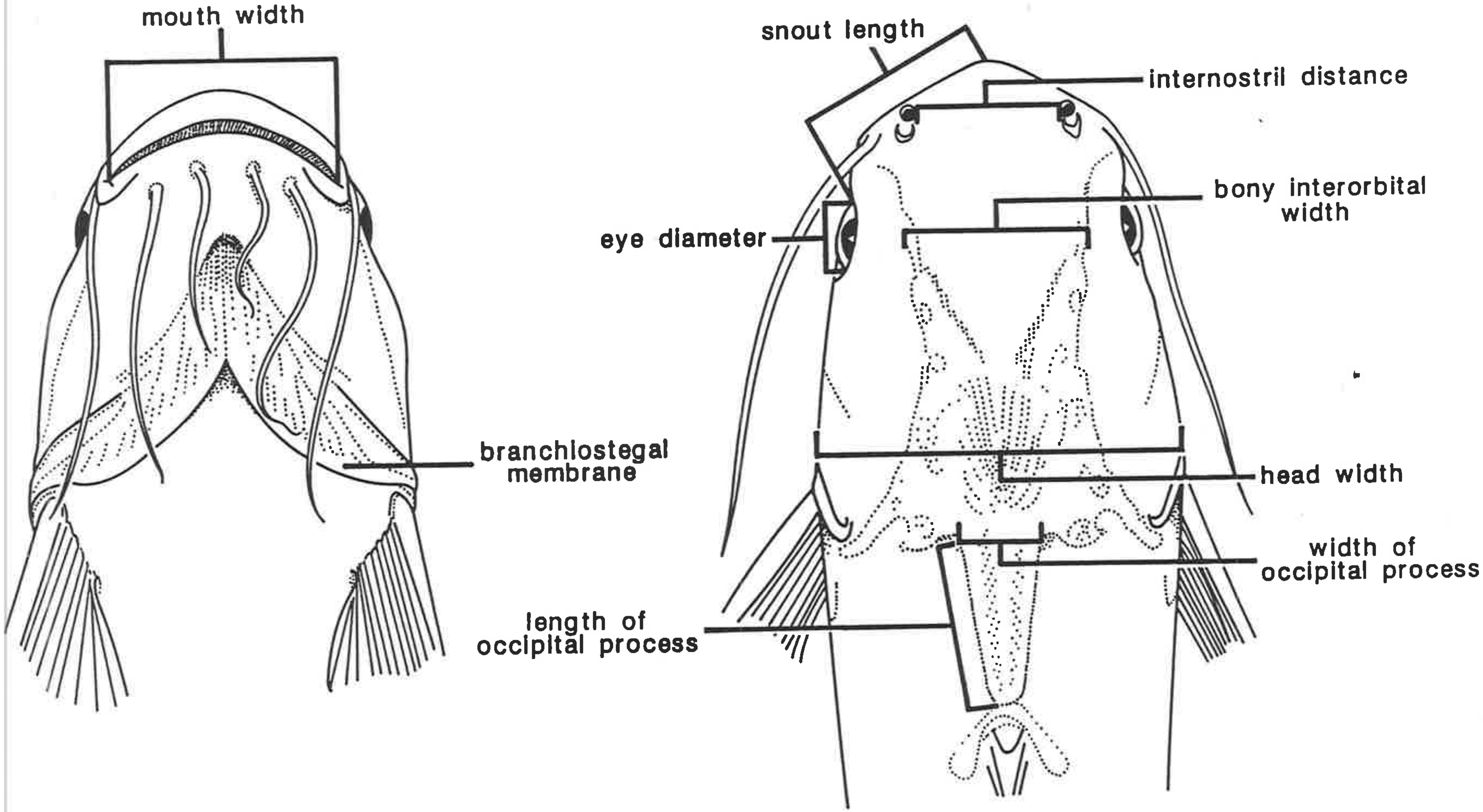
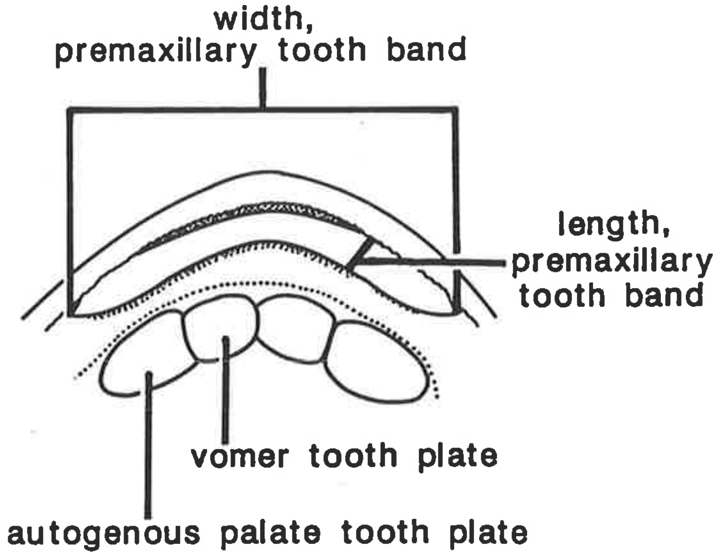


Figure 74. Head characteristics and direction of measurement in ariids.



Figures 75. Dental characteristics (upper jaw; palate) and direction of measurement in ariids.

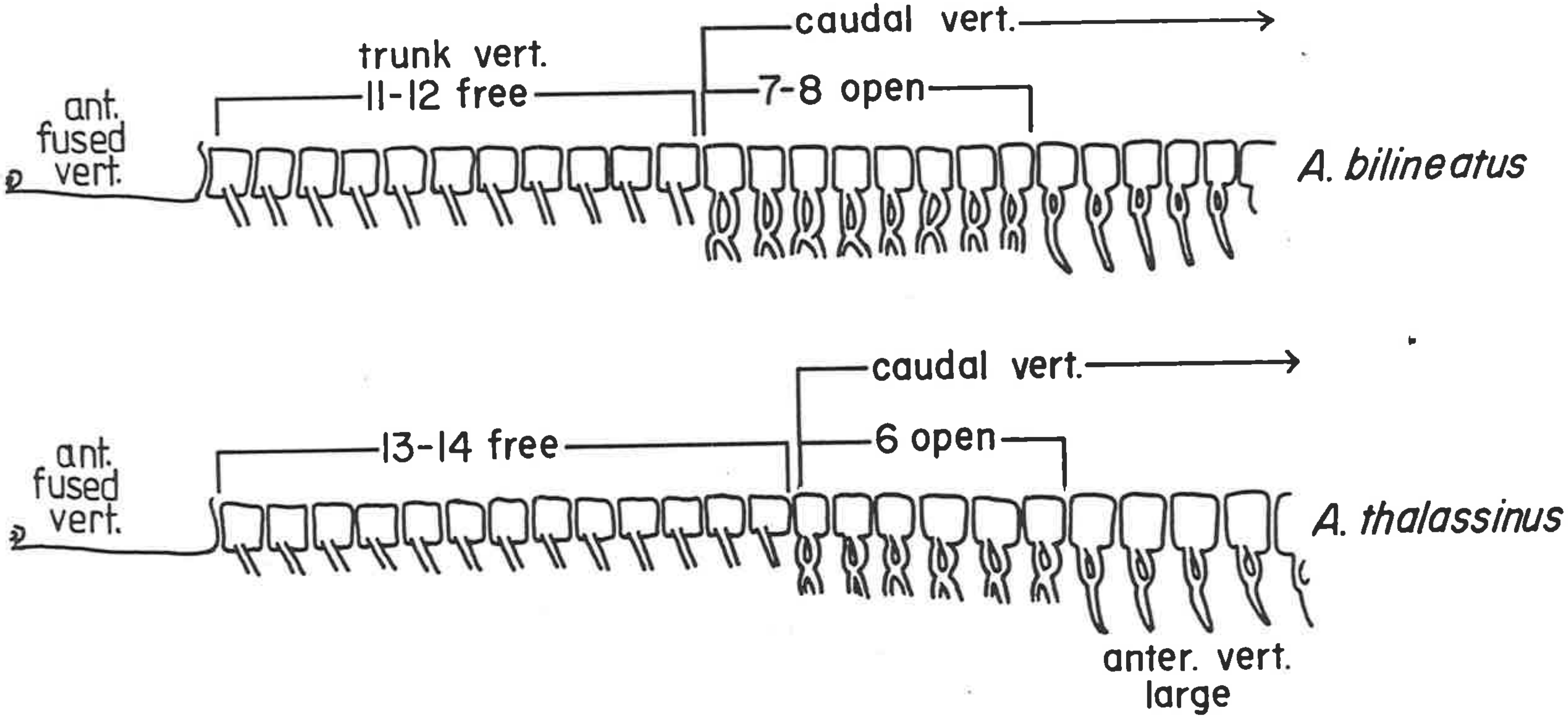


Figure 76. Vertebral sections of "Arius" bilineatus and "A". thalassinus (diagrammatic), in order: anterior fused vertebrae (concealed by laminar bone), thoracic, haemal and caudal.

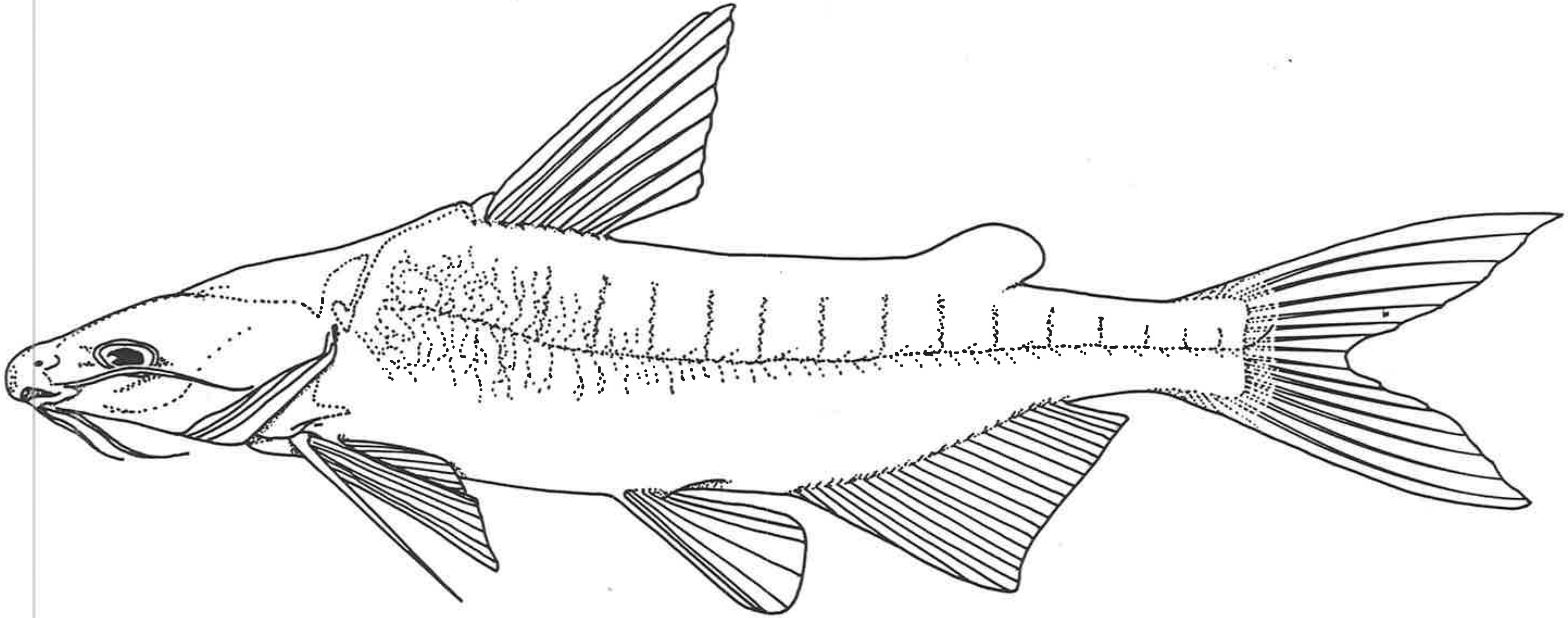


Figure 77. Nedystoma dayi: lateral view, 253mm SL specimen (x 0.8).

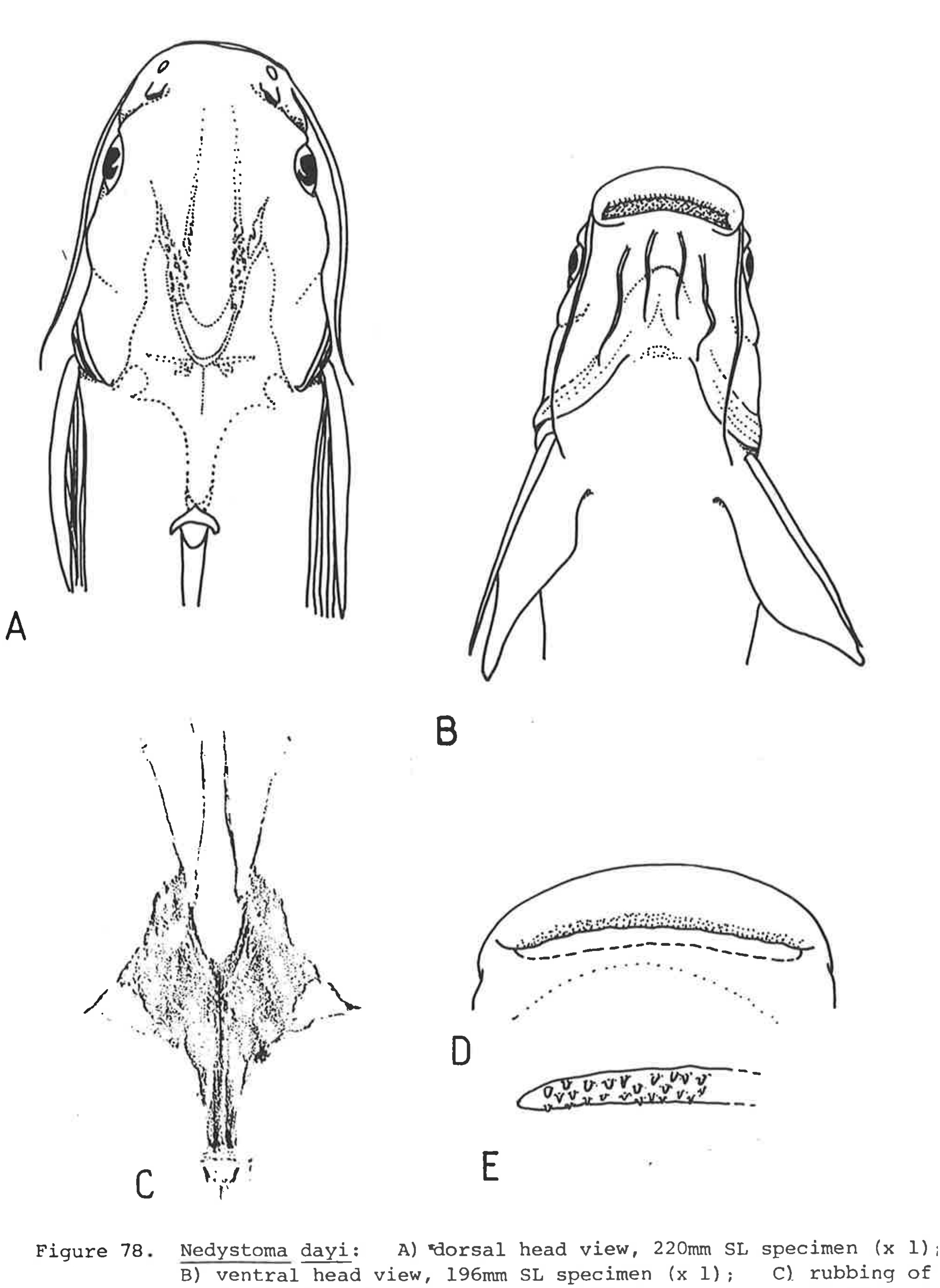


Figure 78. Nedystoma dayi: A) dorsal head view, 220mm SL specimen (x 1); B) ventral head view, 196mm SL specimen (x 1); C) rubbing of head shield, 216mm SL specimen; D) form of premaxillary tooth band (leading edge concealed by lip); & E) enlargement of teeth (both 196mm SL specimen).

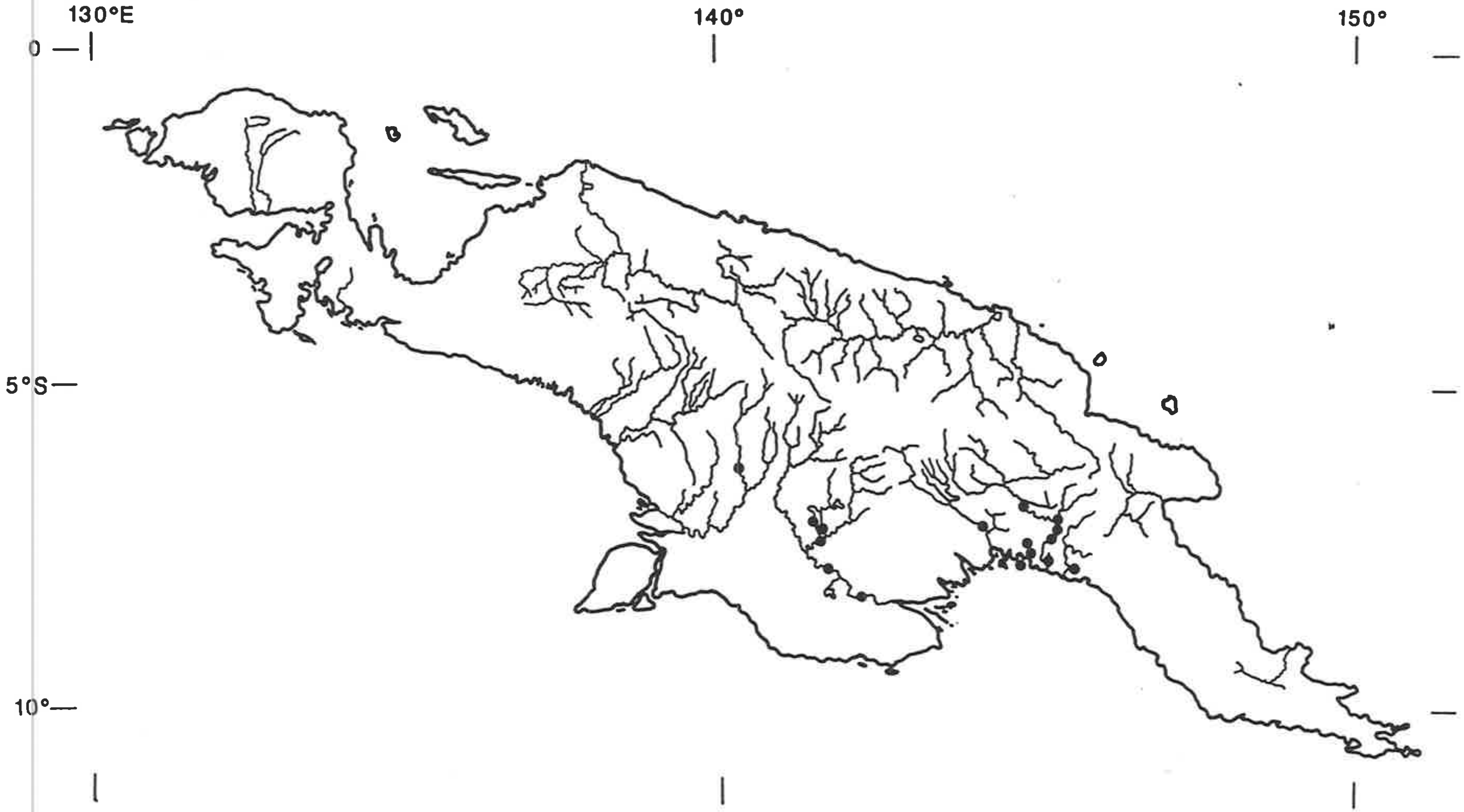


Figure 79. Distribution of Nedystoma dayi, based on material examined (solid circles indicate capture locality).

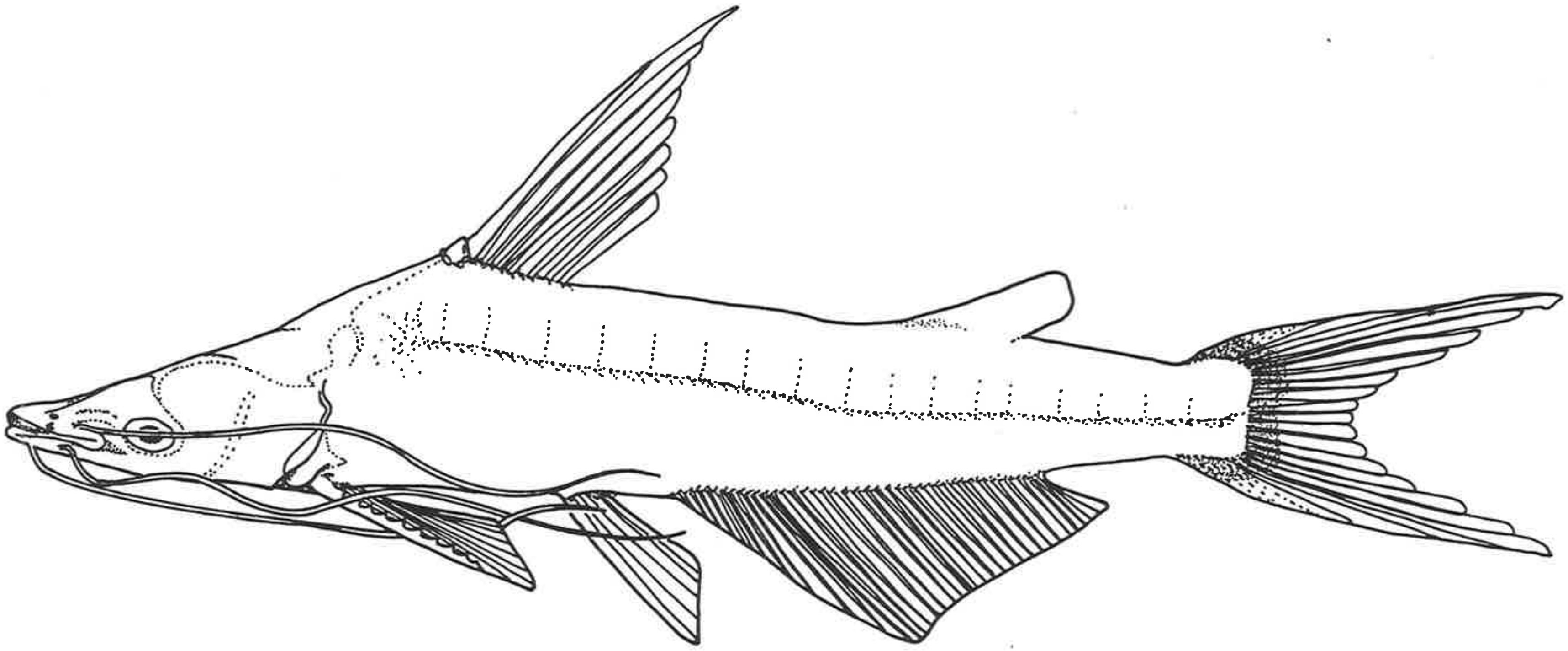


Figure 80. Nedystoma novaeguineae: lateral view, 145mm SL specimen (x 1.25).

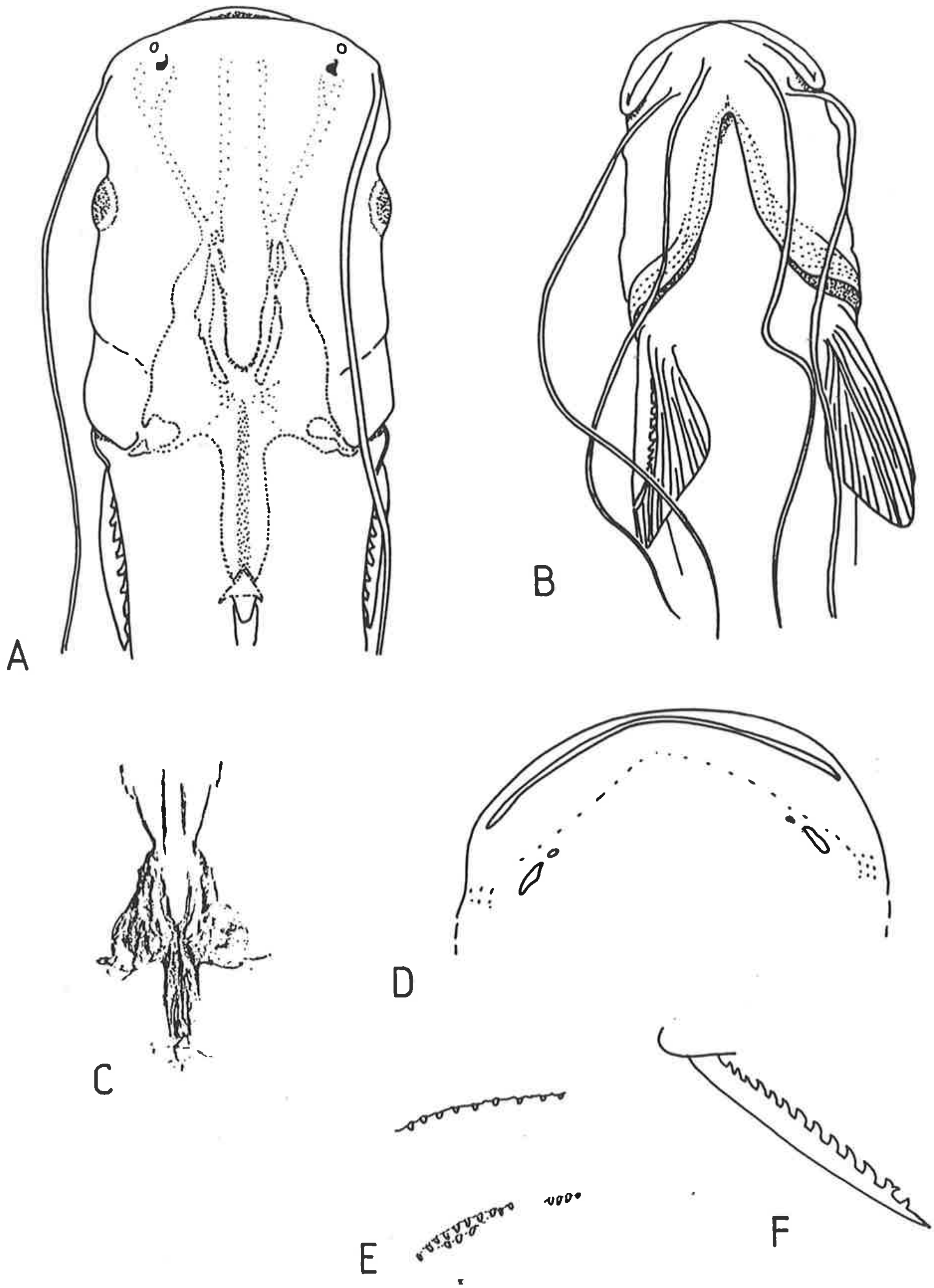


Figure 81. *Nedystoma novaeguineae*: A) dorsal head view, 145mm SL specimen (x 1.8); B) ventral head view, 103mm SL specimen (x 1.8); C) rubbing of head shield, 145mm SL specimen; D) arrangement of upper tooth patches, 145mm SL specimen; E) enlargement of premaxillary and palatal teeth, same specimen; F) LHS pectoral spine, same specimen (x 2).

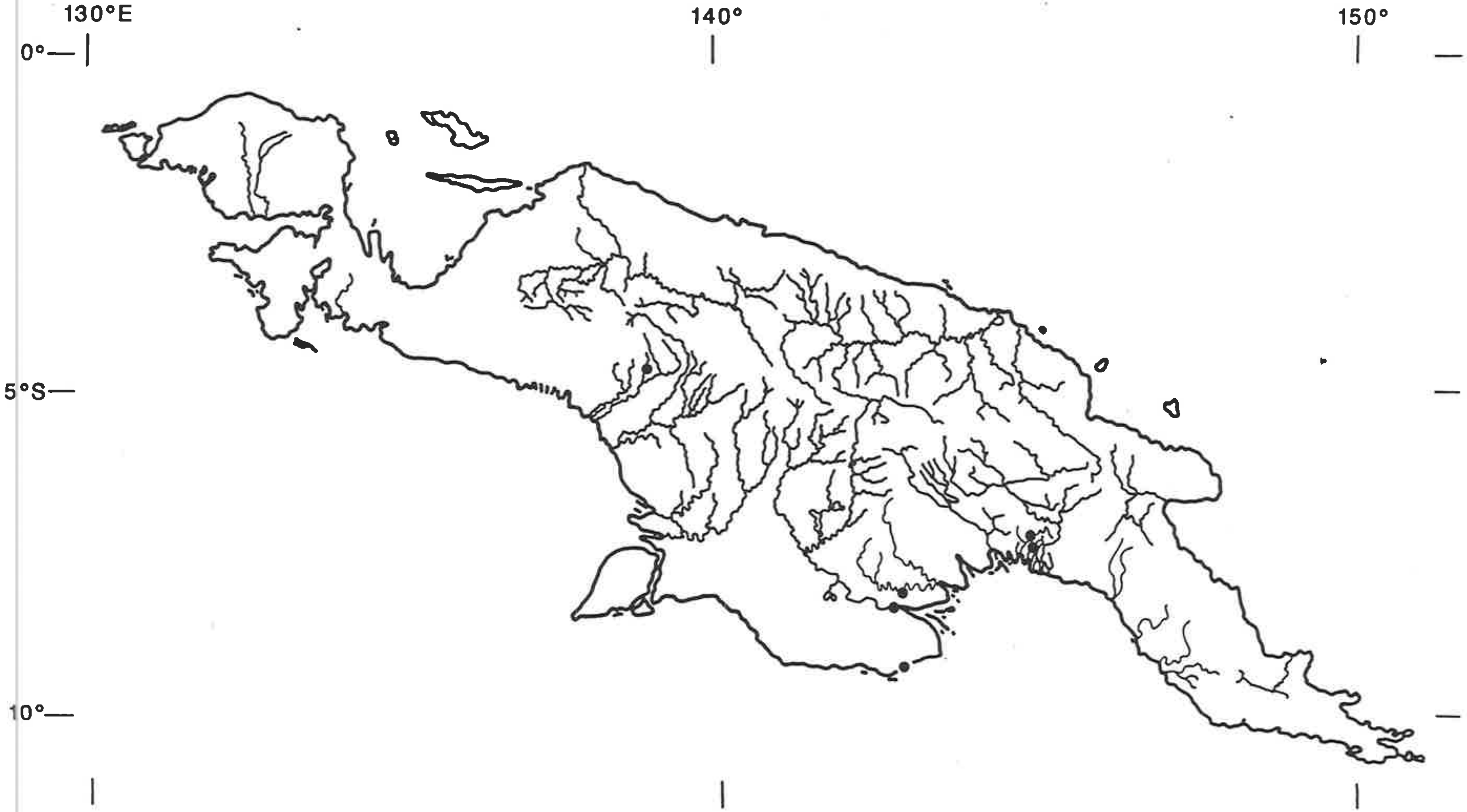


Figure 82. Distribution of Nedystoma novaeguineae, based on material examined and types (solid circles indicate capture locality).

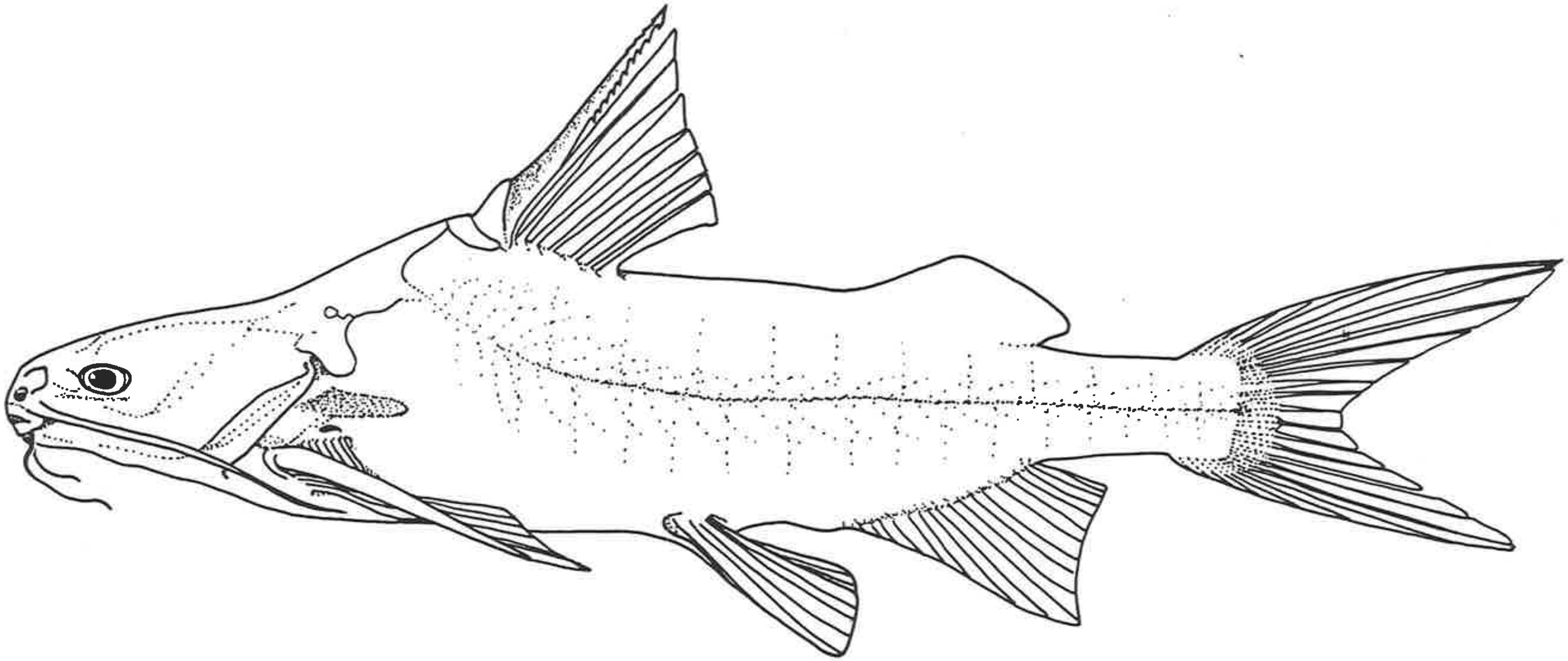


Figure 83. Cinetodus (Cinetodus) froggatti: lateral view, 241mm SL specimen (x 0.7).

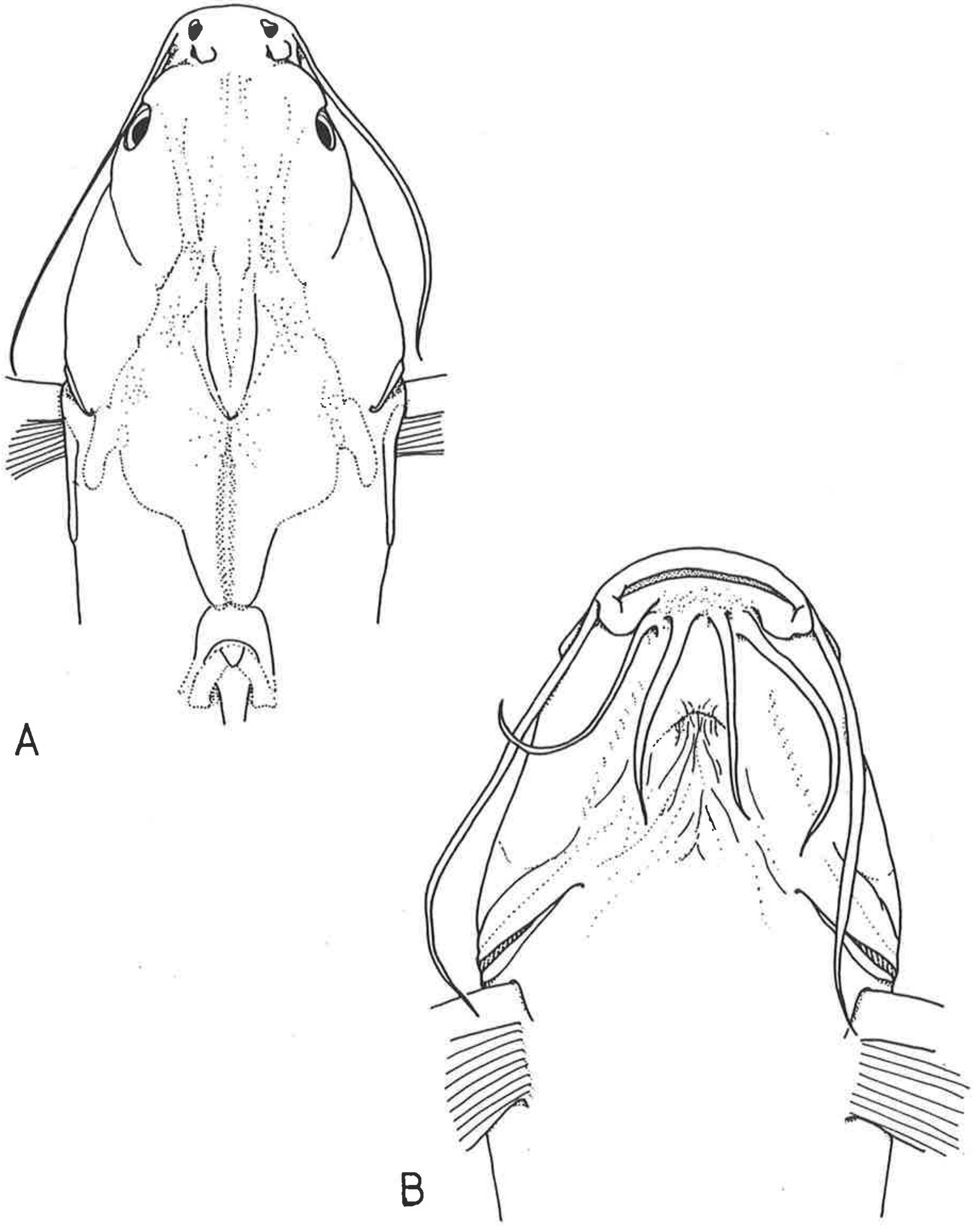


Figure 84. Cinetodus (Cinetodus) froggatti: A) dorsal head view, 315mm SL specimen (x 0.8); B) ventral head view, 208mm SL specimen (x 1.5).

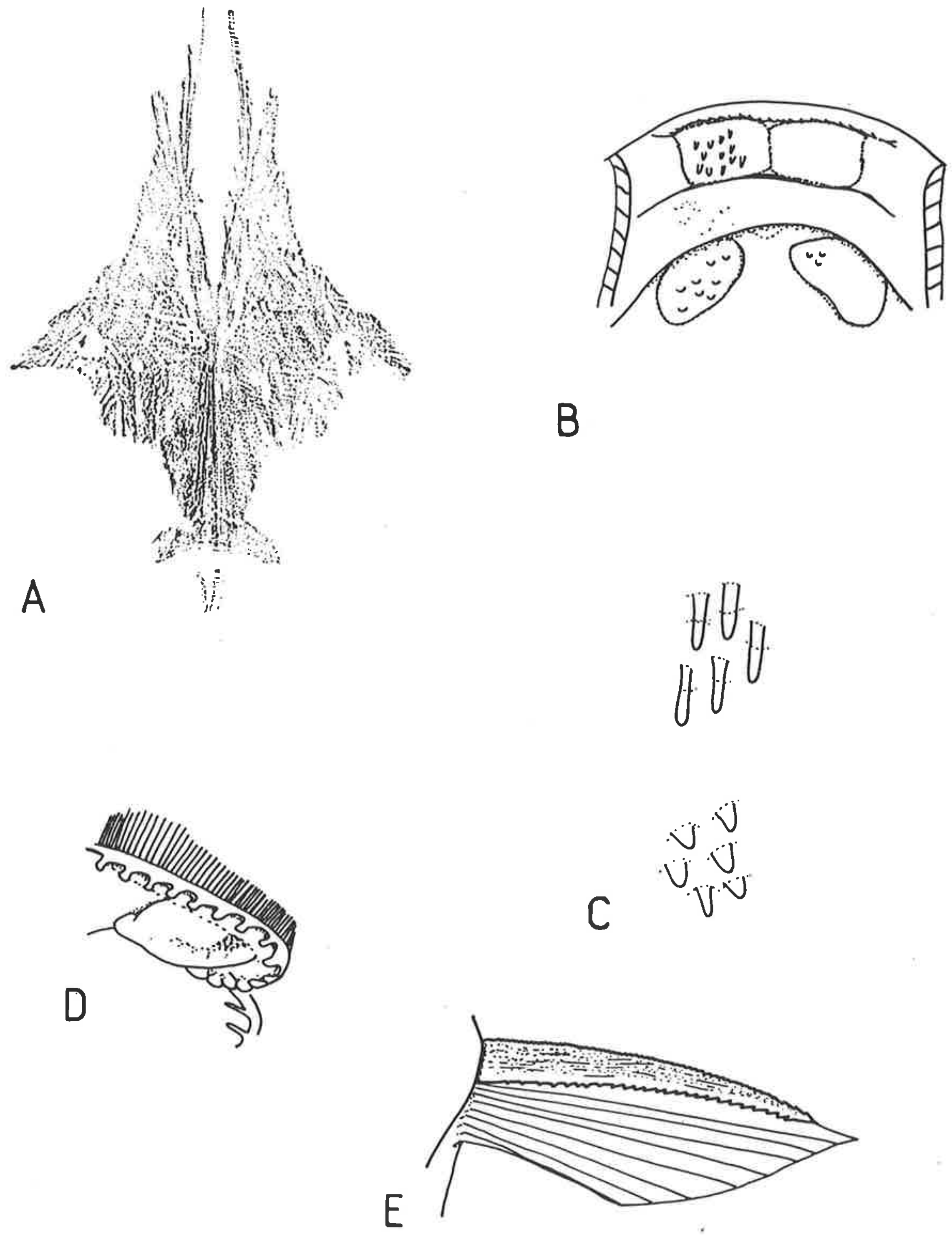


Figure 85. Cinetodus (Cinetodus) froggatti: A) rubbing of head shield, 241mm SL specimen; B) form and arrangement of upper tooth patches, 315mm SL specimen; C) enlargement of premaxillary and palatal teeth; D) posterior aspect of 2nd RHS gill arch, showing epithelial tissue pad (arrow), 241mm SL specimen (x 2); E) RHS pectoral spine, 241mm SL specimen (x 1).

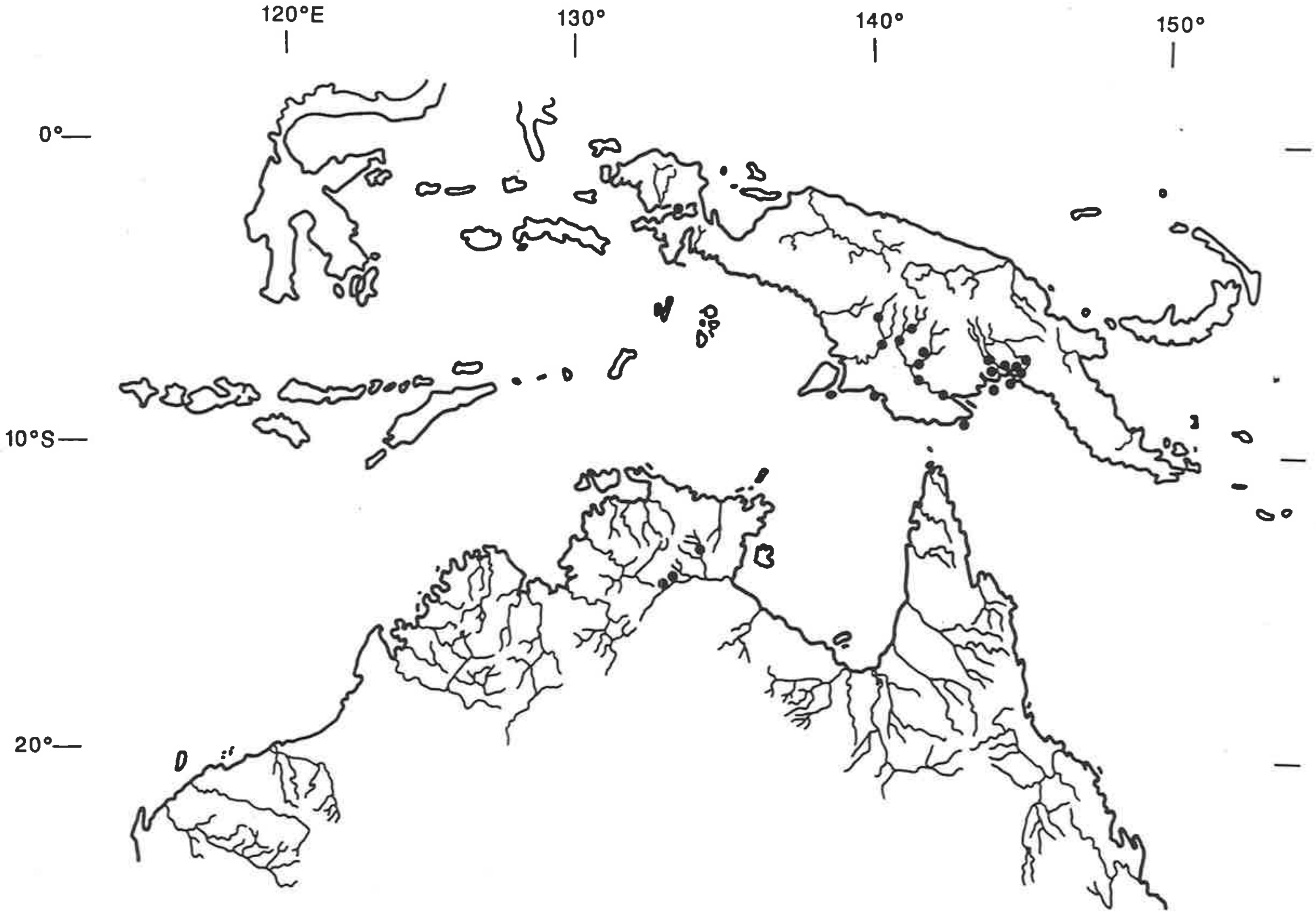


Figure 86. Distribution of Cinetodus (C.) froggatti, based on material examined (including type locality of Septobranchus johannae) (solid circles indicate type locality).

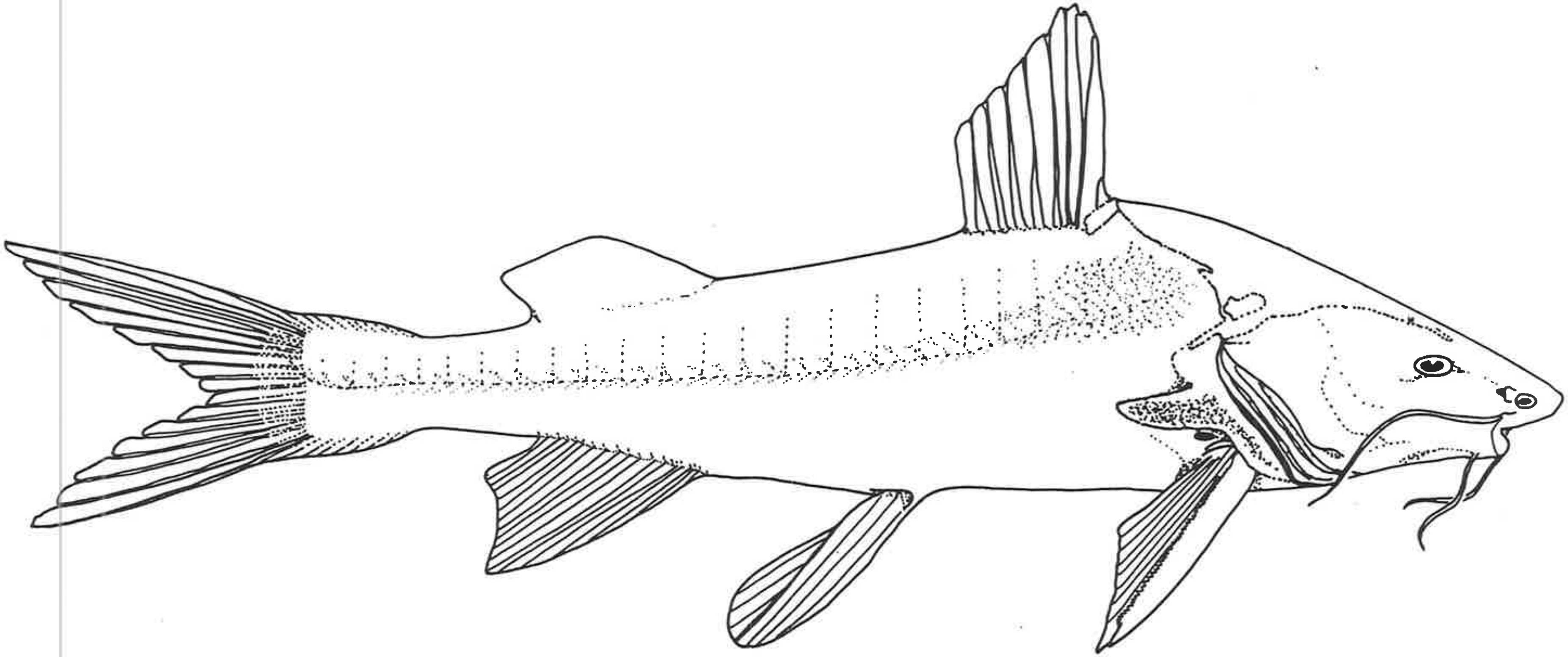


Figure 87. Cinetodus (Cinetodus) carinatus: lateral view, 328mm SL specimen (x 0.5).

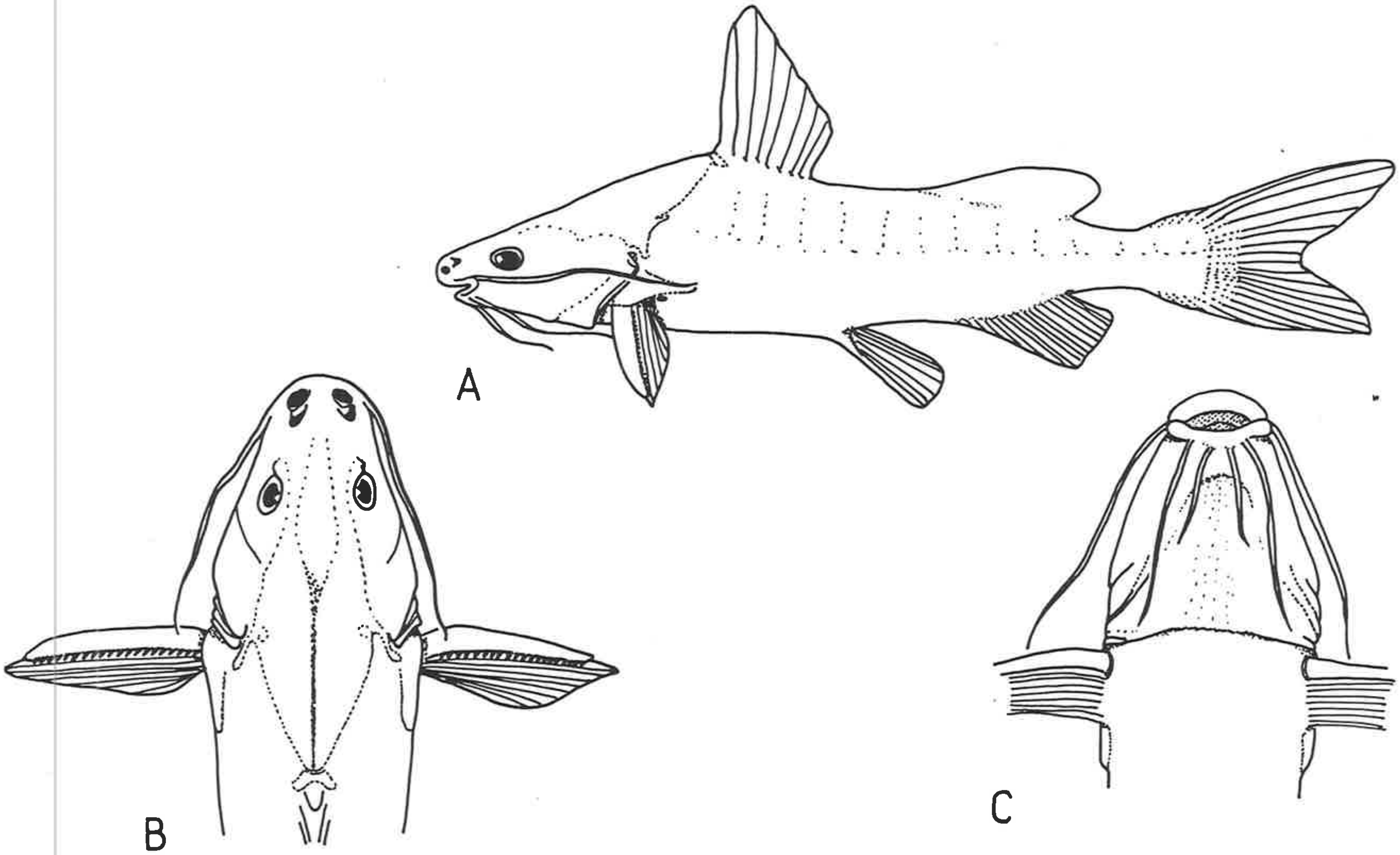


Figure 88. Cinetodus (Cinetodus) carinatus: A) lateral view, 118mm SL specimen (x 1); B) dorsal head view, 160mm SL specimen (x 1); C) ventral head view, same specimen (x 1).

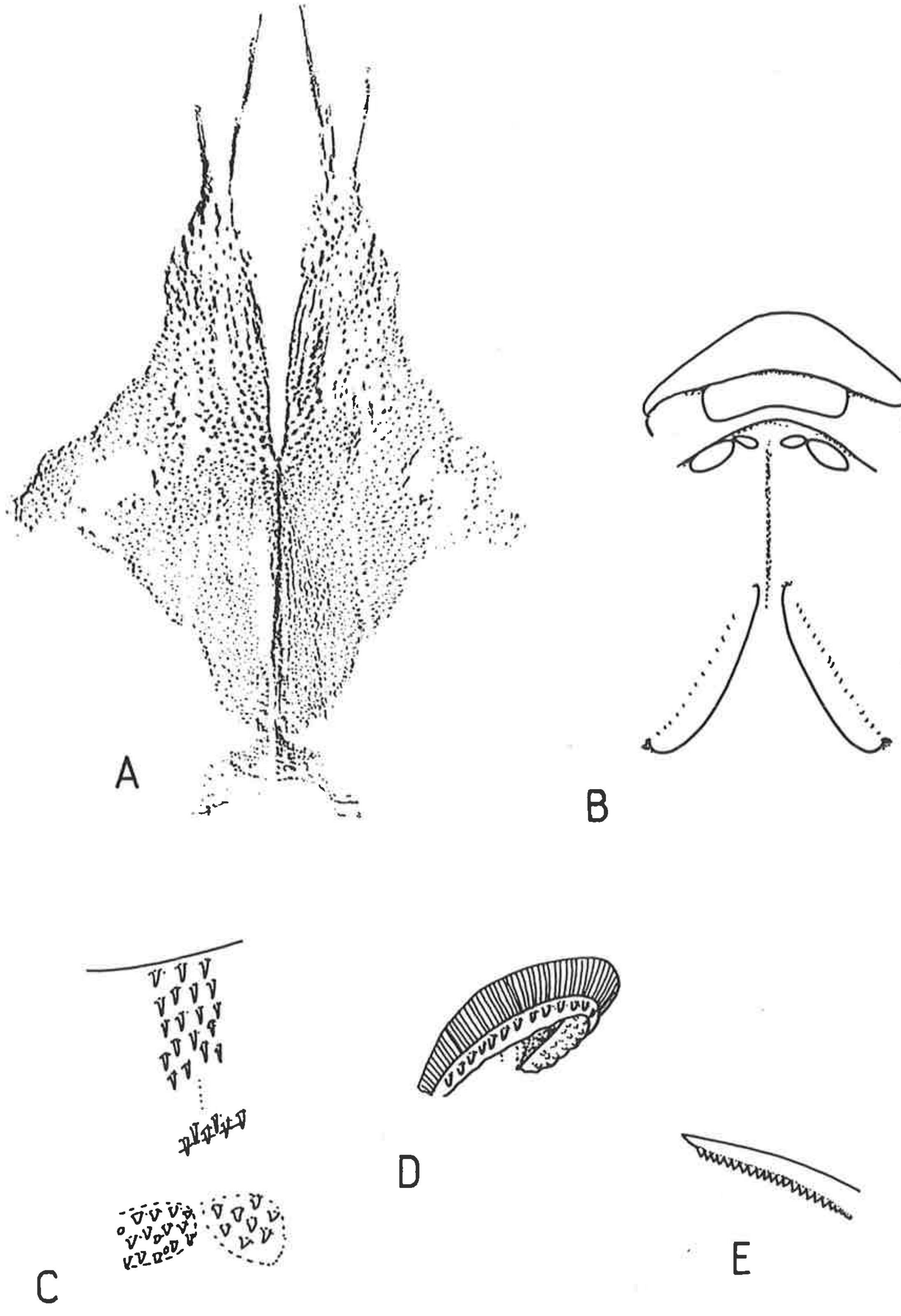


Figure 89. Cinetodus (Cinetodus) carinatus: A) rubbing of head shield, 338mm SL specimen; B) form and arrangement of upper tooth patches, showing epithelial ridges, 338mm SL specimen; C) enlargement of teeth; D) posterior aspect of 2nd LHS gill arch, same specimen (x 2); E) LHS pectoral spine, 160mm SL specimen (x 1).

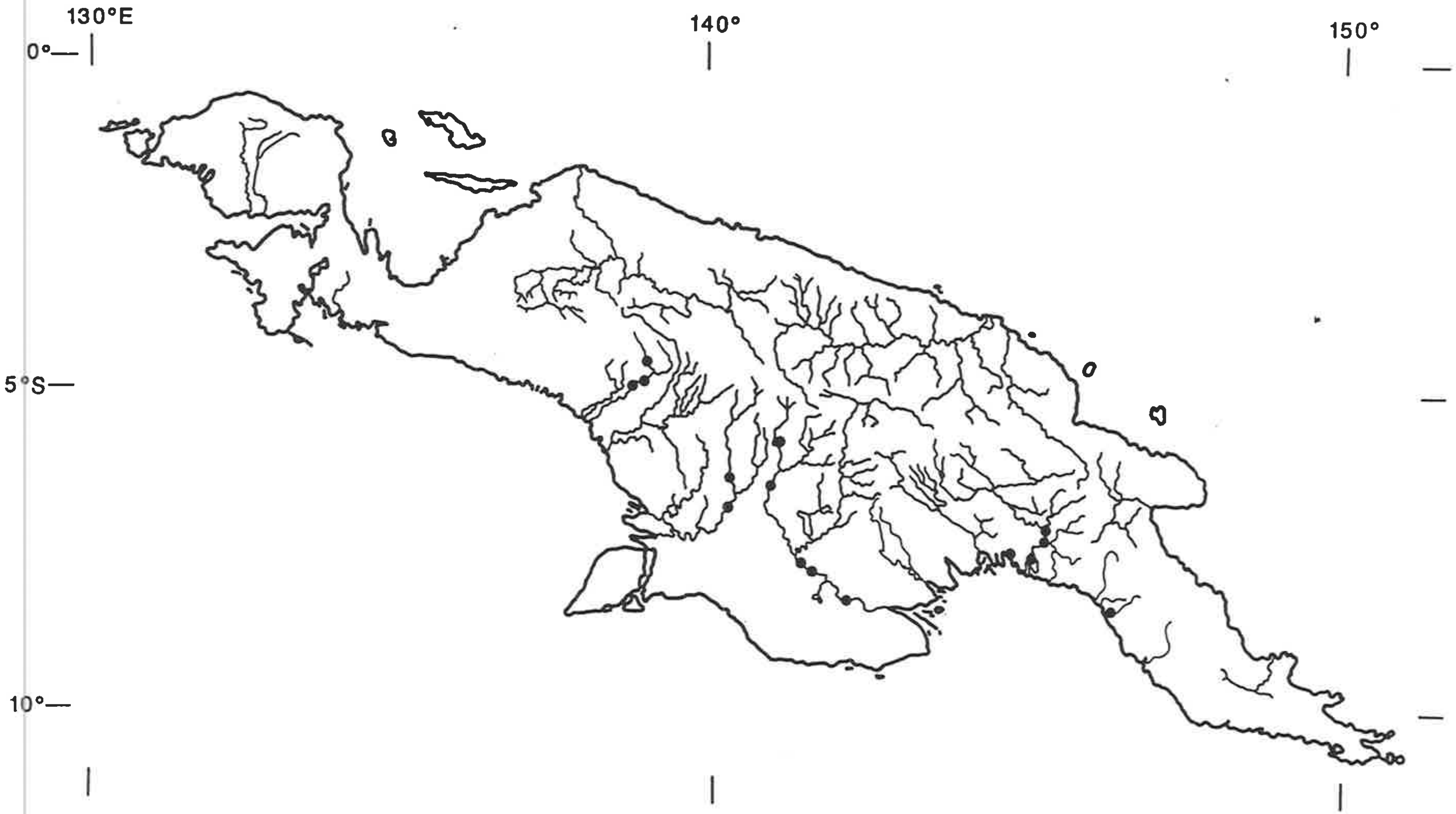


Figure 90. Distribution of Cinetodus (C.) carinatus, based on material examined (solid circles indicate capture locality).

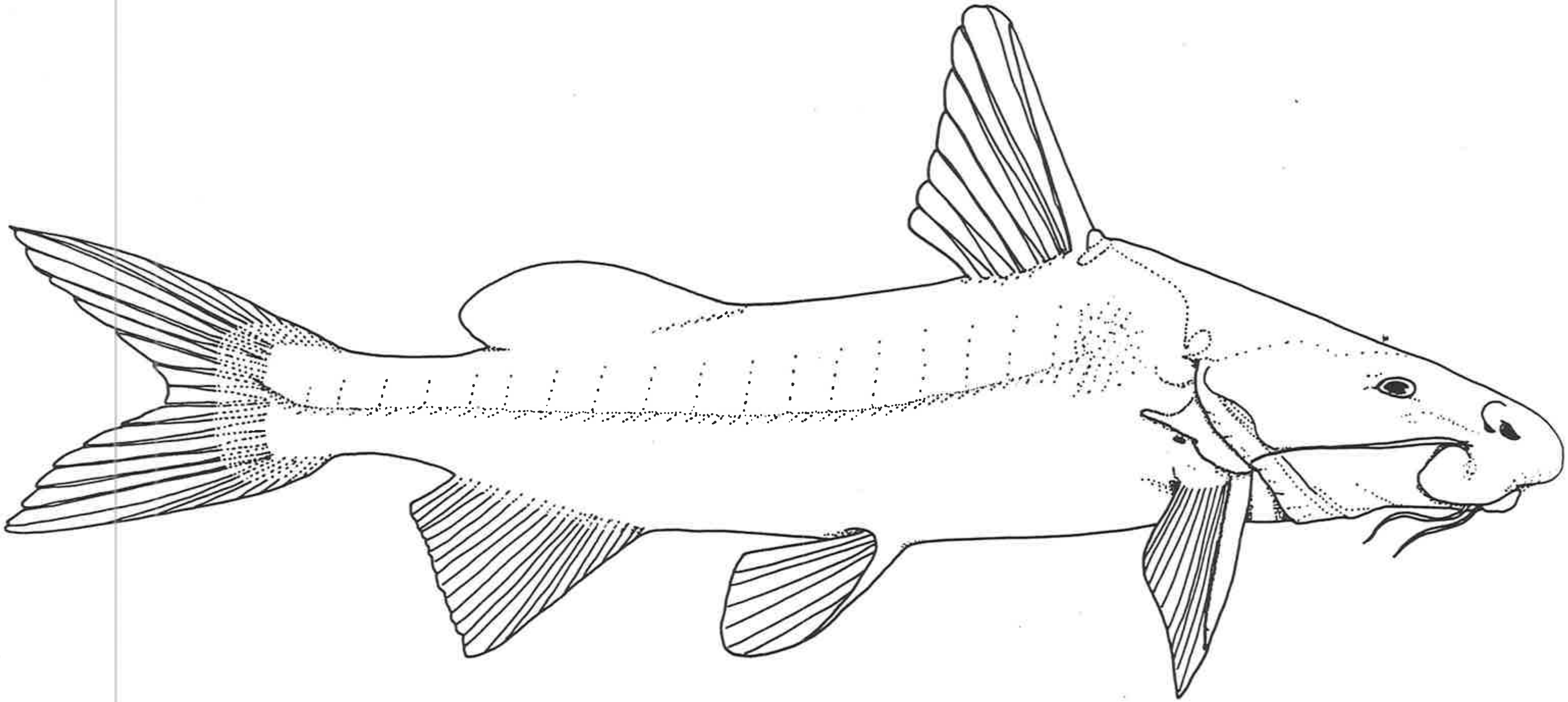


Figure 91. Cinetodus (Pachyula) crassilabris: lateral view, 330mm SL specimen (x 0.5).

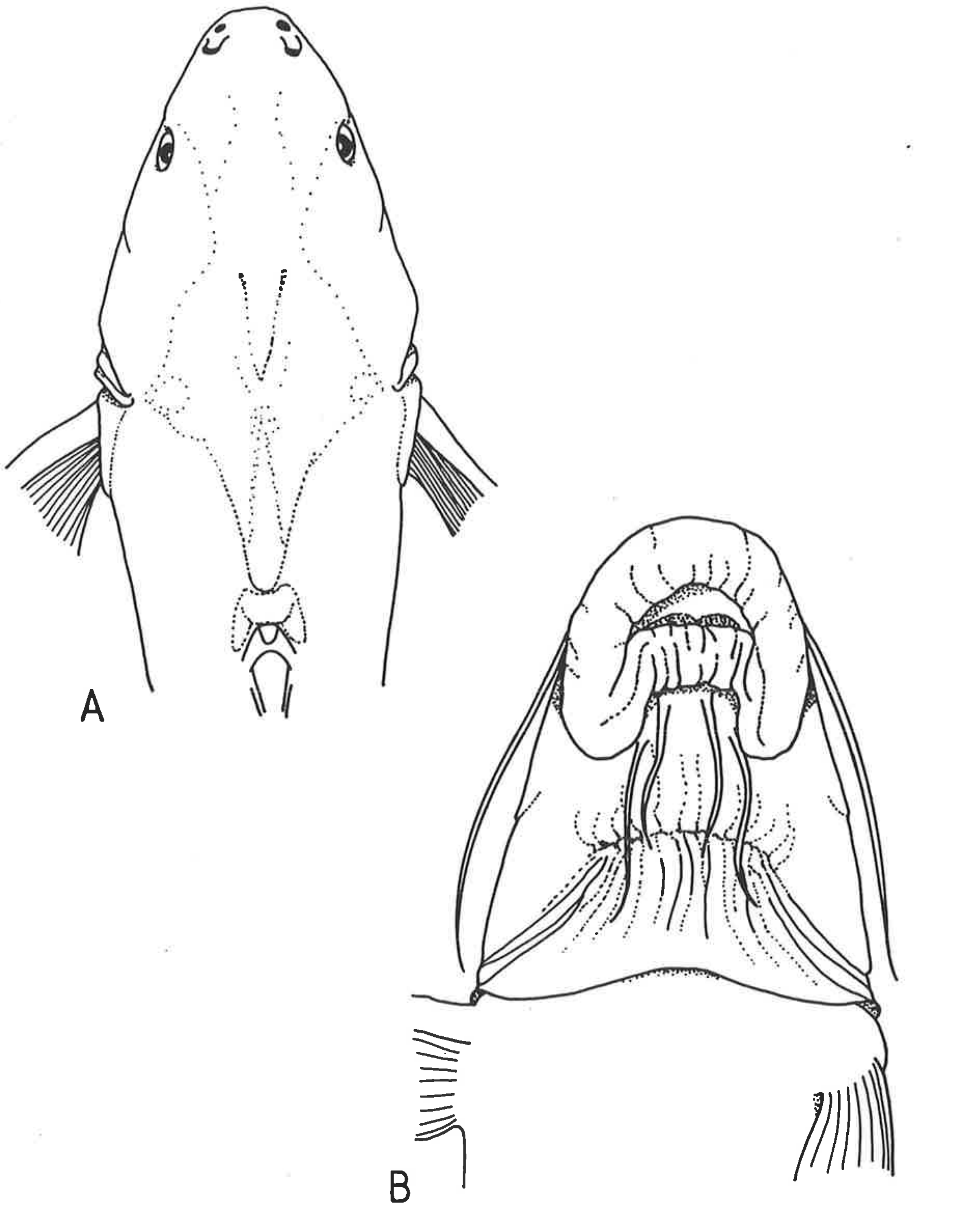


Figure 92. Cinetodus (Pachyula) crassilabris: A) dorsal head view, 340 mm SL specimen (x 0.7); B) ventral head view, 330mm SL specimen (x 1).

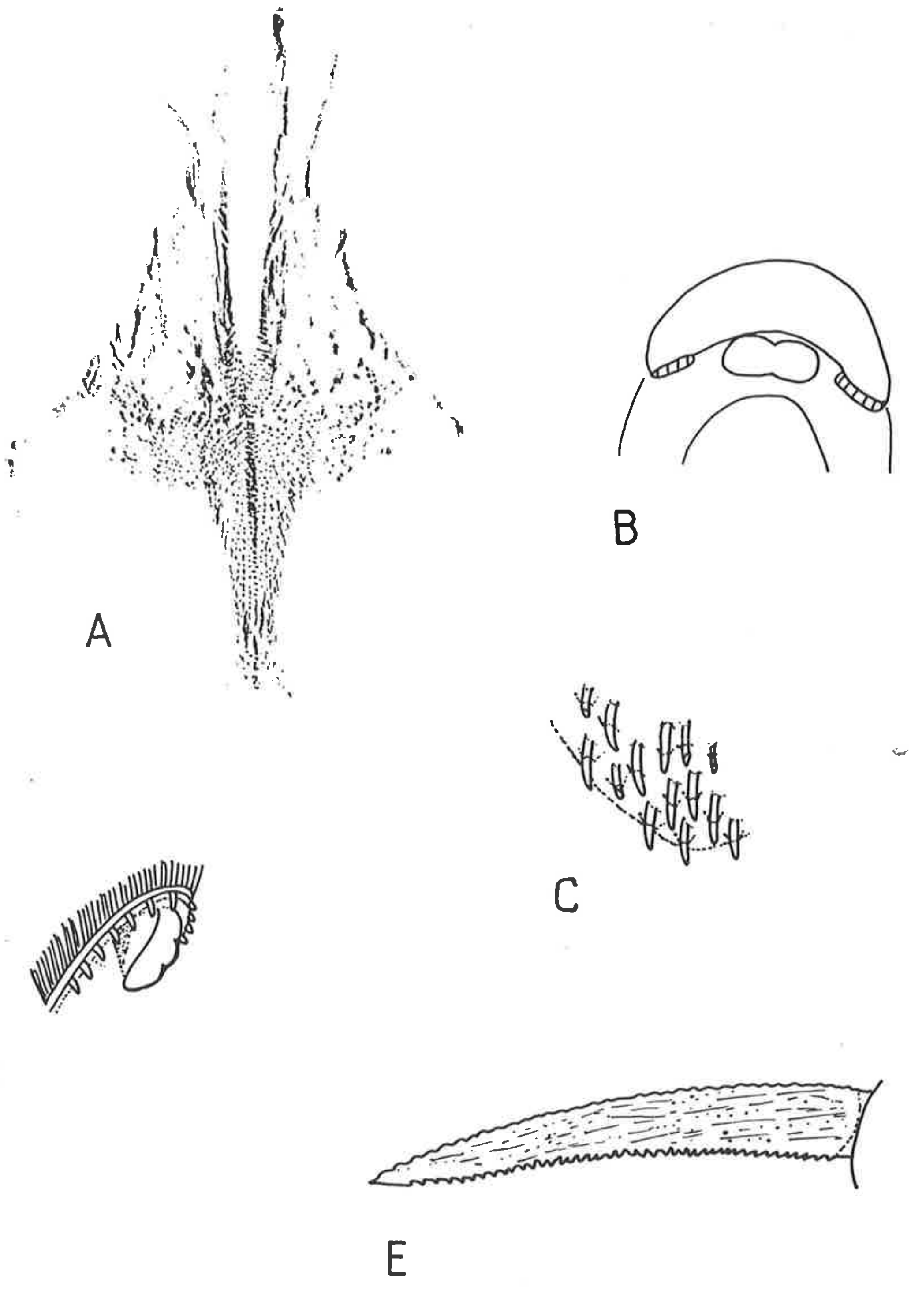


Figure 93. Cinetodus (Pachyula) crassilabris: A) rubbing of head shield, 305mm SL specimen; B) form of premaxillary tooth band, 340mm SL specimen; C) tooth enlargement, same specimen; D) posteri[illegible] of RHS 2nd gill arch, showing epithelial pad; E) LHS pectoral spine, 340mm SL specimen (x 0,6).

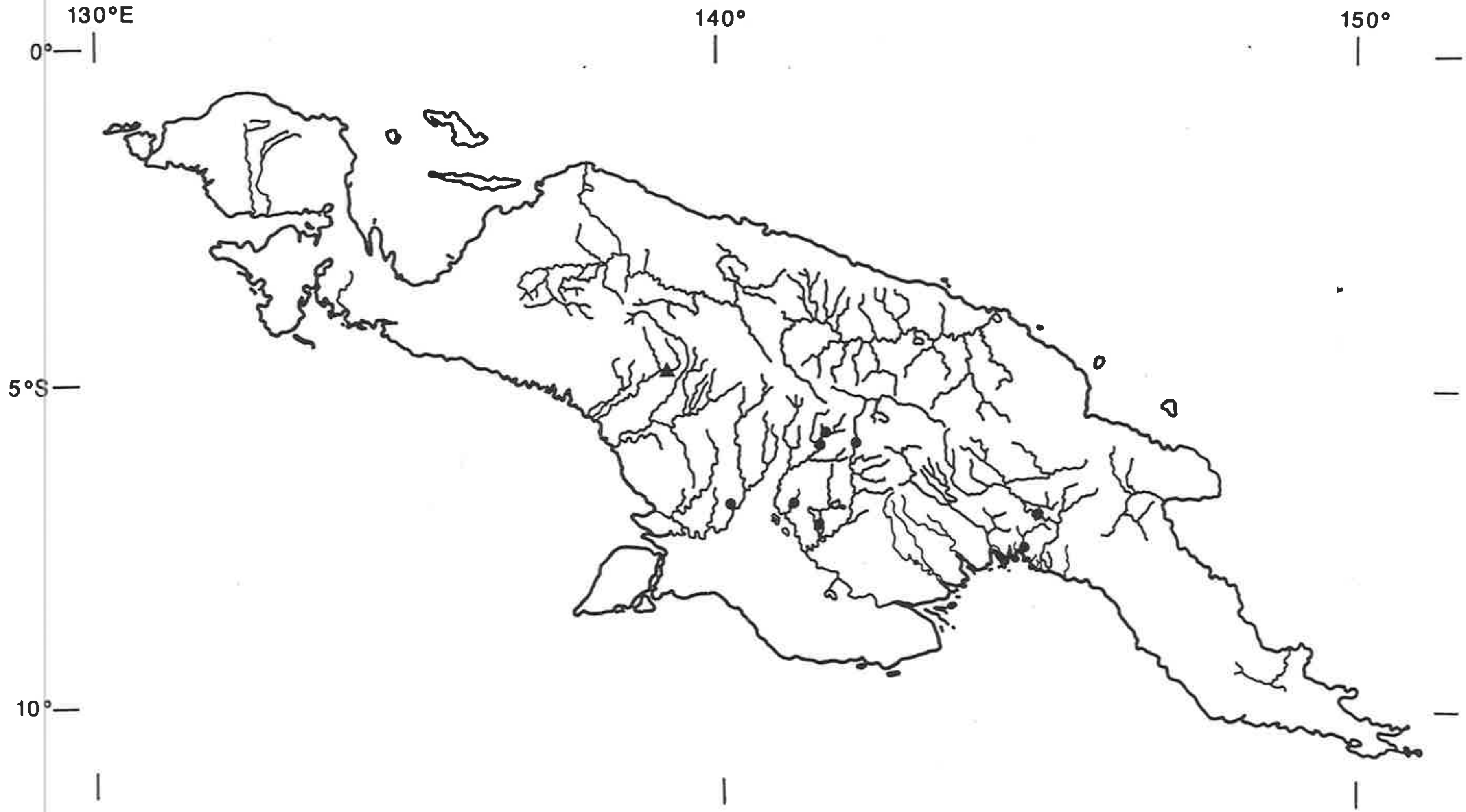


Figure 94. Distribution of *Cinetodus* (*P.*) *crassilabris* (solid circles) and *Cinetodus* (*P.*) *conorhynchus* (solid triangles), based on material examined (symbols indicate capture locality).

Figure 95. *Cinetodus* (*Pachyula*) *conorhynchus*. Lateral view, 170mm SL holotype.

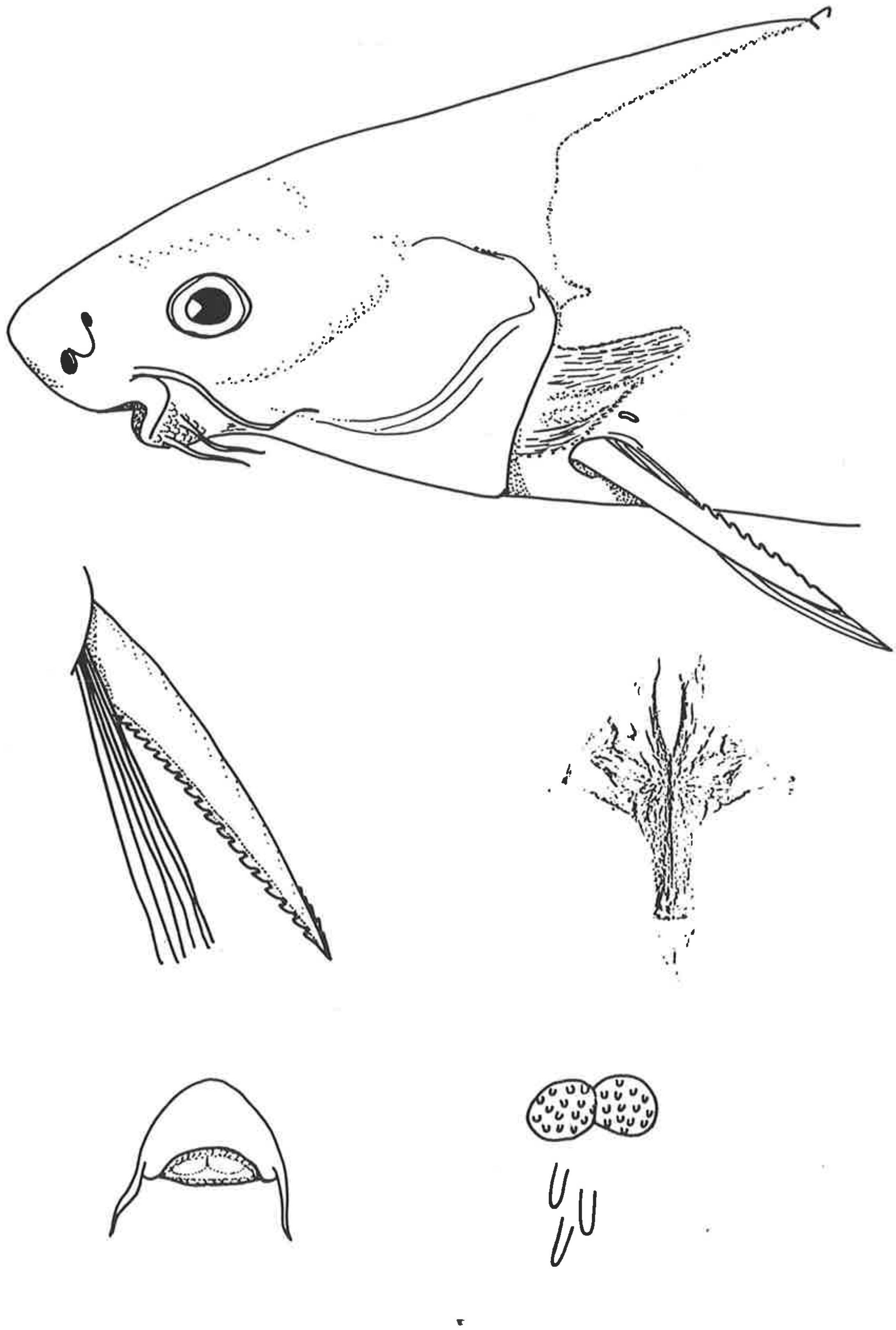


Figure 96. Cinetodus (Pachyula) conorhynchus, 170mm SL type; A) lateral head view (x 2); B) RHS pectoral spine (x 2); C) rubbing of head shield; D) ventral aspect of mouth (x 2); E) form of premaxillary tooth band (x 4) and tooth enlargement.

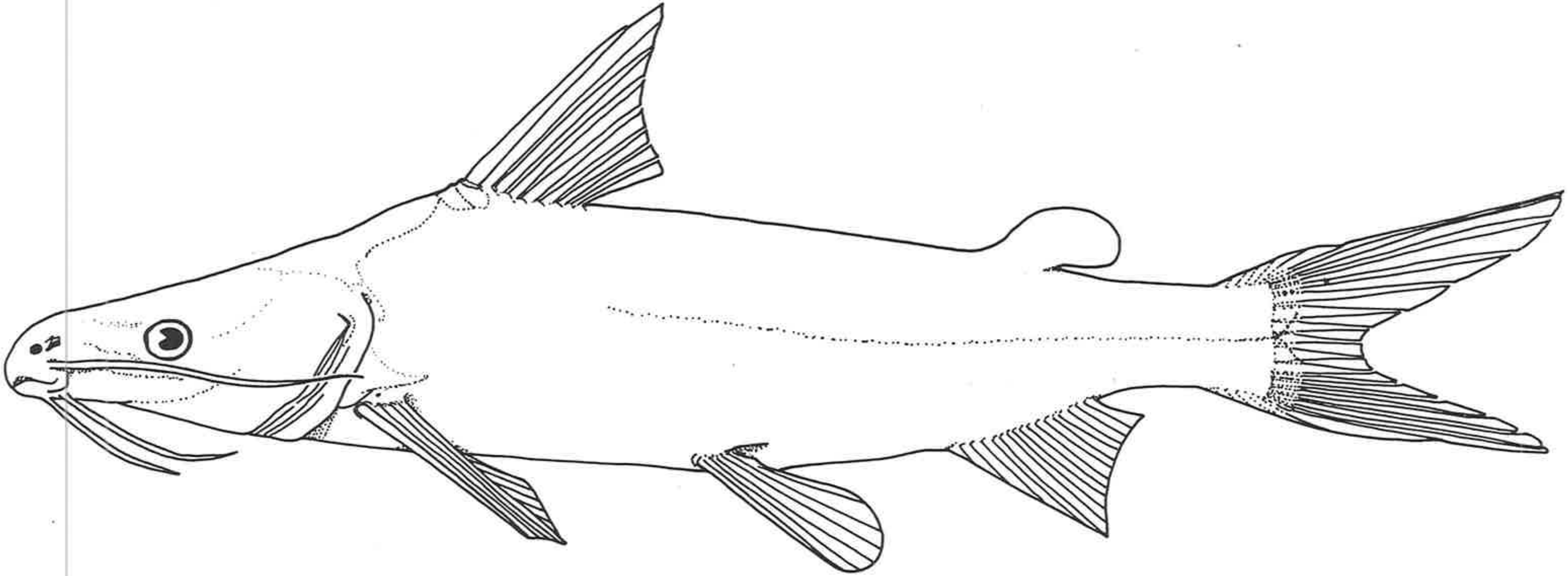


Figure 97. Genus 1 argyropleuron. Lateral view of 355mm SL specimen (x 0.6) from northwestern Australia.

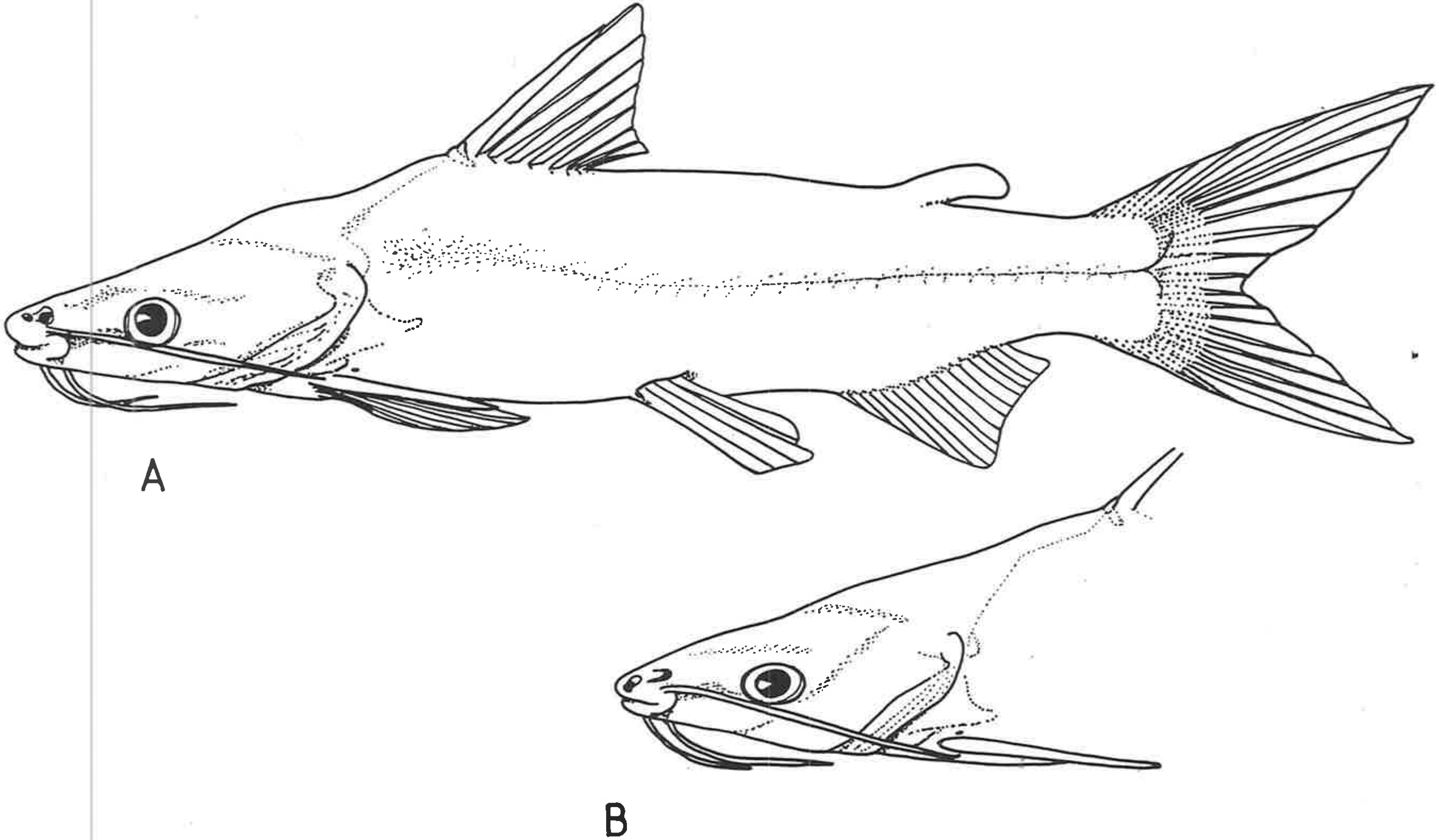


Figure 98. Genus 1 argyropleuron. A) lateral view of 172mm SL specimen (x 1) from north Queensland; B) lateral head view of 178mm SL specimen (x 1) from Java.

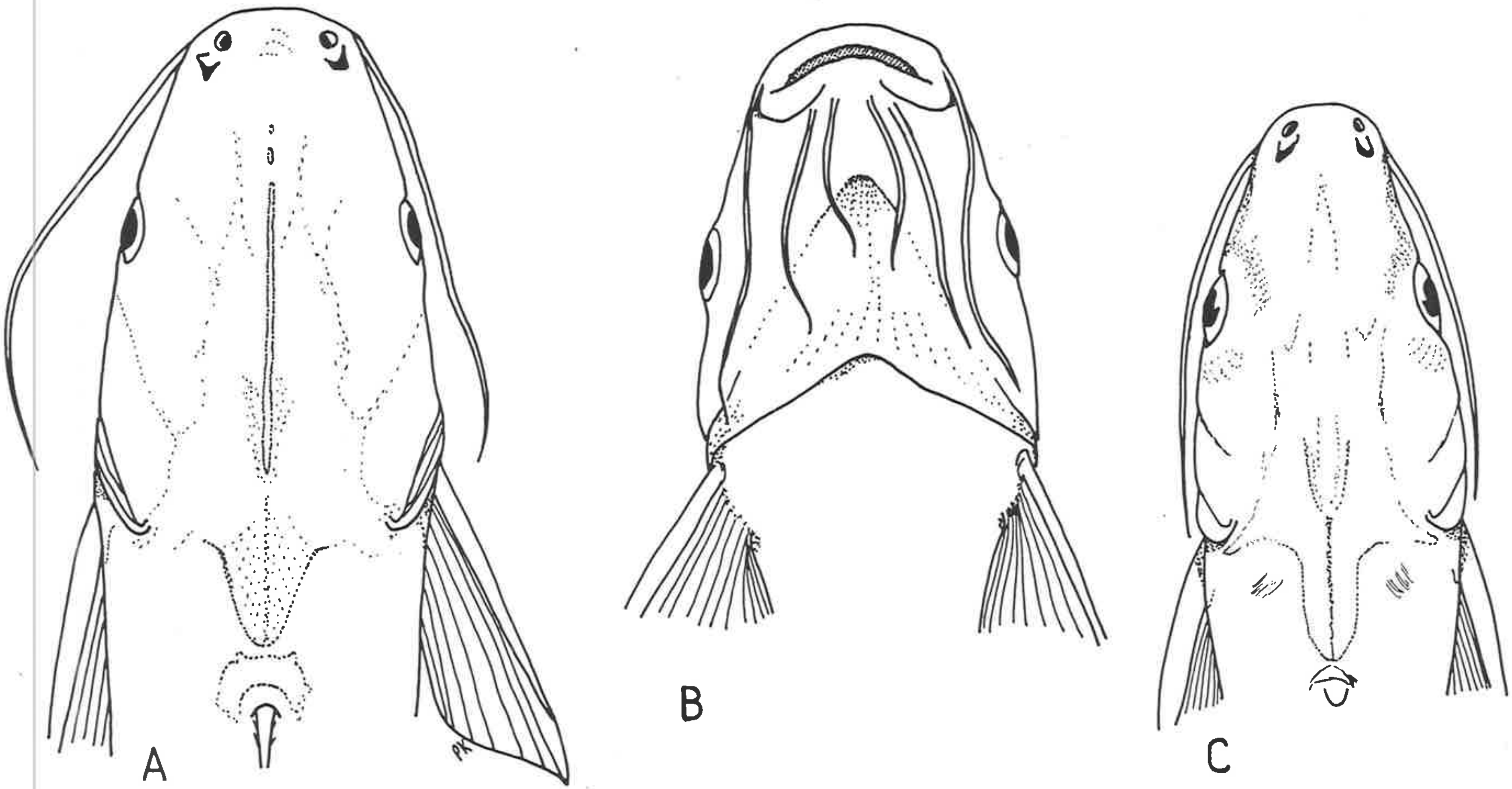


Figure 99. Genus 1 argyropleuron: A) Dorsal head view, 355mm SL specimen (x0.7); B) Ventral head view, same specimen (x 0.7) (specimen from northwestern Australia); C) Dorsal head view of specimen from Java, 200mm SL (x 1)

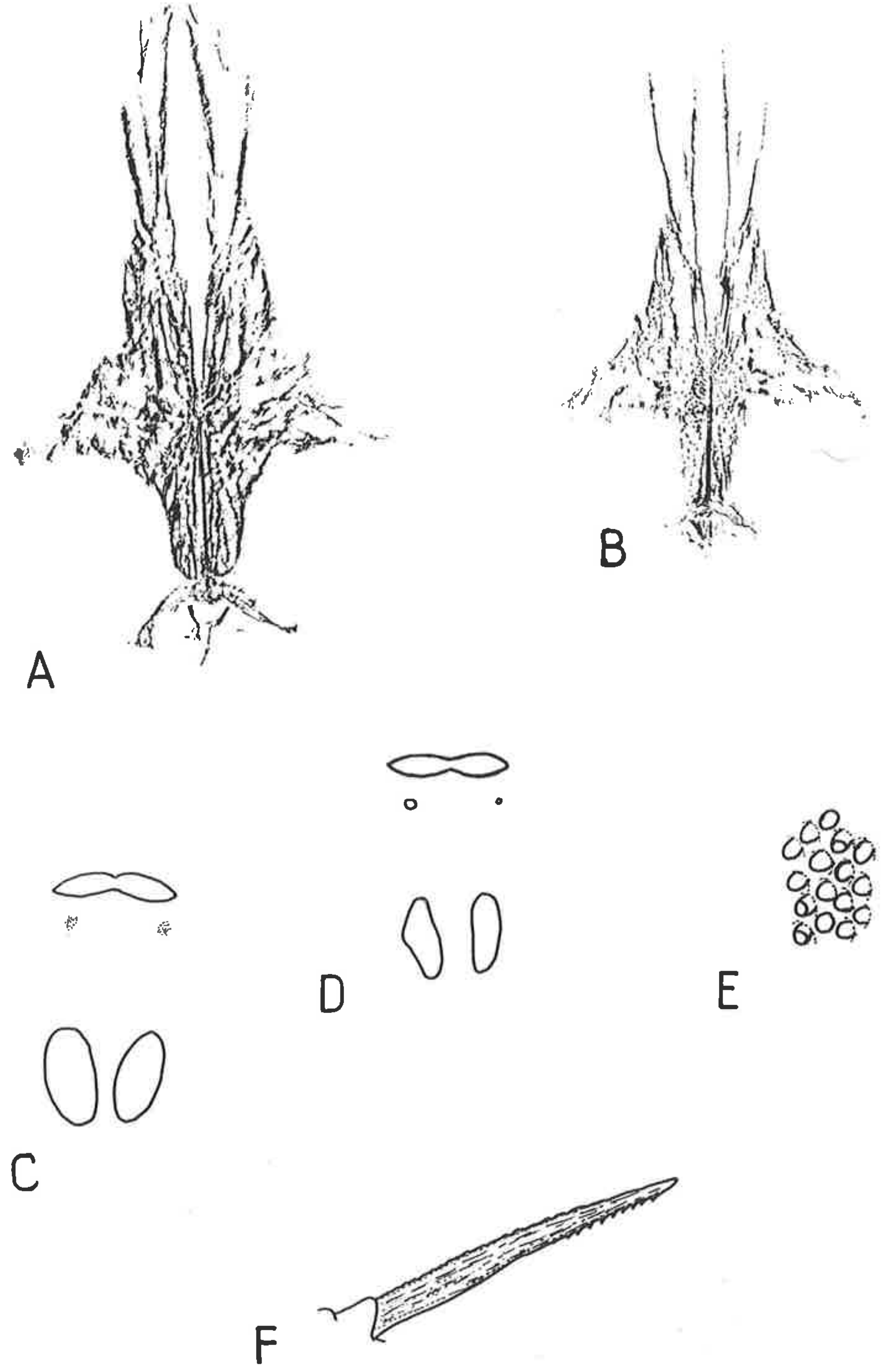


Figure 100. Genus 1 argyropleuron: rubbing of head shield in A) Bleeker specimen from Java, 205mm SL, B) 168mm SL specimen from Papua form and arrangement of upper tooth patches in C) 200mm SL specimen, D) 168mm SL specimen; E) enlargement of palatal teeth, 168mm SL specimen; F) dorsal spine, 225mm SL specimen (x 1).

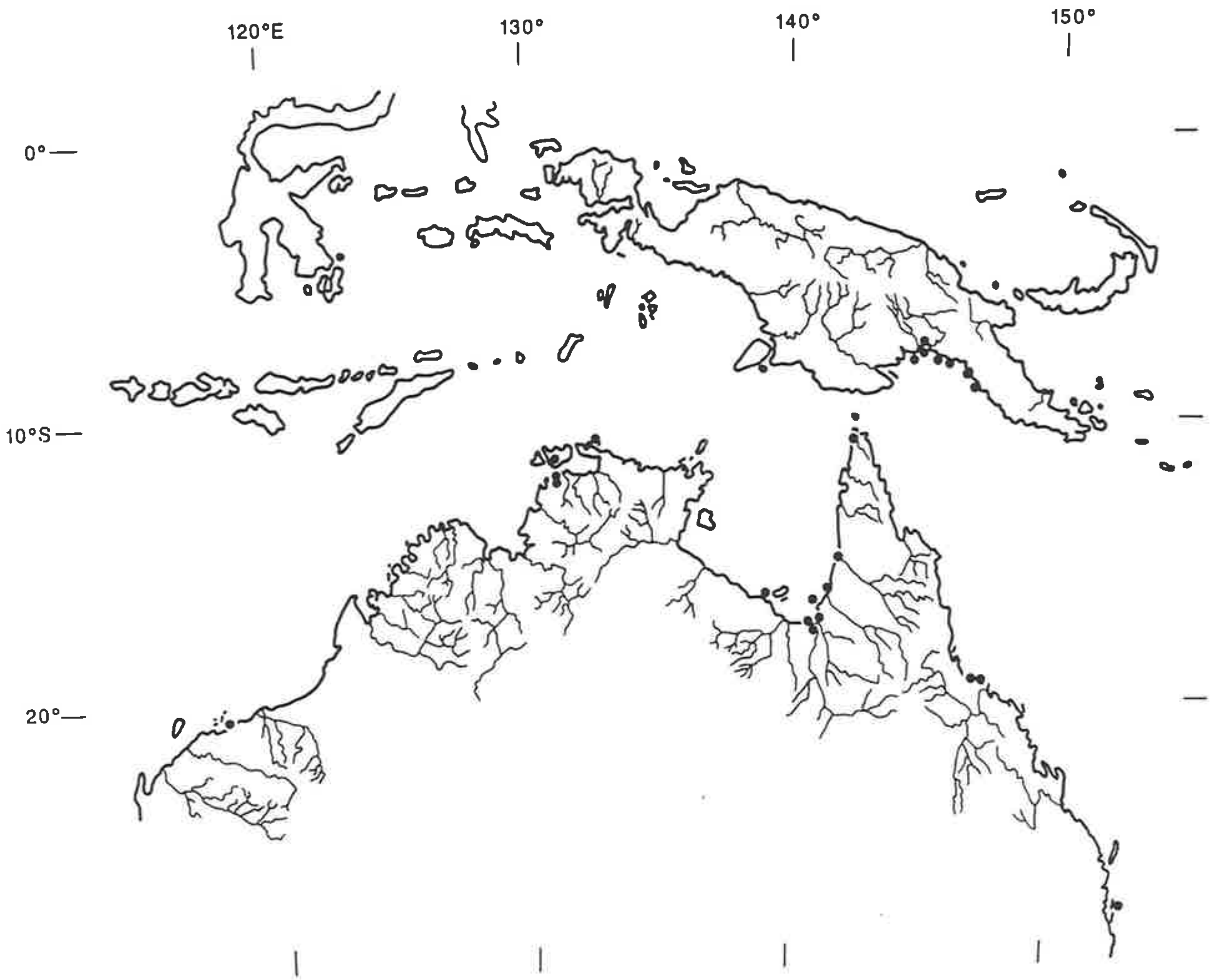


Figure 101. Australian and New Guinea distribution of Genus 1 argyropleuron, based on material examined (including local types) (solid circles indicate capture locality).

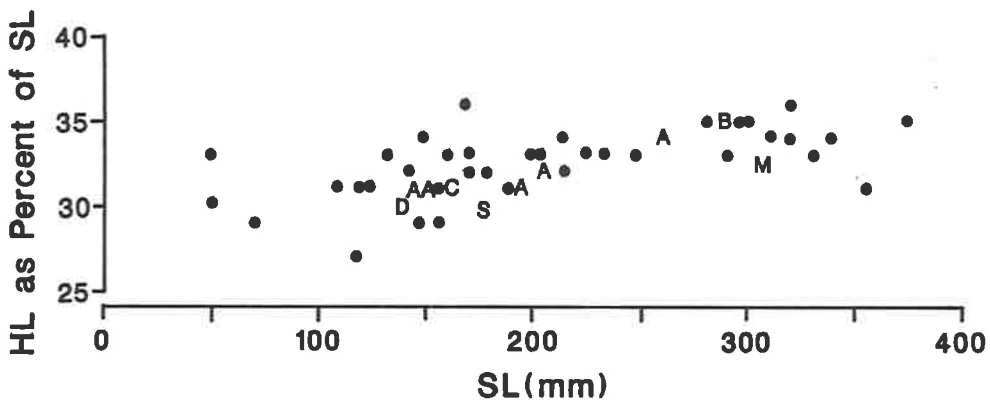


Figure 102. HL as % SL in Genus 1 argyropleuron. Type material of argyropleuron and its synonyms are noted: A = argyropleuron presumed types, B = broadbenti syntype, C = colcloughi type, D = acutus presumed type, M = macrocephalus cotype, S = schlegeli cotype.

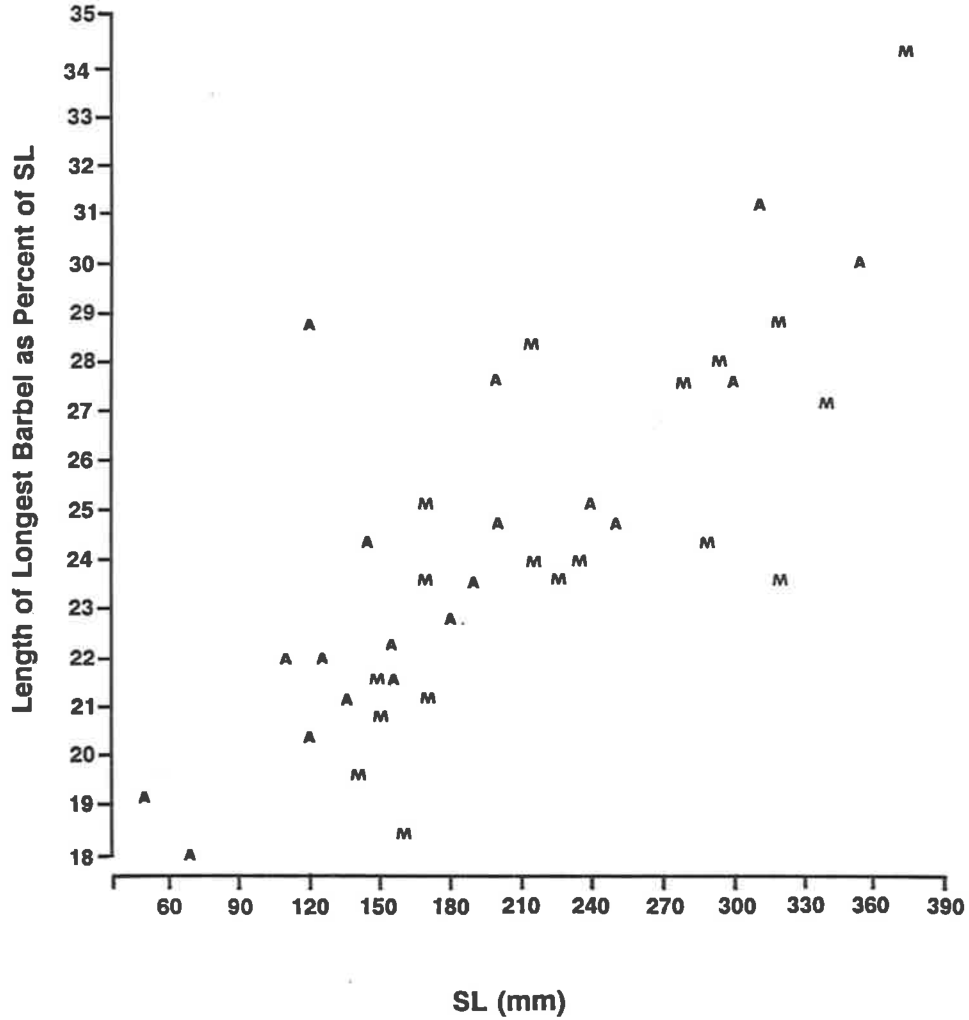


Figure 103. Longest (maxillary) barbel length as % SL for Genus 1 argyropleuron. Specimens were a priori classified into "macrocephalus" (= M) and "argyropleuron" (= A).

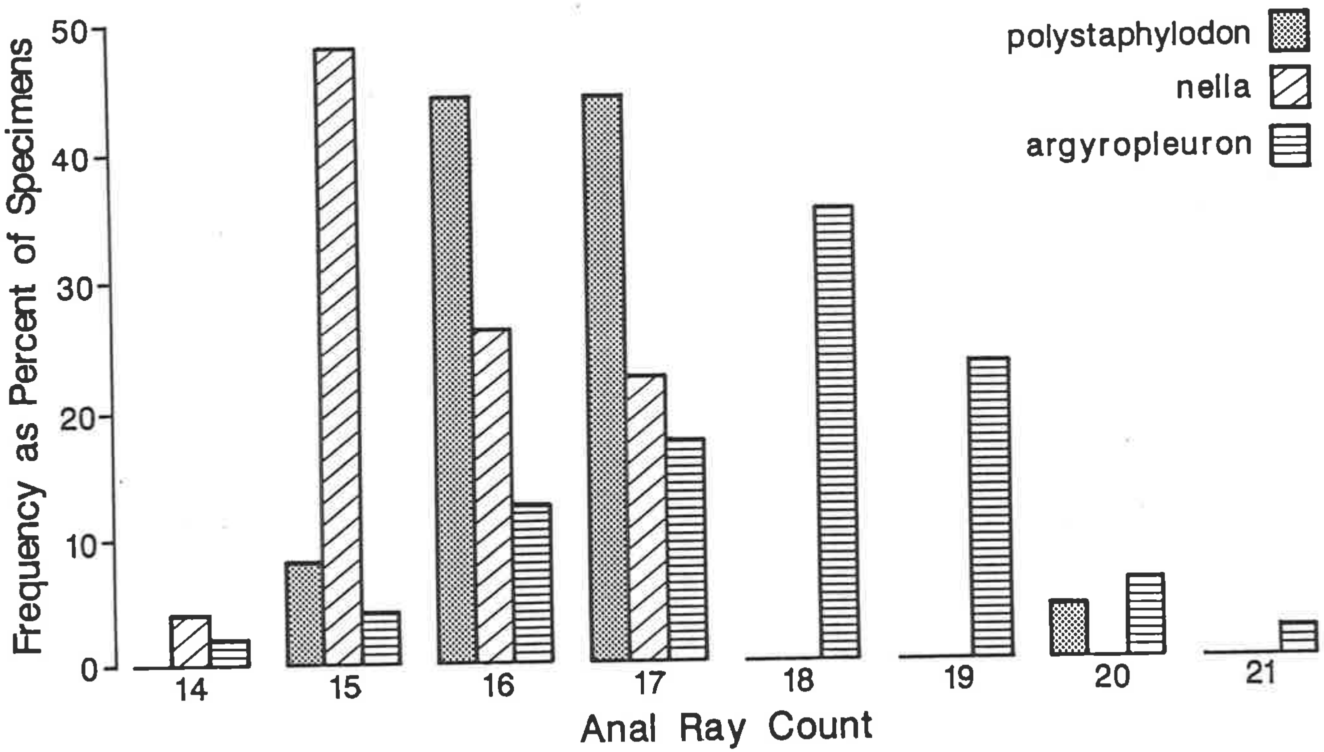


Figure 104. Anal ray count compared in Australian and New Guinea material of Genus 1 (three taxa).

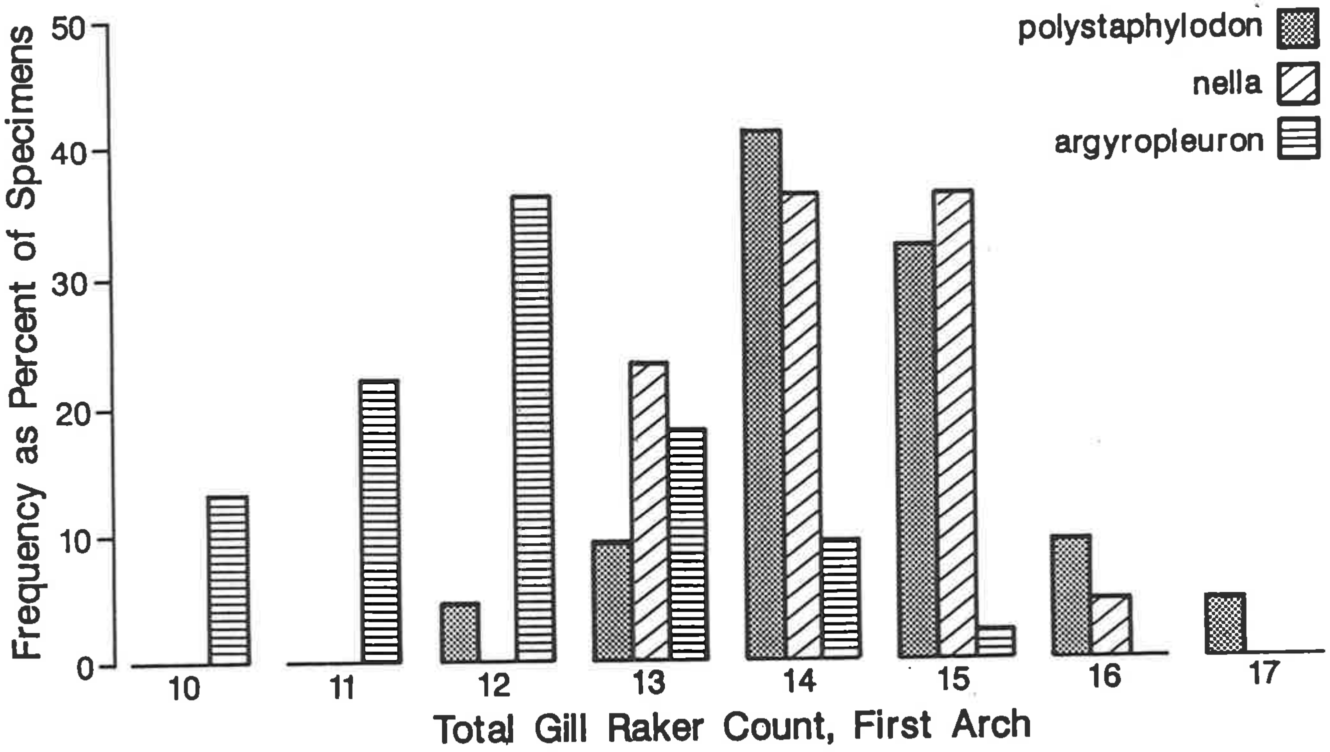


Figure 105. Total GR count (first arch) compared in Australian and New Guinea material of Genus 1 (three taxa).

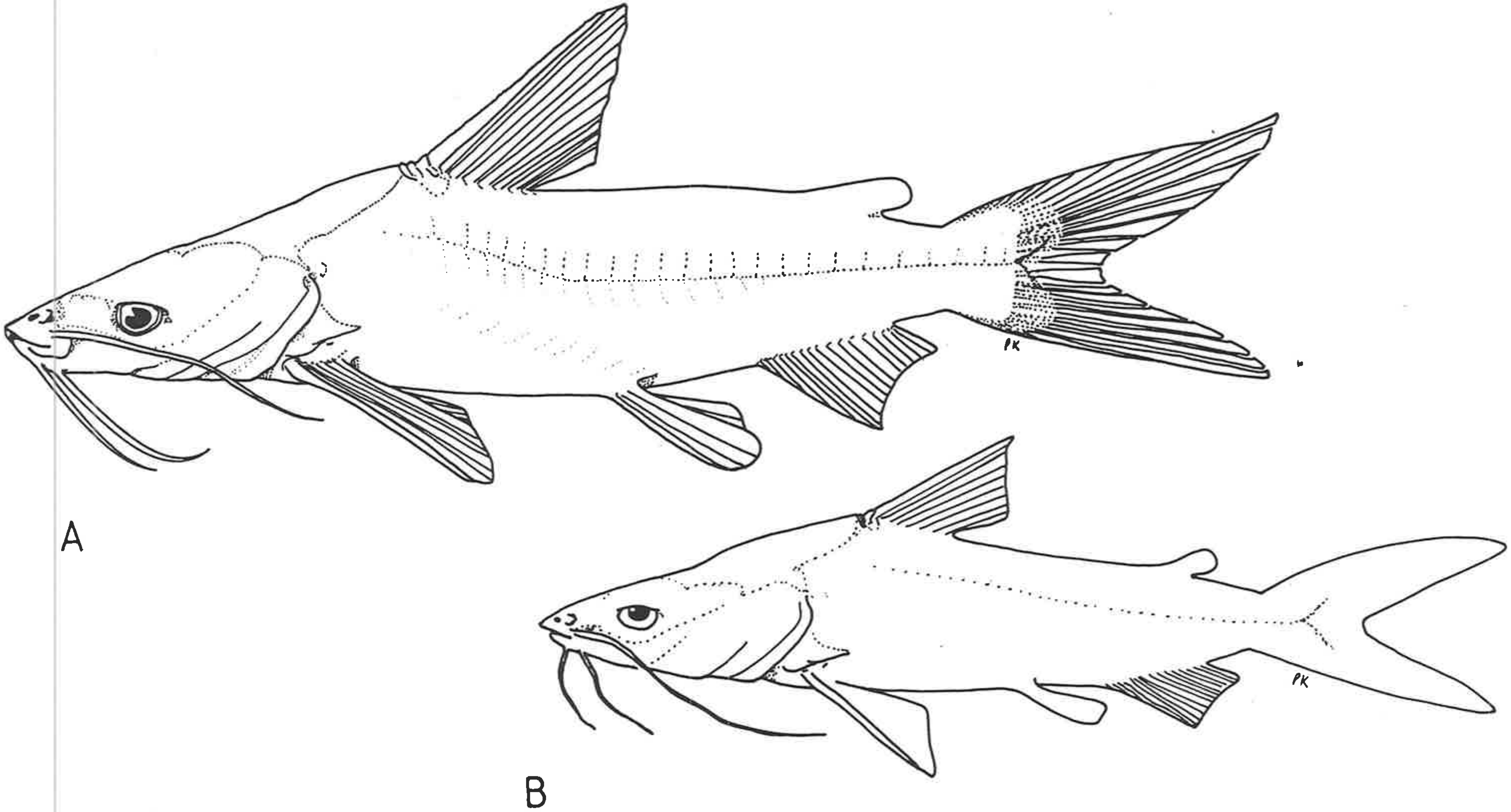


Figure 106. Genus 1 polystaphylodon: lateral view, A) 229mm SL specimen from New Guinea (x 0.6); B) 129mm SL specimen from east Java (x 1).

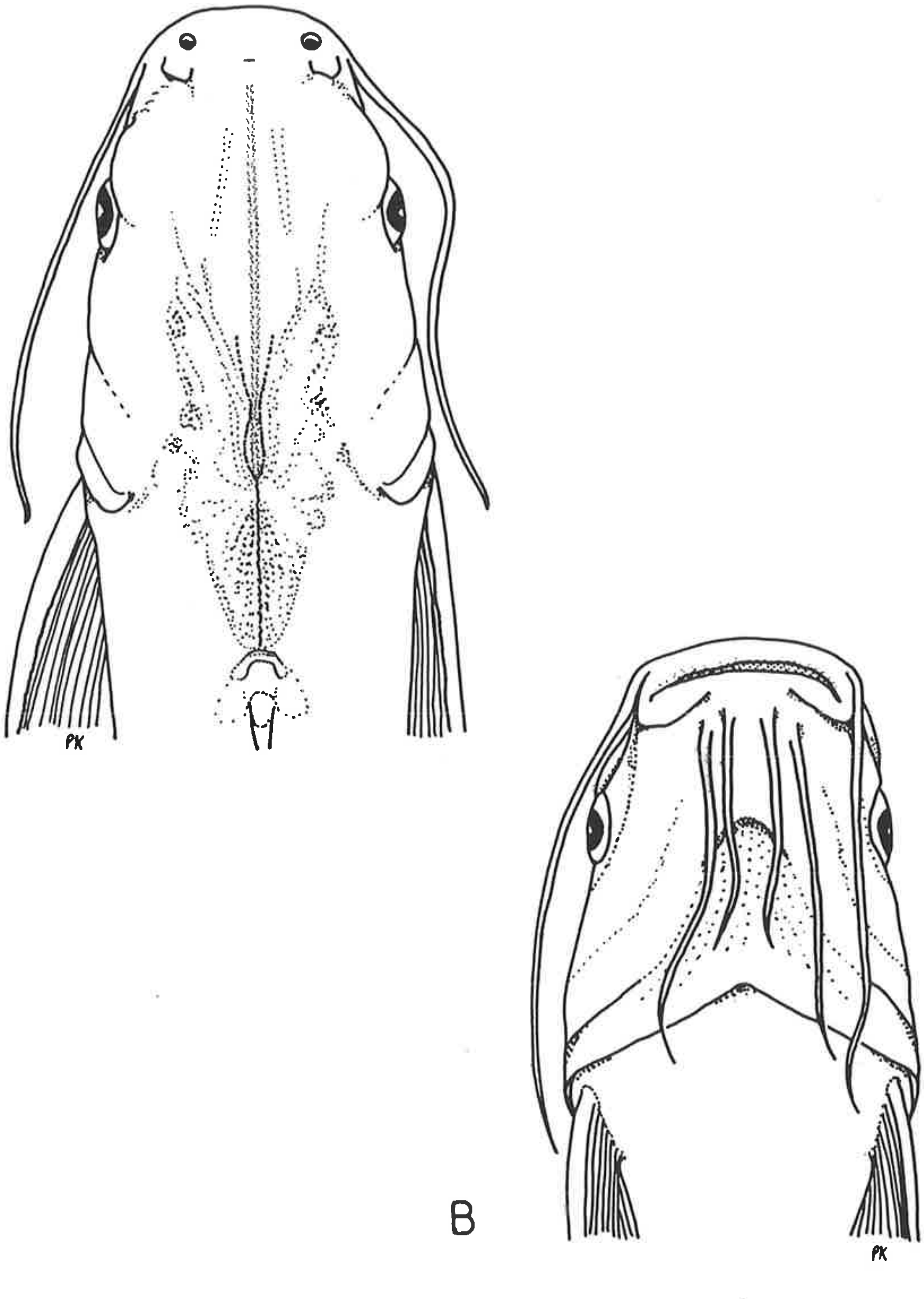


Figure 107. Genus 1 polystaphylodon: A) dorsal head view, 228mm SL specimen (x 1); B) ventral head view, same specimen (x 1).

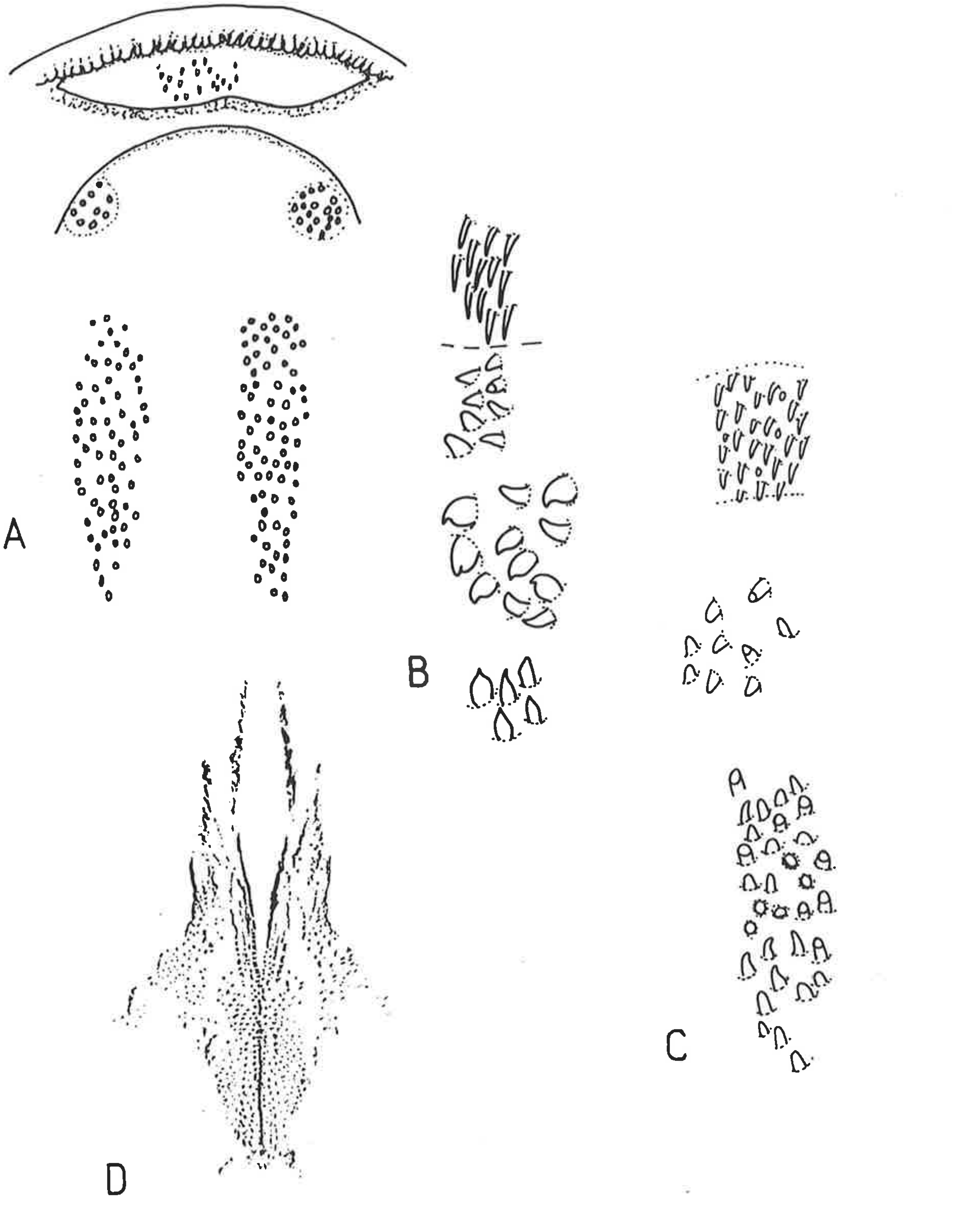


Figure 108. Genus 1 polystaphylodon: A) form and arrangement of upper tooth patches, 226mm SL specimen; enlargement of premaxillary and palatal teeth in B) 129mm SL specimen; C) 226mm SL specimen; D) rubbing of head shield, 229mm SL specimen.

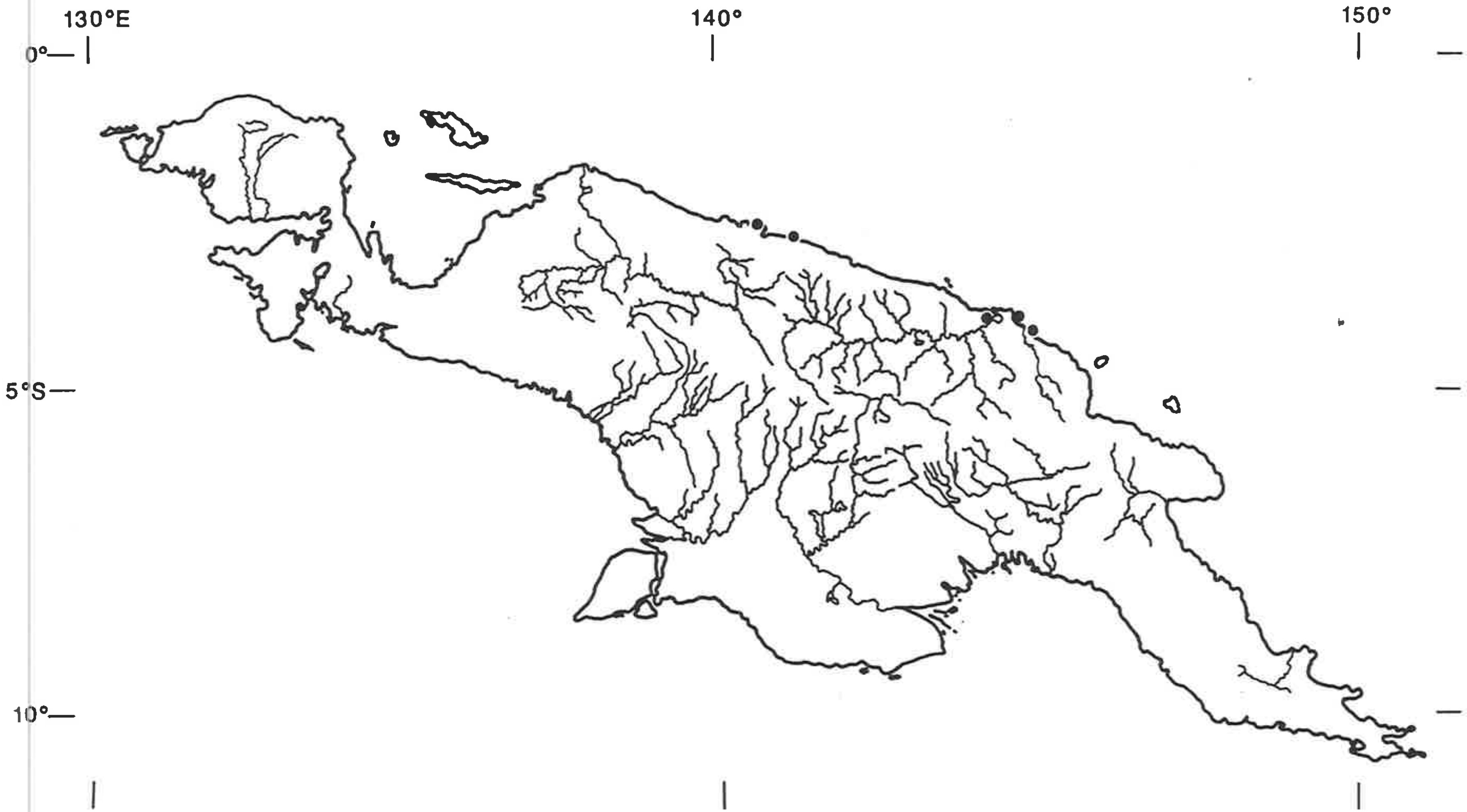


Figure 109. Australian and New Guinea distribution of Genus 1 polystaphylodon, based on material examined (solid circles indicate capture locality).

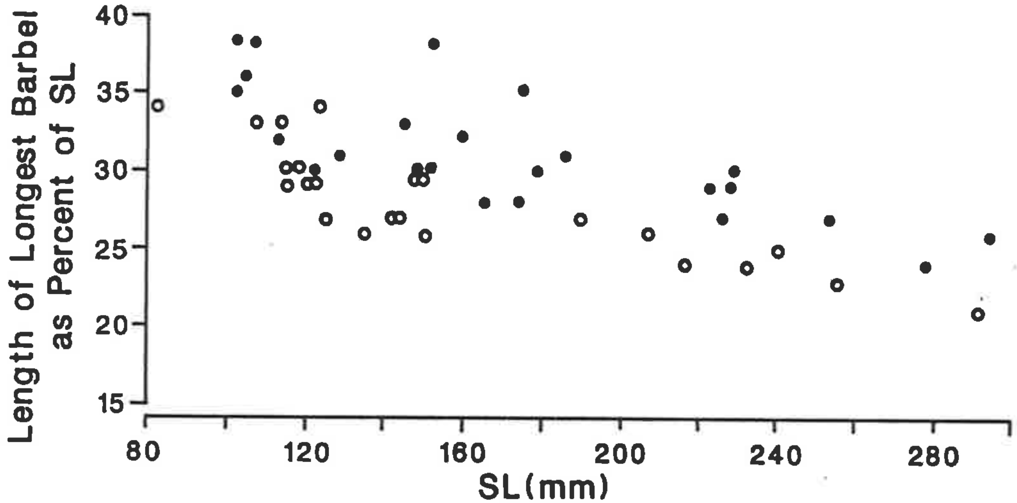


Figure 110. Longest (maxillary) barbel length compared in two Genus 1 taxa (solid circles = polystaphylodon; hollow circles = nella).

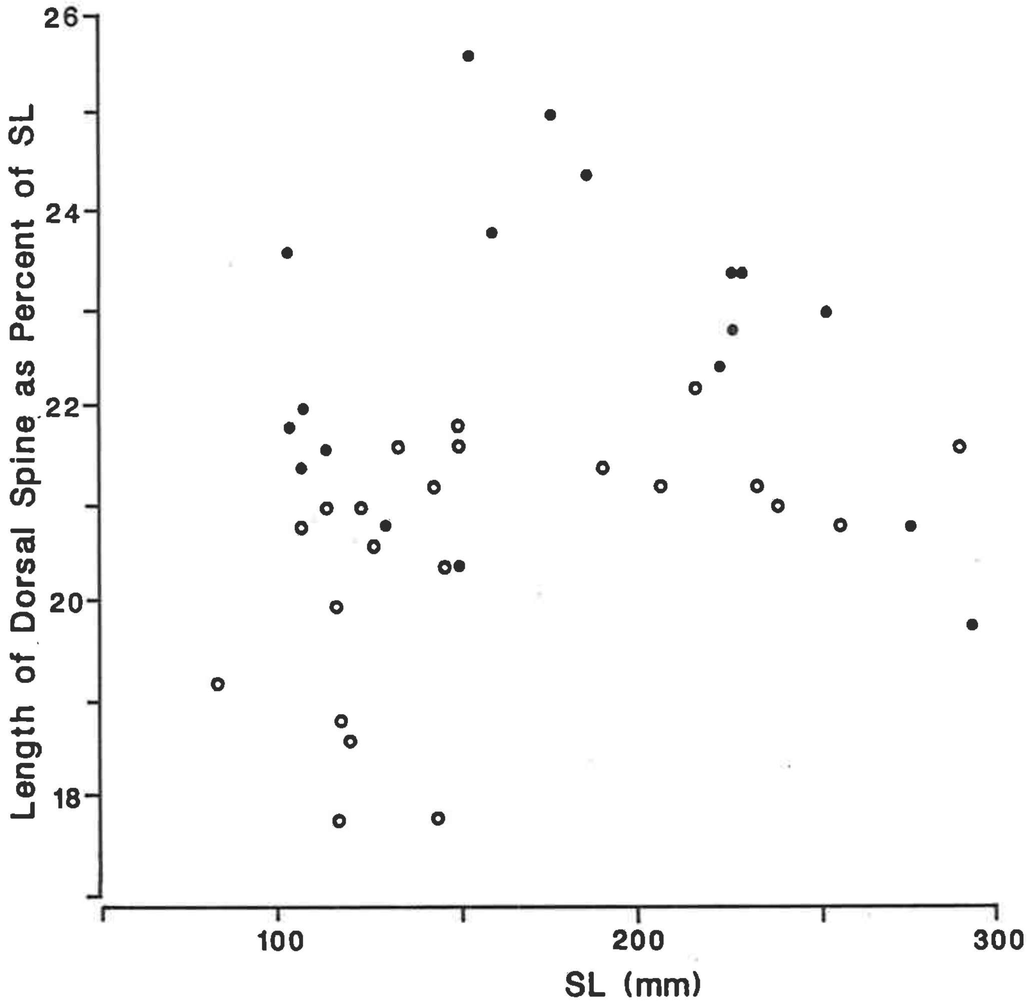


Figure 111. Dorsal spine length compared in two Genus 1 taxa (solid circles = polystaphylodon; hollow circles = nella).

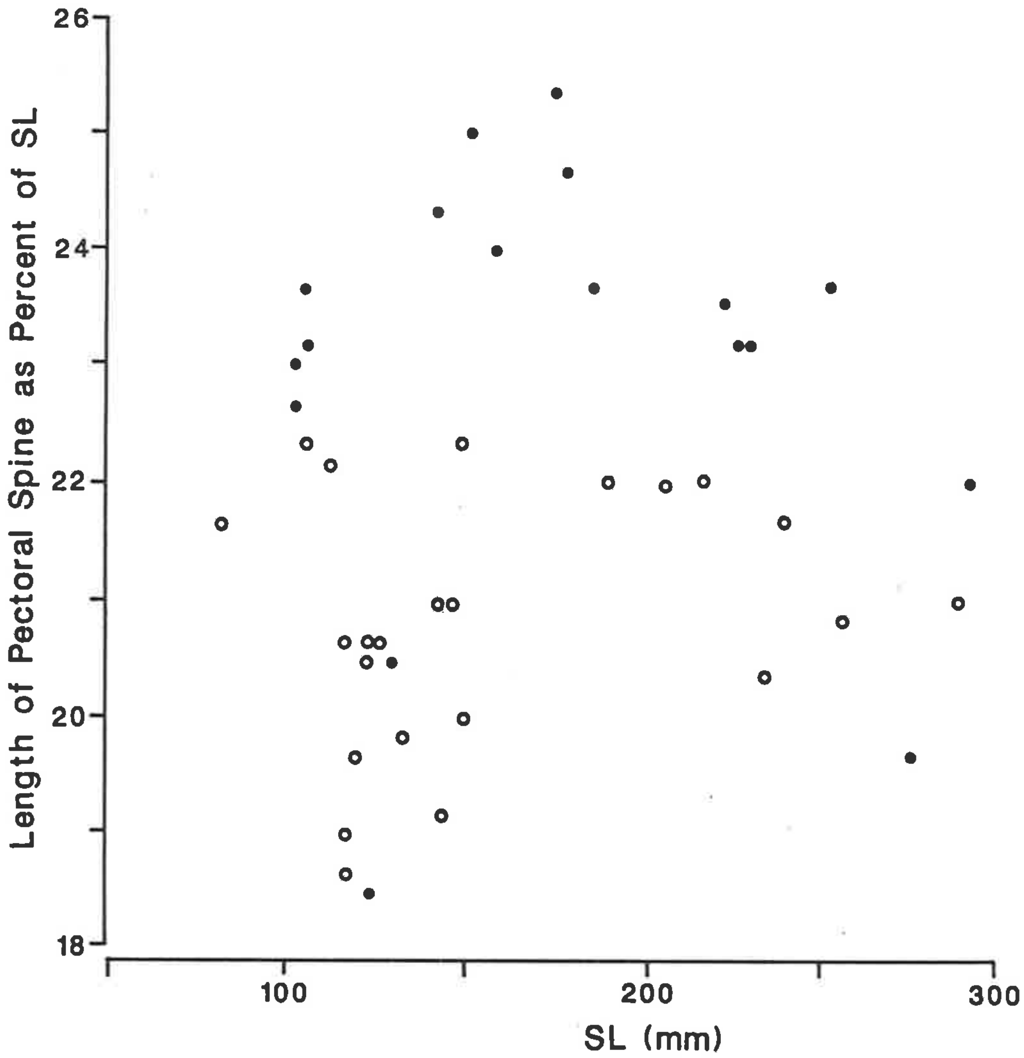


Figure 112. Pectoral spine length compared in two Genus 1 taxa (solid circles = polystaphylodon; hollow circles = nella).

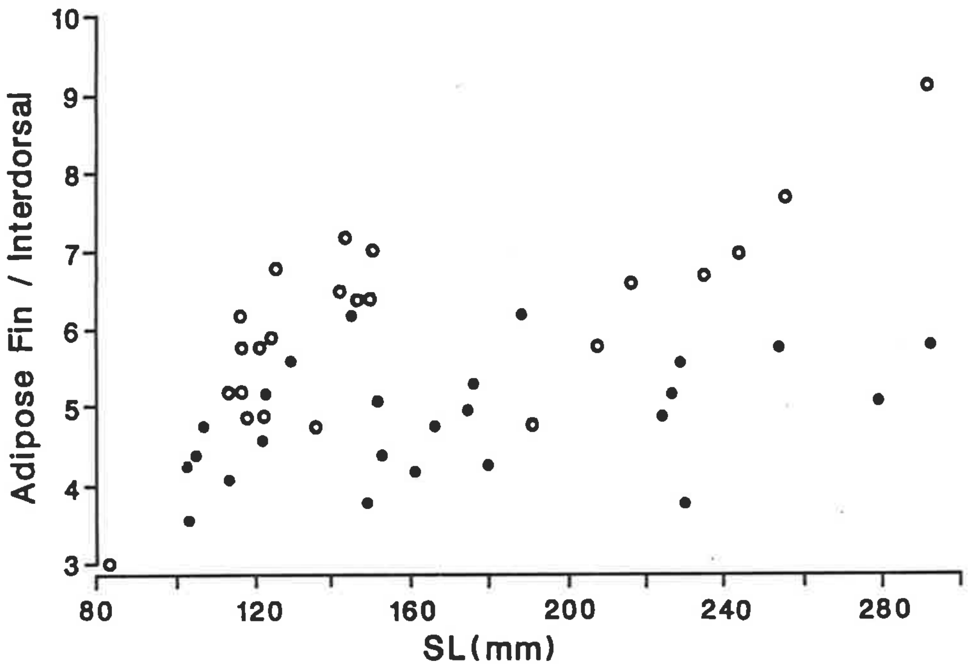
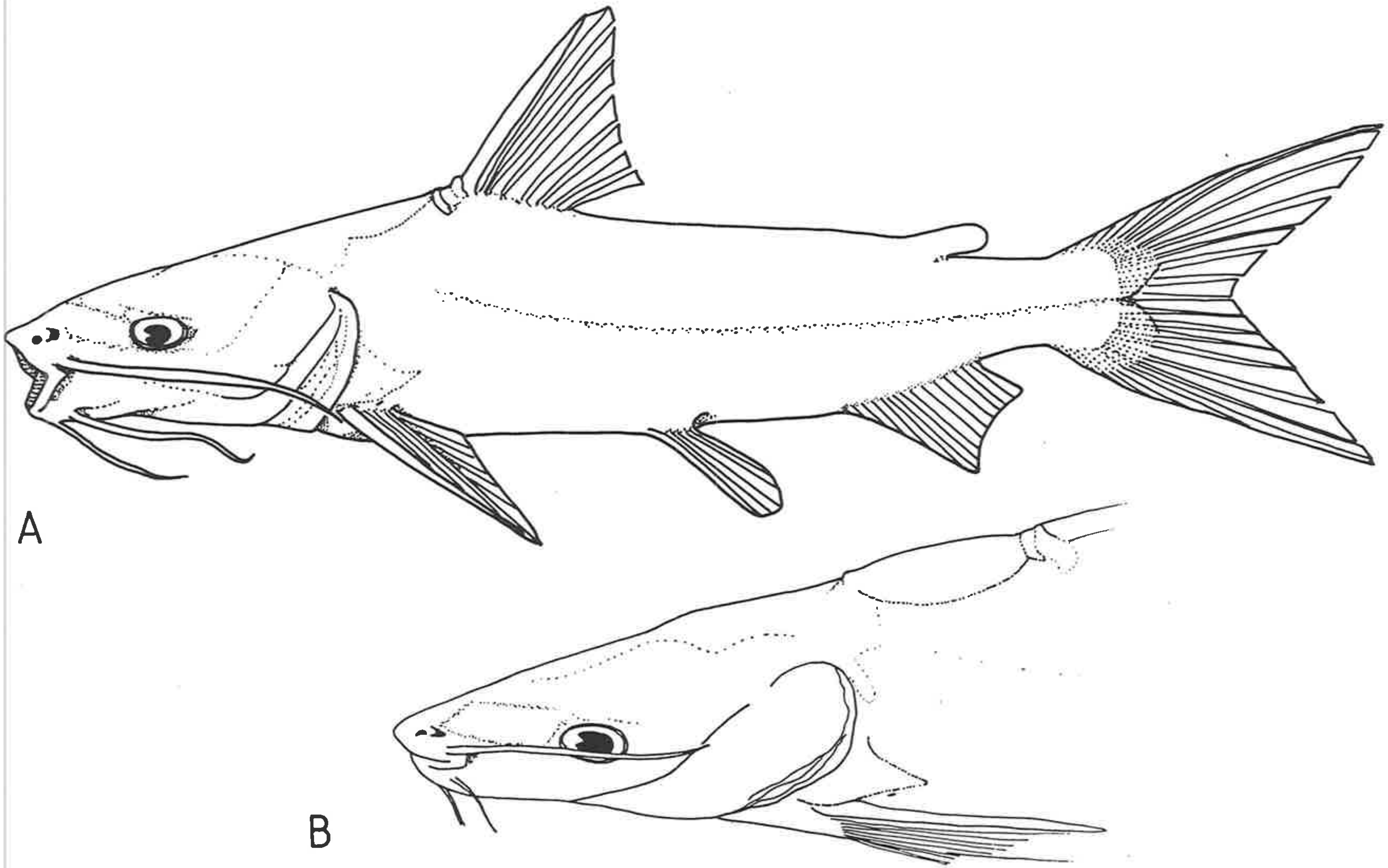


Figure 113. Adipose fin basal length / interdorsal distance ratio compared in two Genus 1 taxa (solid circles = polystaphylodon; hollow circles = nella).



A

B

Figure 114. Genus 1 nella: lateral view, A) 243mm SL specimen (x 0.7; B) 255mm SL specimen (head only) (x 0.7).

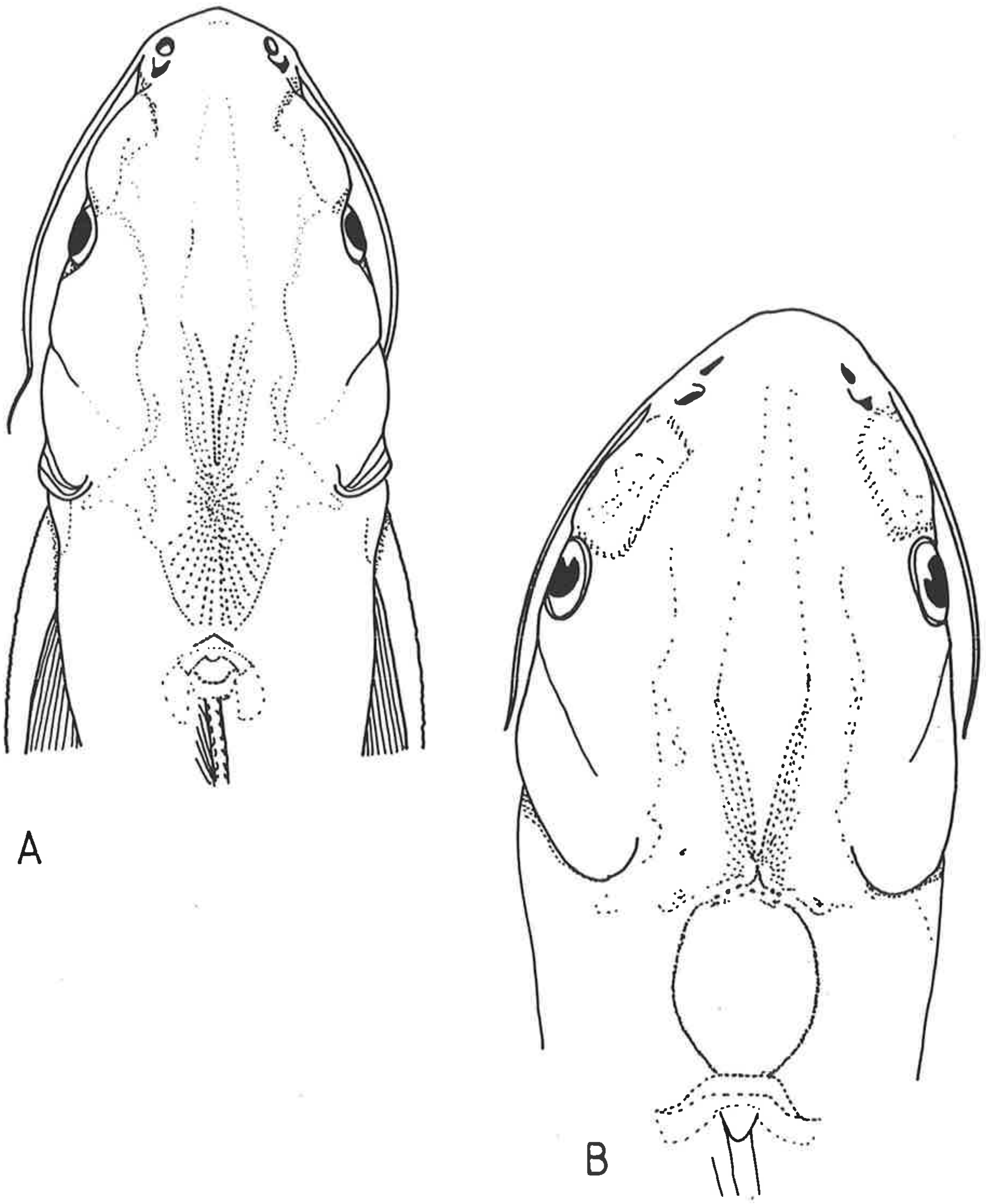


Figure 115. Genus 1 nella: A) dorsal head view, 232mm SL specimen (x 1); B) same, 255mm SL specimen (x 1).

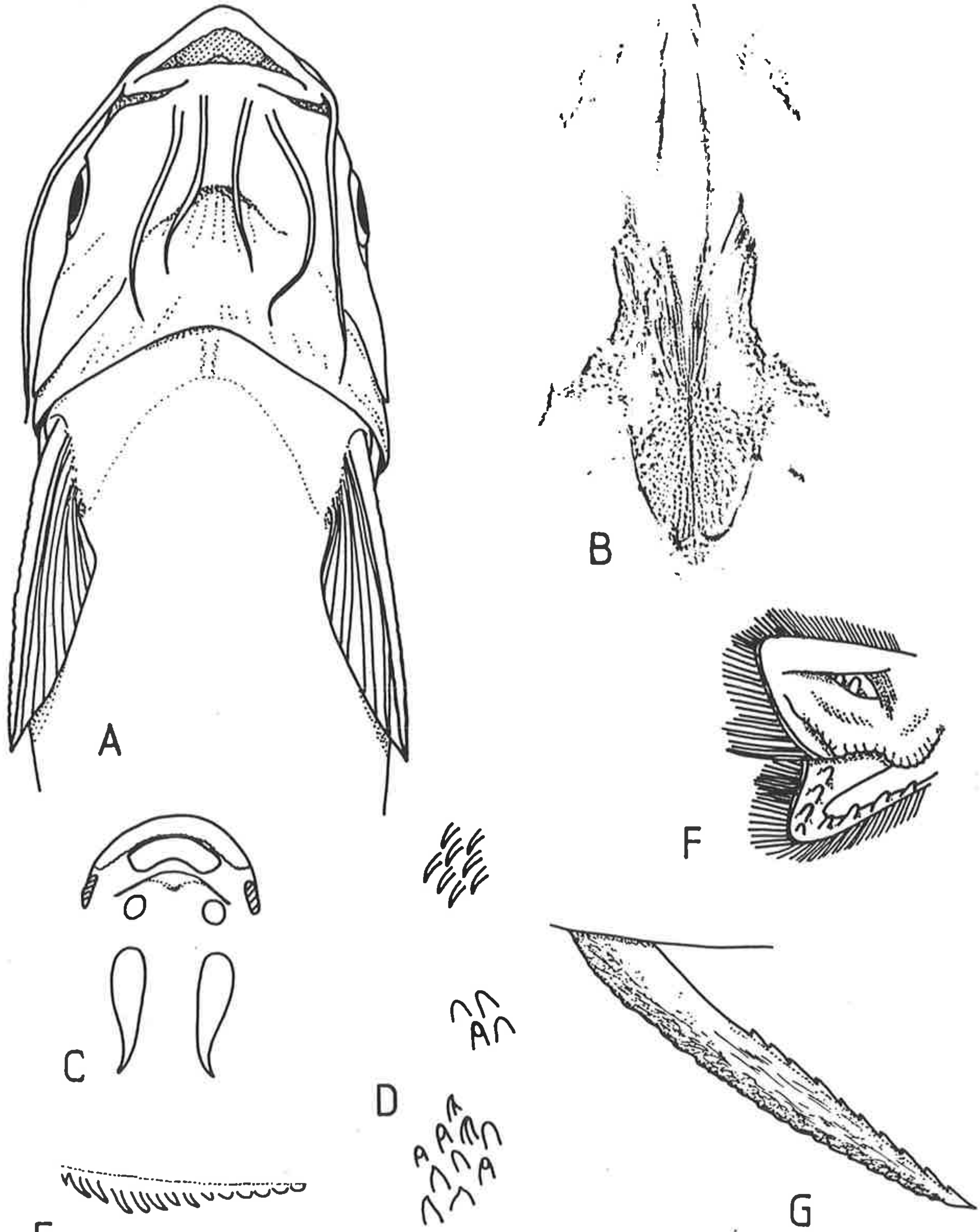


Figure 116. Genus 1 nella: A) ventral head view, 232mm SL specimen (x 1); B) rubbing of head shield, same specimen; C) form & arrangement of upper tooth patches, 116mm SL specimen; D) enlargement of premaxillary and palatal teeth, same specimen; E) lateral view of palatal teeth in 255mm SL specimen (x 4, anteri = RHS); F) posterior aspect of second, RHS gill arch, showing epithelial tissue pad, 122mm SL specimen (x 5); G) pectoral spine, 255mm SL specimen (x 1).

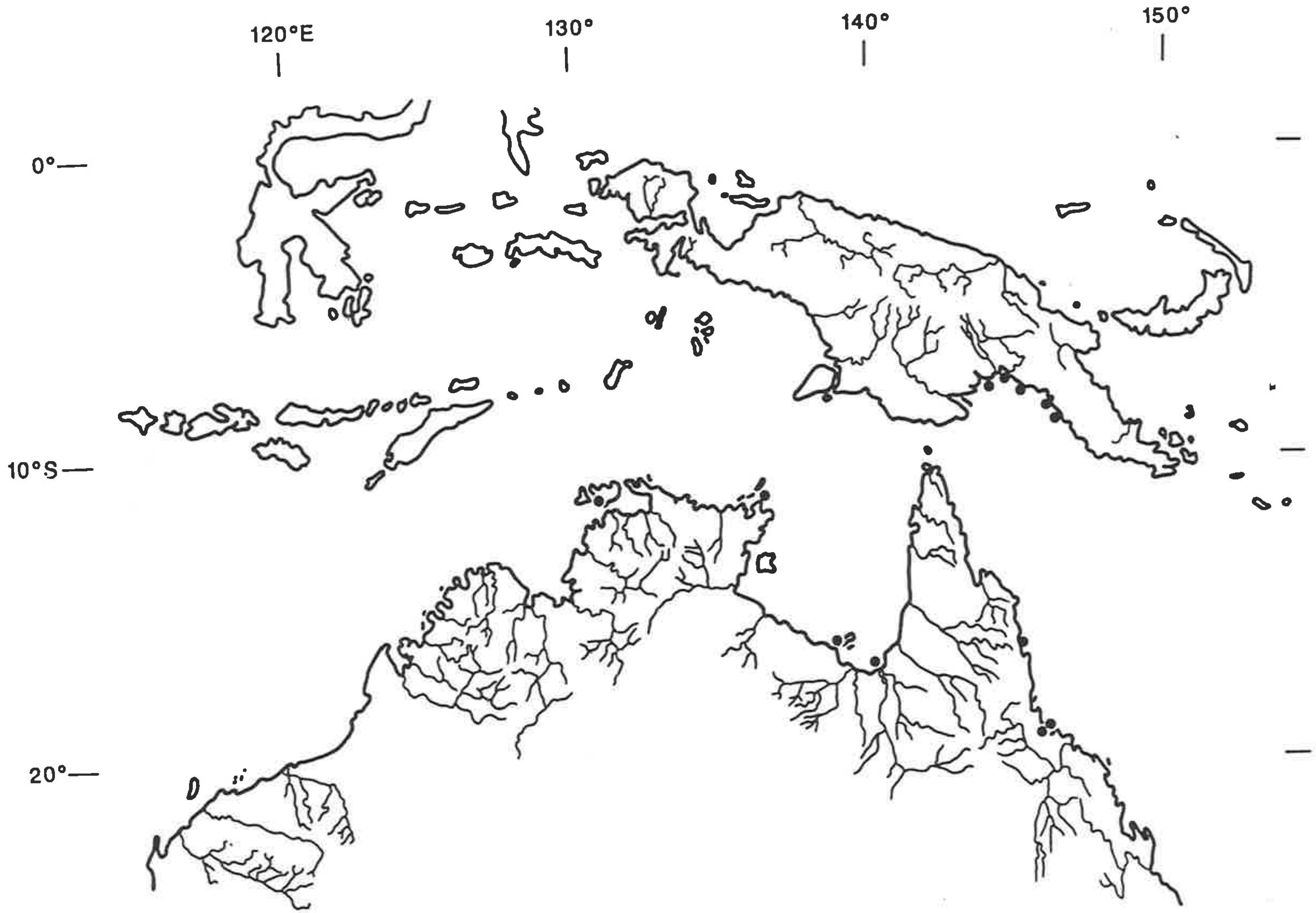


Figure 117. Australian and New Guinea distribution of Genus 1 nella, based on material examined (solid circles indicate capture locality).

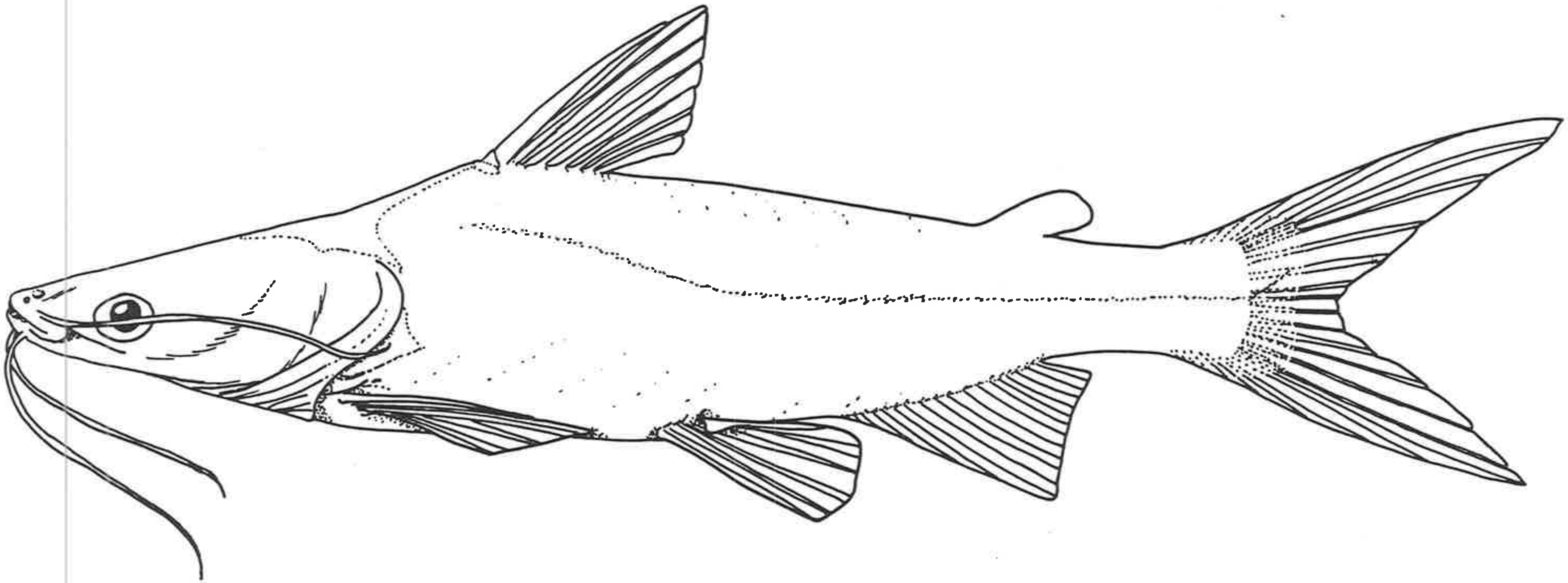


Figure 118. "Arius" (Brustiarius) nox: lateral view, 222mm SL specimen (x 0.85).

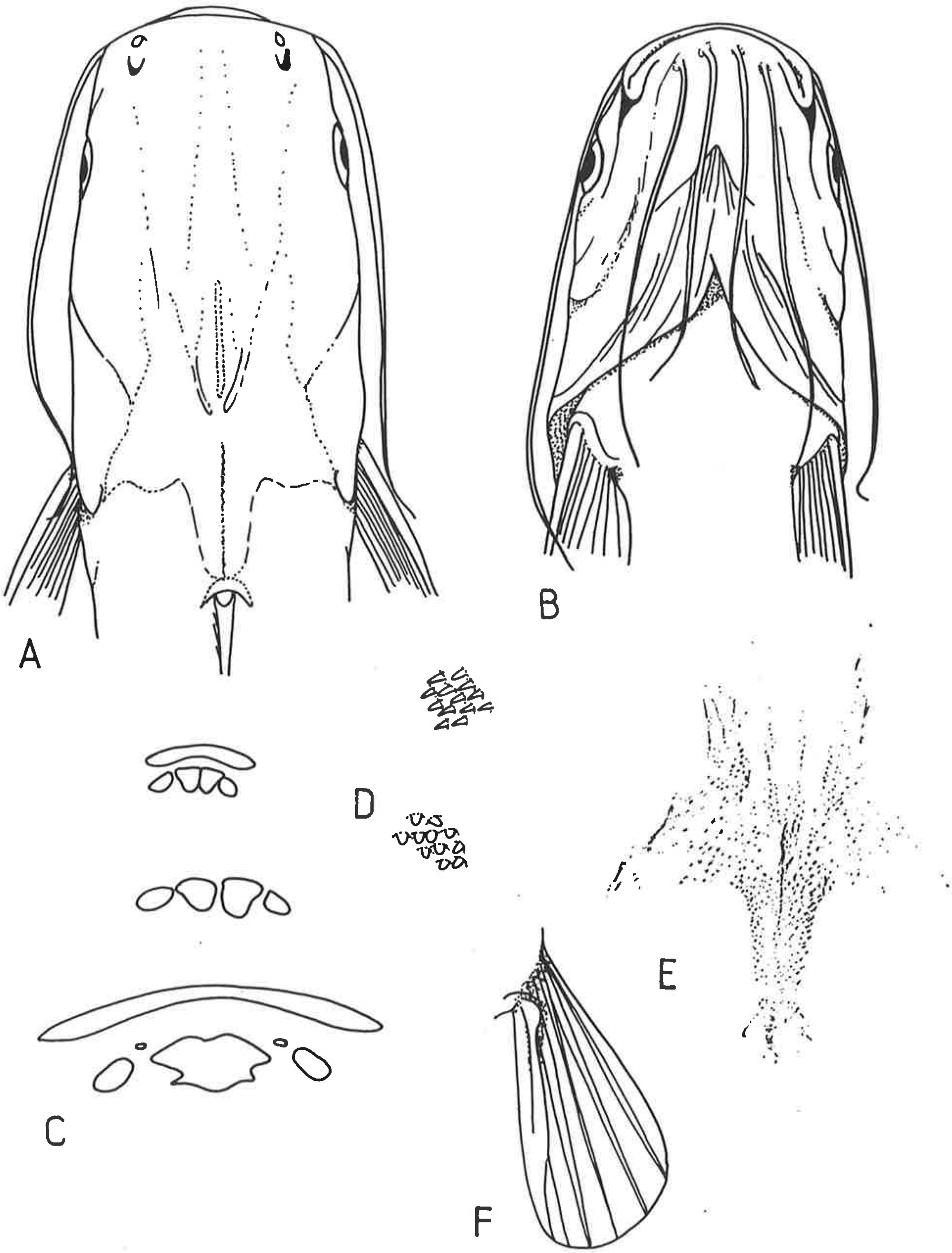


Figure 119. "Arius" (Brustiarius) nox: A) dorsal head view, 282mm SL specimen (x 0.8); B) ventral head view, 274mm SL specimen (x 0.8); C) form & arrangement of upper tooth patches in 3 specimens (top to bottom) 180mm SL, 222mm SL, 274mm SL; D) enlargement of upper jaw teeth, 180 and 274mm SL specimens; E) rubbing of head shield, 282mm SL specimen; F) dorsal aspec of RHS ventral fin in mature female, showing thickened epithelial tissue (282mm SL specimen).

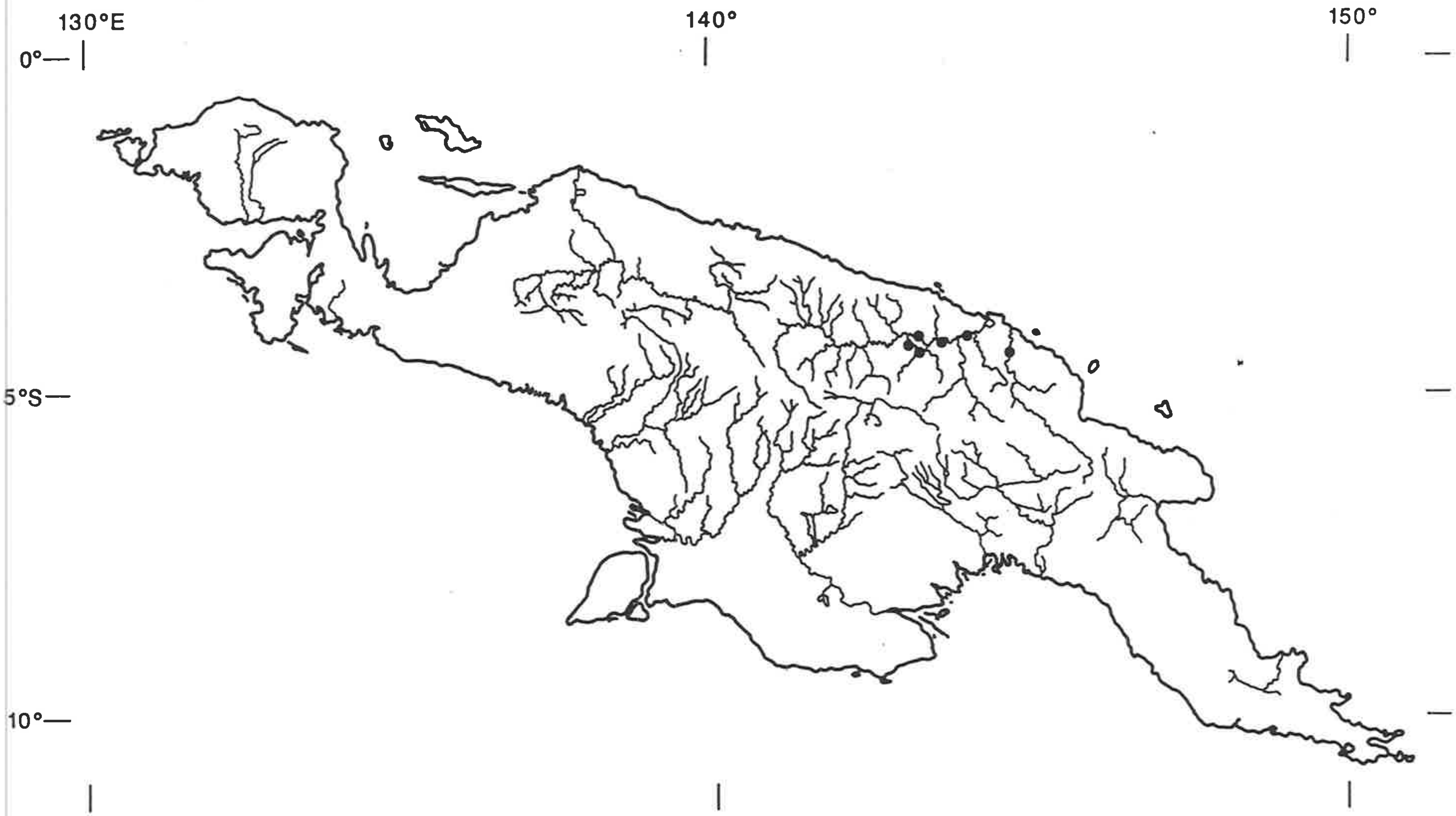


Figure 120. Distribution of "Arius" (B.) nox, based on material examined (solid circles indicate capture locality).

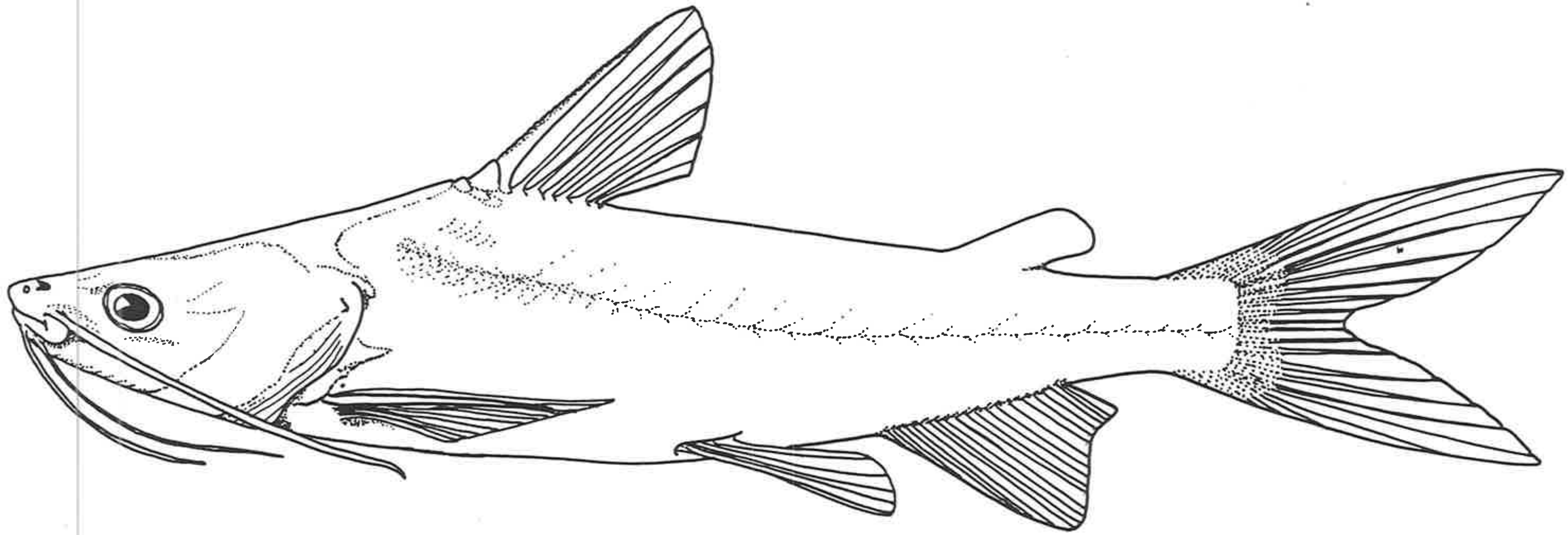


Figure 121. "Arius" (Brustiarius) solidus: lateral view, 224mm SL specimen (x 0.7).

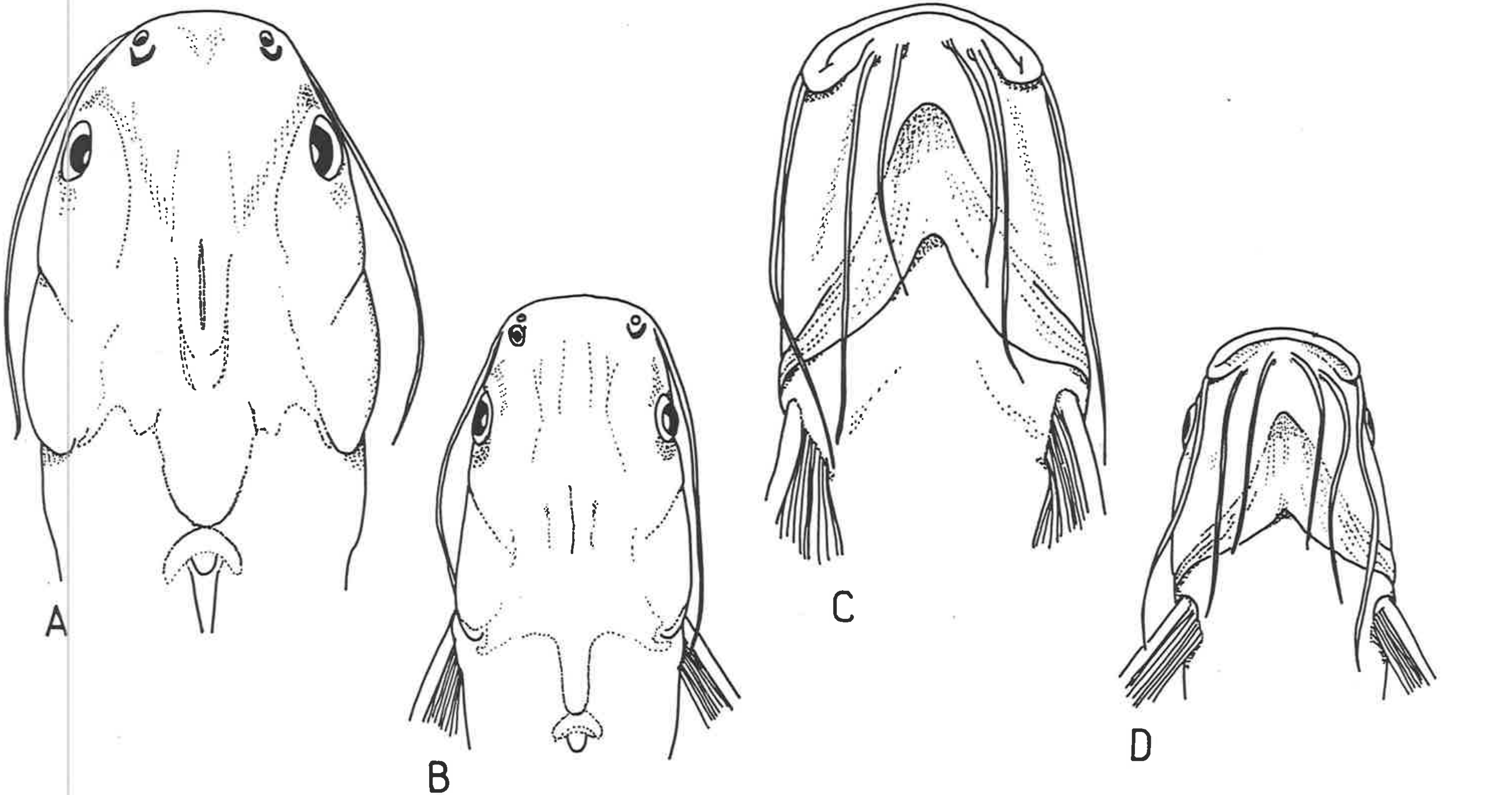


Figure 122. "Arius" (Brustiarius) solidus: dorsal head view in A) 230mm SL specimen (x 1); B) 173mm SL bernhardi paratype (x 1); ventral head view in C) 224mm SL specimen (x 1); D) 173mm SL specimen (x 1).

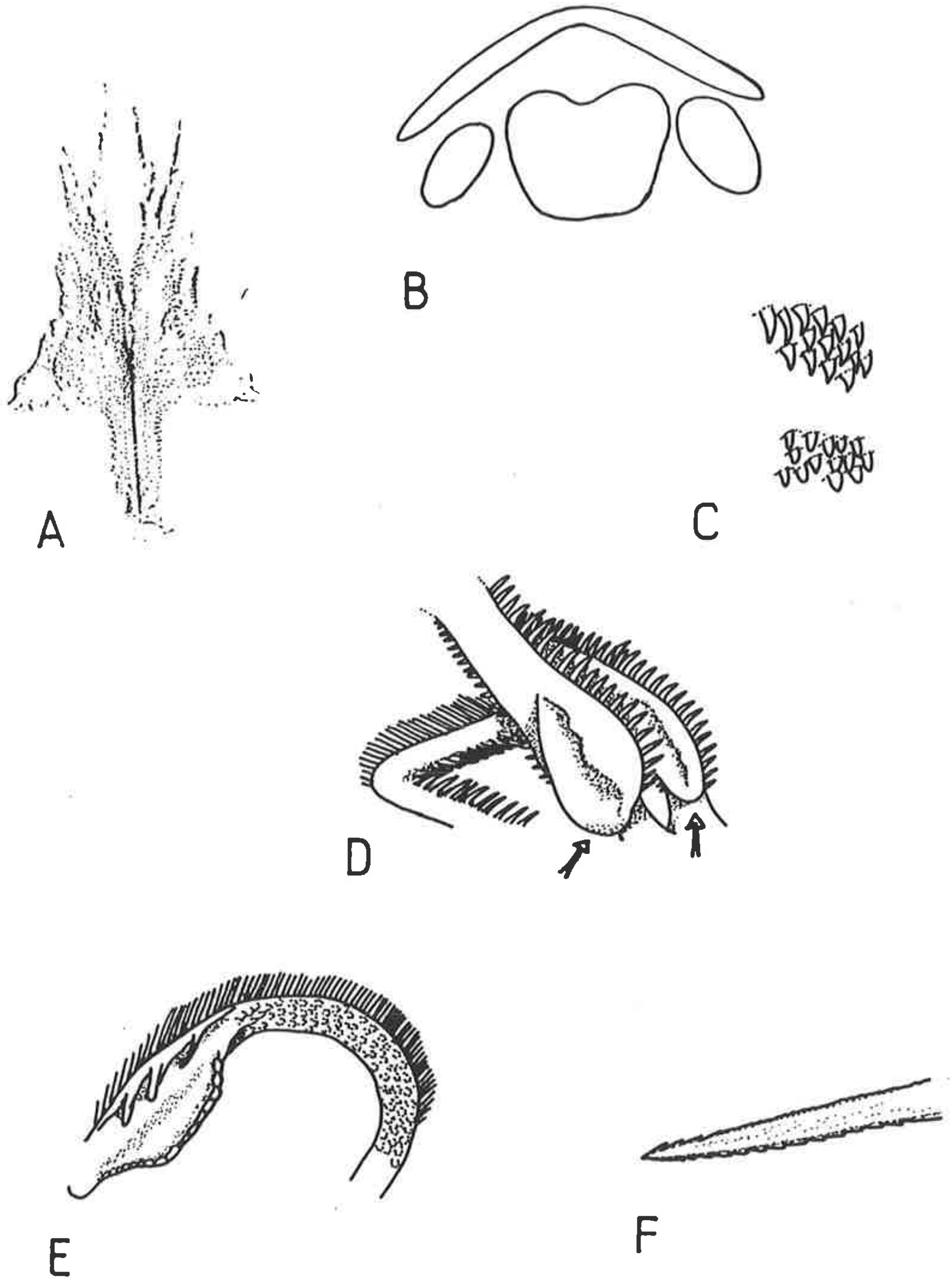


Figure 123. "Arius" (Brustiarius) solidus: A) rubbing of head shield, 173mm SL specimen; B) form and arrangement of upper tooth patches, 104mm SL specimen; C) enlargement of premaxillary and palatal teeth, 155mm SL specimen; D) posterior aspect of first two RHS gill arches (epithelial pads arrowed), 131mm SL specimen; E) part of first LHS gill arch, showing posterior pad and papillae, 173mm SL specimen; F) LHS pectoral spine, 242mm SL specimen (x1).

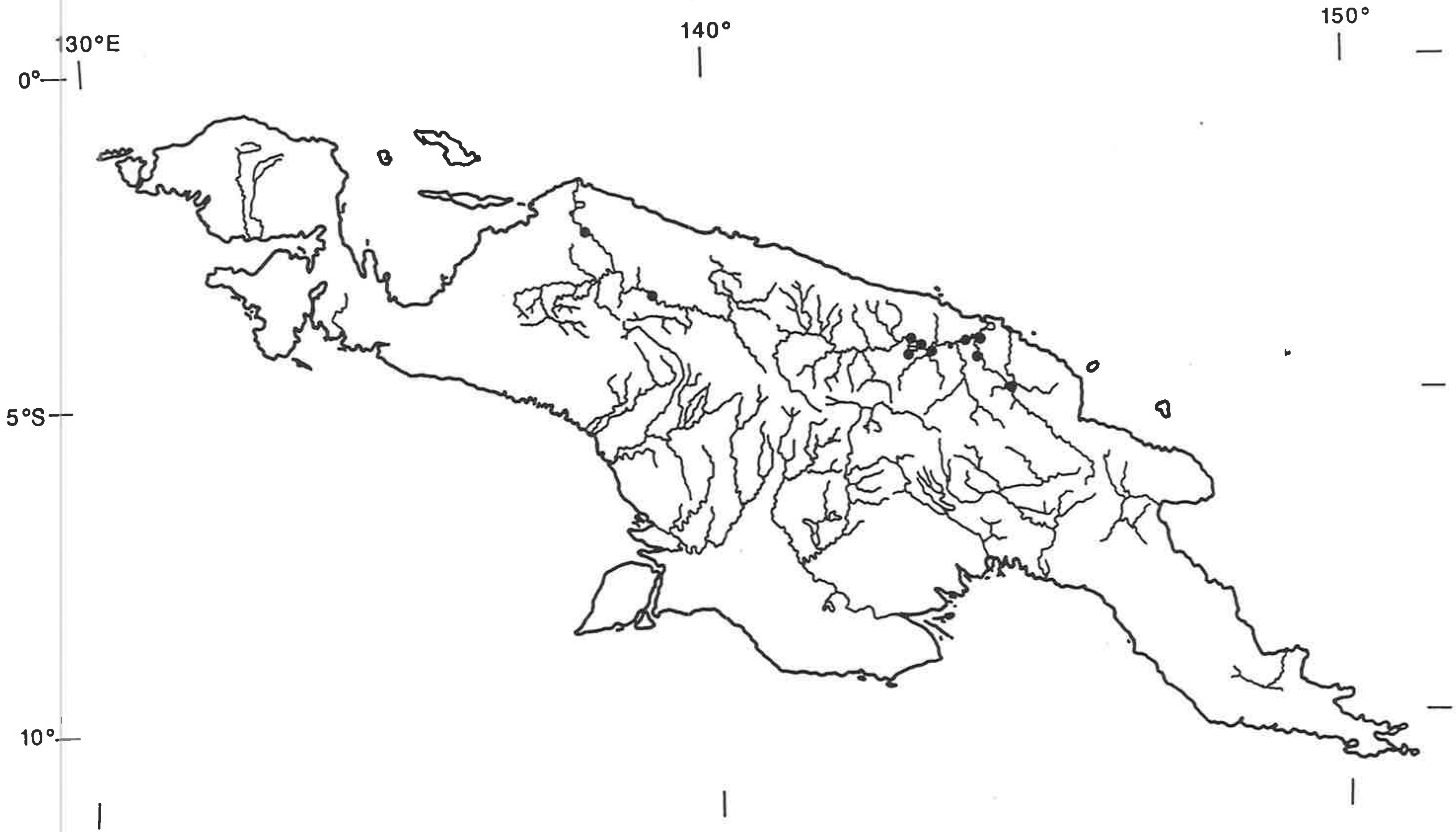


Figure 124. Distribution of "Arius" (B.) solidus, based on material examined (solid circles indicate capture locality).

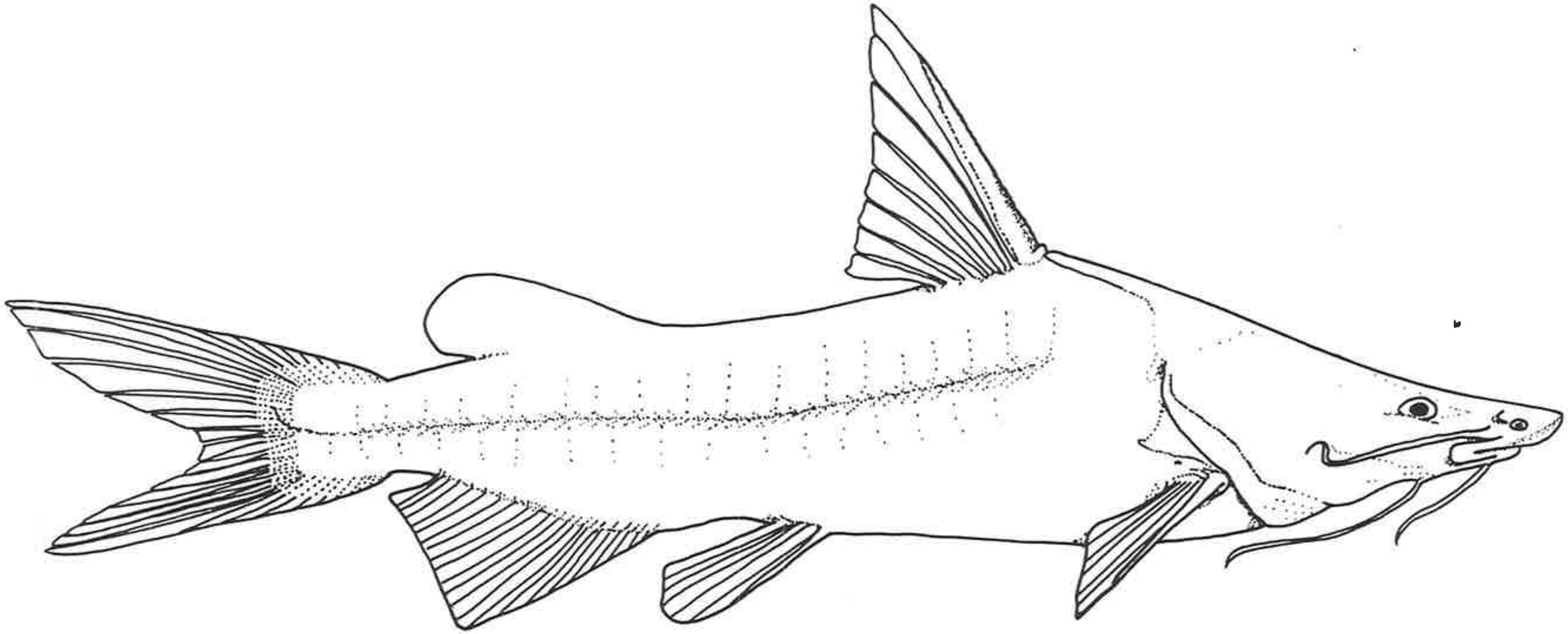


Figure 125. "Arius" (Cochlefelis) spatula: lateral view, 380mm SL specimen (x 0.6).

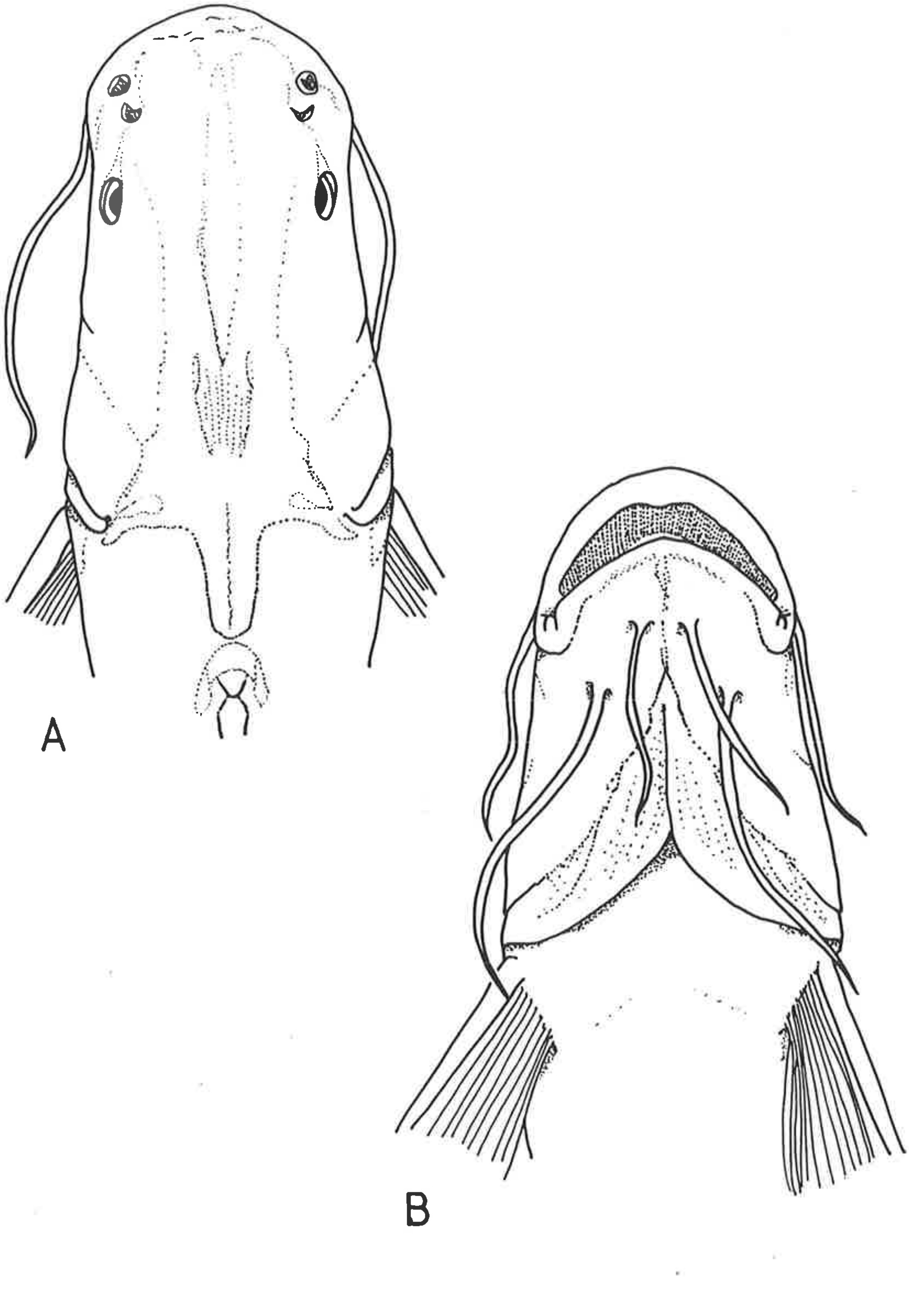


Figure 126. "Arius" (Cochlefelis) spatula: A) dorsal head view, 380 mm SL specimen (x 0.7); B) ventral head view, same specimen (x 0.7).

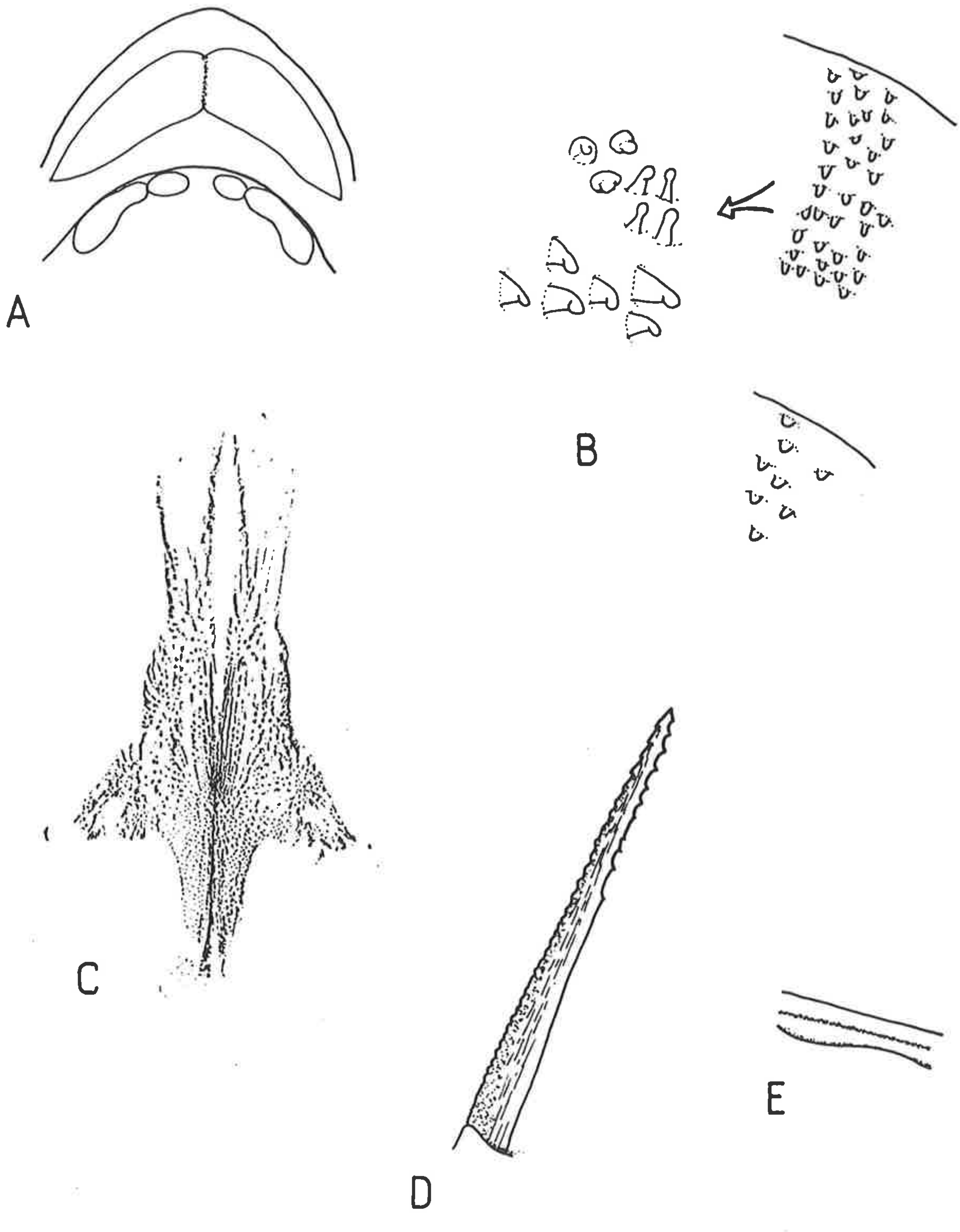


Figure 127. "Arius" (Cochlefelis) spatula: A) form and arrangement of upper tooth patches, 183mm SL specimen; B) enlargement of premaxillary (incl. lateral view) and palatal teeth, 380mm SL specimen; C) rubbing of head shield, 255mm SL specimen; D) dorsal spine, 380mm SL specimen (x 1); E) same specimen, section of RHS maxillary barbel showing ventrally-situated membranous margin.

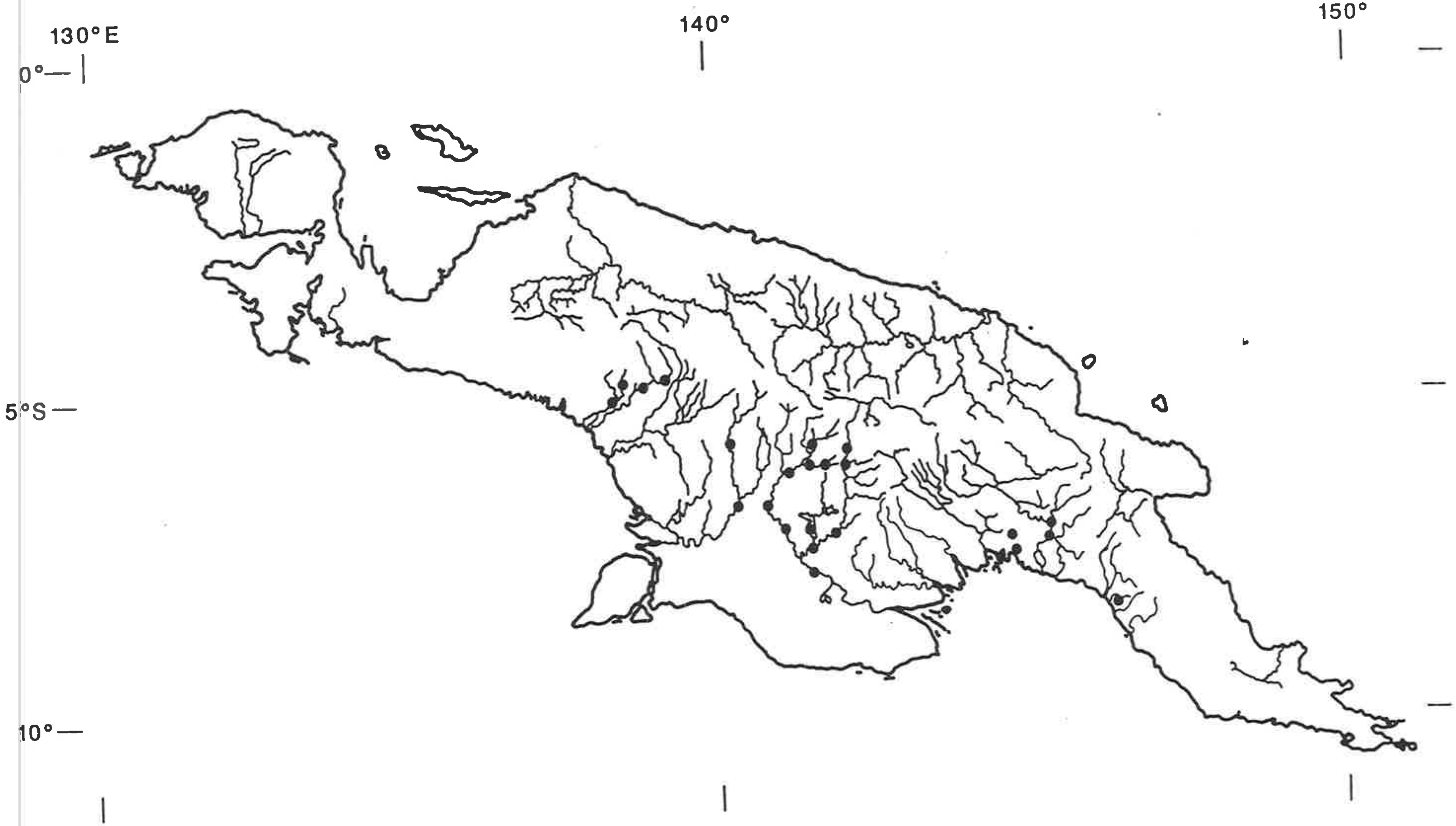


Figure 128. Distribution of "Arius" (C.) spatula, based on material examined (solid circles indicate capture locality).

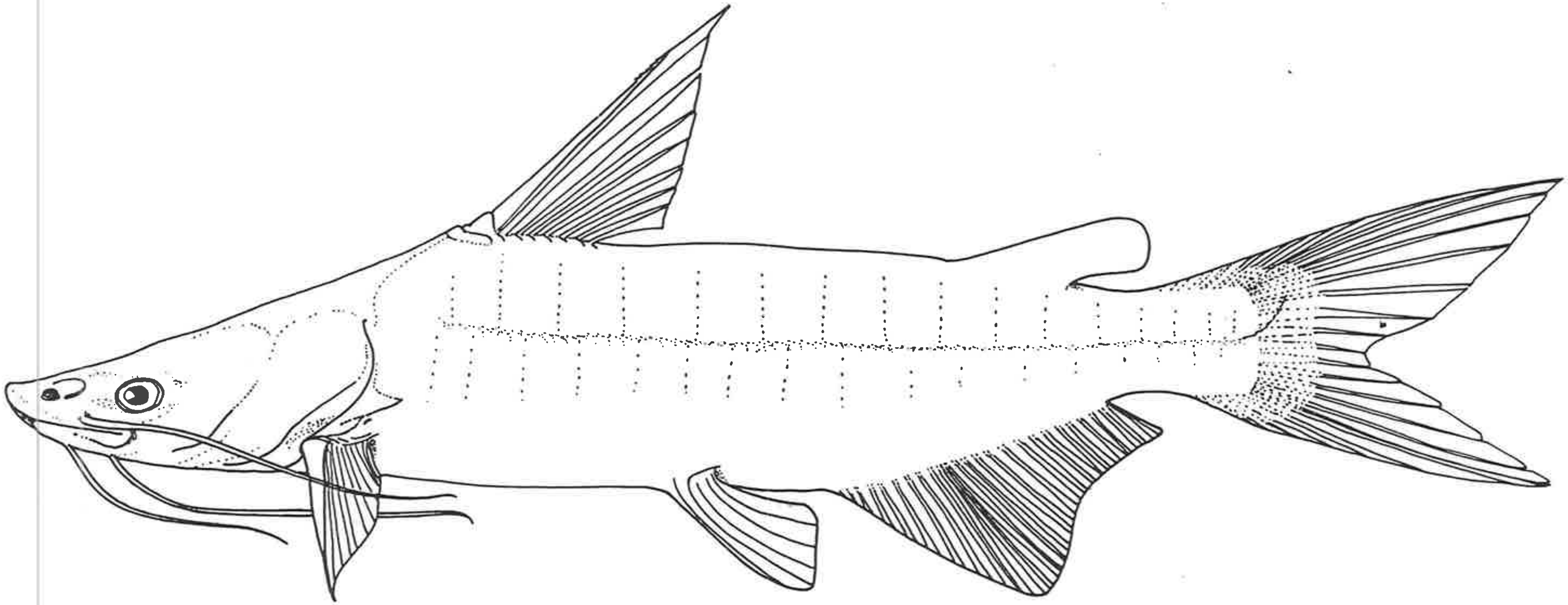


Figure 129. "Arius" (Cochlefelis) danielsi: lateral view, 212mm SL specimen (x 0.9).

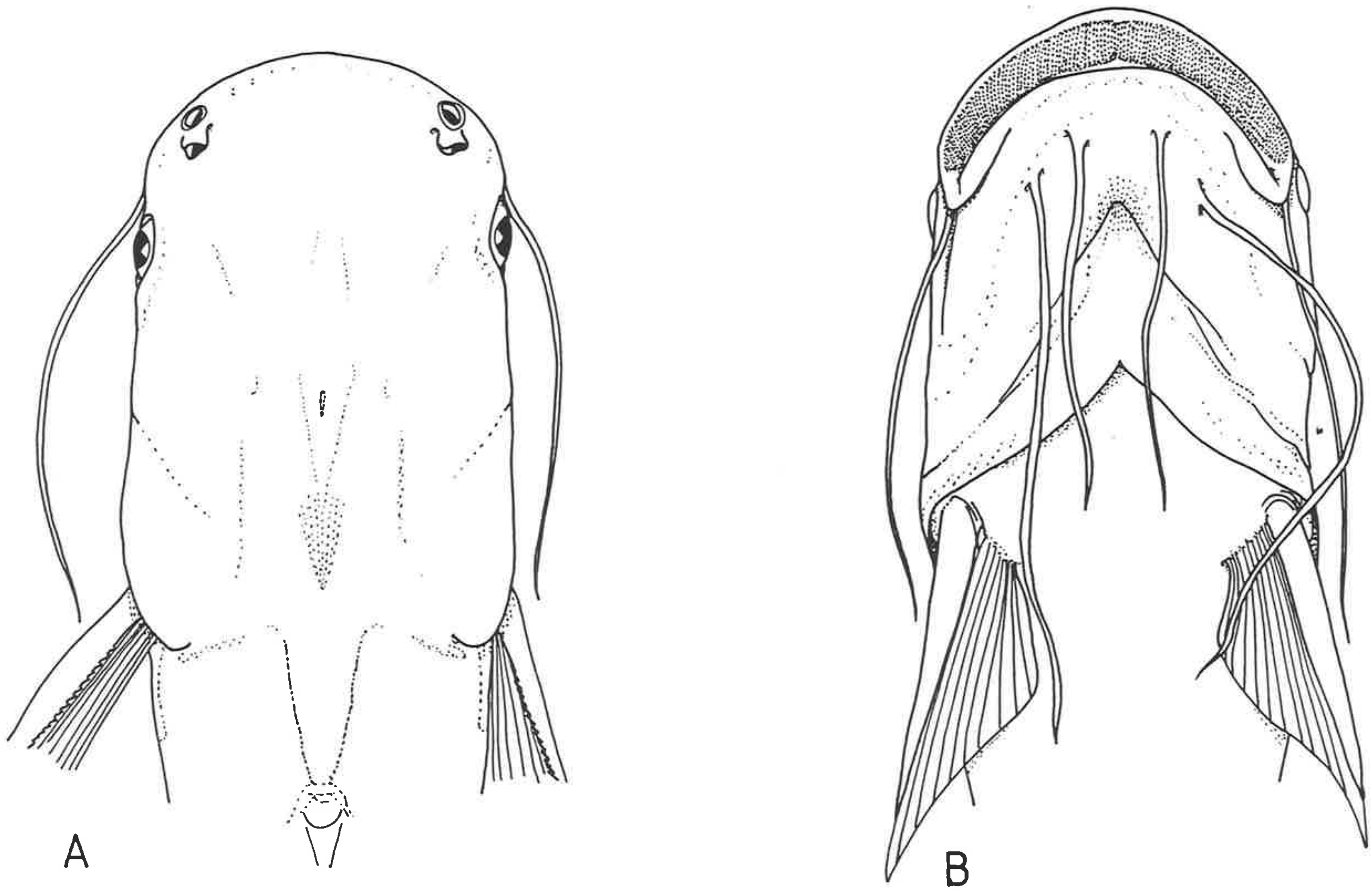


Figure 130. "Arius" (Cochlefelis) danielsi: A) dorsal head view, 303mm SL specimen (x 0.8); B) ventral head view, 303mm SL specimen (x 0.8).

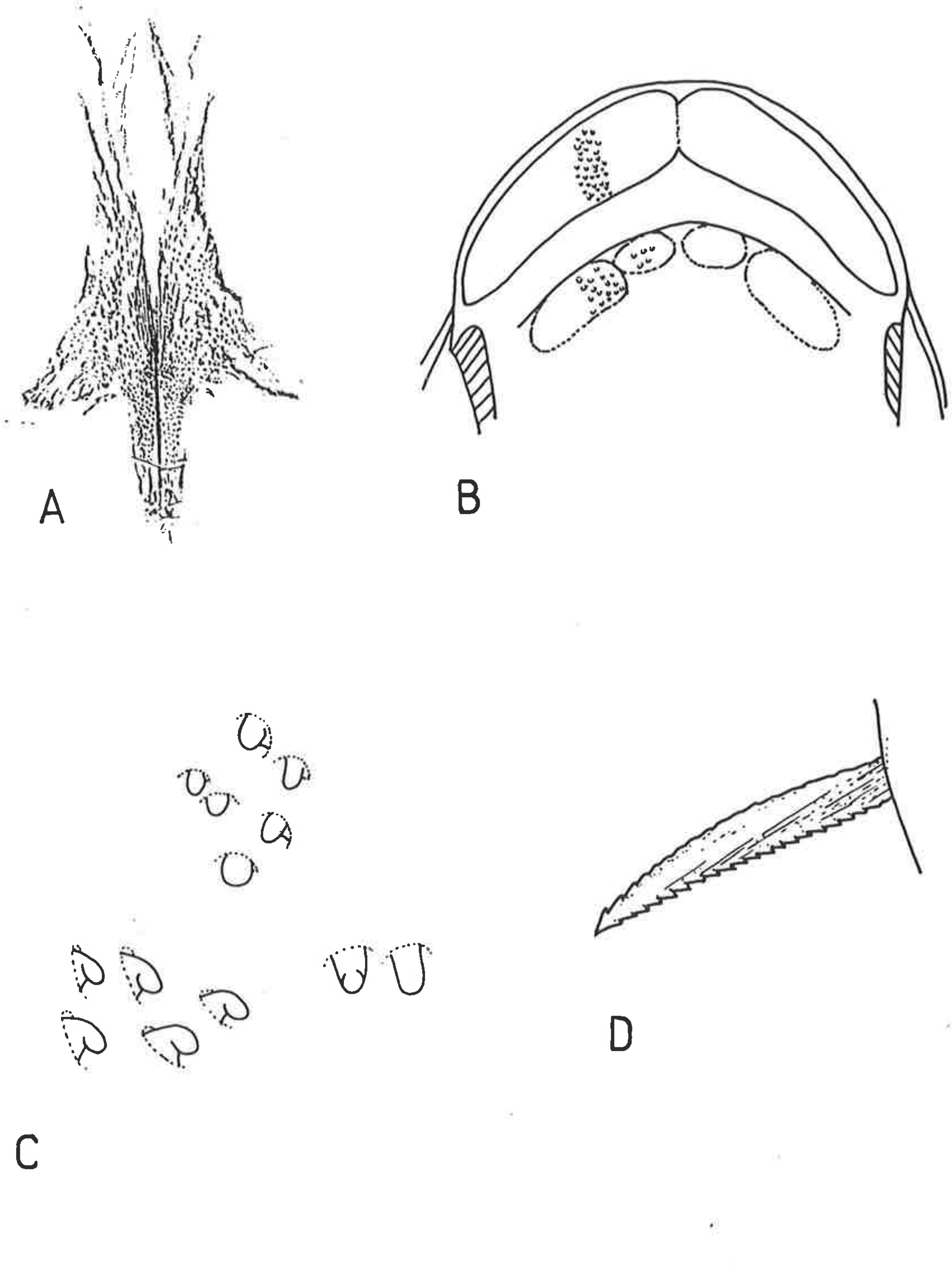


Figure 131. "Arius" (Cochlefelis) danielsi: A) rubbing of head shield, 210mm SL specimen; B) form and arrangement of upper tooth patches, 210mm SL specimen; C) enlargement of premaxillary teeth (including lateral view), same specimen; D) LHS pectoral spine, 303mm SL specimen (x 1).

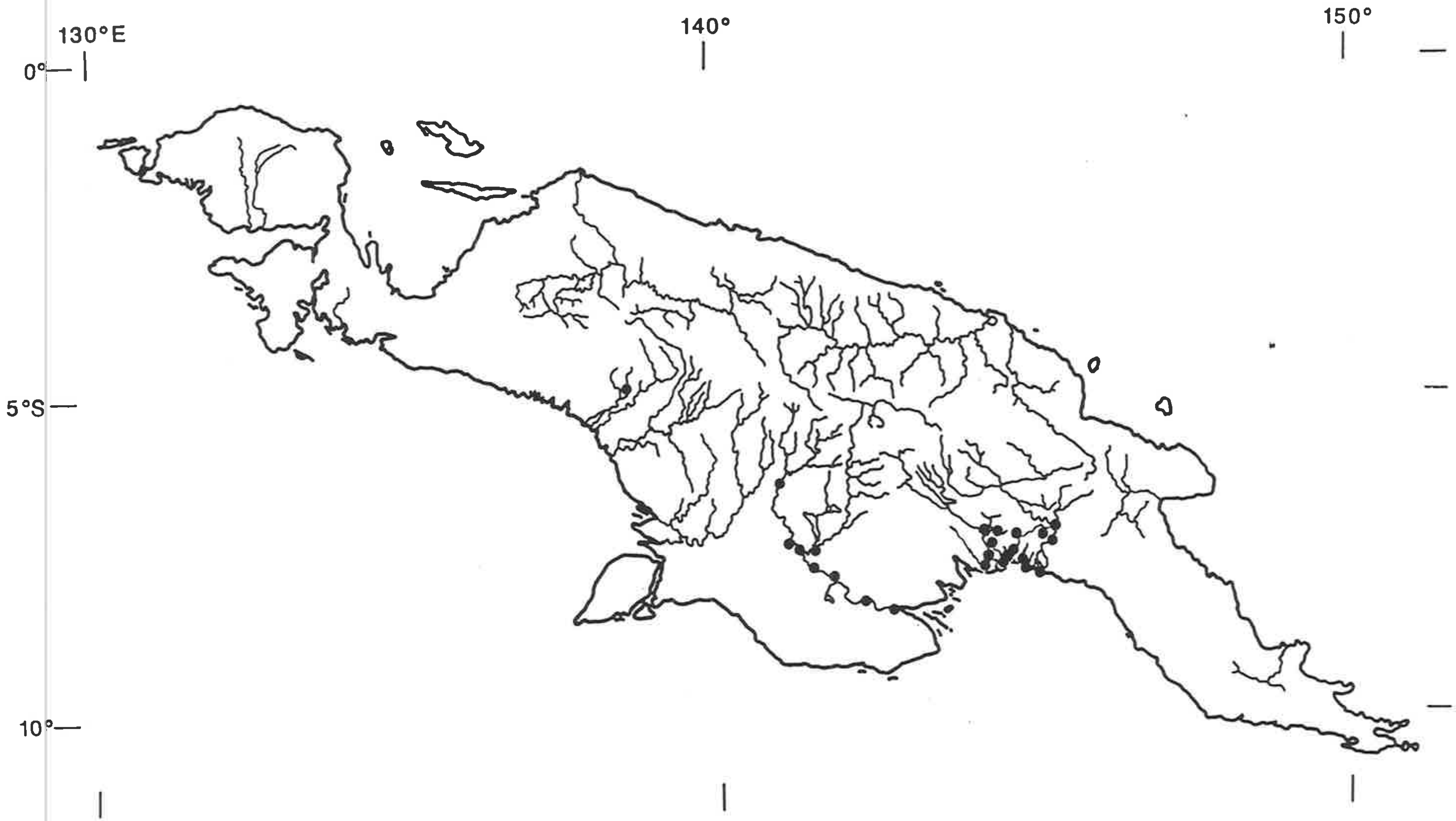


Figure 132. Distribution of "Arius" (C.) danielsi, based on material examined (solid circles indicate capture locality).

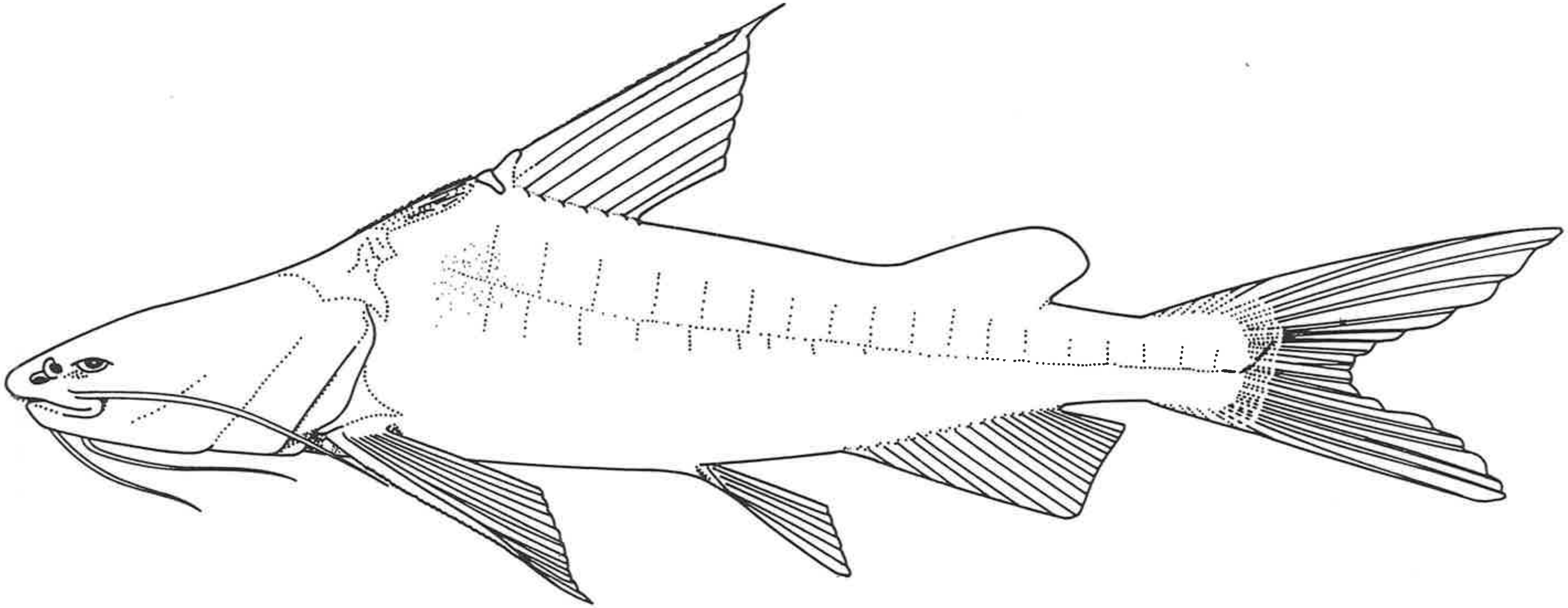


Figure 133. "Arius" (Hemiarius) species 1: lateral view, 201mm SL specimen (x 0.9).

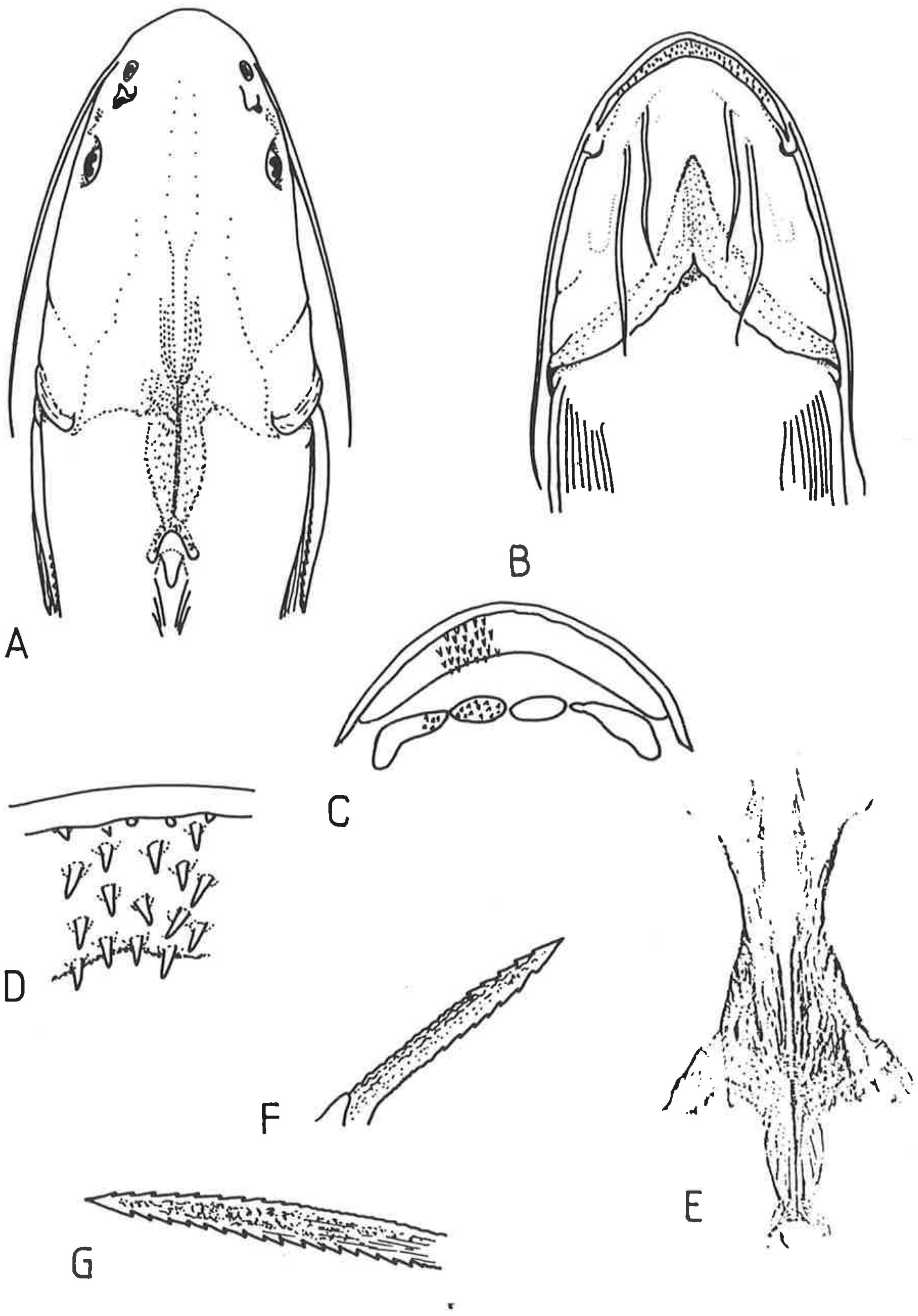


Figure 134. "Arius" (Hemiarius) species 1: A) dorsal head view, 201mm SL specimen (x 1); B) ventral head view, same specimen (x1); C) form and arrangement of upper tooth patches, 172mm SL specimen; D) enlargement of premaxillary teeth, same specimen E) rubbing of head shield, 201mm SL specimen; F), G) dorsal and pectoral spine, 172mm SL specimen (x 1.5).

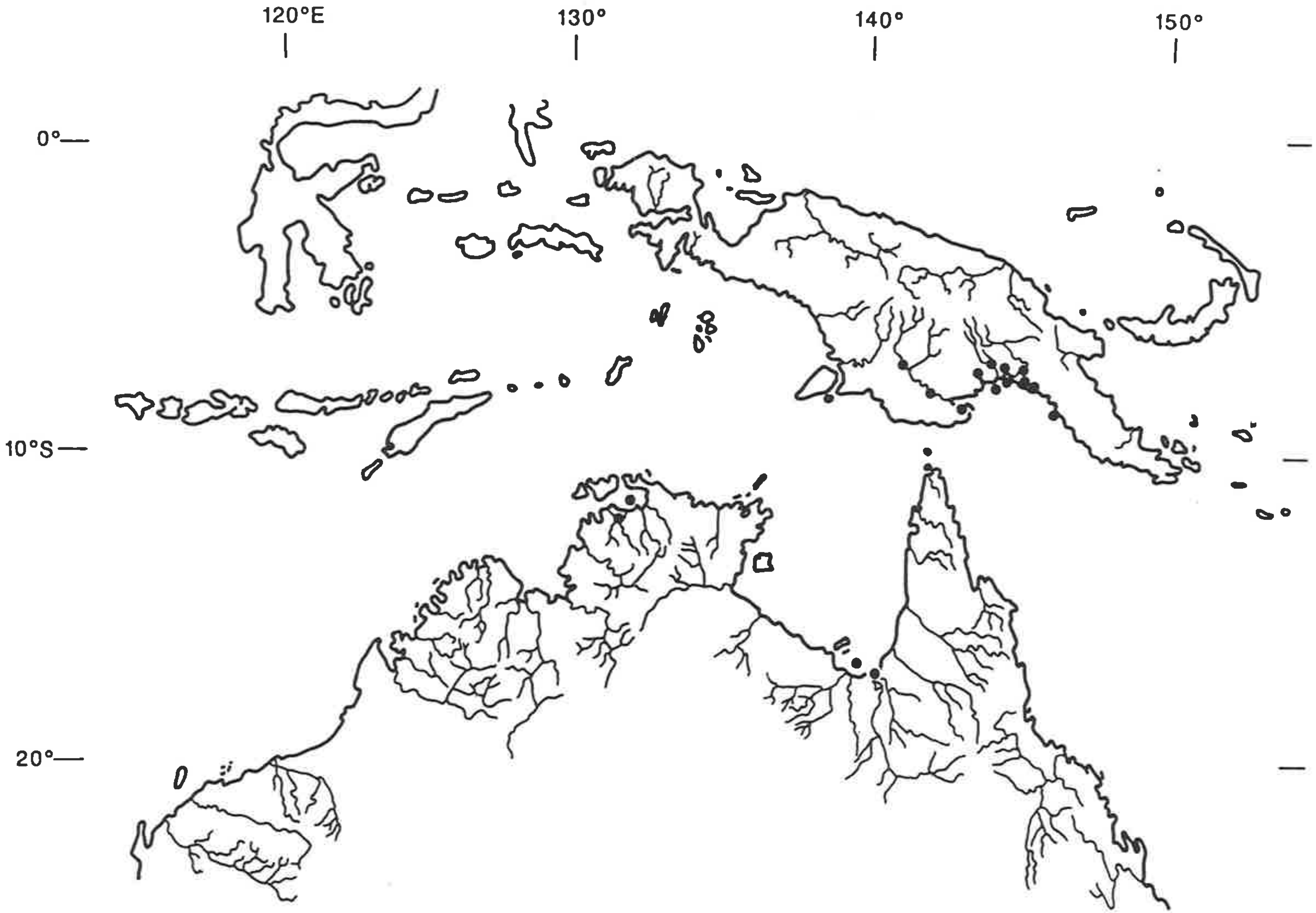


Figure 135. Distribution of "Arius" (H.) species 1, based on material examined (solid circles indicate capture locality).

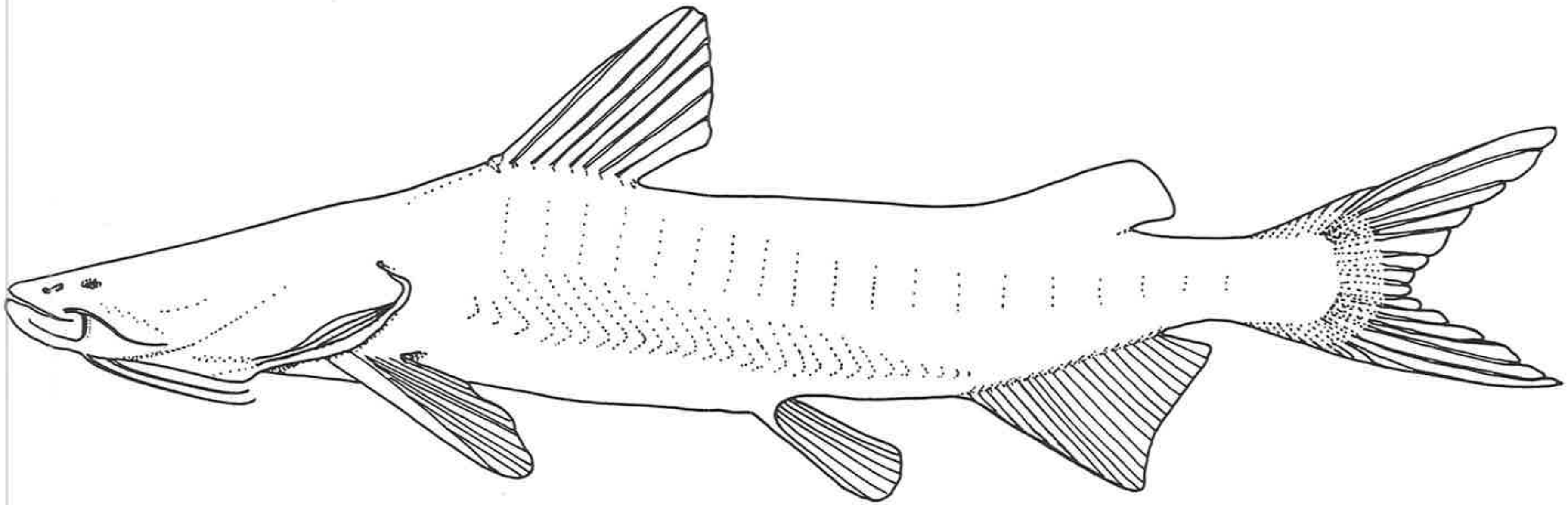


Figure 136. "Arius" (Hemiarius) species 5: lateral view, 350mm SL specimen (x 0.5).

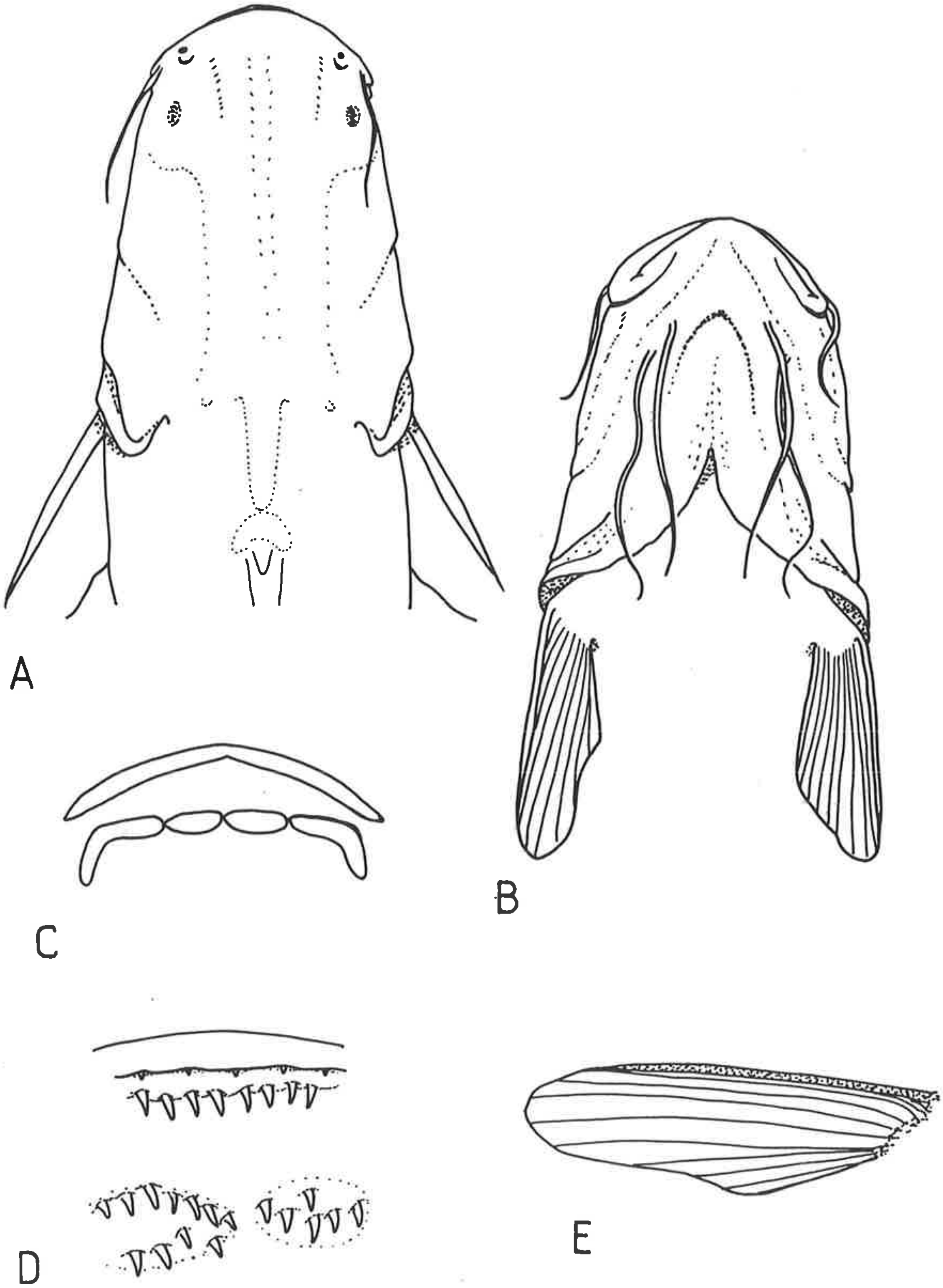


Figure 137. "Arius" (Hemiarius) species 5; A) dorsal head view, 350mm SL specimen (x 0.6); B) ventral head view, same specimen (x 0.6); C) form and arrangement of upper tooth patches, 188mm SL specimen; D) enlargement of premaxillary and palata: teeth, 282mm SL specimen; E) RHS pectoral fin, showing feeble spine, 282mm SL specimen (xl).

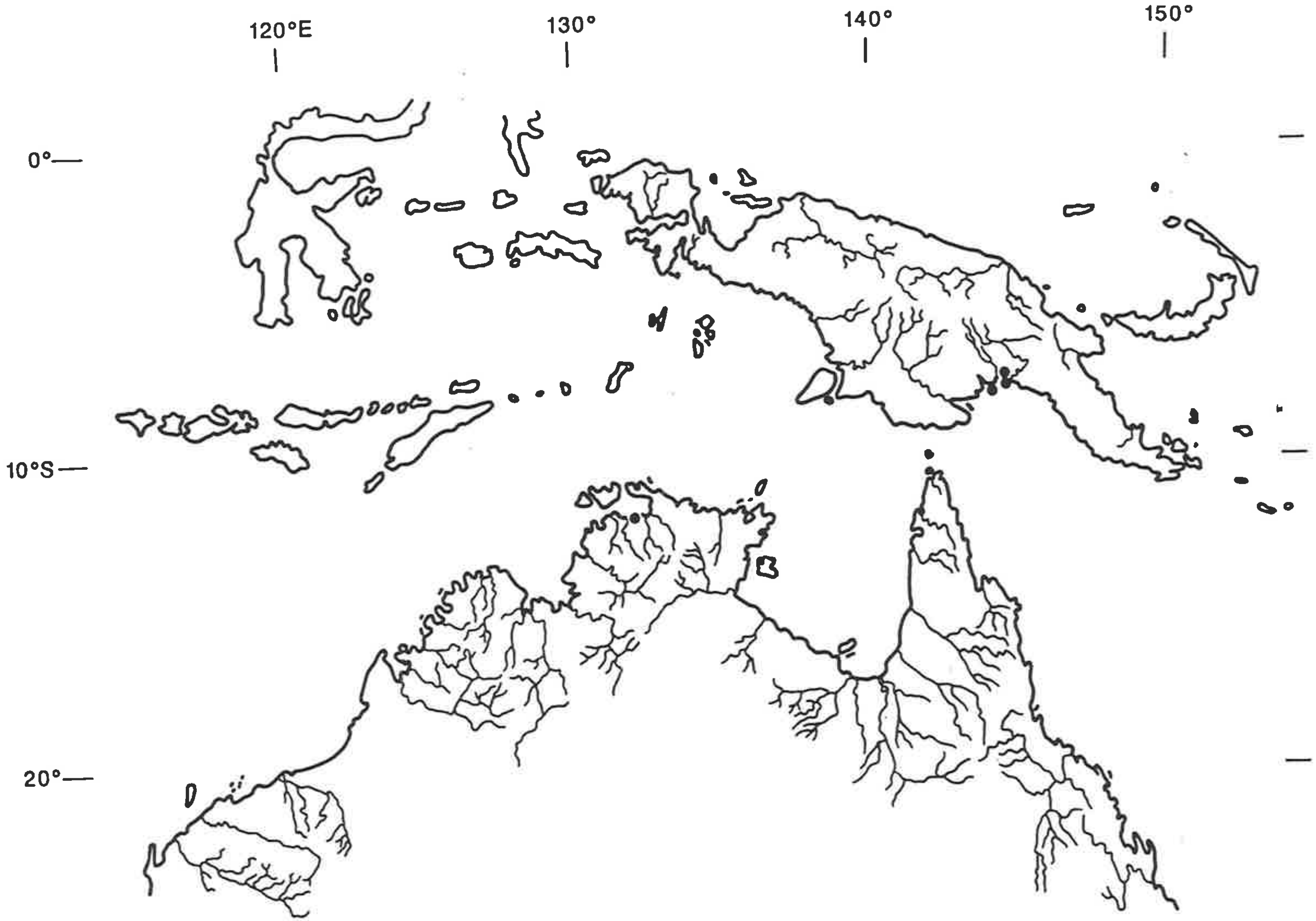


Figure 138. Distribution of "Arius" (H.) species 5, based on material examined (solid circles indicate capture locality).

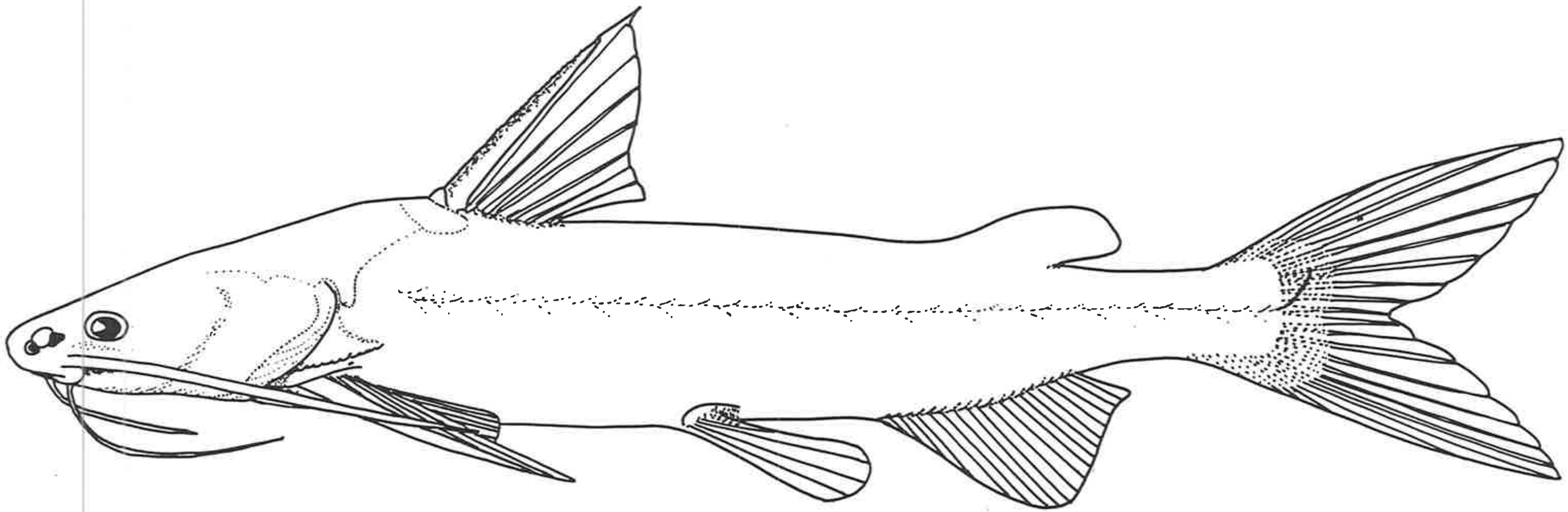


Figure 139. "Arius" (Hexanematichthys) mastersi. Lateral view, 290mm SL specimen (x 0.7).

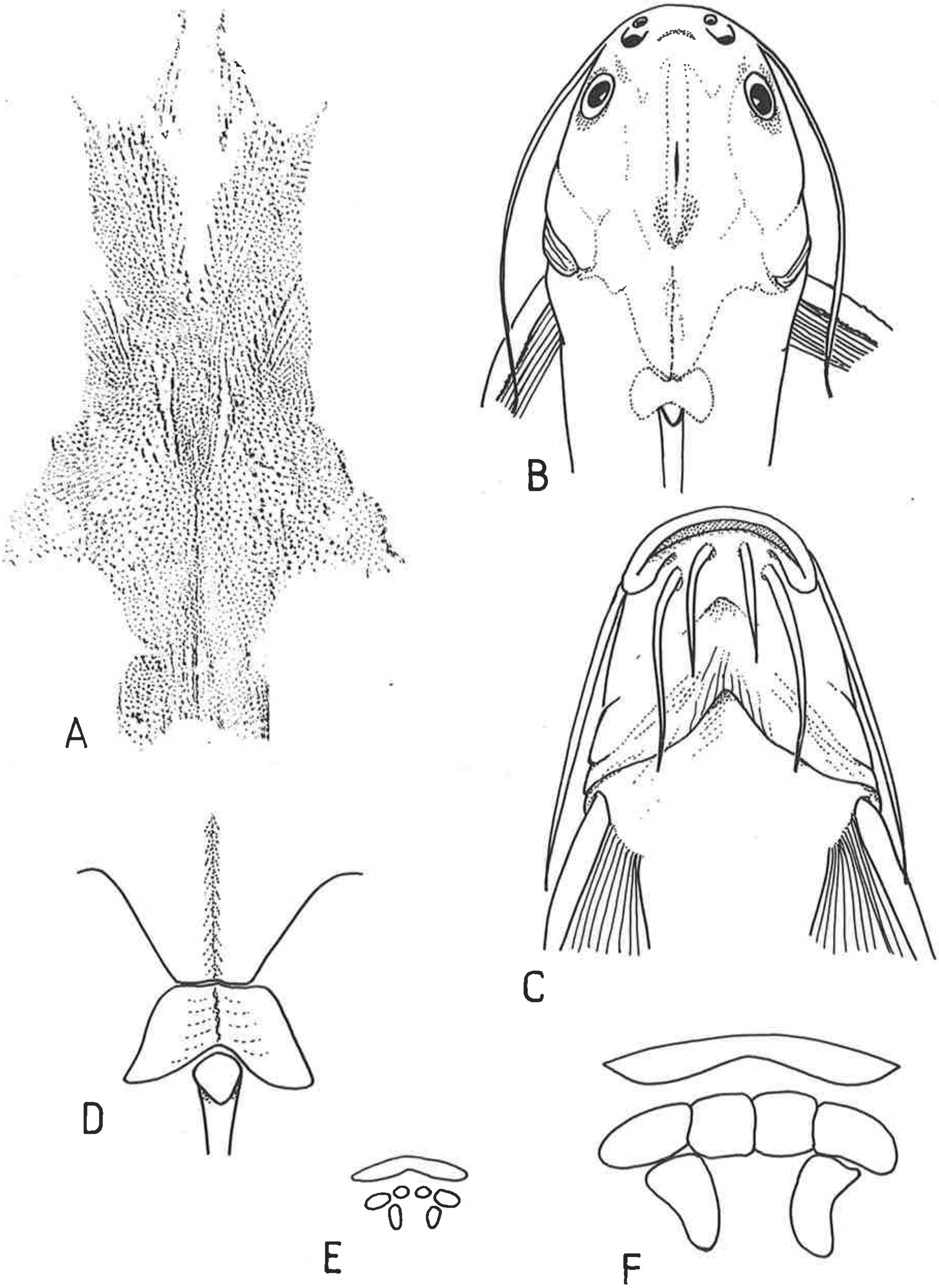


Figure 140. "Arius" (Hexanematichthys) mastersi: A) rubbing of head shield 325mm SL specimen; B) dorsal head view, 181mm SL specimen (x C) ventral head view, 290mm SL specimen (x 0.7); D) predorsal area in 390mm SL specimen (x 1); E) form and arrangement of upper tooth patches in 89mm SL specimen; F) same, 390mm SL specimen.

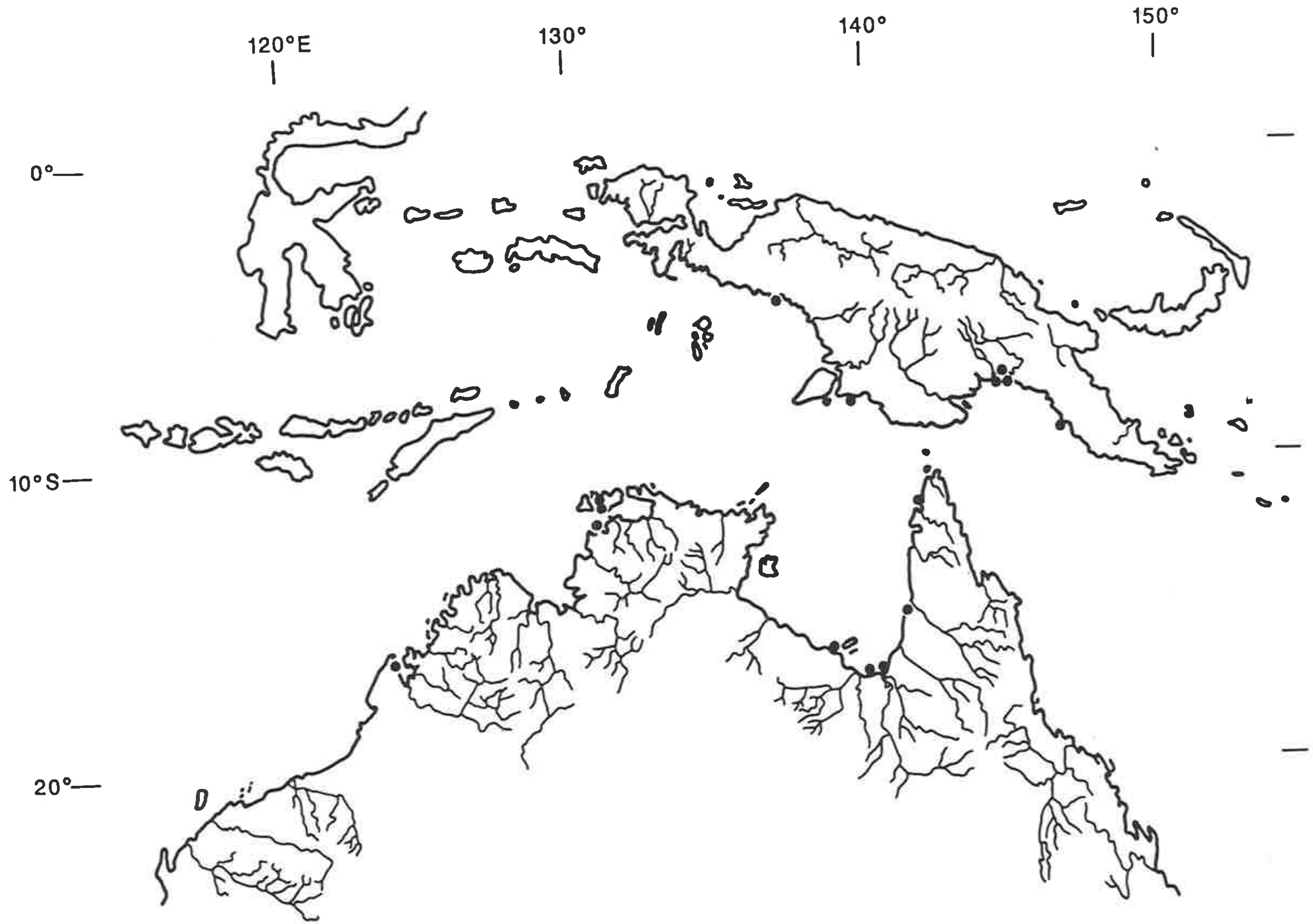


Figure 141. Distribution of "Arius" (H.) mastersi, based on material examined (solid circles indicate capture locality).

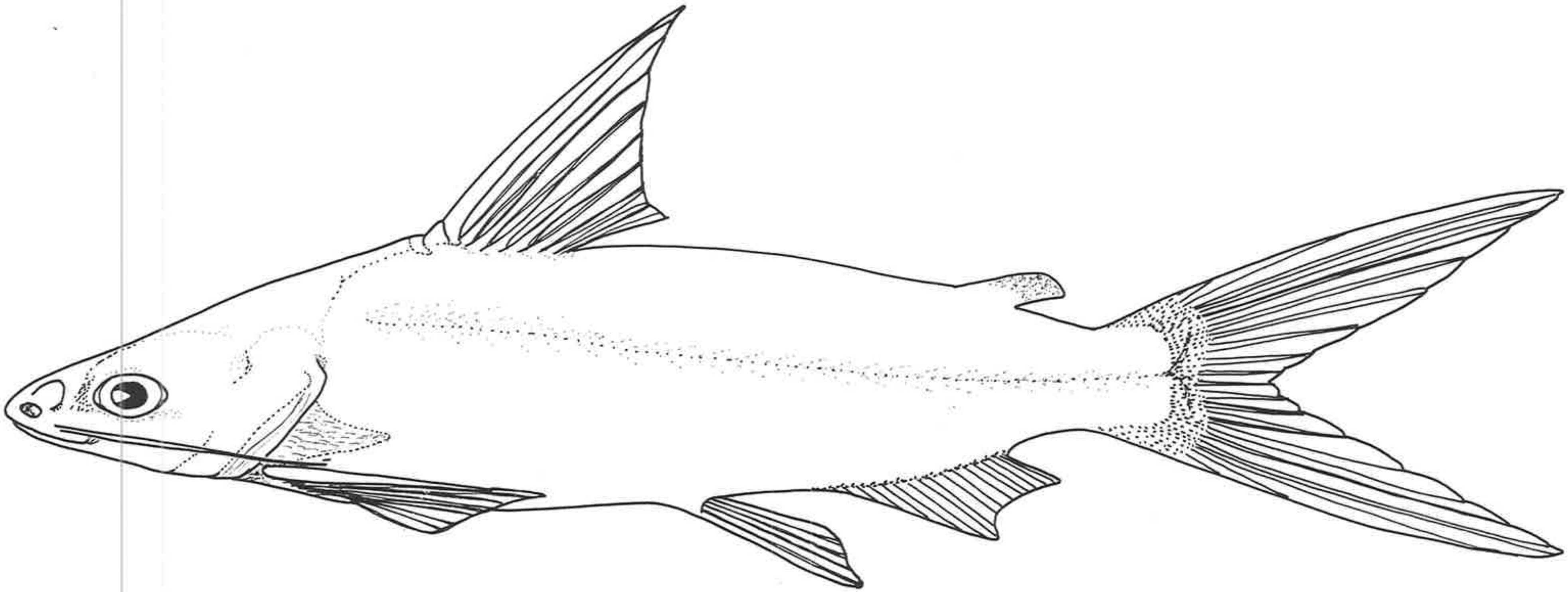


Figure 142. "Arius" thalassinus: lateral view, 189mm SL specimen (x 1)

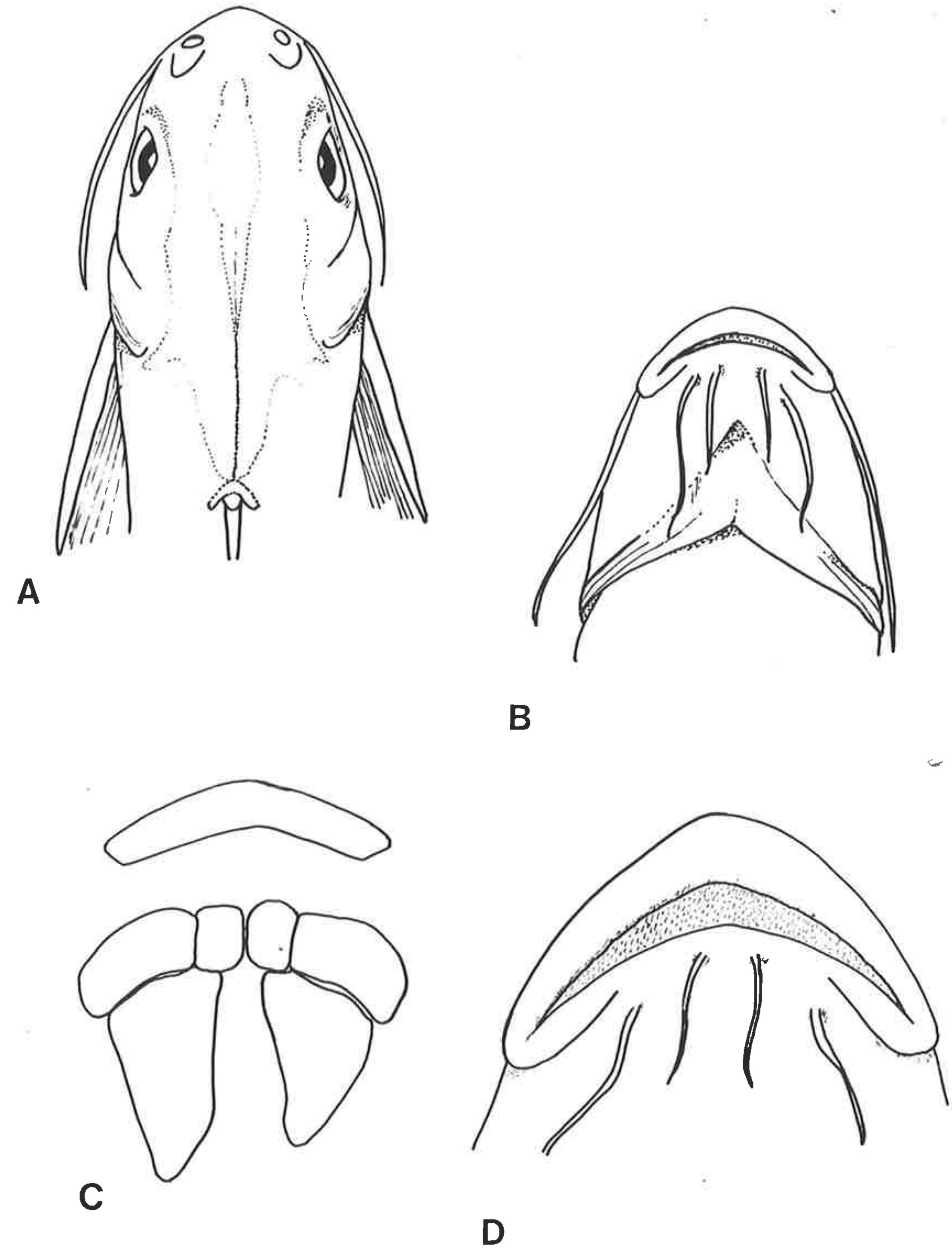


Figure 143. "Arius" thalassinus: A) Dorsal head view, 198mm SL specimen (x 1); B) Ventral head view, 196mm SL specimen (x 1); C) form and arrangement of upper jaw teeth, 470mm SL specimen; D) mouth gape, 470mm SL specimen (x 1).

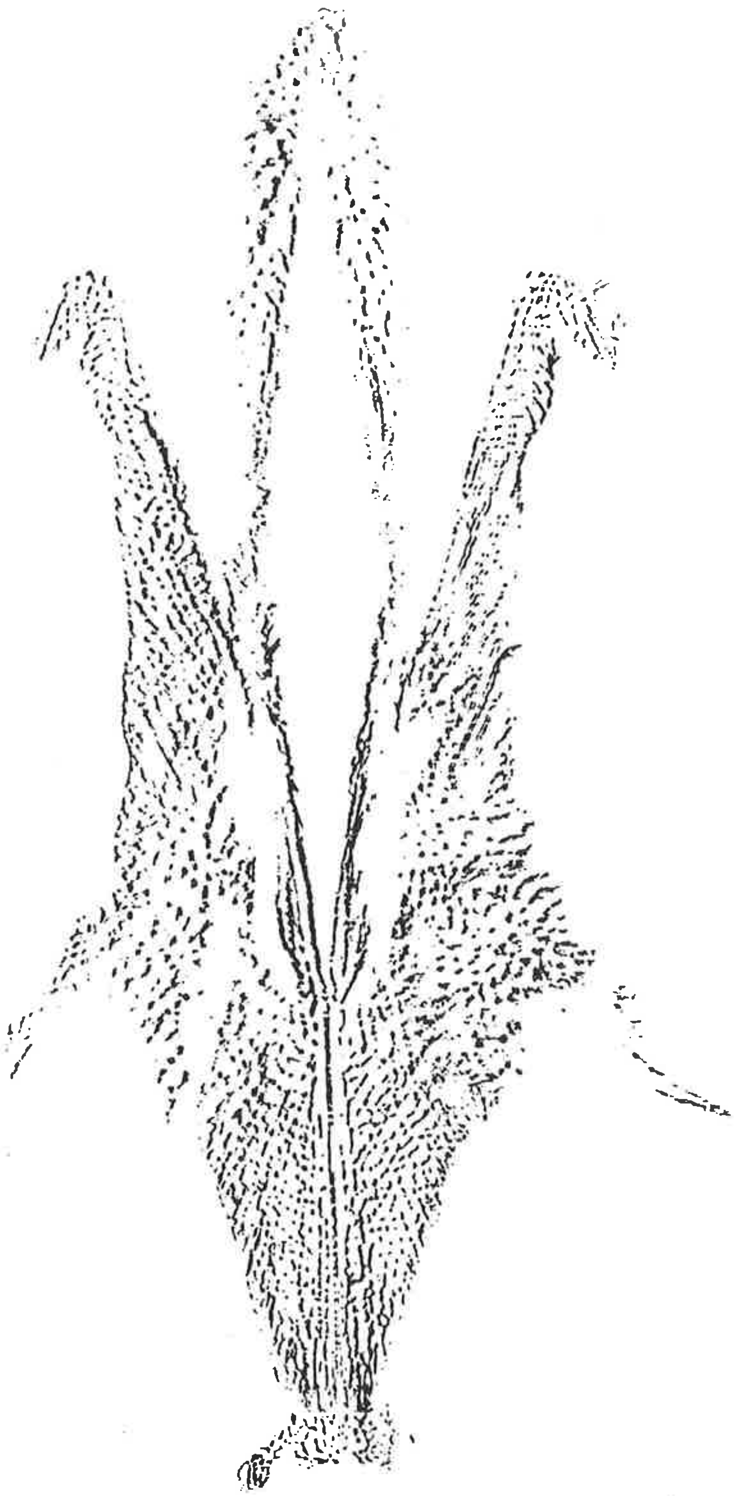


Figure 144. "*Arius*" *thalassinus*": rubbing of head shield, 470mm SL specimen.

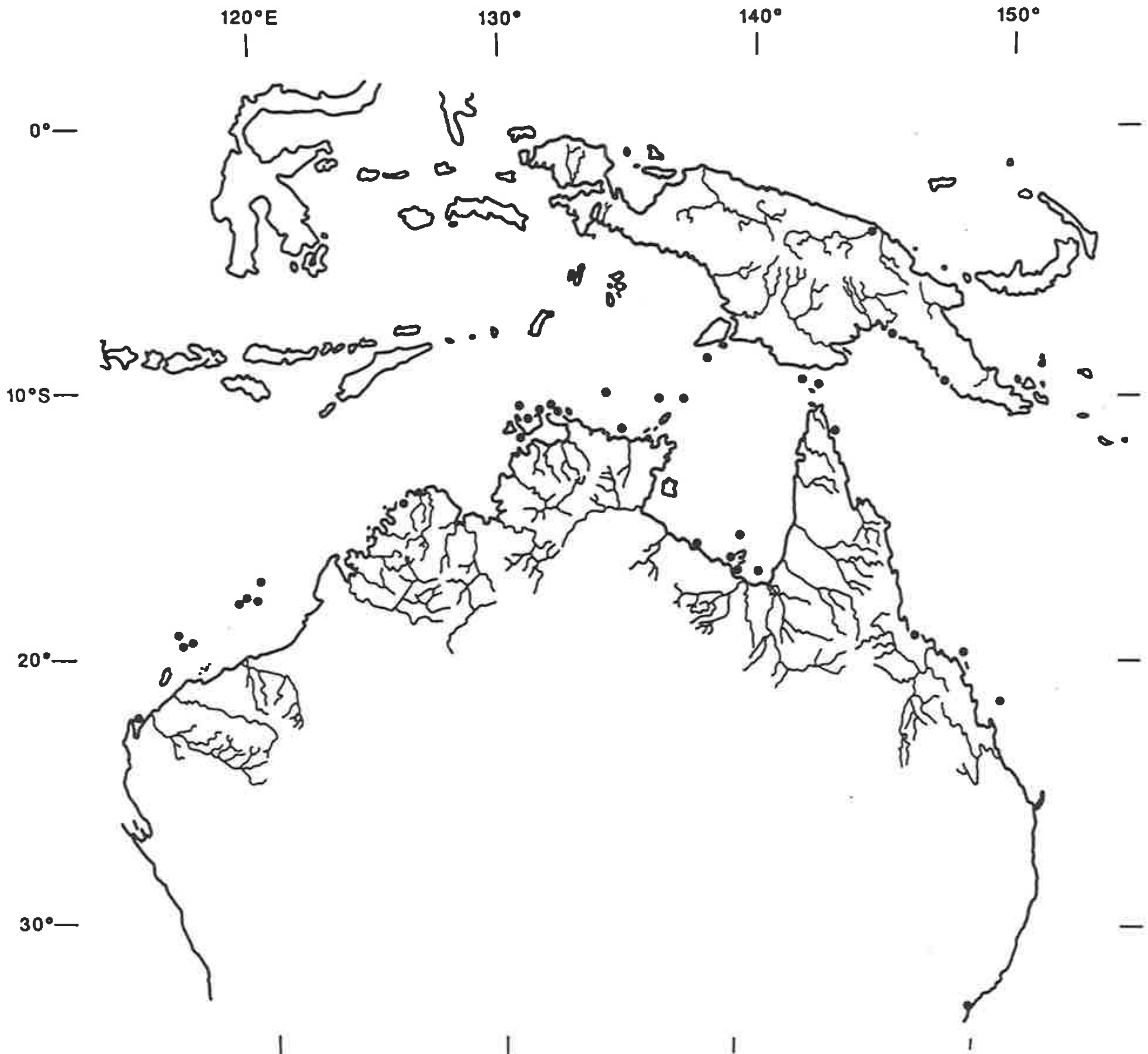


Figure 145. Australian and New Guinea distribution of "*Arius*" *thalassinus*, based on material examined (solid circles indicate capture locality).

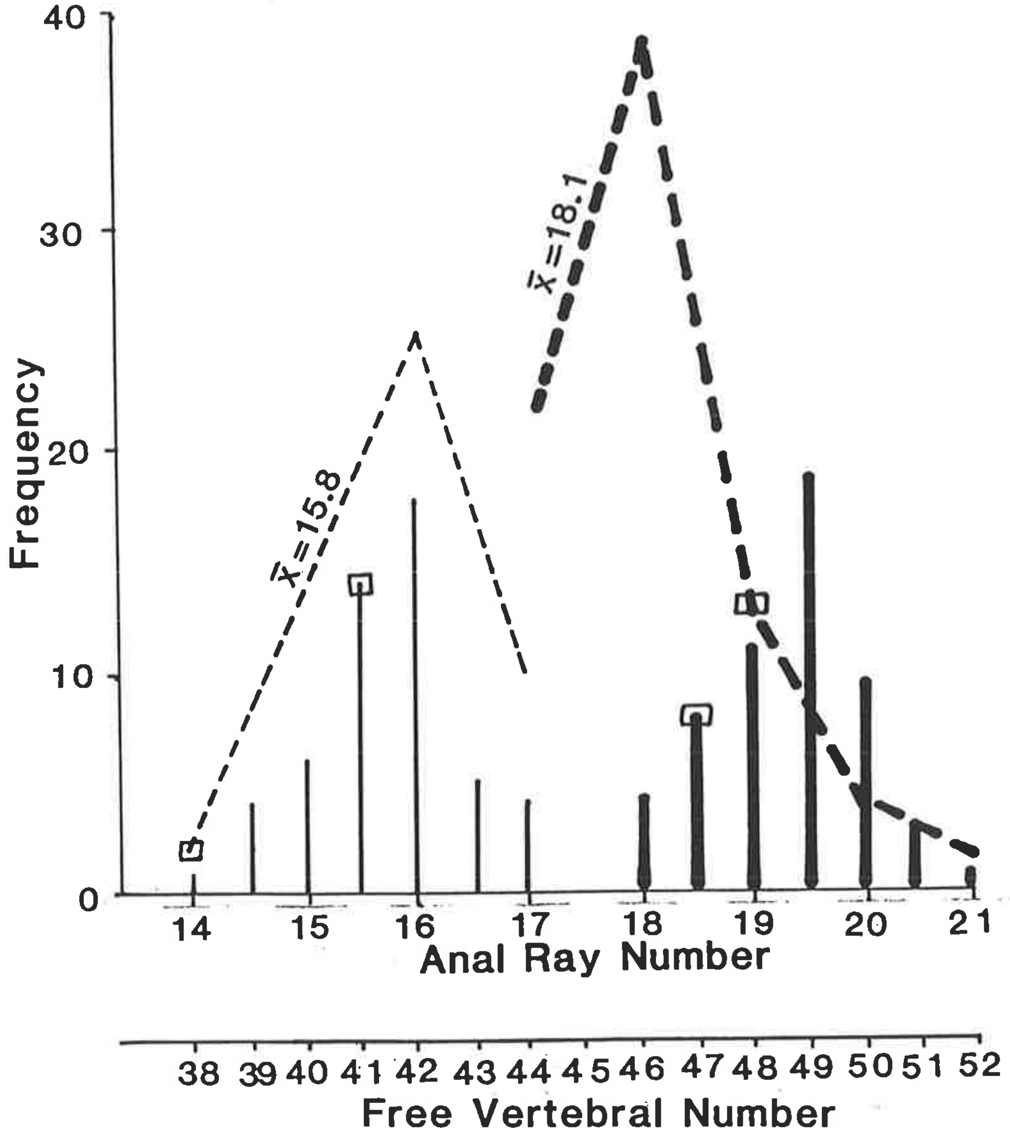


Figure 146. Comparison of vertebral number and anal ray number in "Arius" thalassinus and "Arius" bilineatus. (Thin lines = thalassinus; thick lines = bilineatus. Solid bars represent vertebrae; dashed lines represent anal rays; boxes represent value for the type specimens of thalassinus and bilineatus).

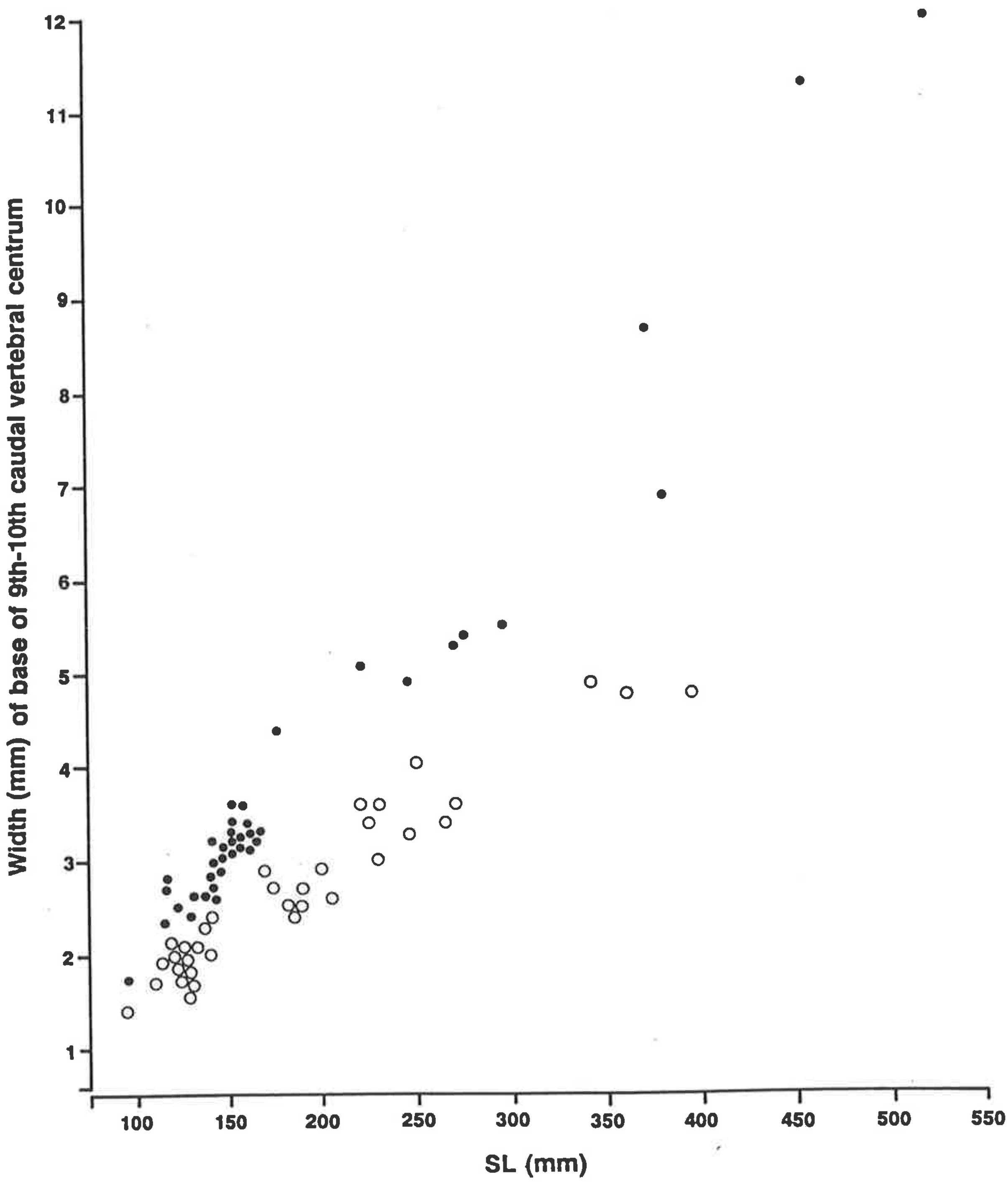


Figure 147. Comparison of caudal vertebral centra width between specimens of "Arius" thalassinus (solid circles) and "Arius" bilineatus (hollow circles).

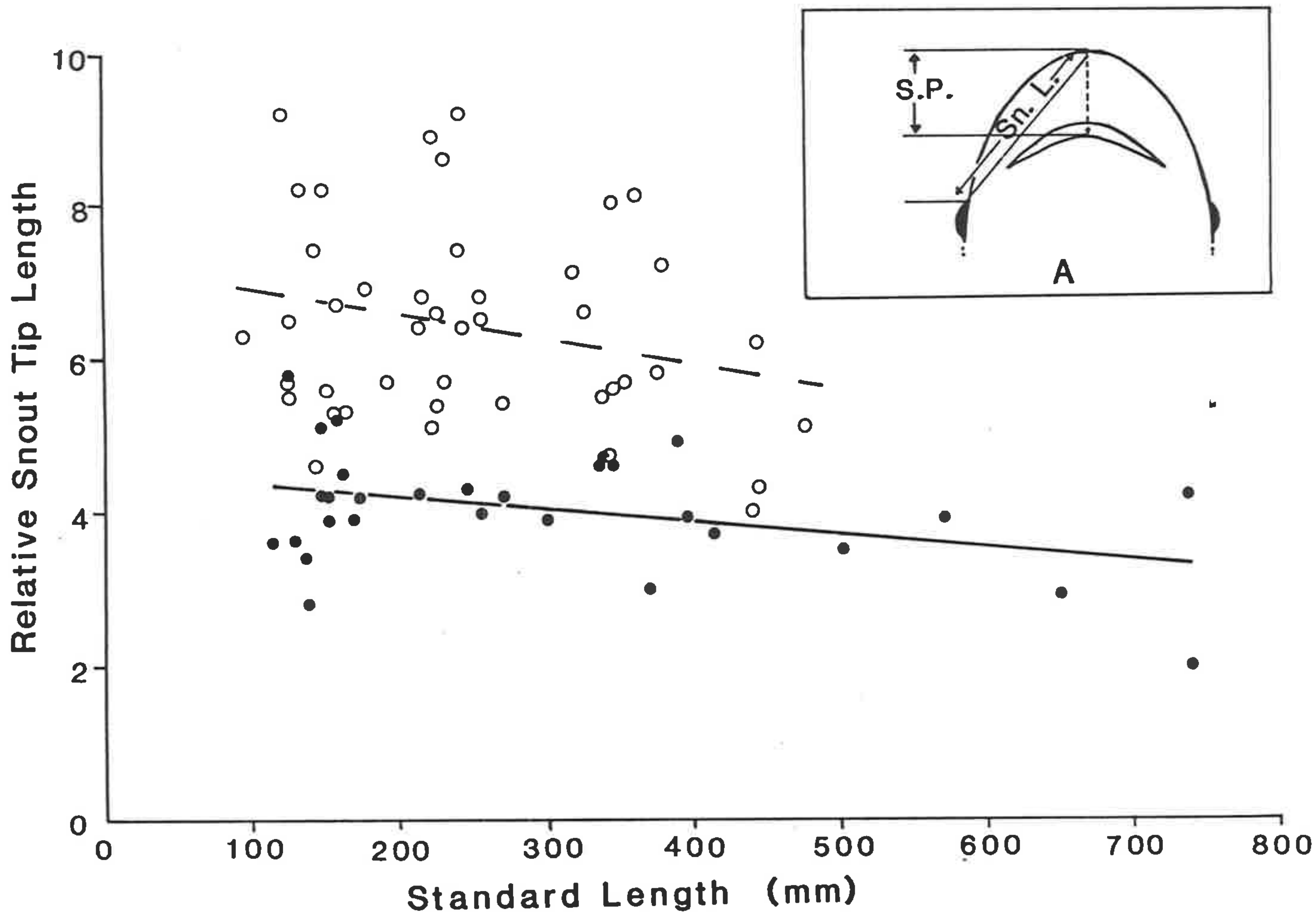


Figure 148. Comparison of relative snout length (derived from snout projection/snout length ratio) in specimens of "Arius" thalassinus (solid circles) and "Arius" bilineatus (hollow circles).

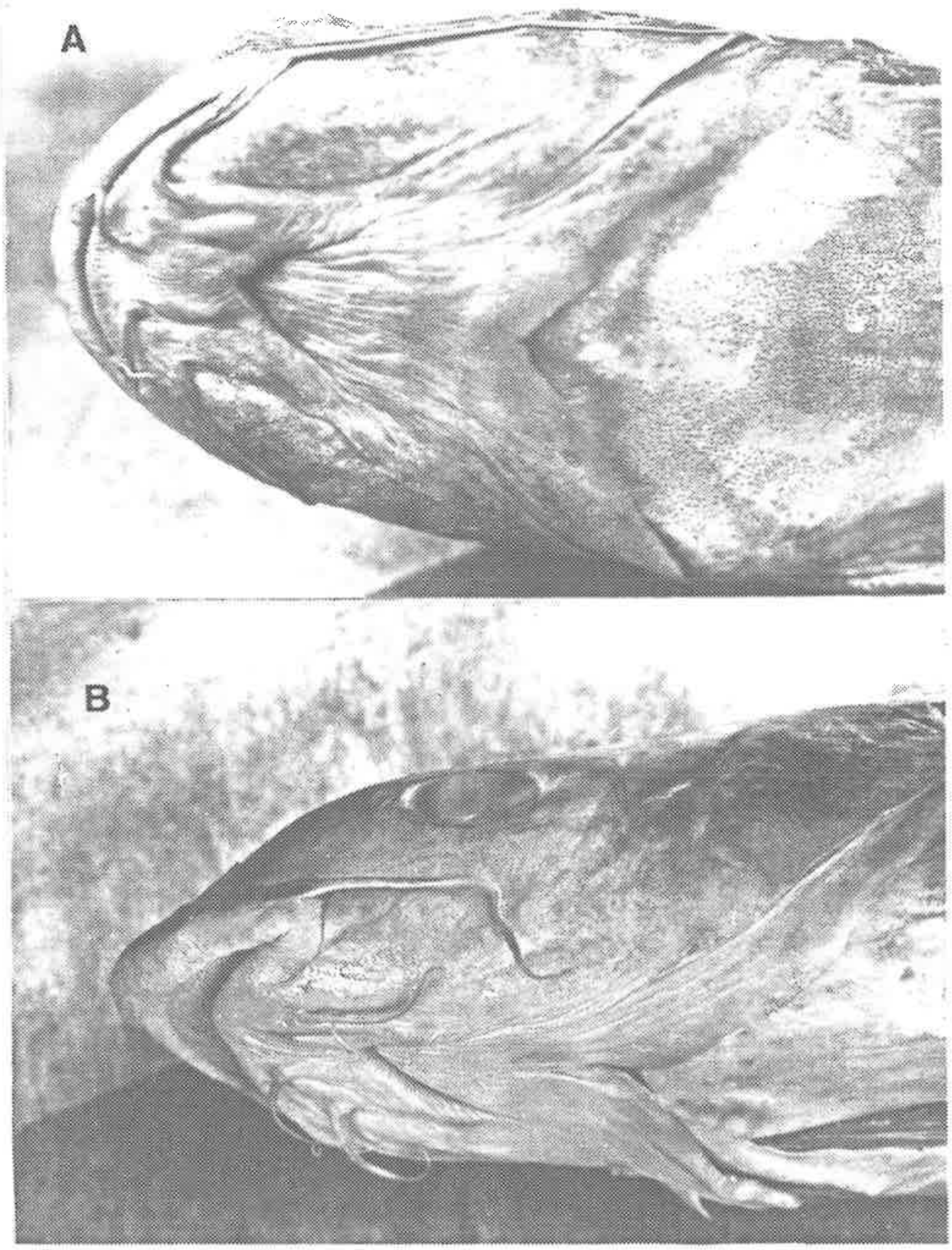


Figure 149. Comparison of snout length in "*Arius*" *bilineatus* (upper photograph, 310mm SL) and "*Arius*" *thalassinus* (lower photograph, 340mm SL).

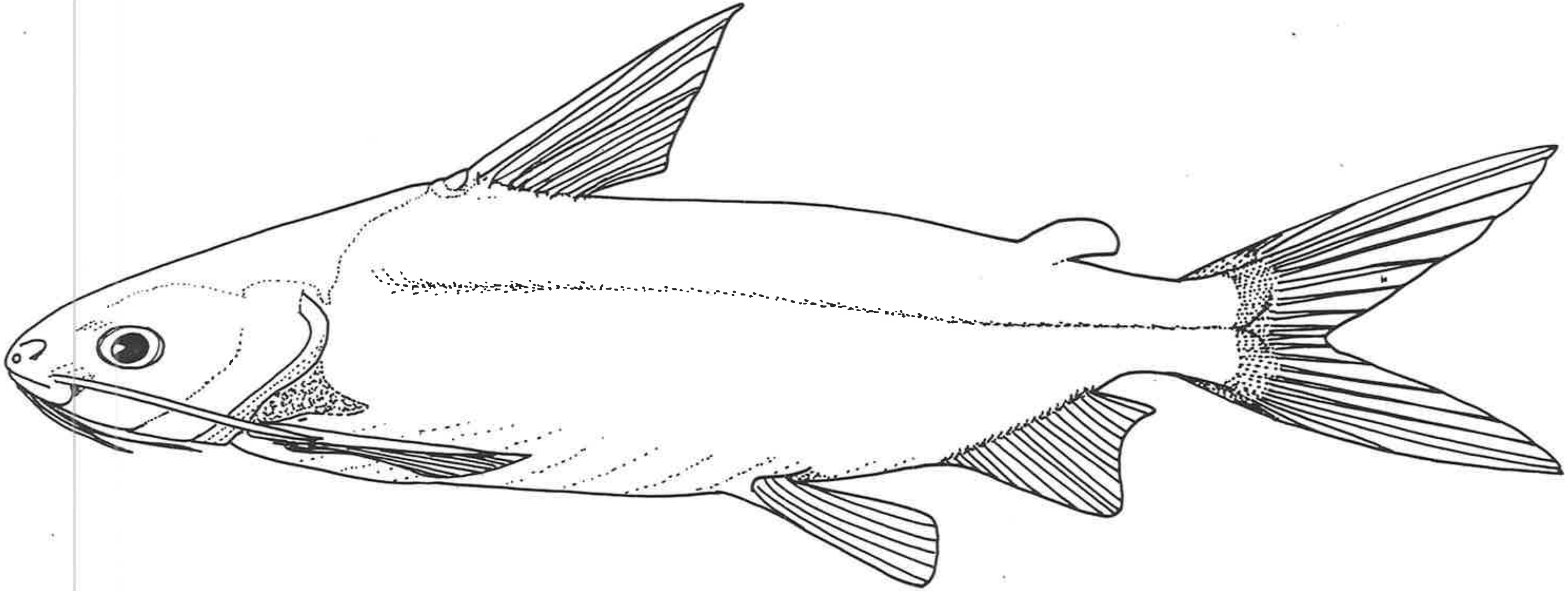


Figure 150. "<u>Arius</u>" <u>bilineatus</u>: lateral view, 290mm SL specimen (x 0.65).

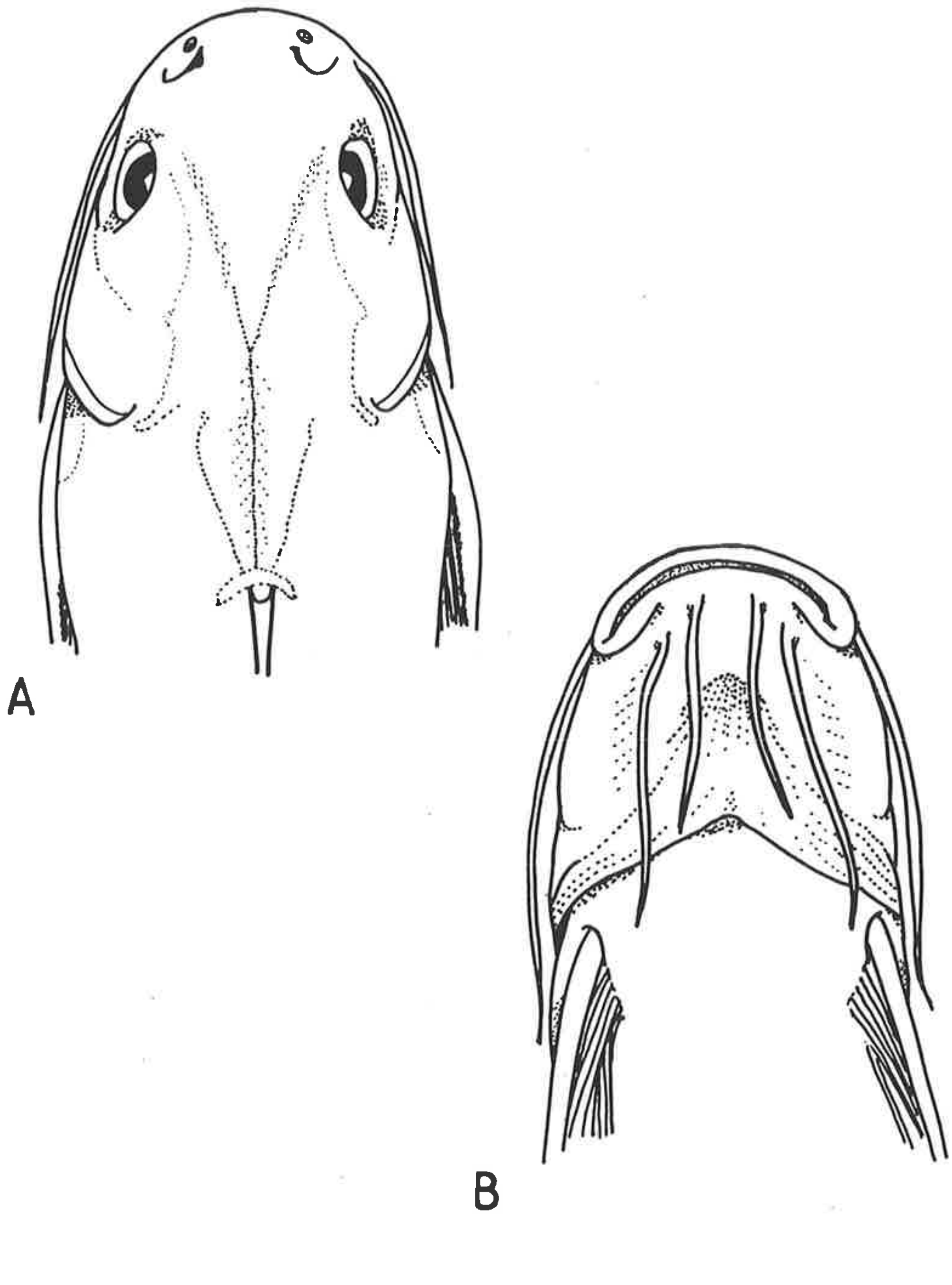


Figure 151. "Arius" bilineatus: A) dorsal head view, 220mm SL specimen, (x 1); B) ventral head view, 225mm SL specimen (x 1).

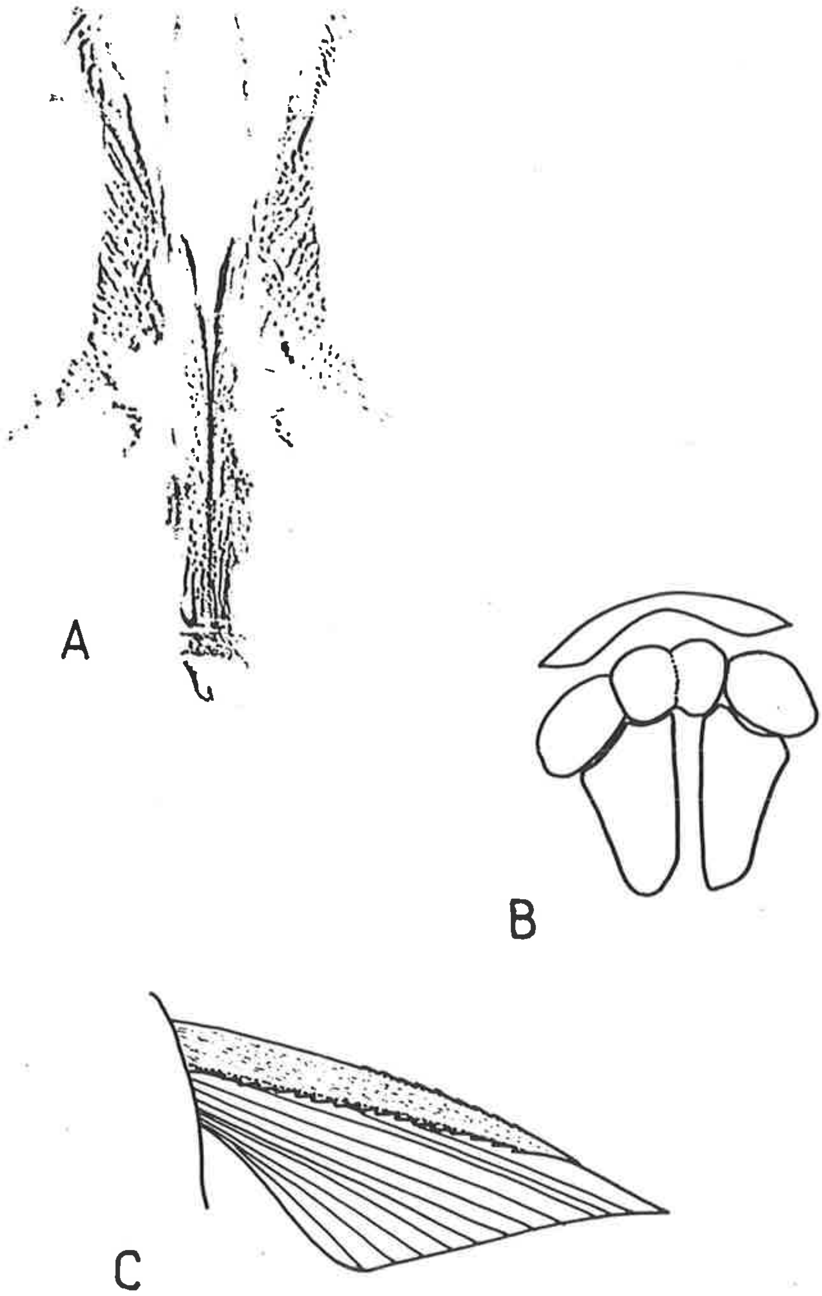


Figure 152. "Arius" bilineatus: A) rubbing of head shield, 255mm SL specimen; B) form and arrangement of upper tooth patches, 225mm SL specimen (x 2); C) RHS pectoral fin, 290mm SL specimen (x 1).

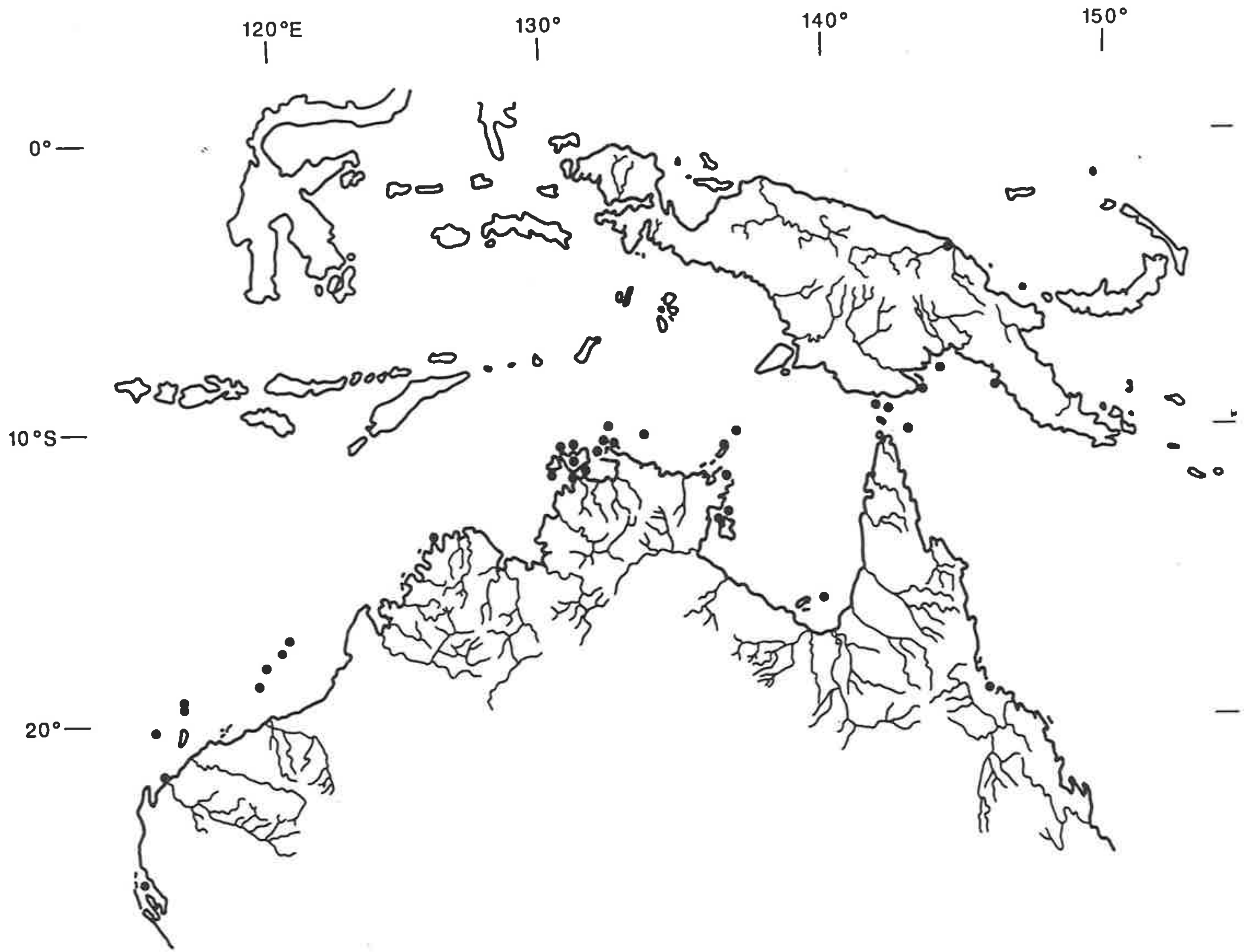


Figure 153. Australian and New Guinea distribution of "Arius" bilineatus, based on material examined (solid circles indicate capture locality).

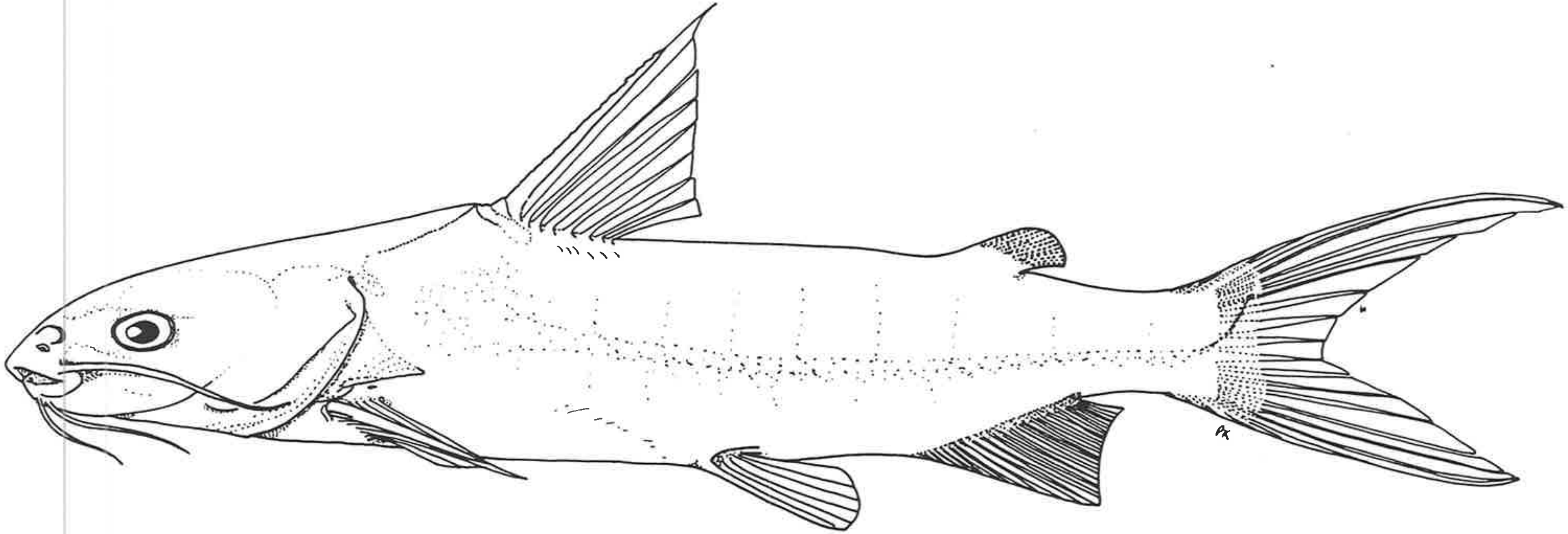


Figure 154. "Arius" proximus: lateral view, 354mm SL specimen (x 0.5).

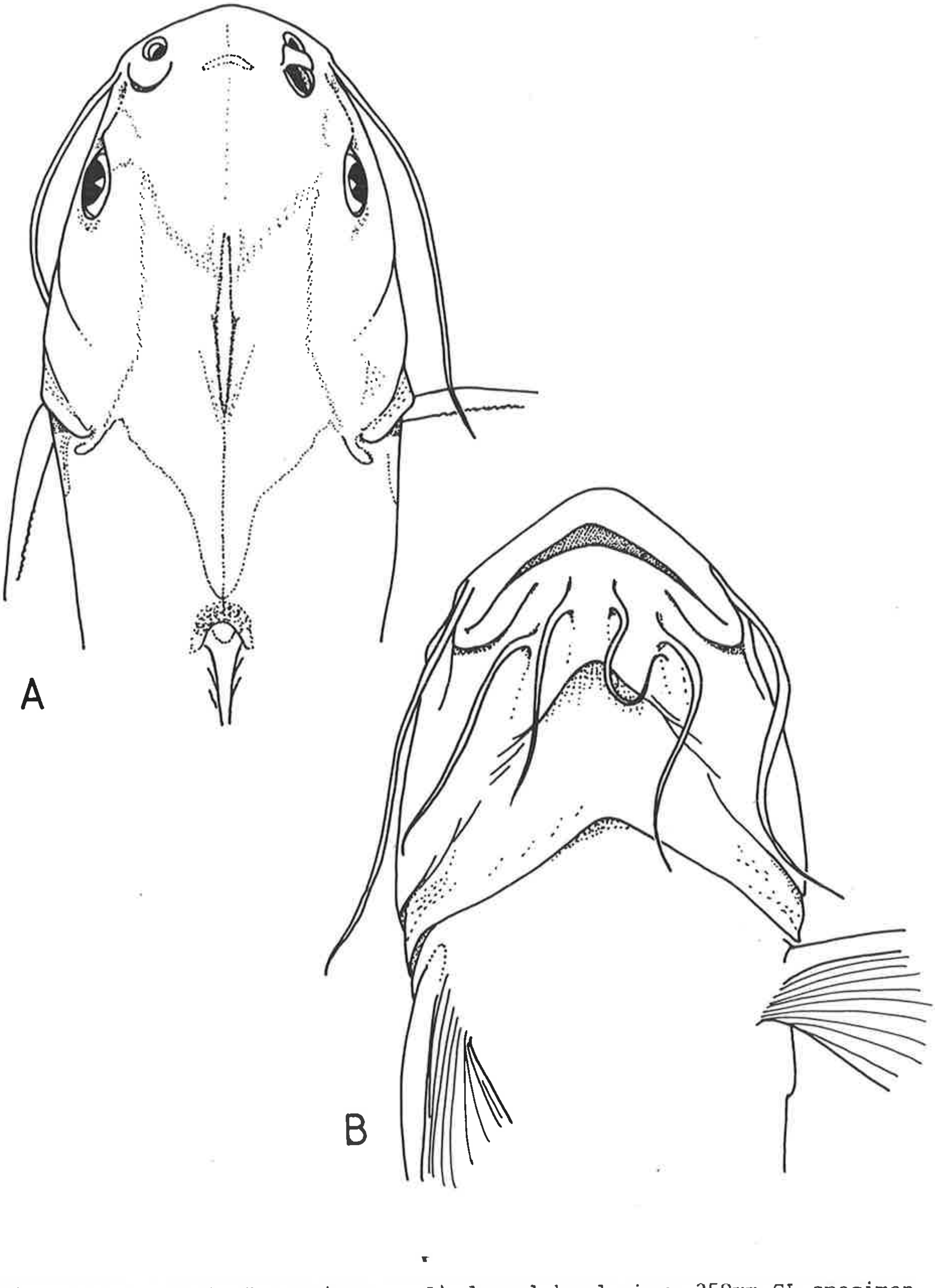


Figure 155. "Arius" proximus: A) dorsal head view, 258mm SL specimen (x 1); B) ventral head view, 310mm SL specimen (x 1).

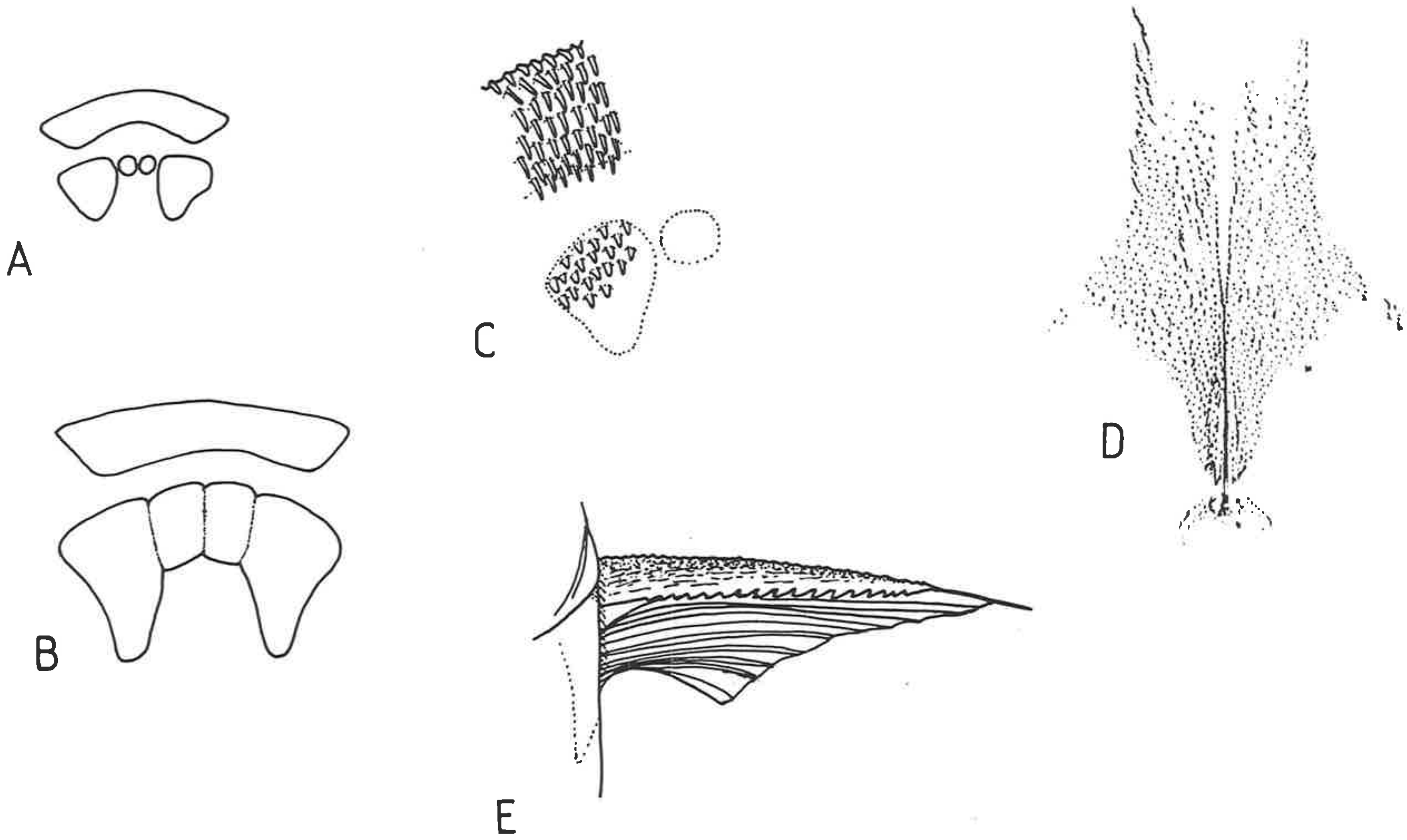


Figure 156. "Arius" proximus: form and arrangement of upper tooth patches in A) 141mm SL specimen; B) 375mm SL specimen; C) enlargement of premaxillary and palatal teeth, 141mm SL specimen; D) rubbing of head shield, 258mm SL specimen; E) LHS pectoral spine, 258mm SL specimen (x 1).

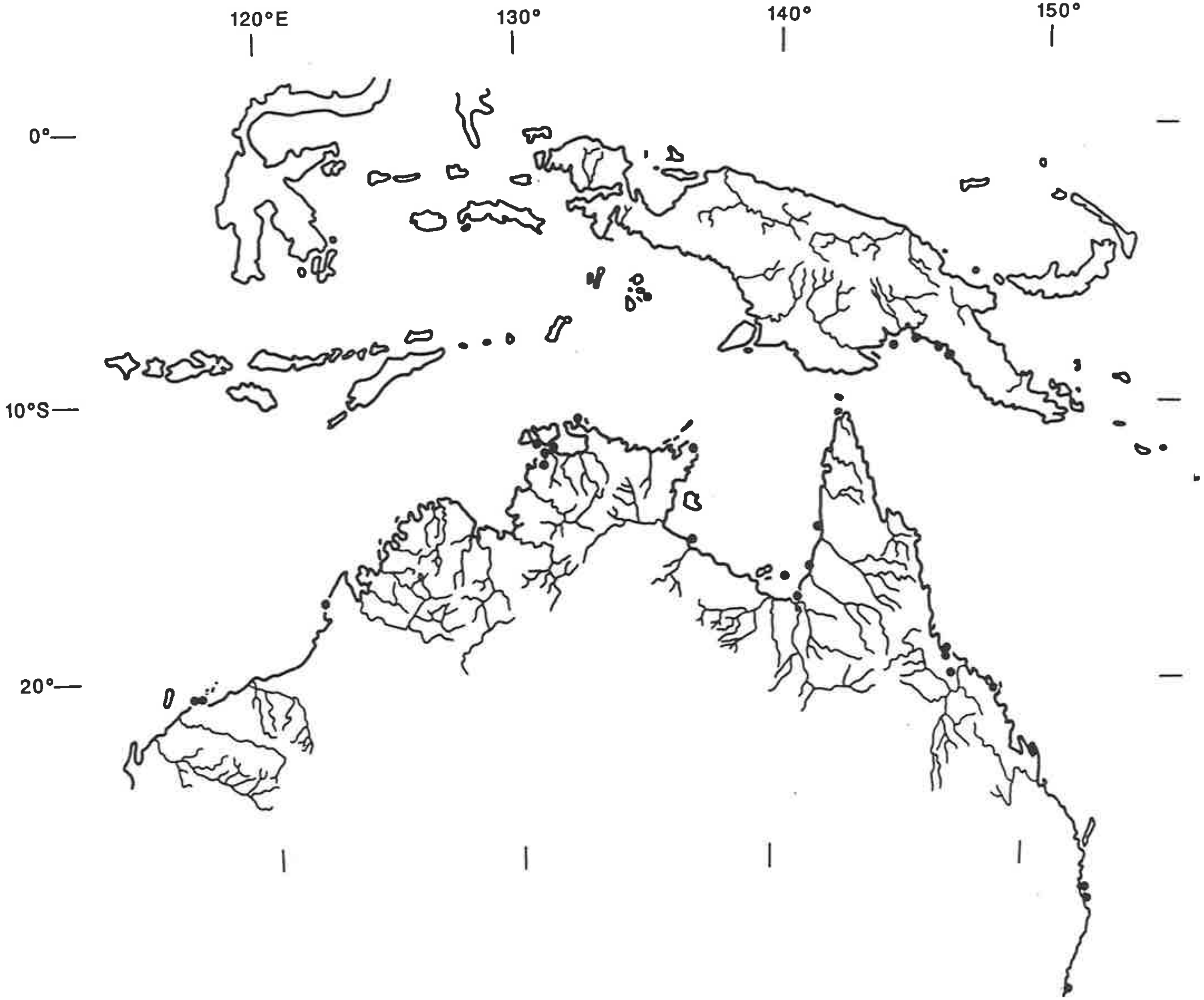


Figure 157. Distribution of "*Arius*" *proximus*, based on material examined (including type locality of *Arius arafurensis*) (solid circles indicate capture locality).

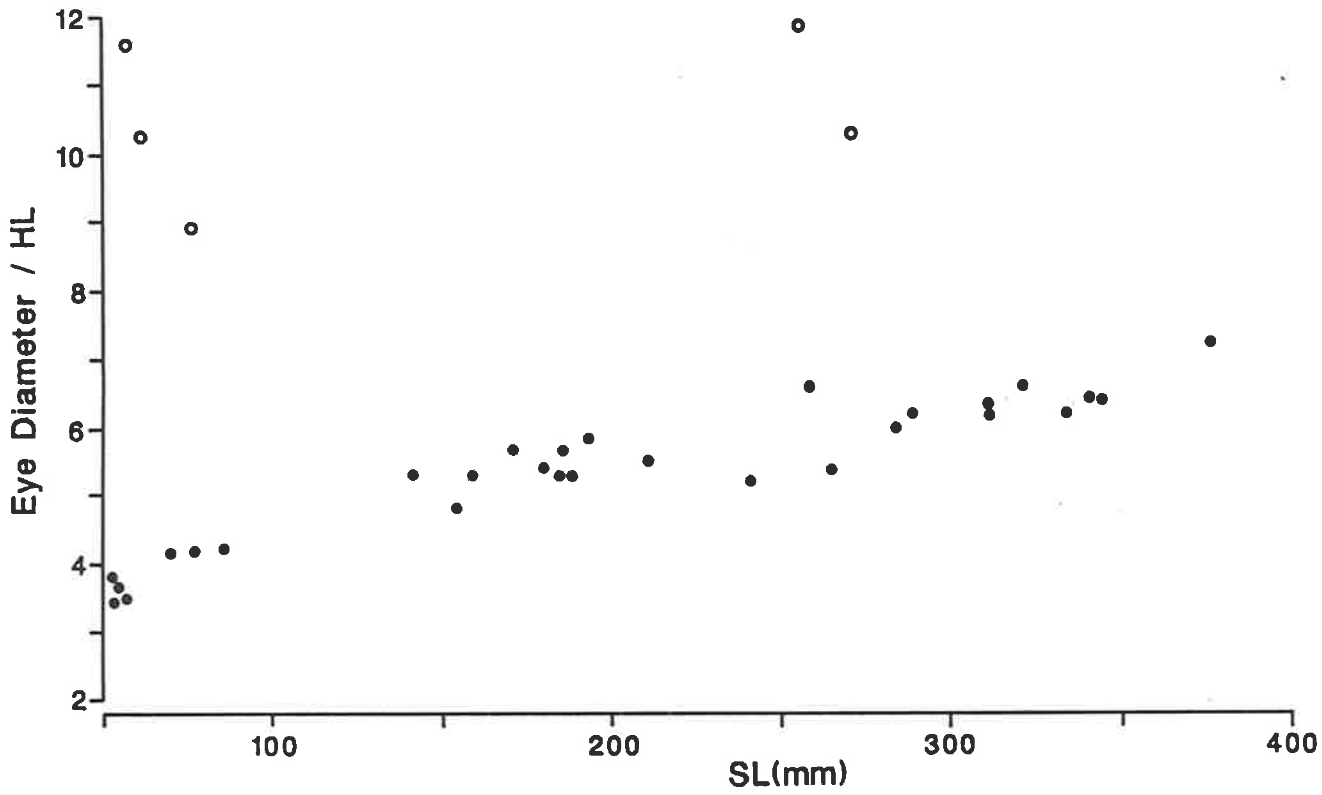


Figure 158. Eye diameter / HL ratio in "*Arius*" *proximus* (solid circles) and "*Arius*" species 6 (hollow circles).

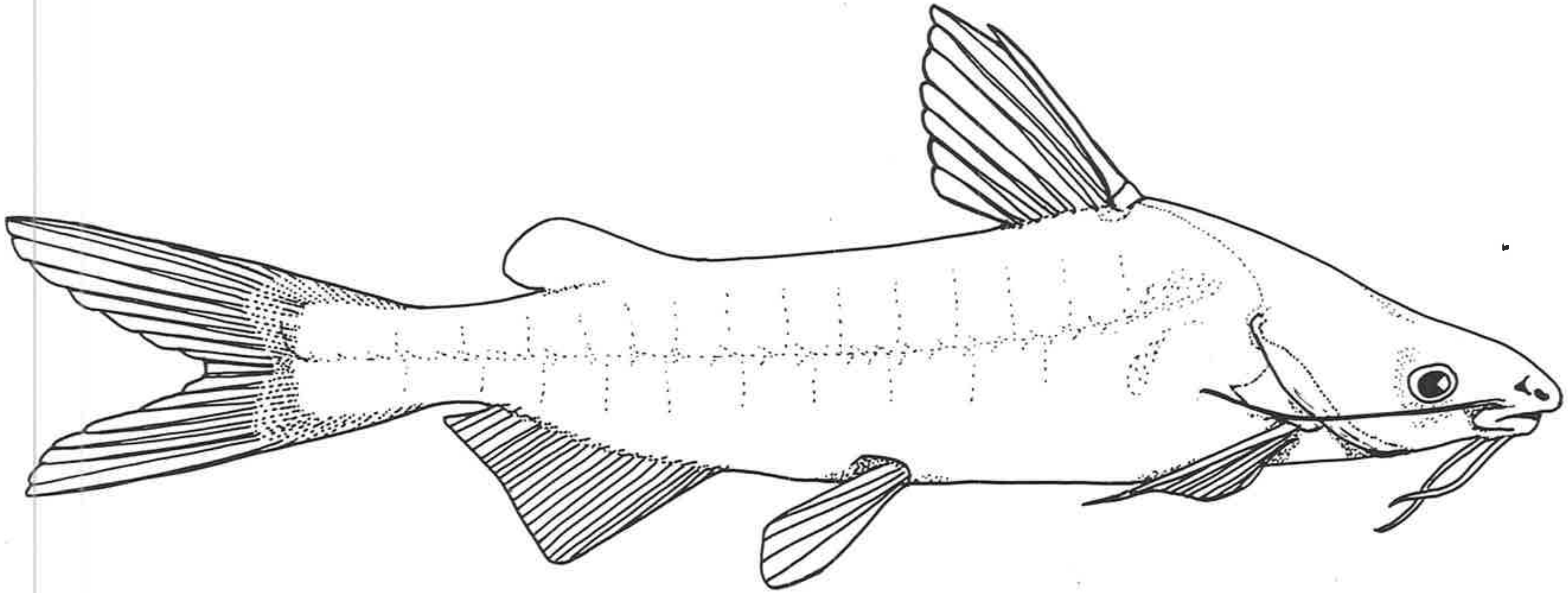


Figure 159. "Arius" velutinus: Lateral view, 164mm SL specimen (x 1).

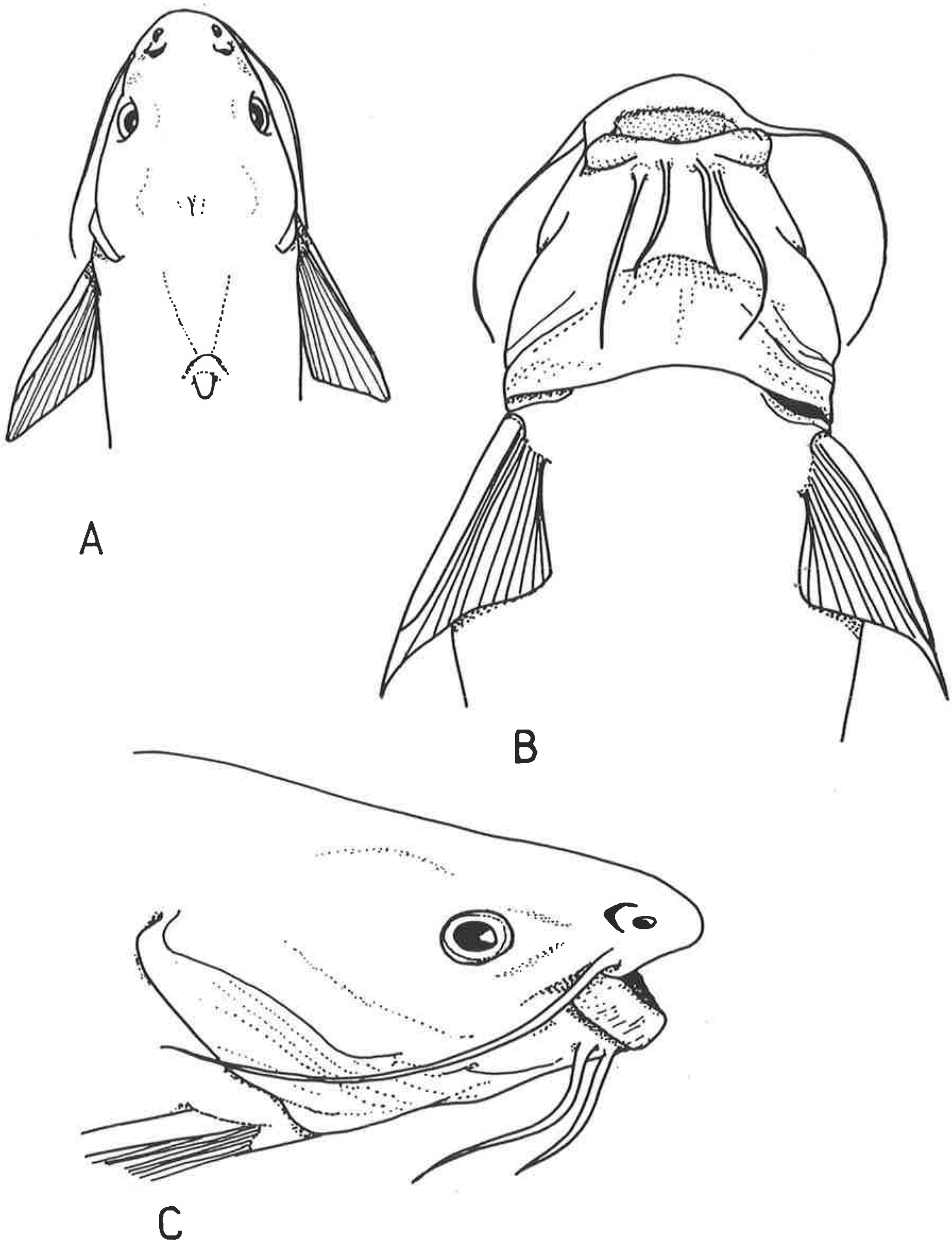


Figure 160. "Arius" velutinus: A) Dorsal head view, 164mm SL specimen (x 1); B) Ventral head view, 303mm SL specimen (x 0.7); C) Lateral view of head, 303mm SL specimen (x 1).

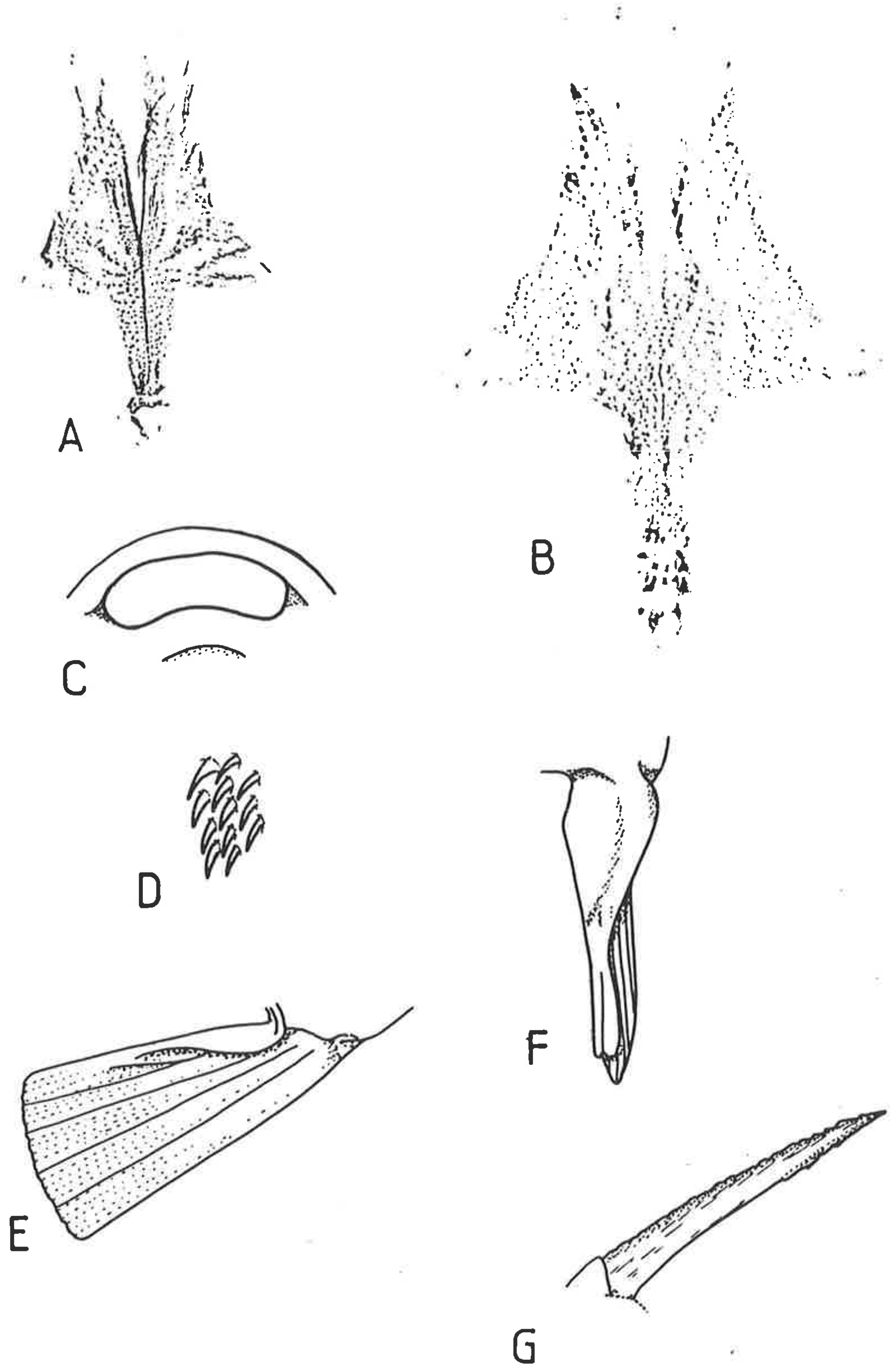


Figure 161. "Arius" velutinus: rubbing of head shield in A) 180mm SL specimen; B) 303mm SL specimen; C) form of premaxillary tooth band, 178mm SL specimen; D) enlargement of premaxillary teeth, 235mm SL specimen; RHS ventral fin view in sexually mature 303mm SL specimen (x 1), E) lateral view, F) dorsal view; G) dorsal spine, 235mm SL specimen (x 1).

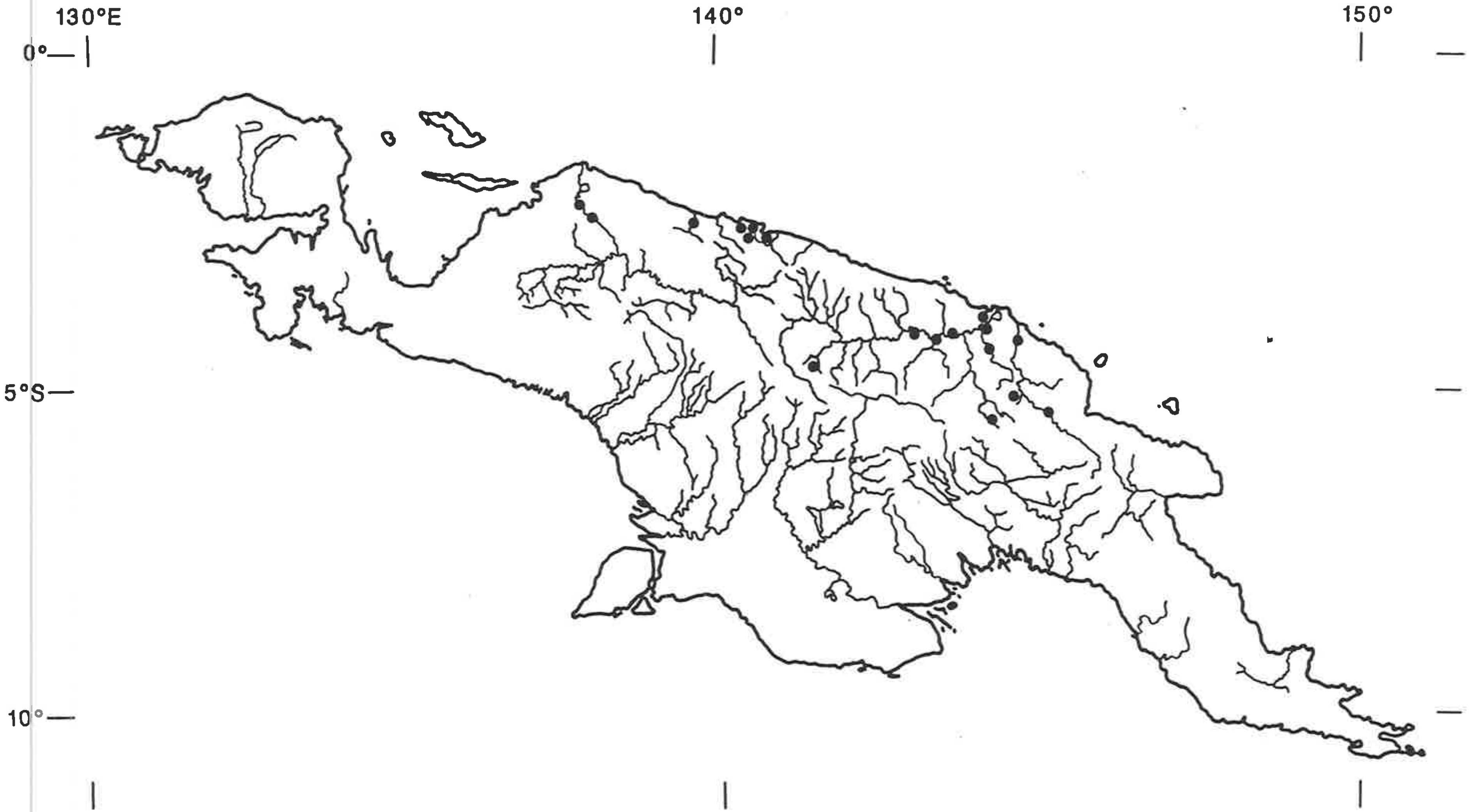


Figure 162. Distribution of "Arius" velutinus, based on material examined (solid circles indicate capture locality).

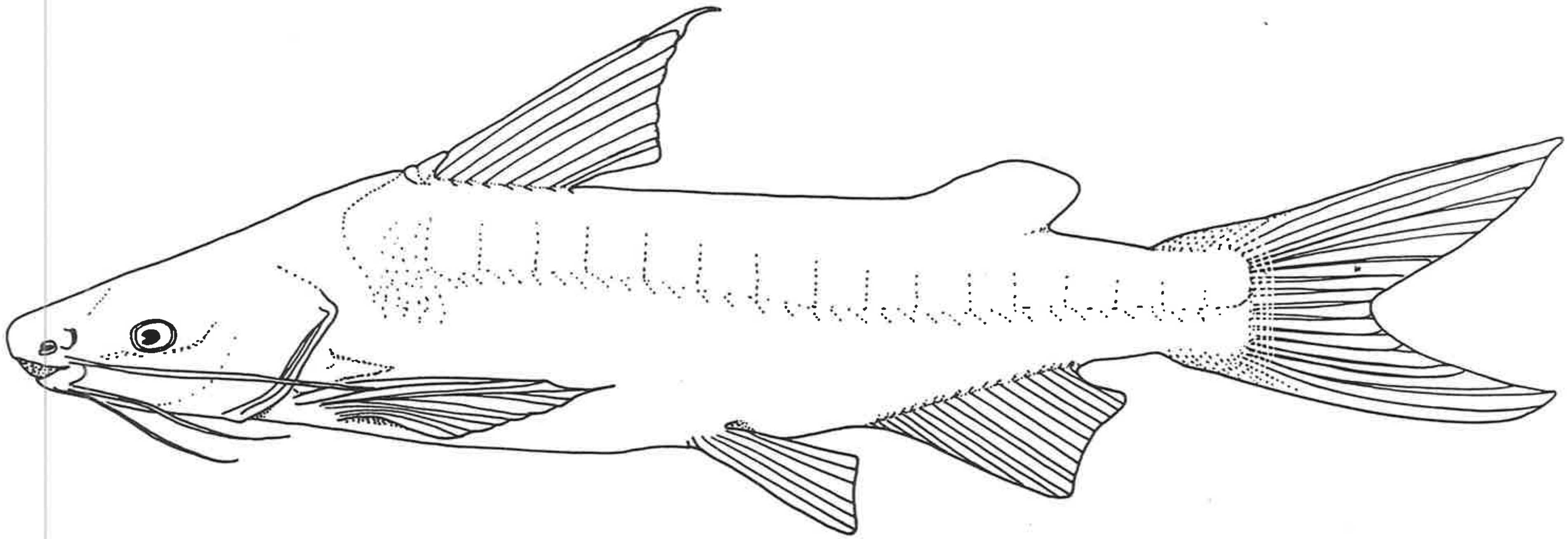


Figure 163. "Arius" taylori: lateral view, 290mm SL (x 0.6).

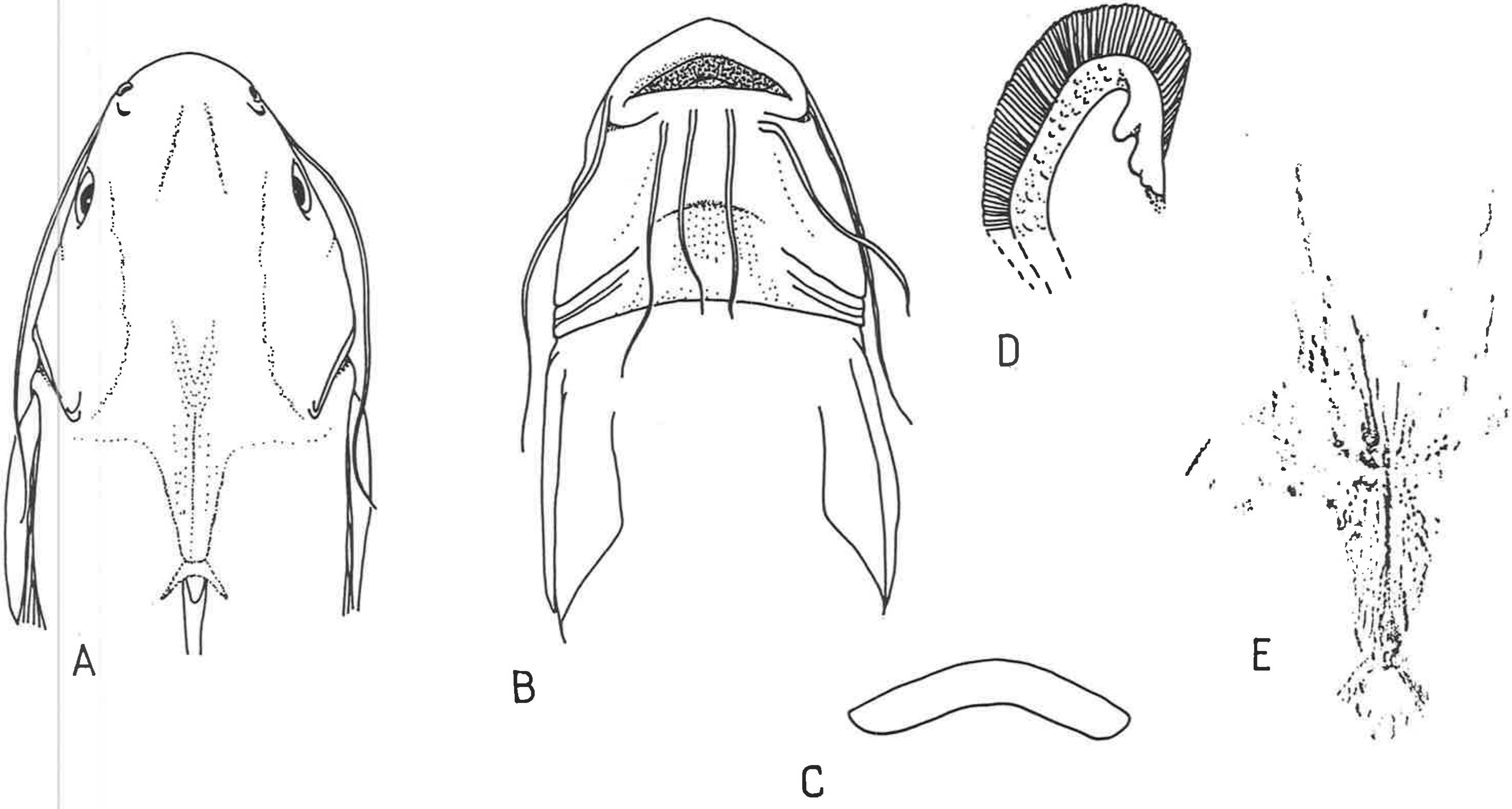


Figure 164. "Arius" taylori: A) dorsal head view, 290mm SL specimen (x 0.8); B) ventral head view, same specimen (x 0.8); C) form or premaxillary tooth band, same specimen; D) posterior LHS 2nd gill arch, showing bisected epithelial pad (x 4); E) rubbing of head shield, 290mm SL specimen.

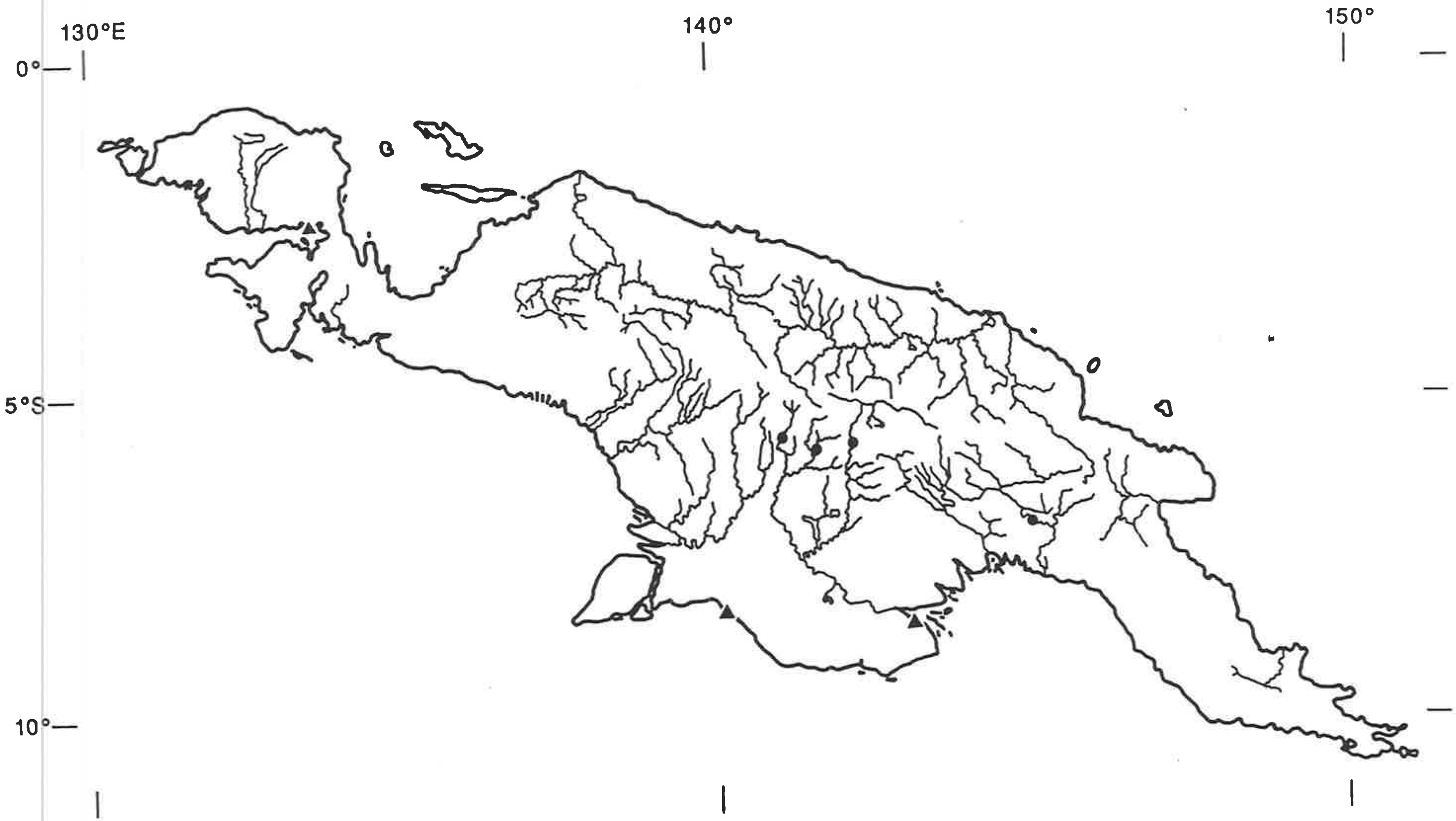


Figure 165. Distribution of "Arius" taylori (solid circles) and "Arius" species 6 (solid triangles), based on material examined (symbols indicate capture locality).

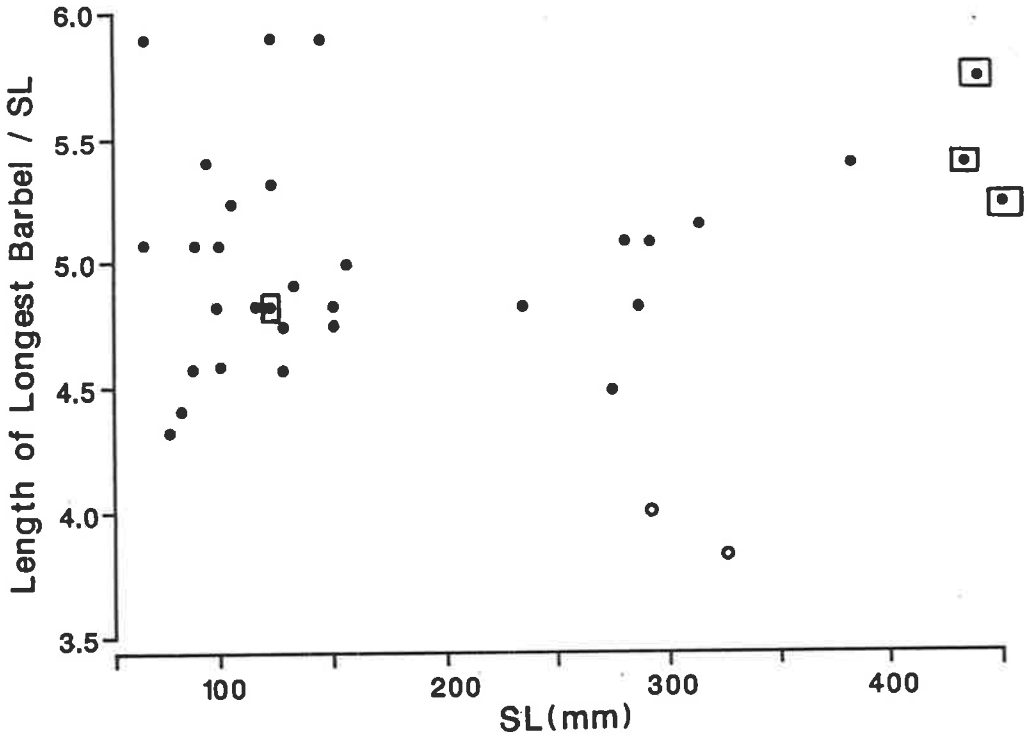


Figure 166. Comparison of barbel length between "Arius" taylori (hollow circles) and "Arius" latirostris (solid circles). Types of latirostris and acrocephalus are boxed.

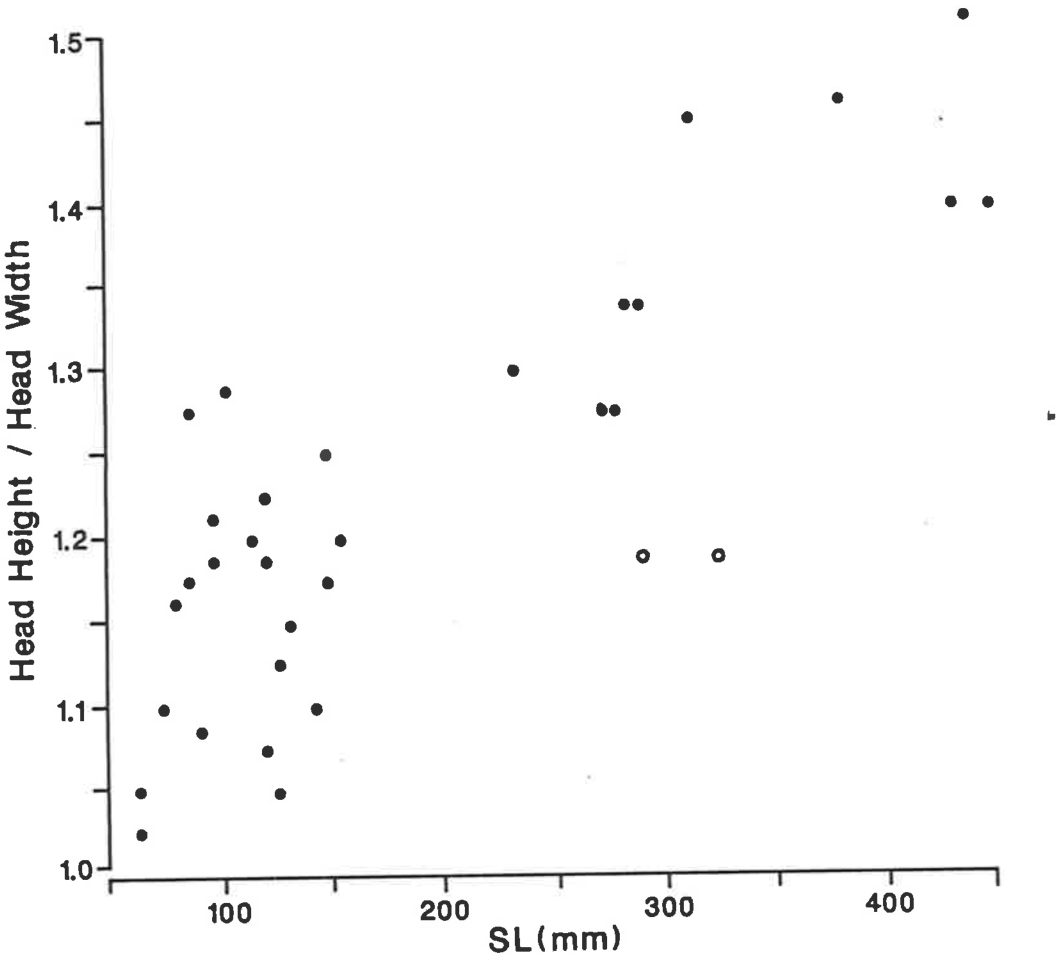


Figure 167. Comparison of head height and head width between "*Arius*" *taylori* (hollow circles) and "*Arius*" *latirostris* (solid circles). Types of *latirostris* and *acrocephalus* are boxed.

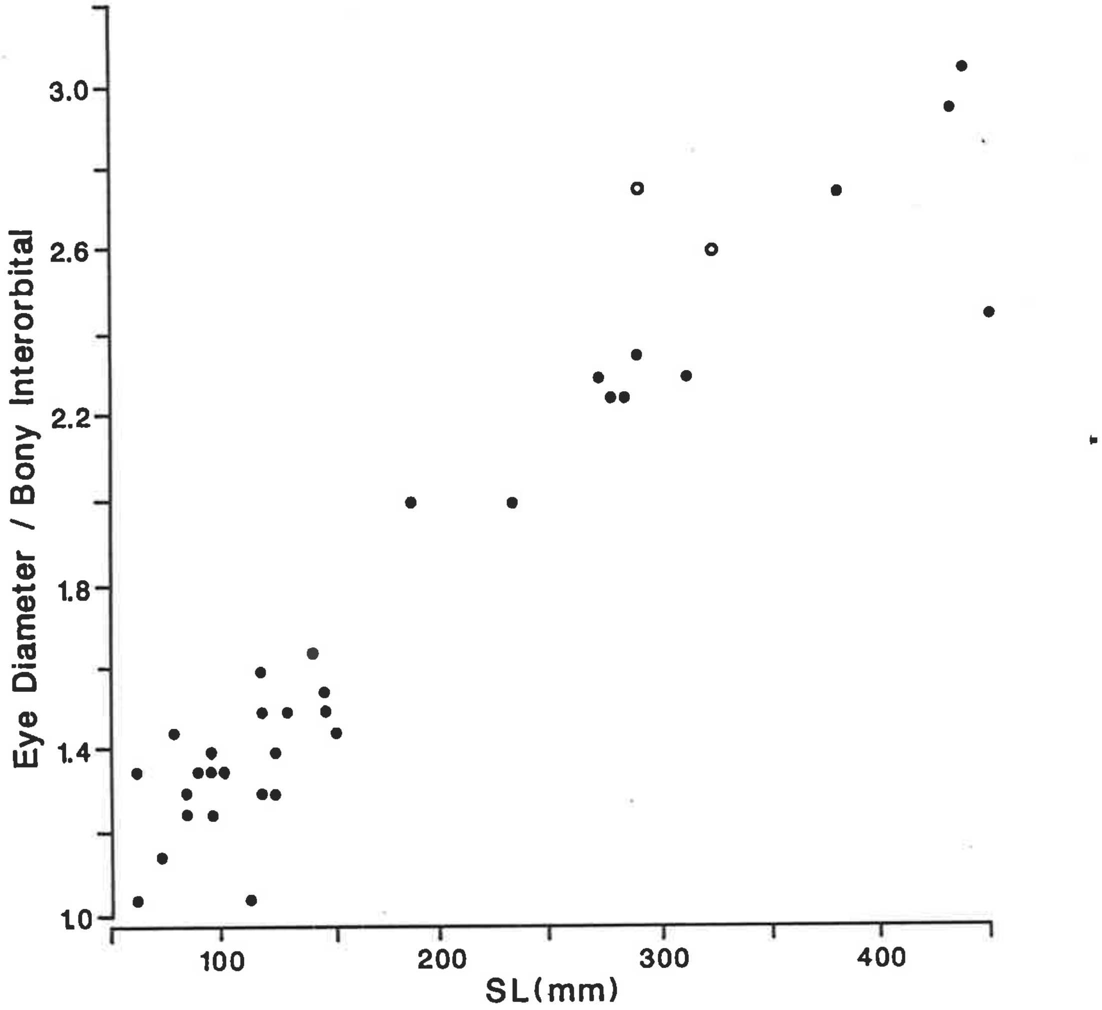


Figure 168. Comparison of the eye diameter / bony interorbital ratio between "Arius" taylori (hollow circles) and "Arius" latirostris (solid circles).

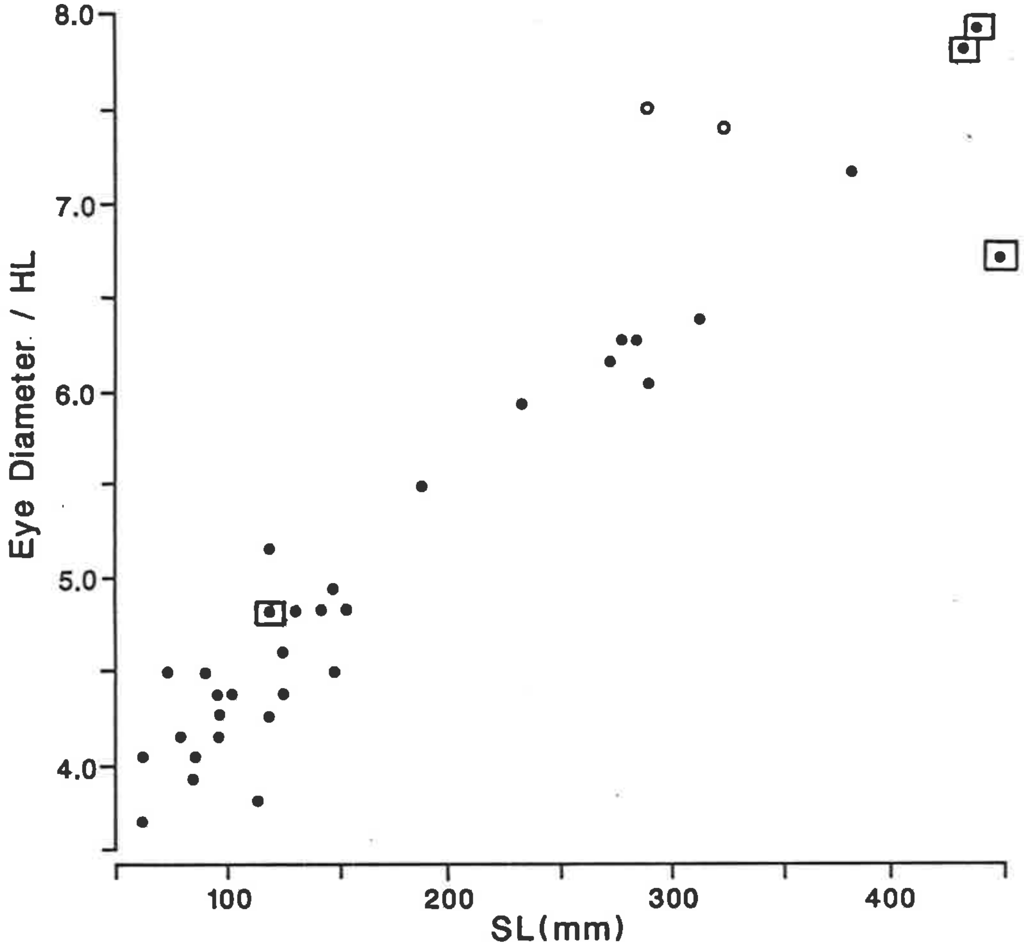


Figure 169. Comparison of eye diameter between "Arius" taylori (hollow circles) and "Arius" latirostris (solid circles). Types of acrocephalus and latirostris are boxed.

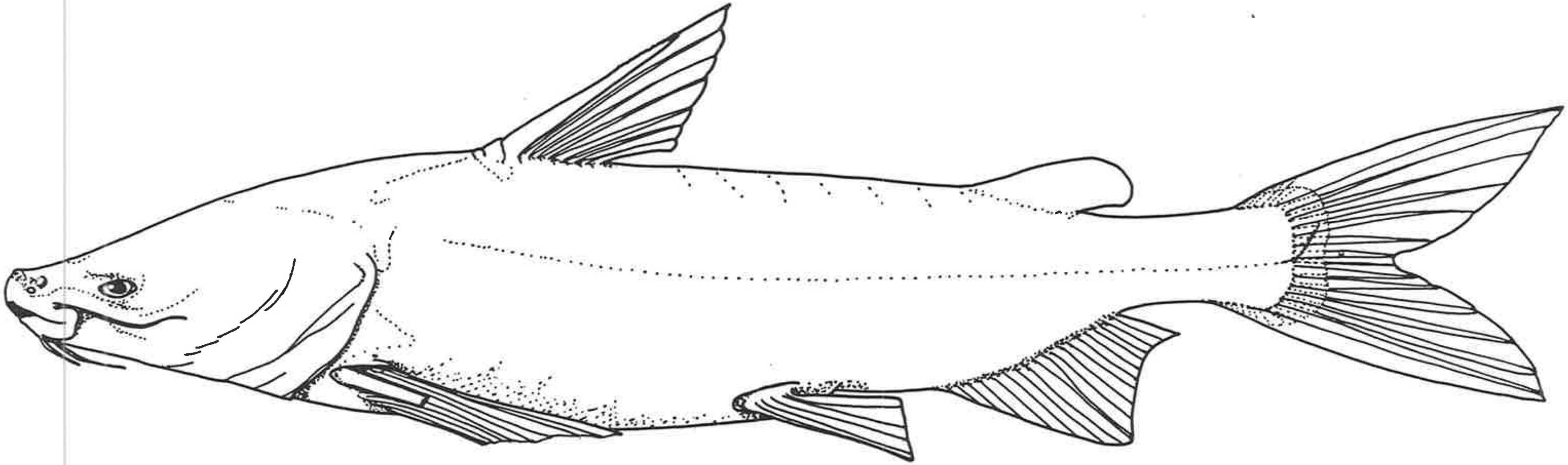


Figure 170. "<u>Arius</u>" species 7: lateral view, 330mm SL specimen (x 0.6).

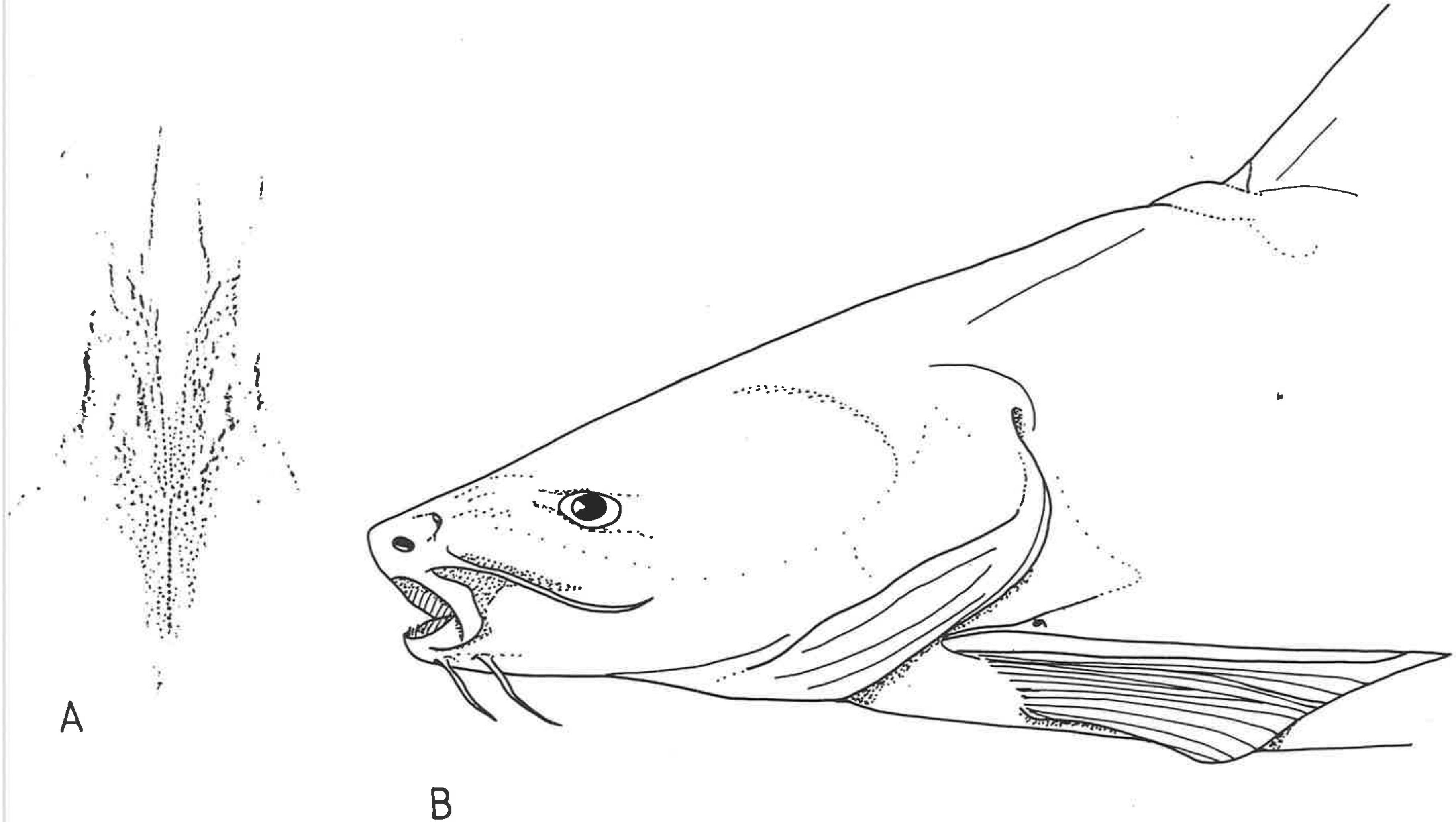


Figure 171. "Arius" species 7: A) rubbing of head shield, 270mm SL specimen; B) lateral head view, 375mm SL specimen (x 1).

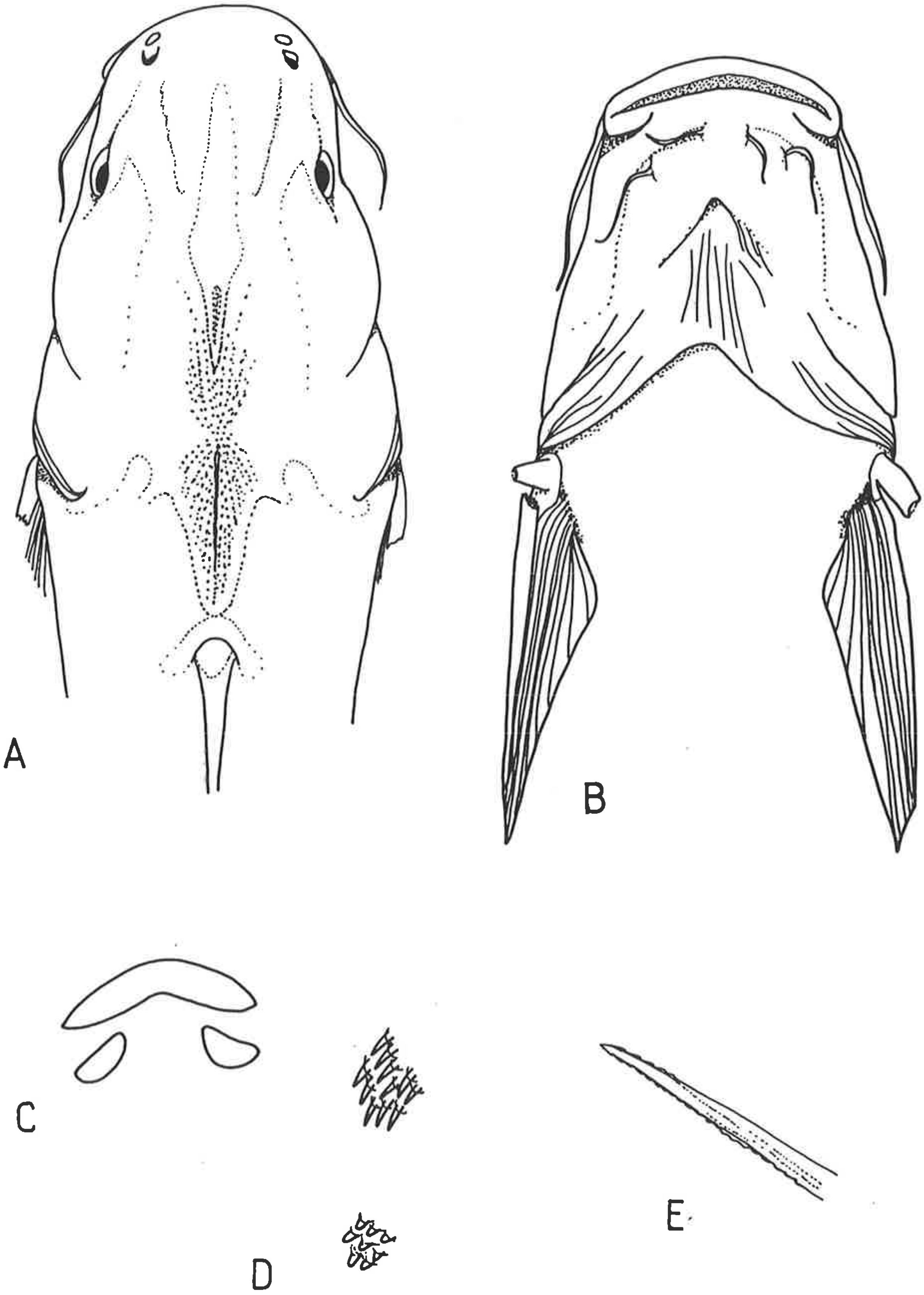


Figure 172. "<u>Arius</u>" species 7; A) dorsal head view, 270mm SL specimen (x 1); B) ventral head view, same specimen (x 1); C) form and arrangement of upper tooth patches, same specimen; D) enlargement of premaxillary and palatal teeth, same specimen; E) dorsal spine, same specimen (x 1).

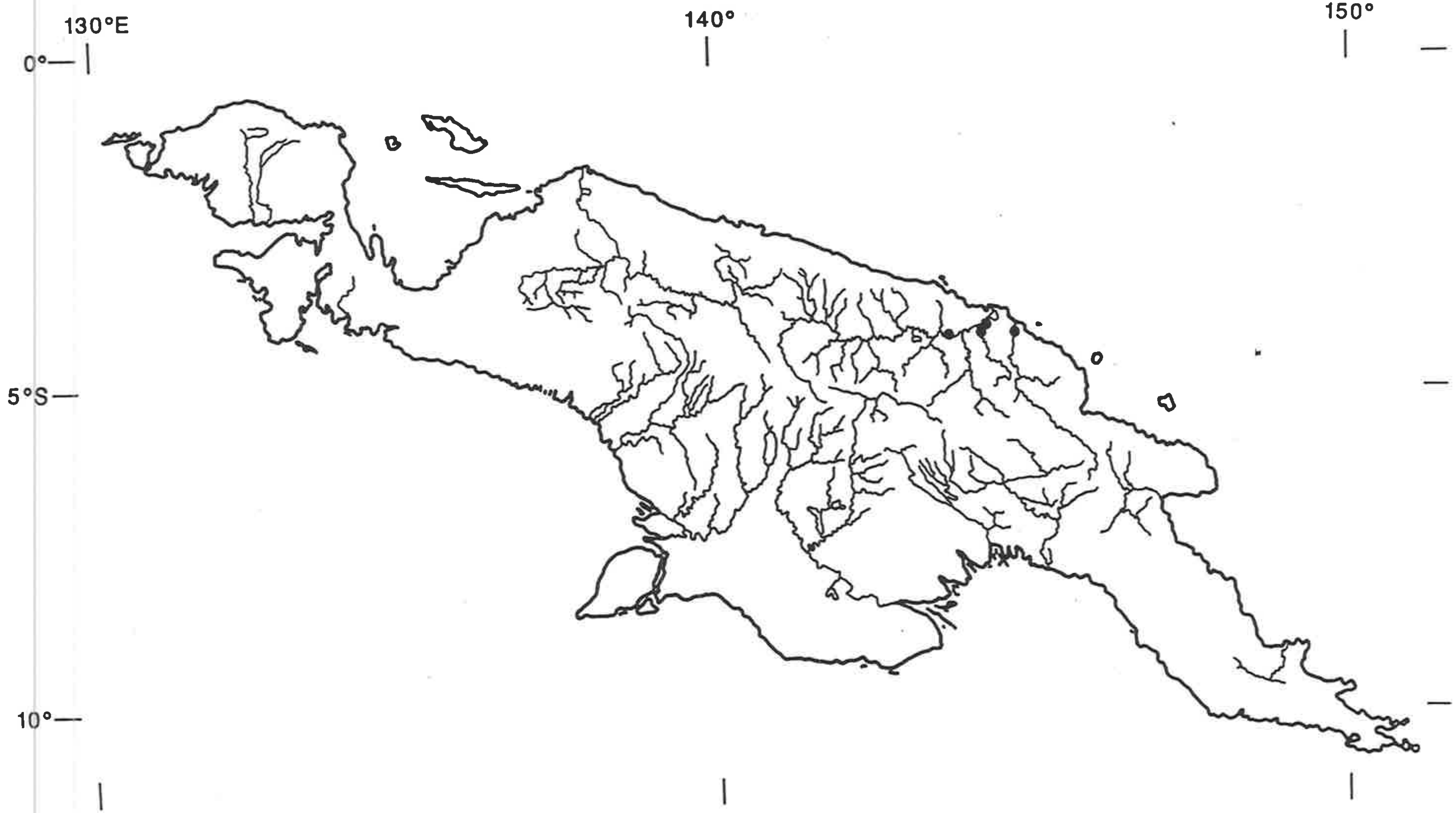


Figure 173. Distribution of "Arius" species 7, based on material examined (solid circles indicate capture locality).

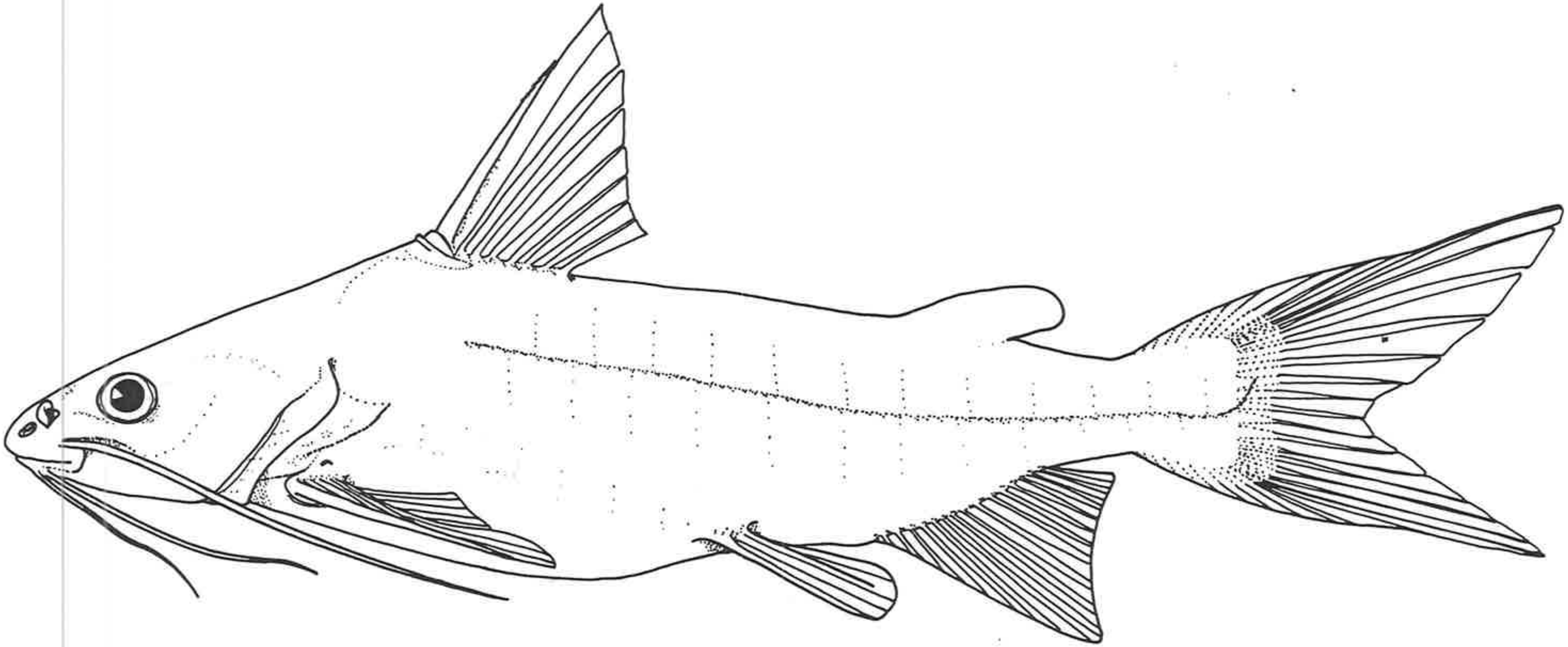


Figure 174. "Arius" graeffei: lateral view, 188mm SL specimen (x 1).

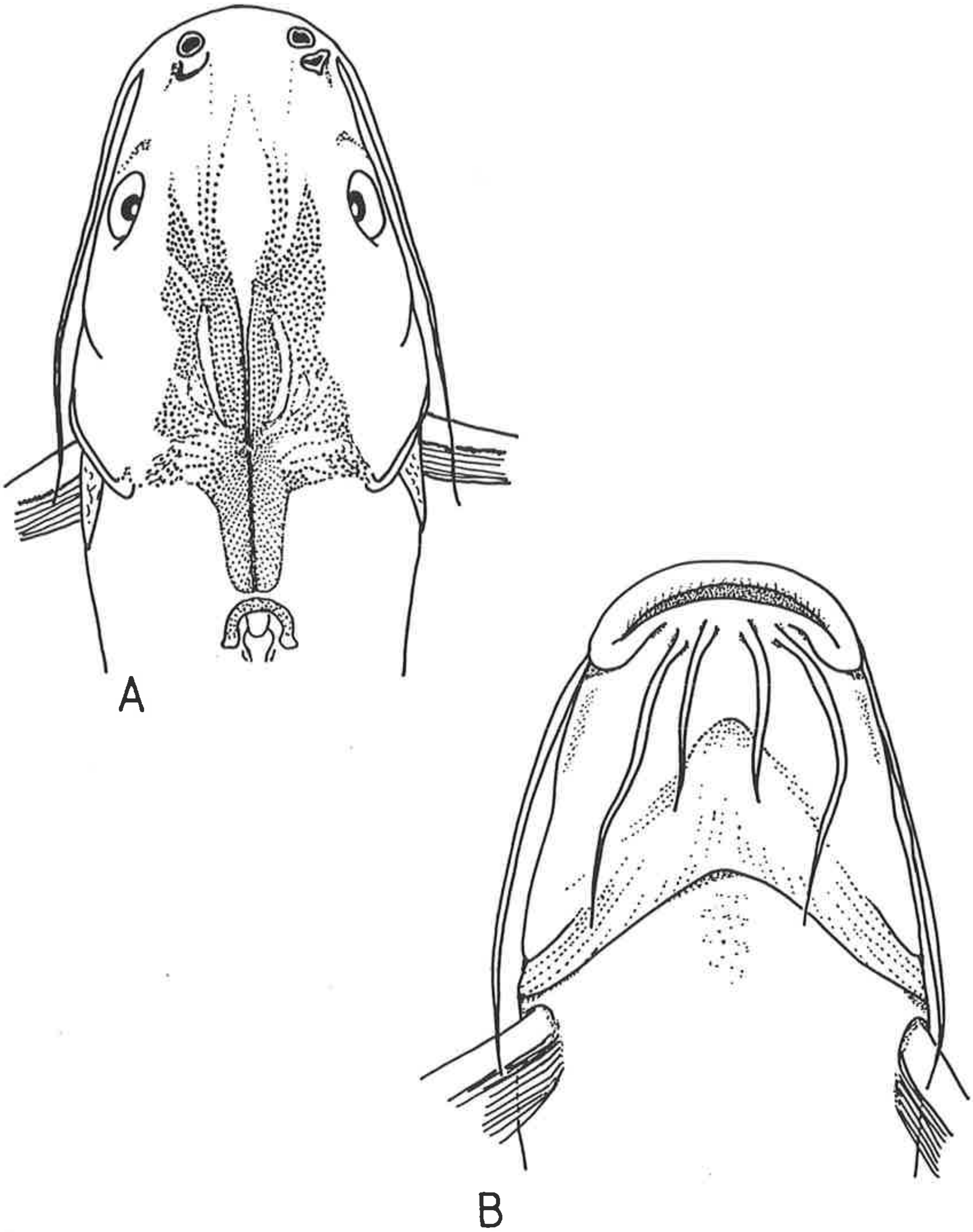


Figure 175. "Arius" graeffei: A) dorsal head view, 228mm SL specimen (x 1); B) ventral head view, 268mm SL specimen (x 1).

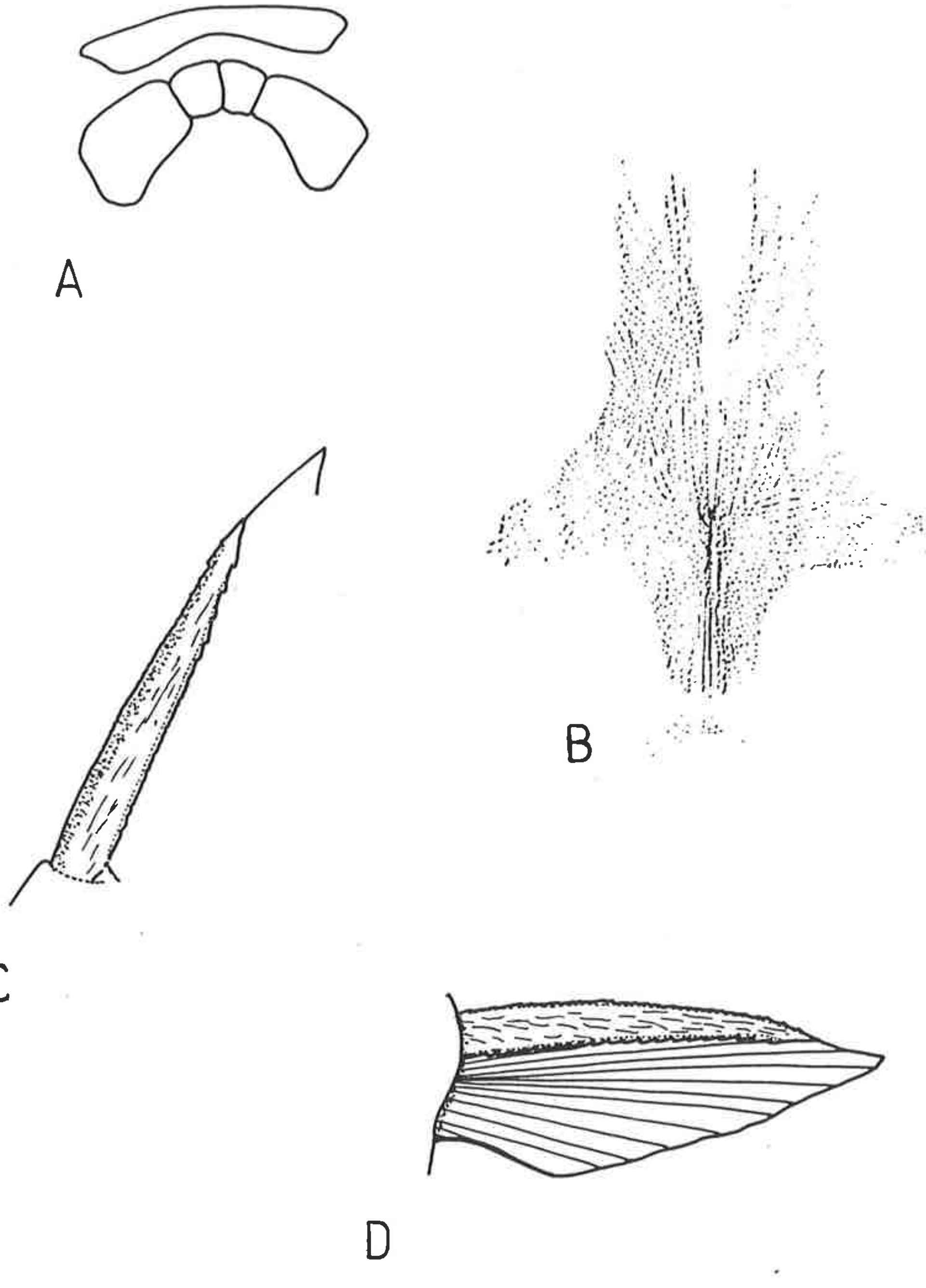


Figure 176. "Arius" graeffei: A) form and arrangement of upper tooth patches, 280mm SL specimen; B) rubbing of head shield, 268mm SL specimen; C) dorsal spine, 253mm SL specimen (type) (x 1); D) RHS pectoral spine, 268mm SL specimen (x 1).

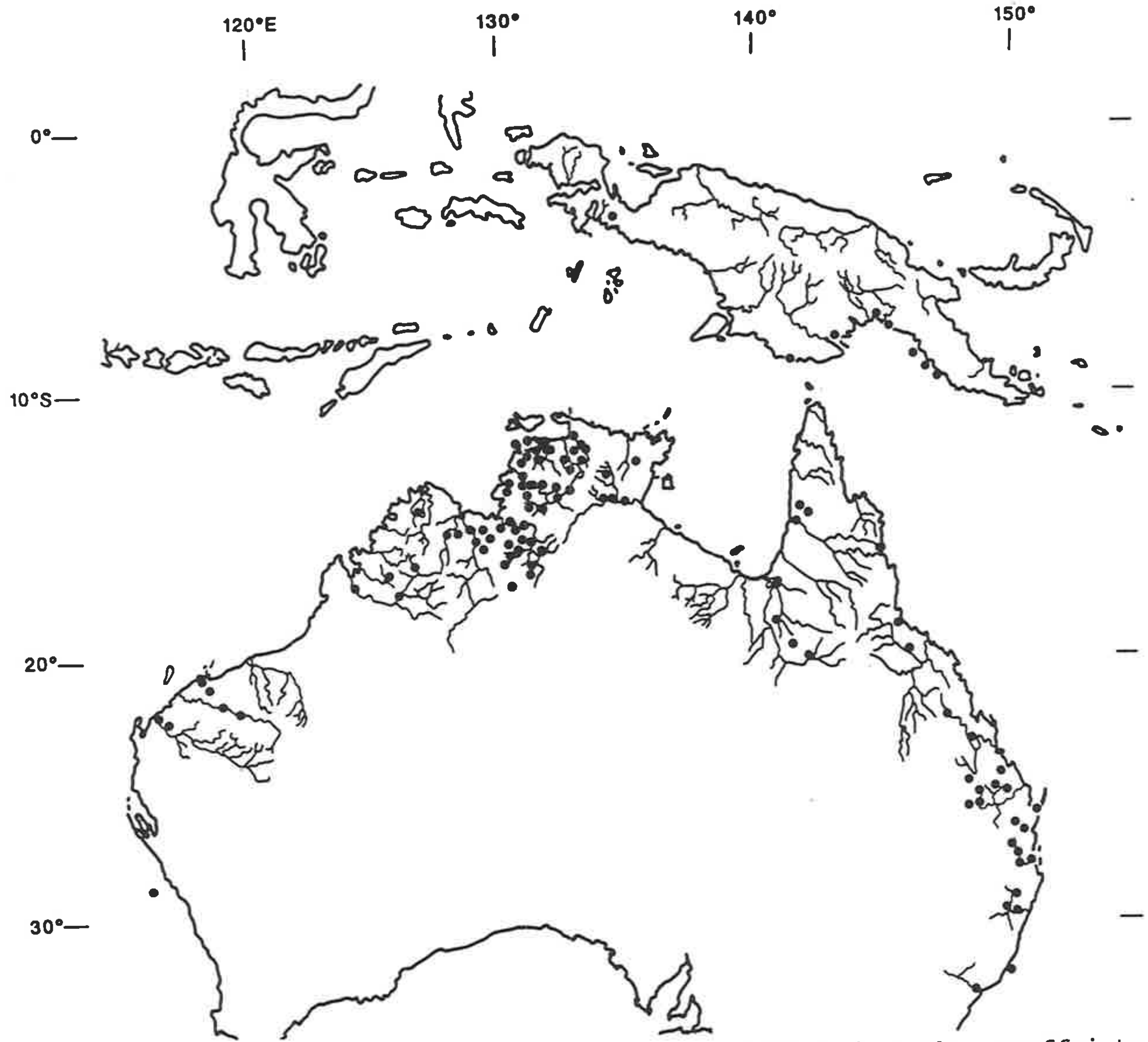


Figure 177. Distribution of "Arius" graeffei, based on material examined (not the graeffei type) (solid circles indicate capture locality).

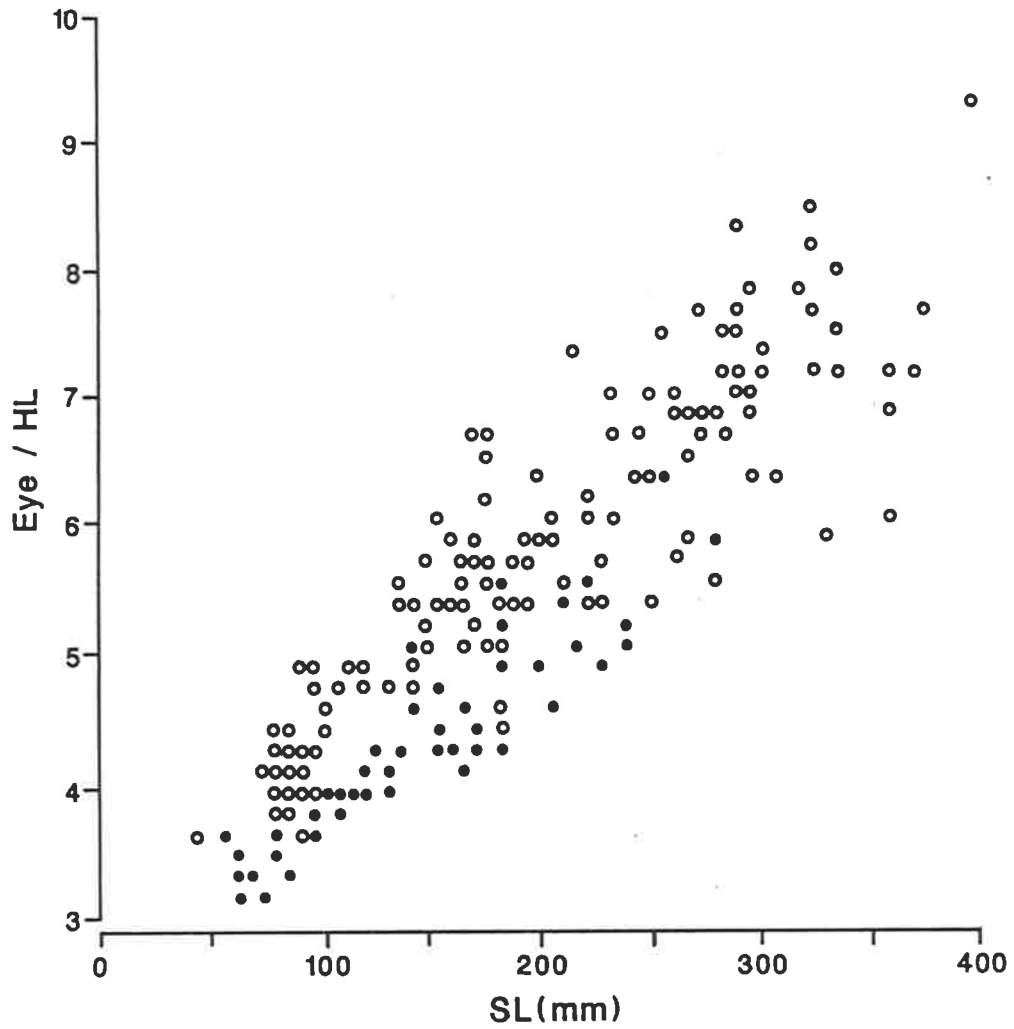


Figure 178. Comparison of eye size between "*Arius*" *graeffei* (hollow circles) and "*Arius*" *berneyi* (solid circles).

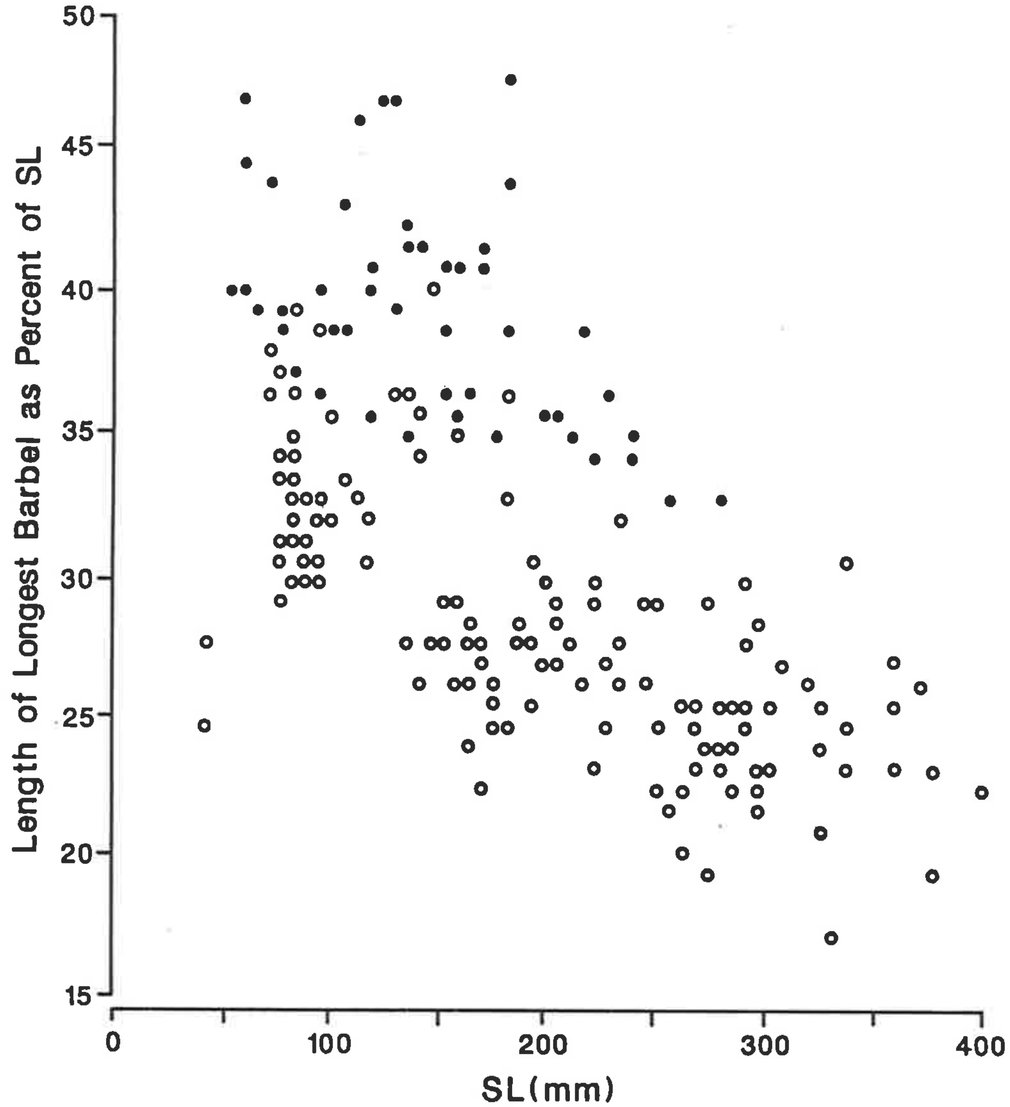


Figure 179. Comparison of longest (maxillary) barbel length between "*Arius*" *graeffei* (hollow circles) and "*Arius*" *berneyi* (solid circles).

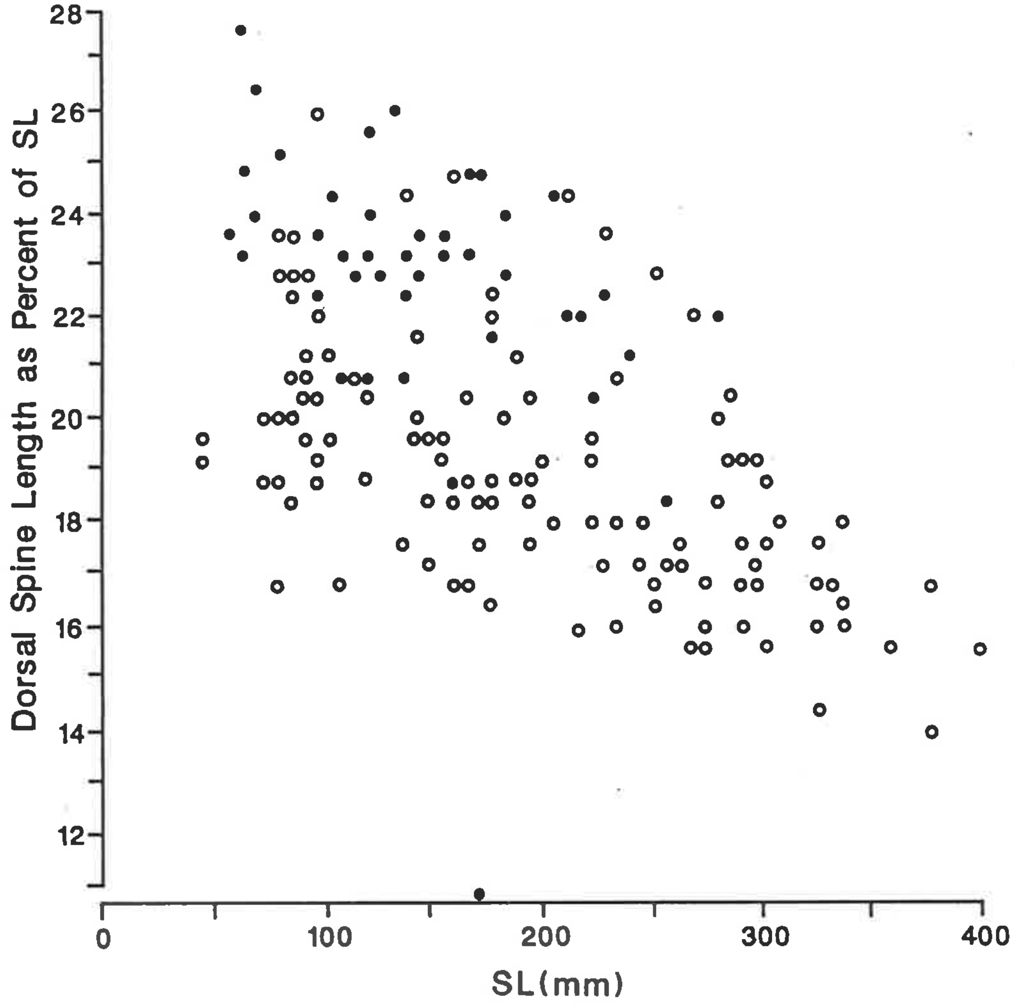


Figure 180. Comparison of dorsal spine length between "*Arius*" *graeffei* (hollow circles) and "*Arius*" *berneyi* (solid circles).

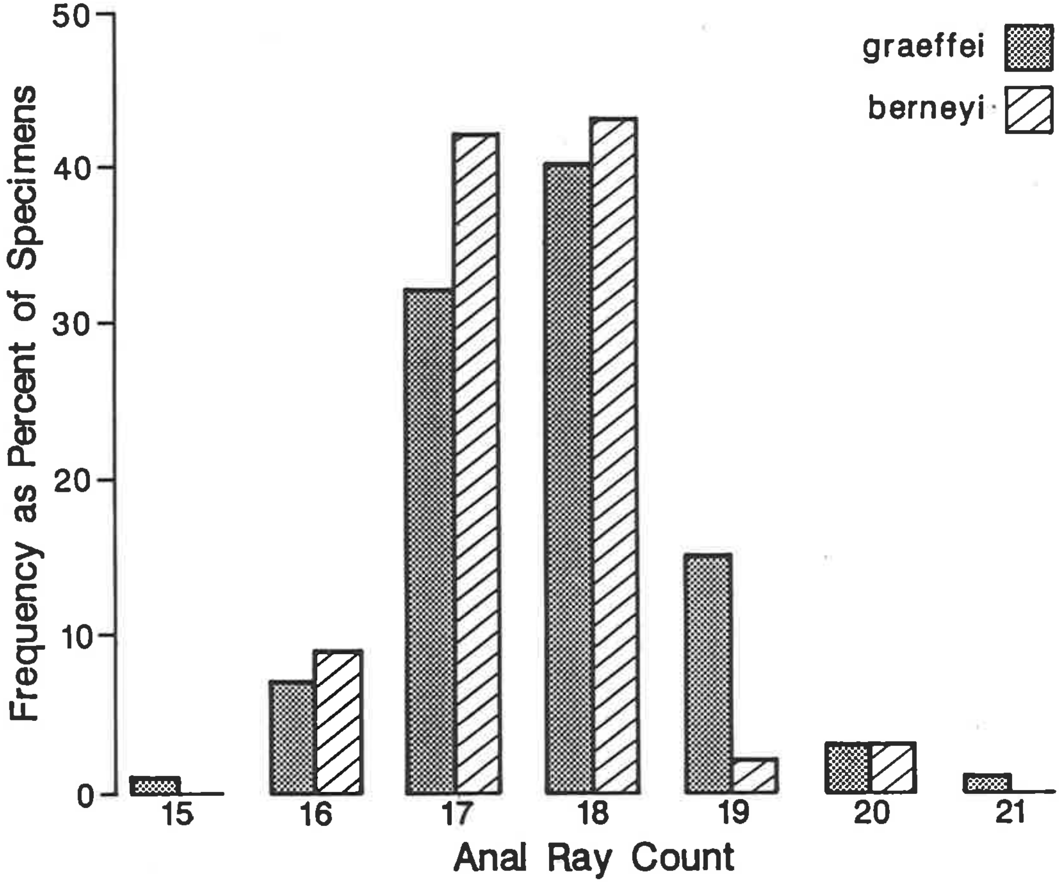


Figure 181. Comparison of anal ray count in "Arius" graeffei and "Arius" berneyi.

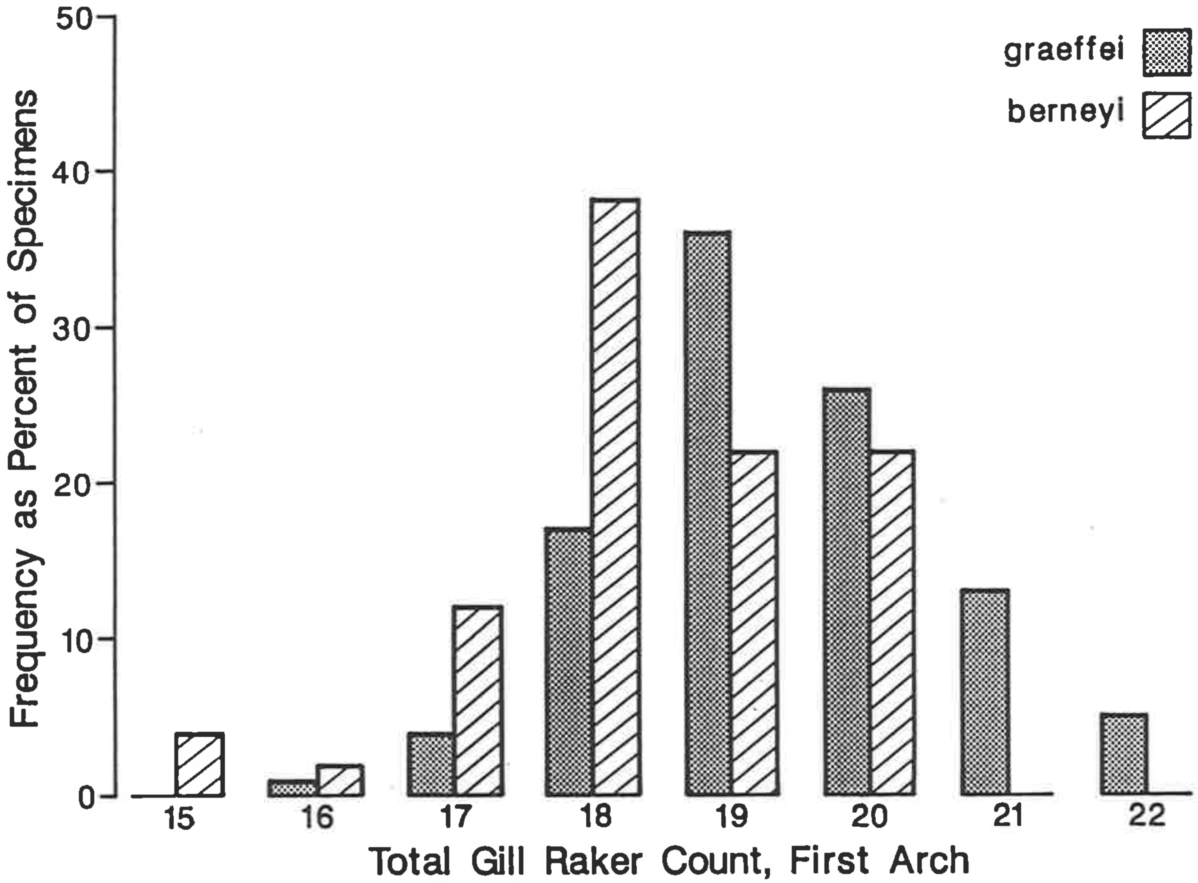


Figure 182. Comparison of total gill raker count (first arch) in "Arius" graeffei and "Arius" berneyi.

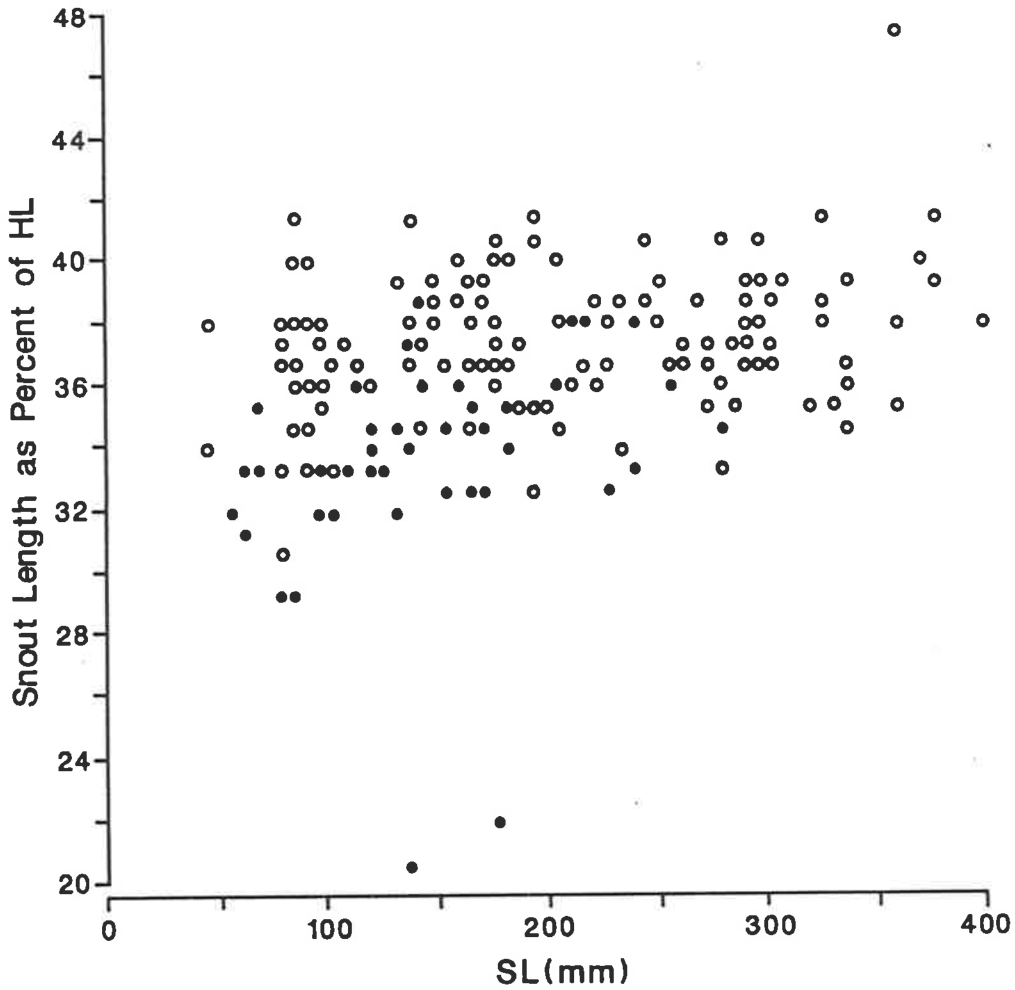


Figure 183. Comparison of snout length between "Arius" graeffei (hollow circles) and "Arius" berneyi (solid circles).

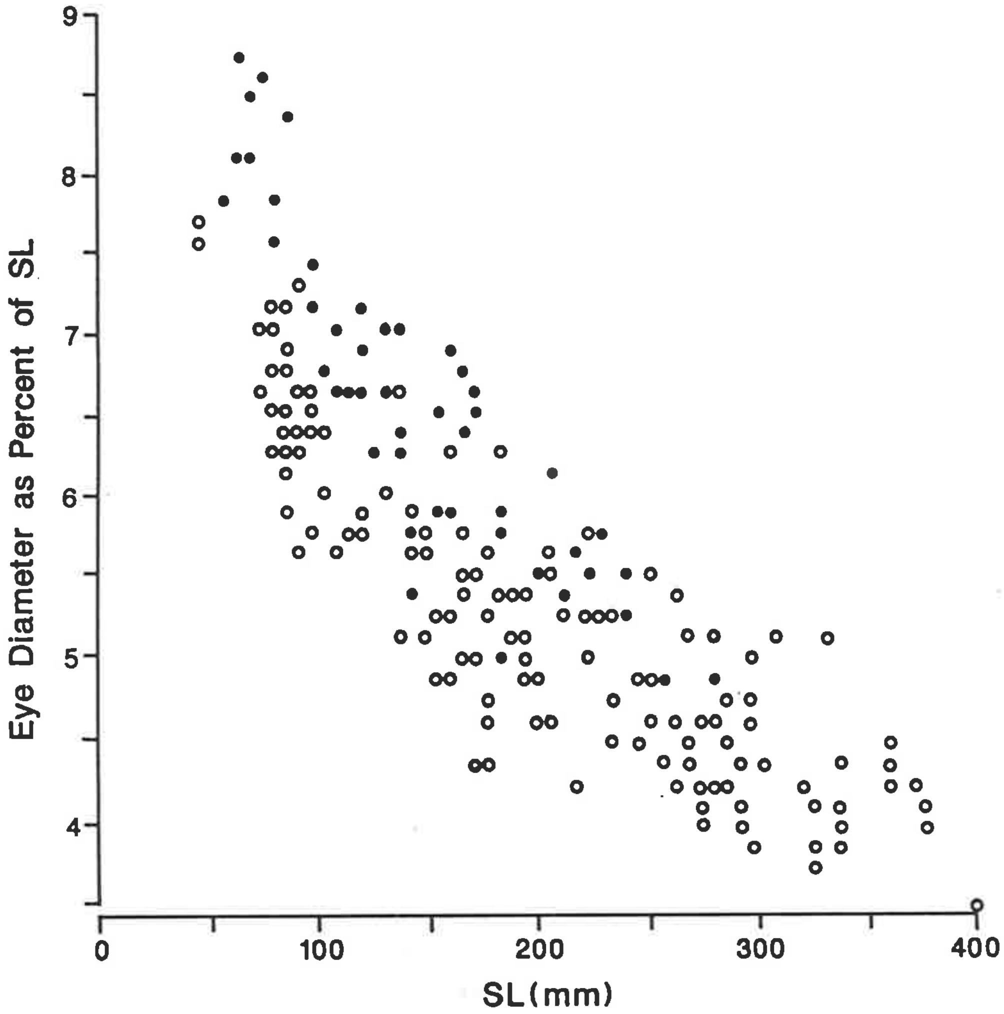


Figure 184. Comparison of eye size between "*Arius*" *graeffei* (hollow circles) and "*Arius*" *berneyi* (solid circles).

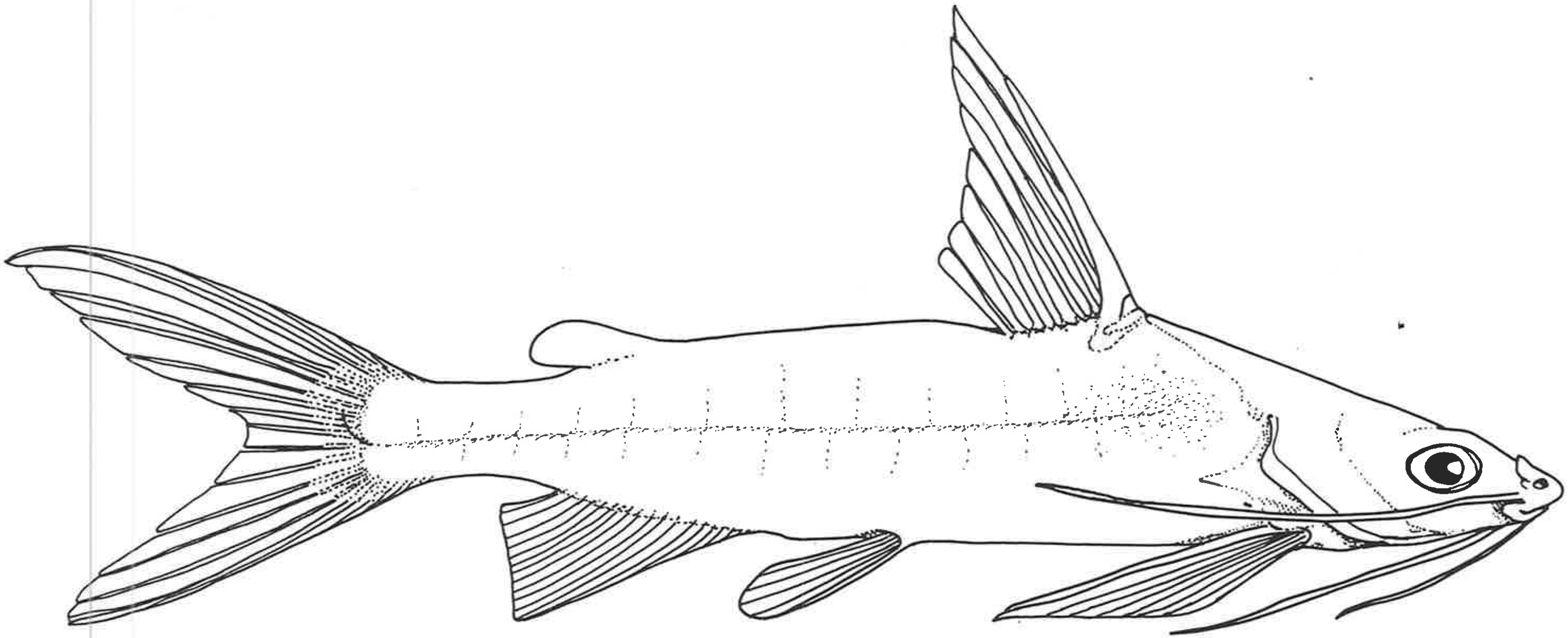


Figure 185. "Arius" berneyi: lateral view, 183mm SL specimen (x 1).

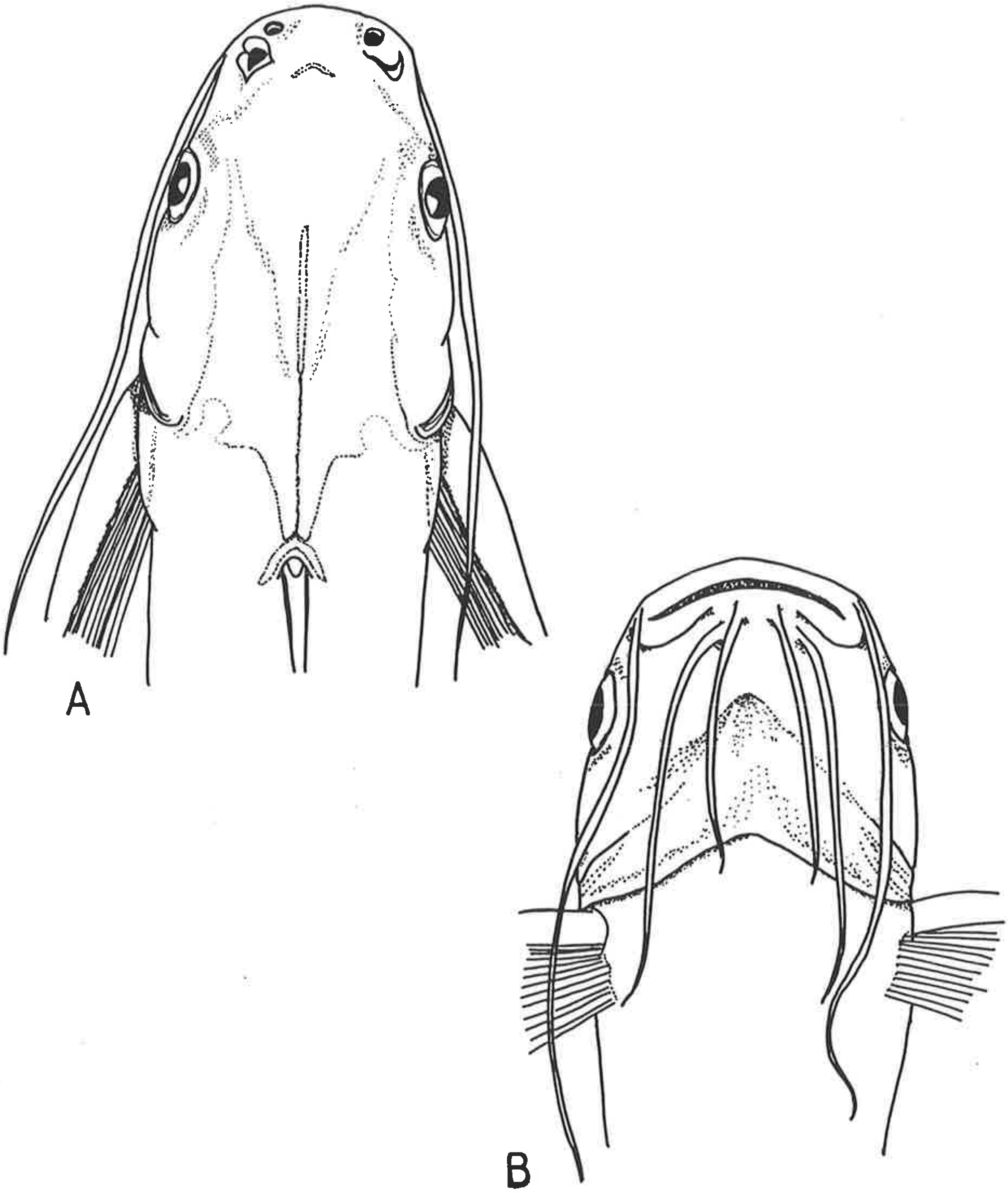


Figure 186. "Arius" berneyi: A) dorsal head view, 181mm SL specimen (x 1); B) ventral head view, 240mm SL specimen (x 1).

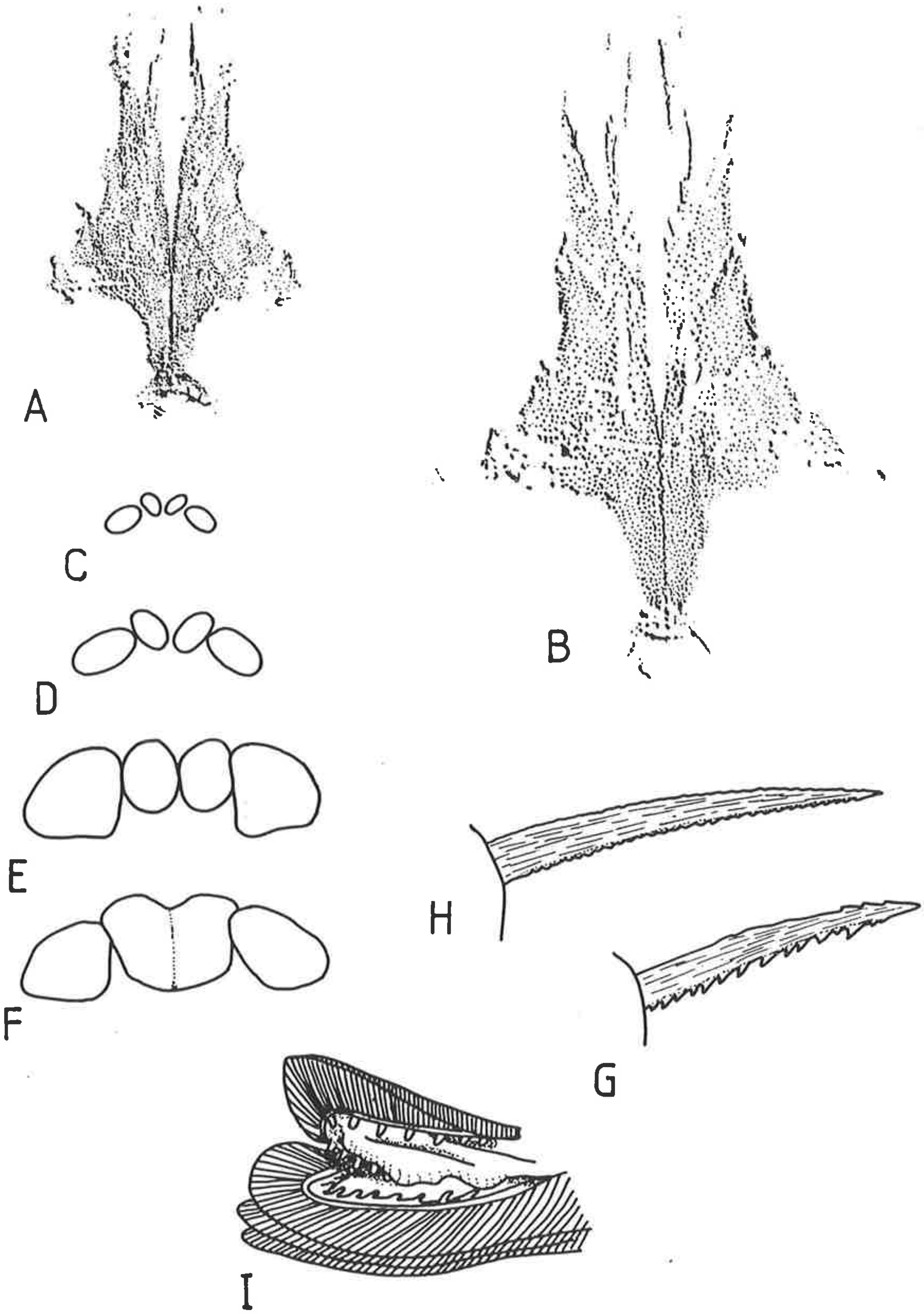


Figure 187. "Arius" berneyi; rubbing of head shield in A) 181mm SL specimen from Australia; B) 280 mm SL specimen from Papua; form and arrangement of upper tooth patches in C) 95mm SL specimen (x 3), D) 181mm SL specimen (x 2), E) 240mm SL specimen (x 2; from Australia), F) 280mm SL specimen (x 2, from Papua); G) RHS pectoral spine in 95mm SL specimen (x 1); H) same, 280mm SL specimen (x 1); I) posterior of 2nd gill arch, RHS, showing epithelial tissue, 181mm SL specimen (x3).

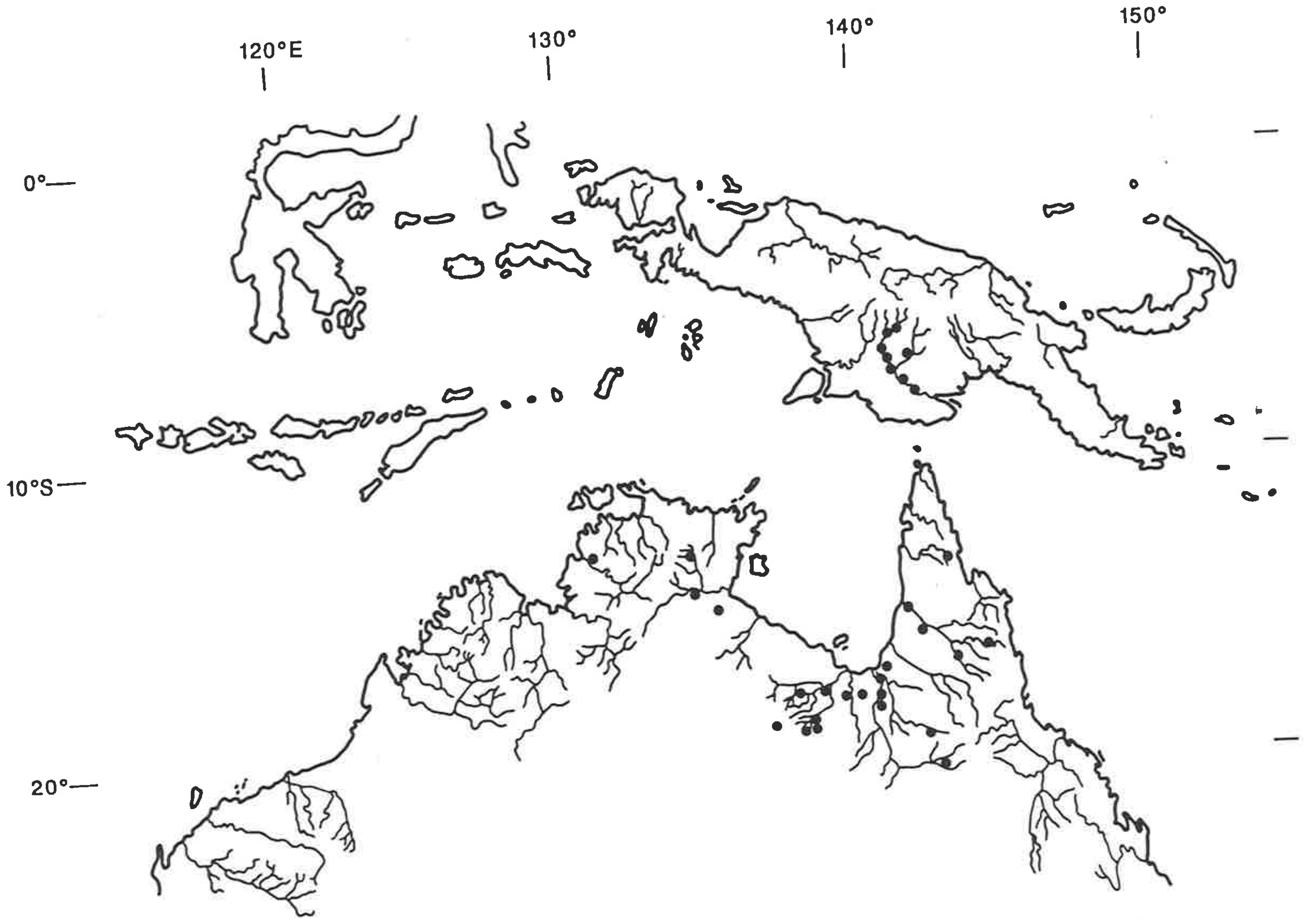


Figure 188. Distribution of "Arius" berneyi, based on material examined (solid circles indicate capture locality).

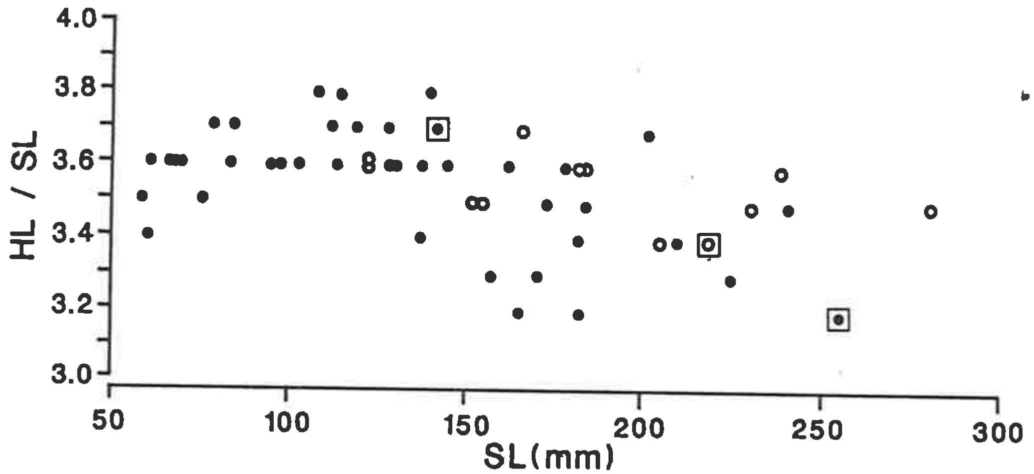


Figure 189. Comparison of HL in Australian (solid circles) and New Guinea (hollow circles) material of "Arius" berneyi. Types of berneyi (type locality = Australia) and cleptolepis (type locality = New Guinea) are boxed.

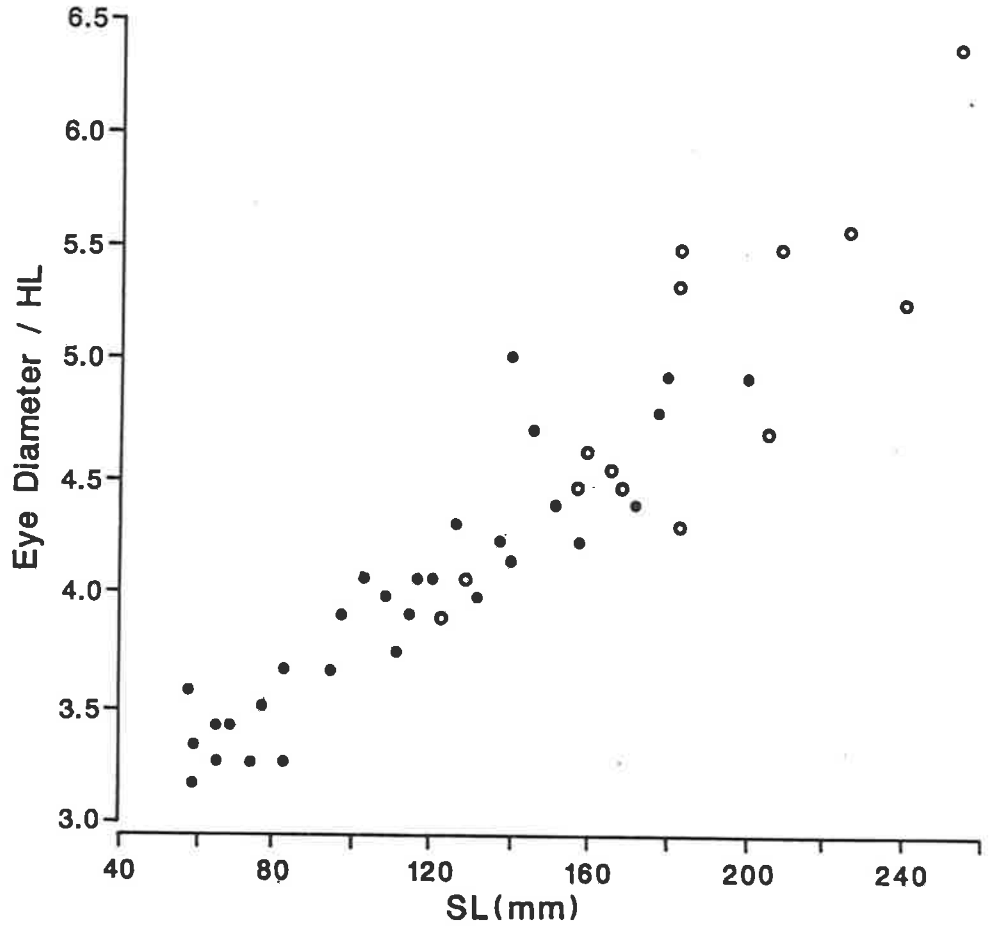


Figure 190. Comparison of eye size in Australian (solid circles) and New Guinea (hollow circles) material of "*Arius*" *berneyi*.

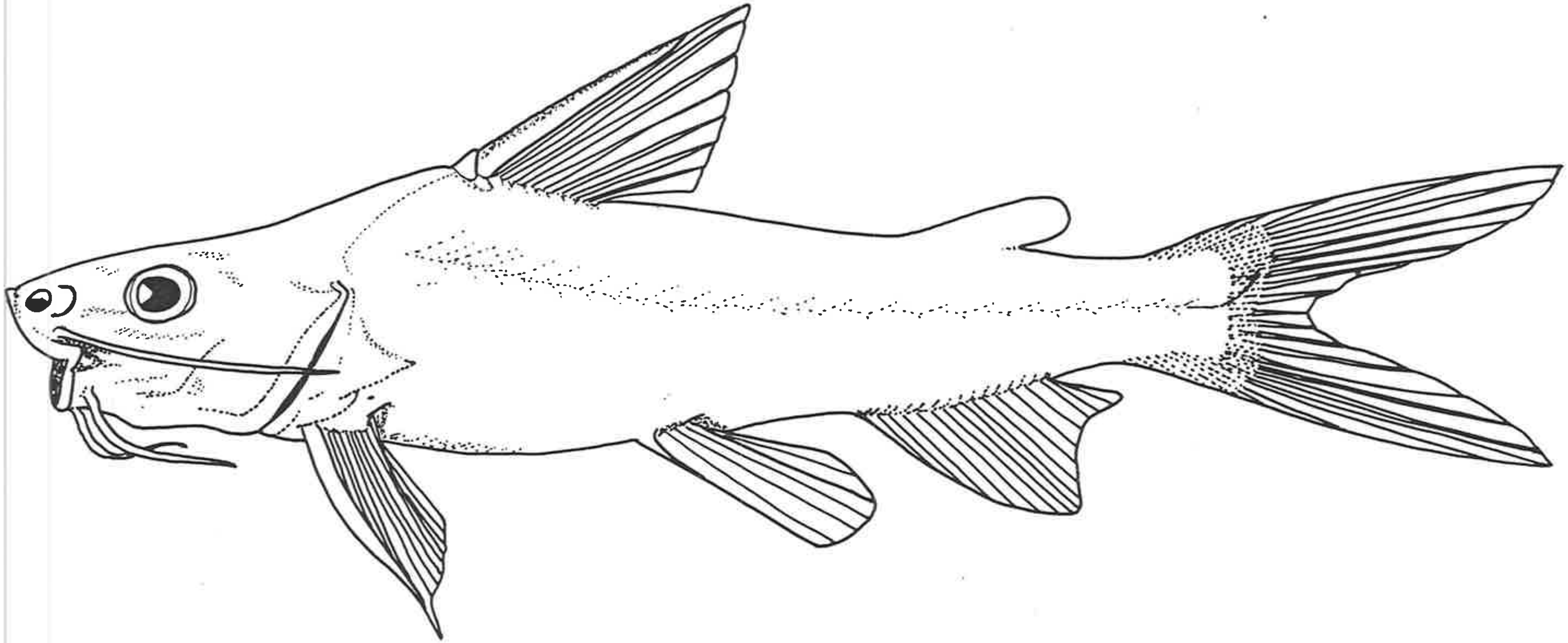


Figure 191. "Arius" species 3. Lateral view, 226mm SL specimen (x 0.8).

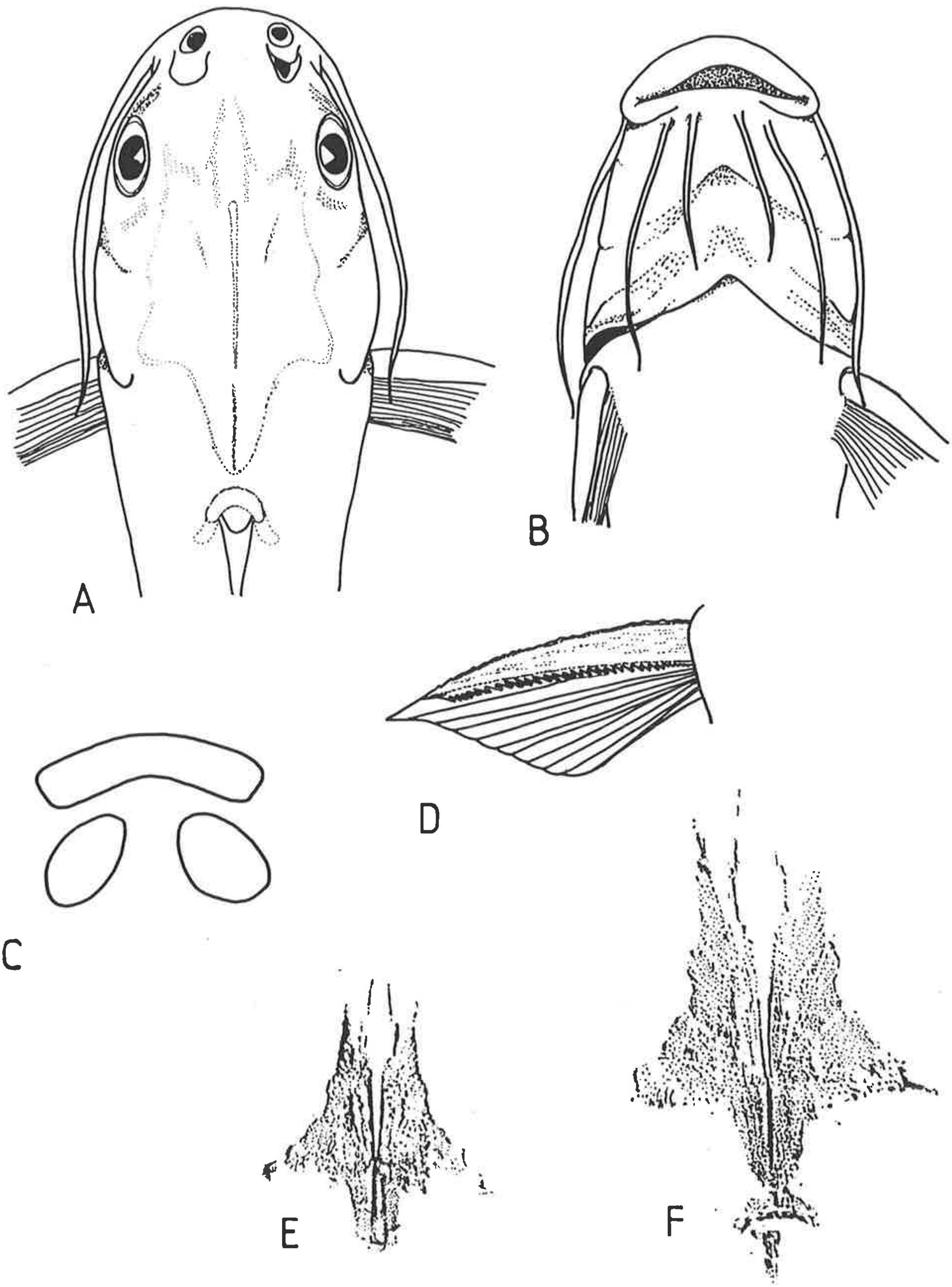


Figure 192. "Arius" species 3: A) Dorsal head view, 226mm SL specimen (x 1); B) Ventral head view, 121mm SL specimen (x 2); C) form and arrangement of upper tooth patches, 226mm SL specimen; D) LHS pectoral fin, 226mm SL specimen (x 1); rubbing of head shield in E) 145mm SL specimen, and F) 226mm SL specimen.

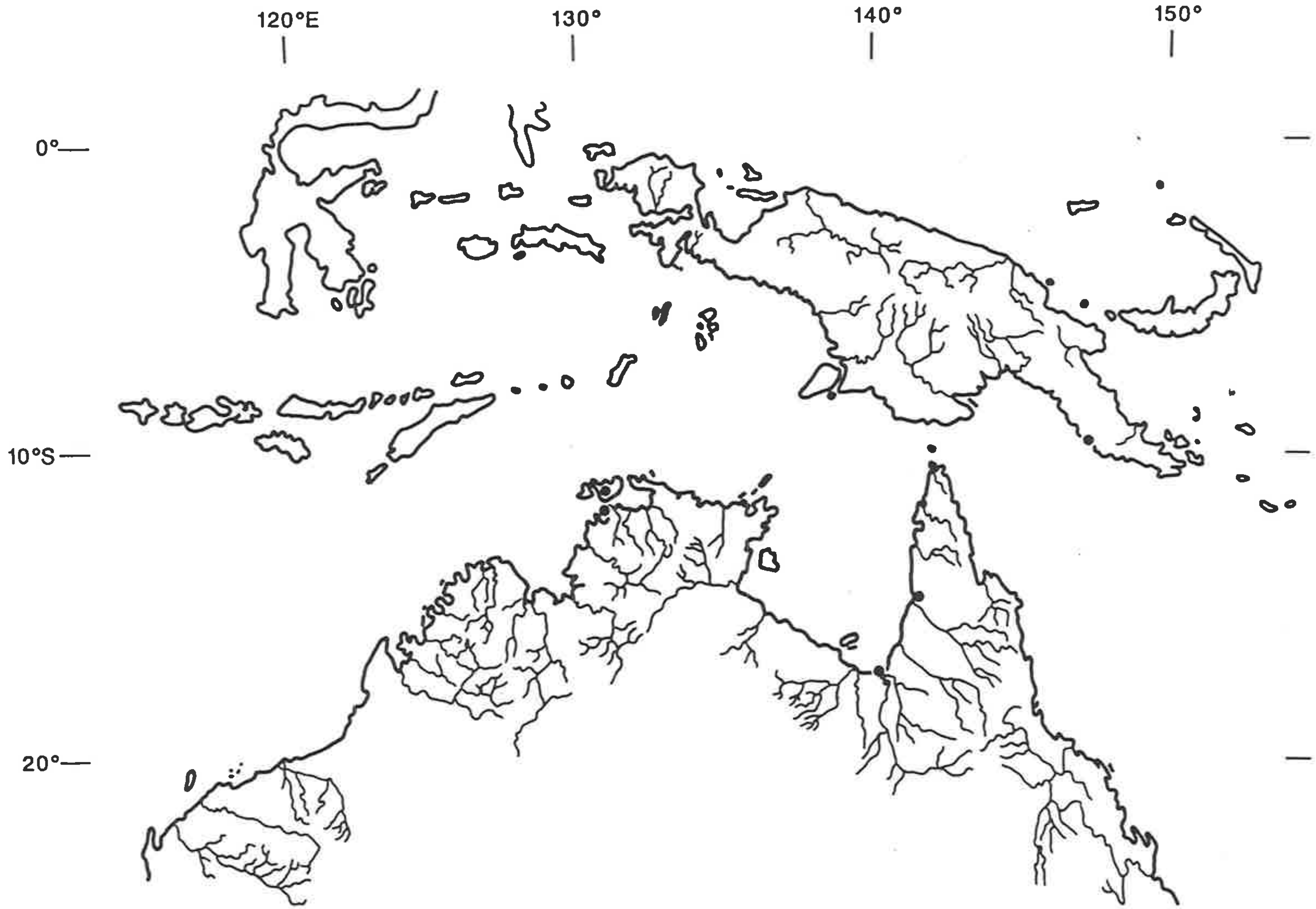


Figure 193. Distribution of "Arius" species 3, based on material examined (solid circles indicate capture locality).

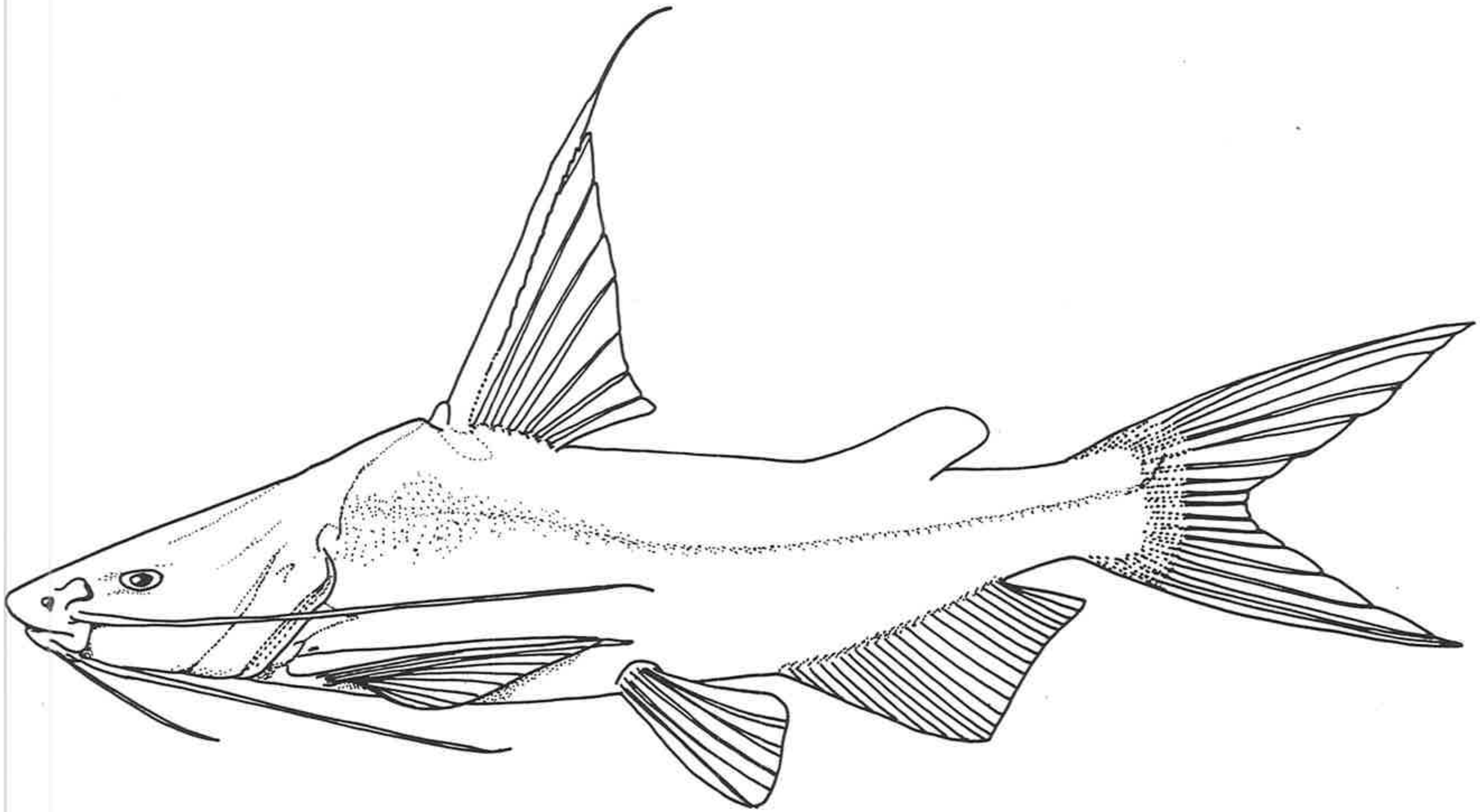


Figure 194. "Arius" armiger. Lateral view, 173.5mm SL specimen (xl).

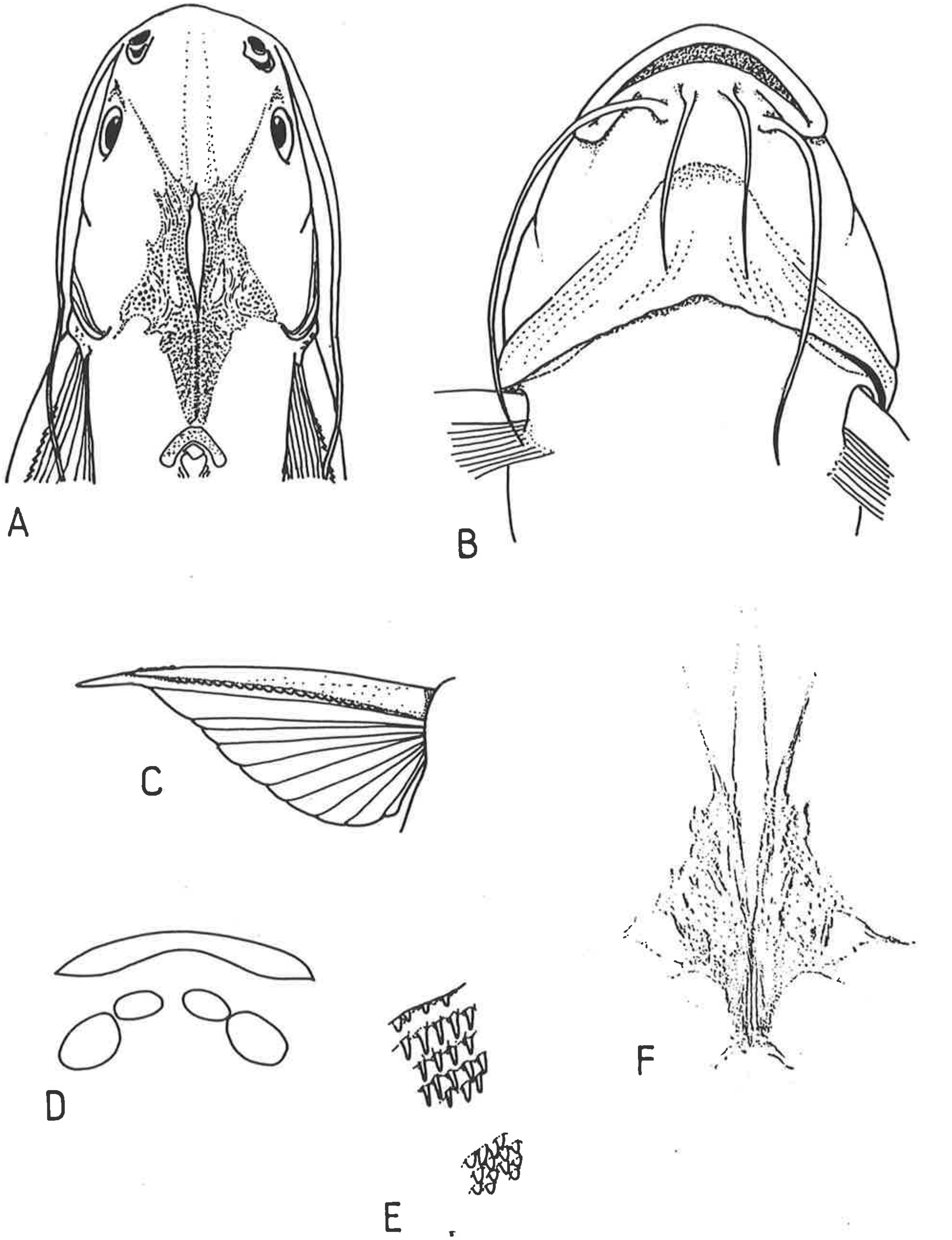


Figure 195. "*Arius*" *armiger*: A) Dorsal head view, 201mm SL specimen (x1); B) Ventral head view, 273mm SL specimen (x1); C) LHS pectoral spine, 273mm SL specimen (x1); D) form & arrangement of upper tooth patches, 234mm SL specimen; E) premaxillary & palatal teeth, same specimen (x4); F) rubbing of head shield, 234mm SL specimen.

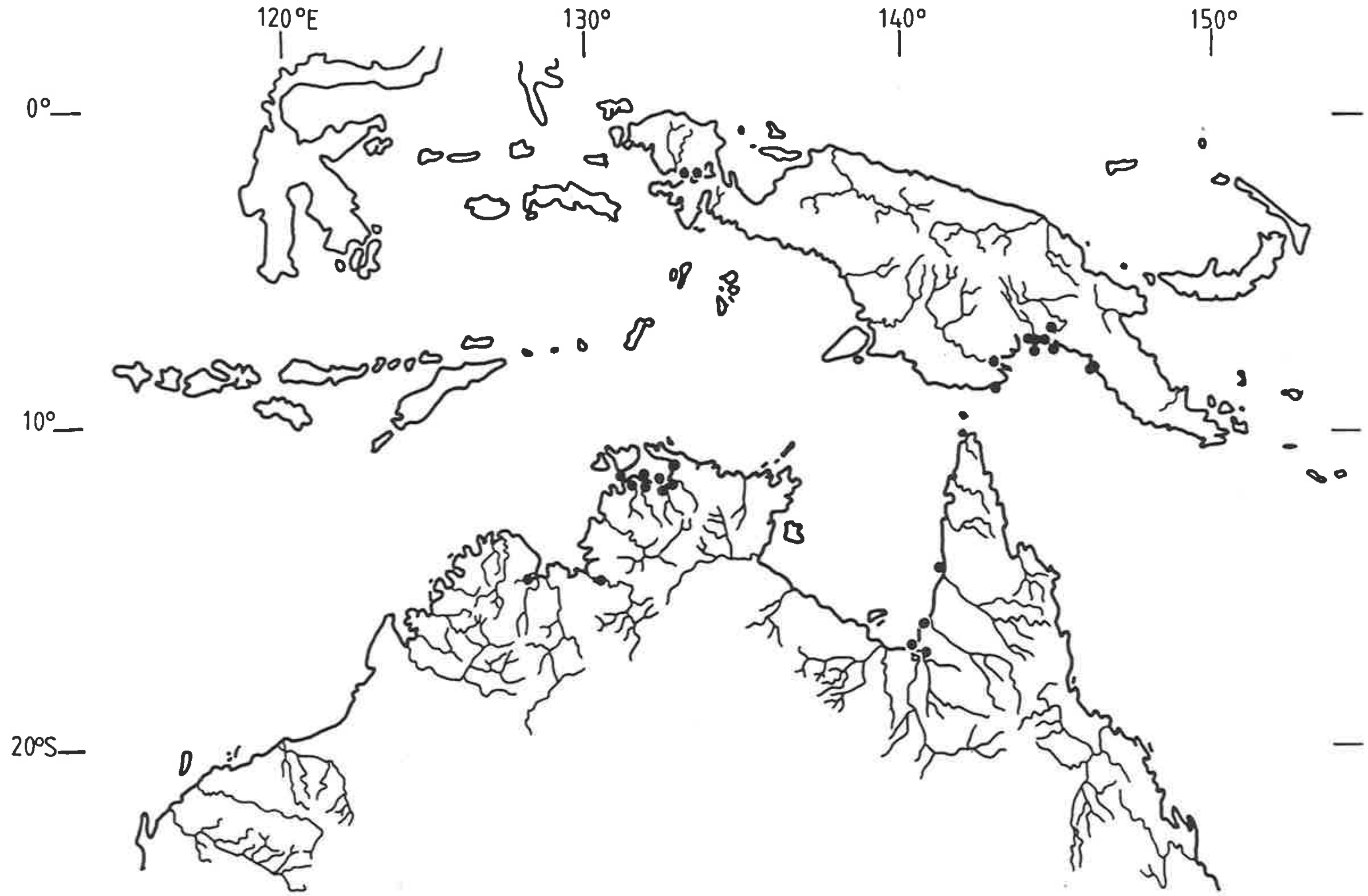


Figure 196. Distribution of "Arius" armiger, based on material examined (not the armiger types) (solid circles indicate capture locality).

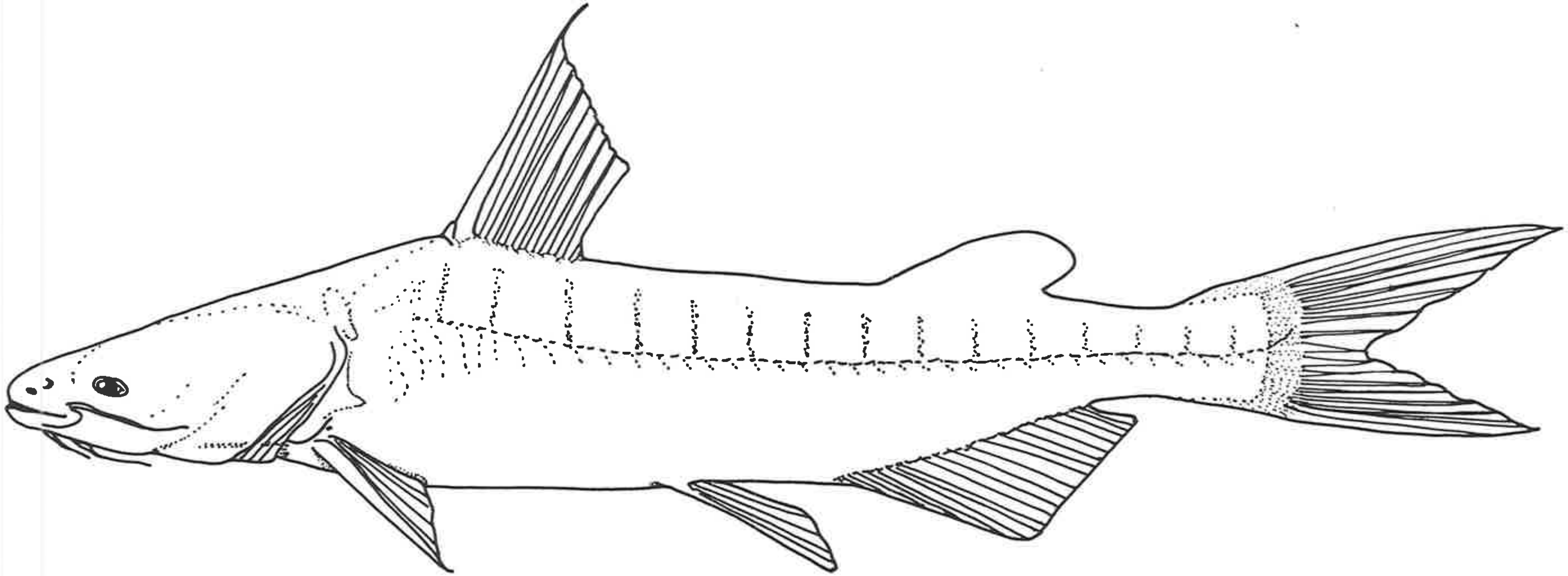


Figure 197. "Arius" augustus: lateral view, 250mm SL specimen (x 0.7).

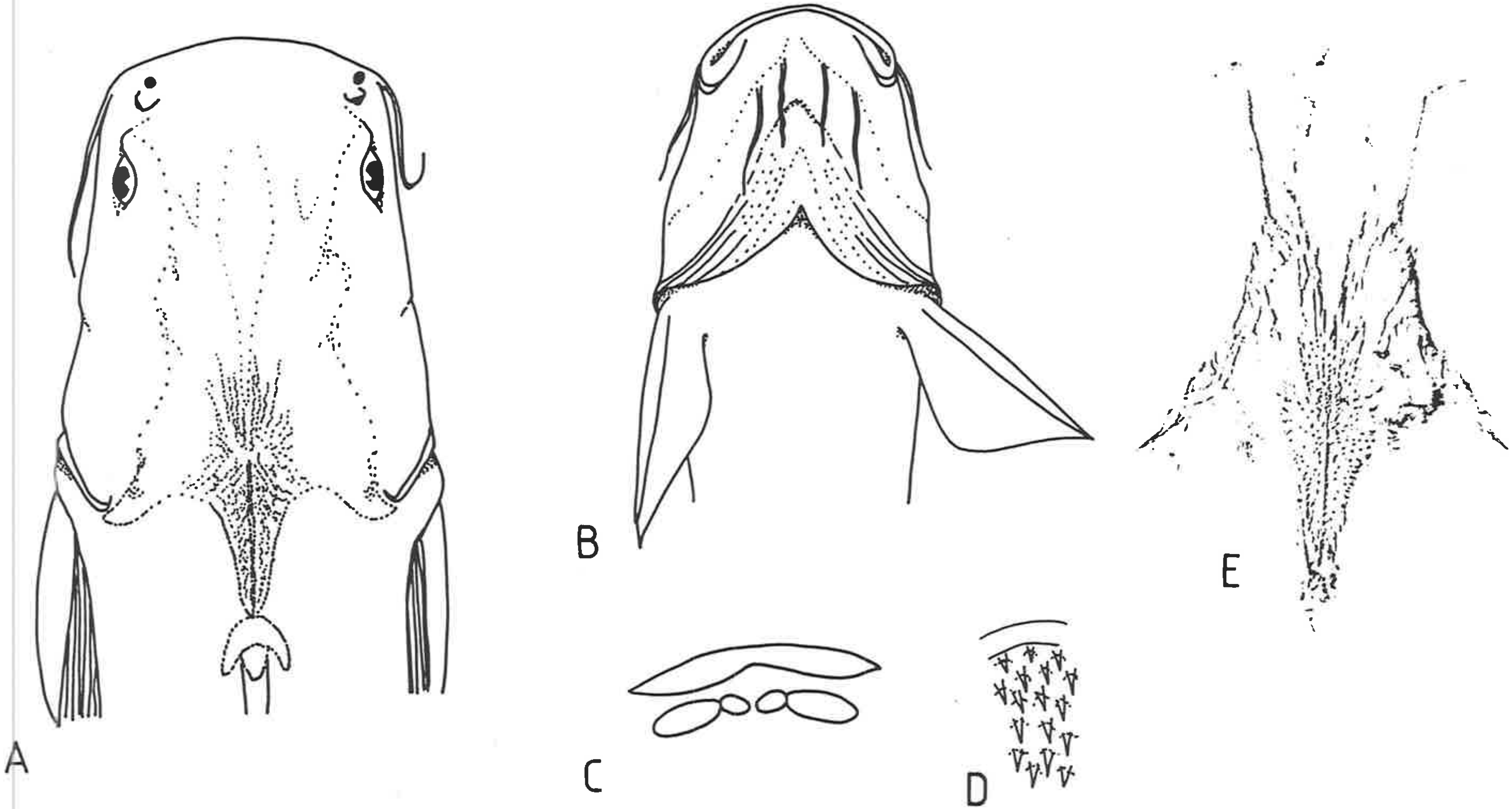


Figure 198. "Arius" augustus: A) dorsal head view, 250mm SL specimen (x 1); B) ventral head view, 188mm SL specimen (x 1); C) form and arrangement of upper tooth patches, 250mm SL specimen; D) enlargement of premaxillary teeth, same specimen; E) rubbing of head shield, 250mm SL specimen.

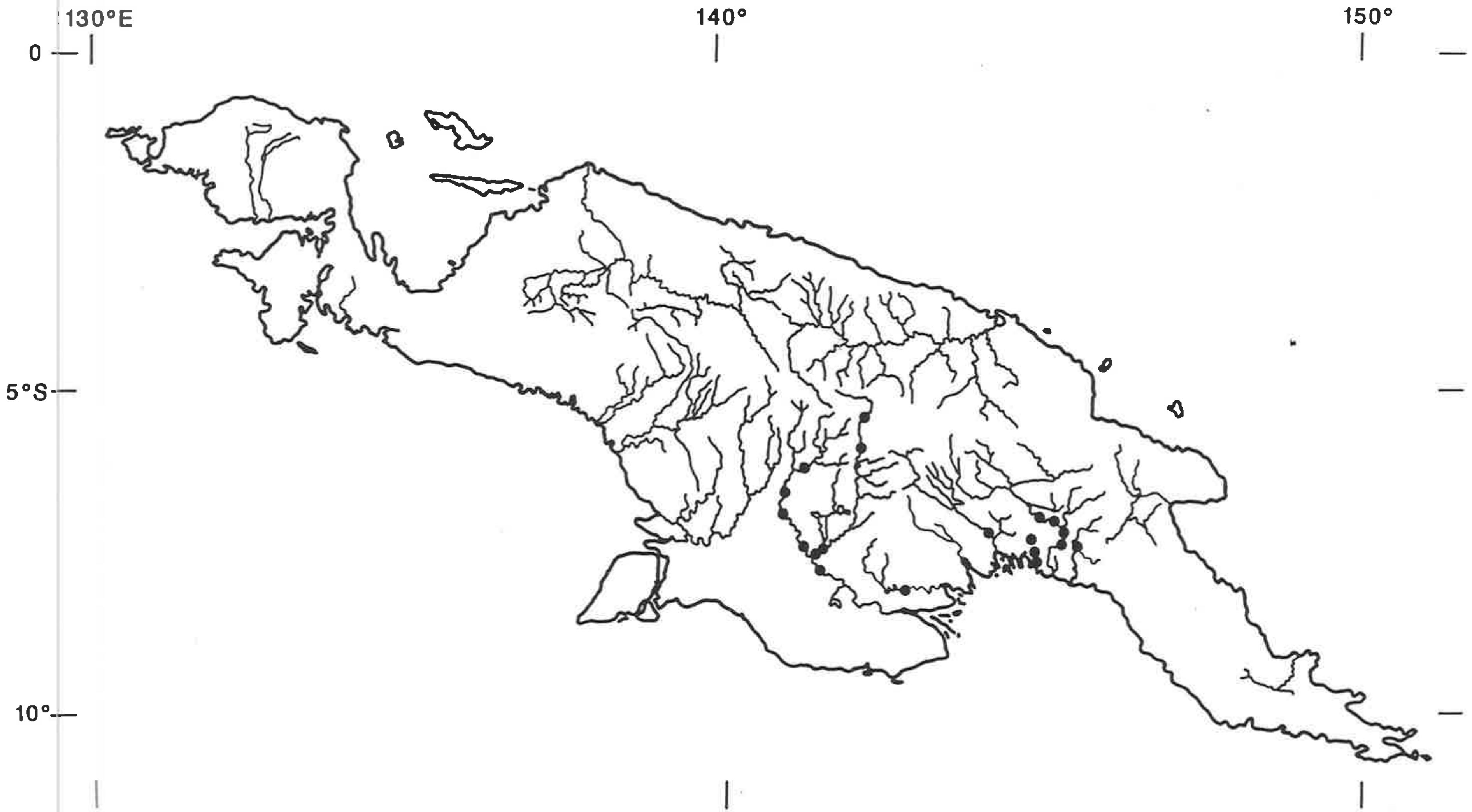


Figure 199. Distribution of "Arius" augustus (including types), based on material examined (solid circles indicate capture locality).

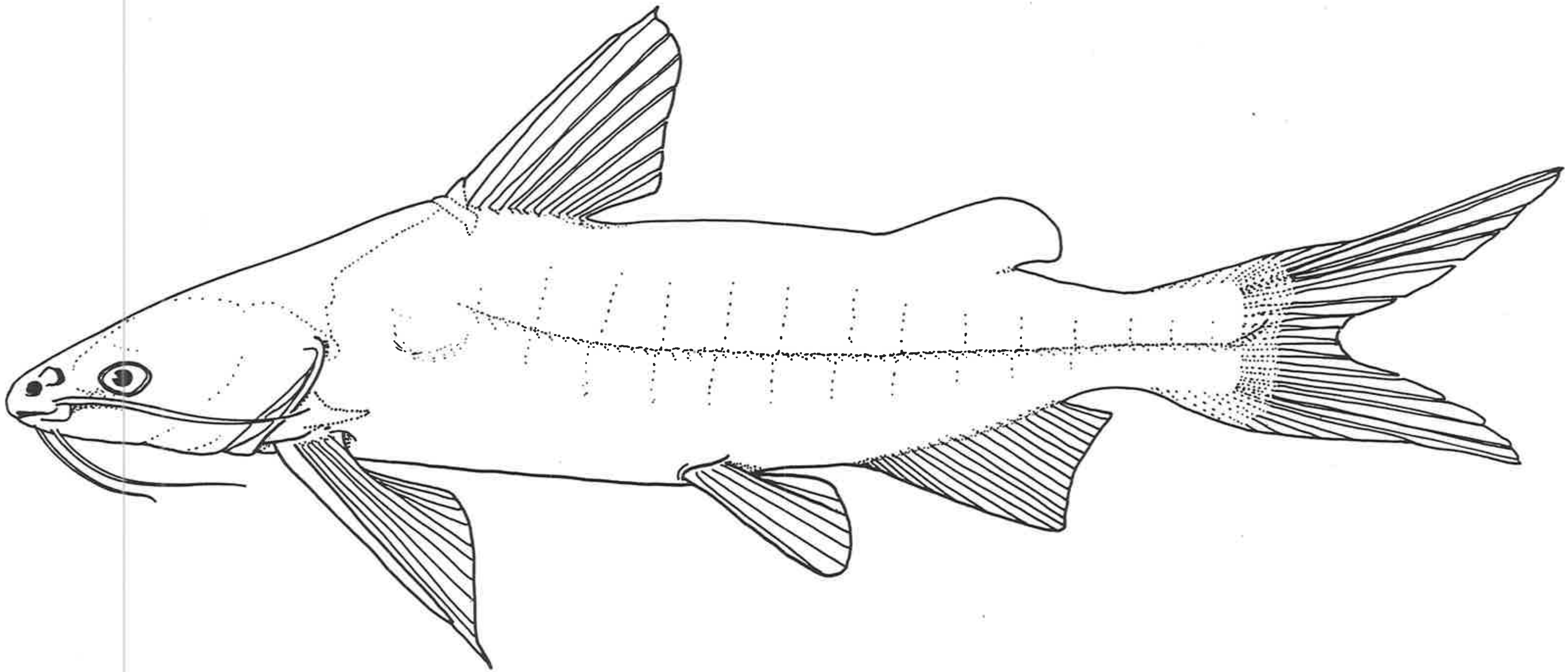


Figure 200. "<u>Arius</u>" <u>latirostris</u>: lateral view, 287mm SL specimen (x 0.6).

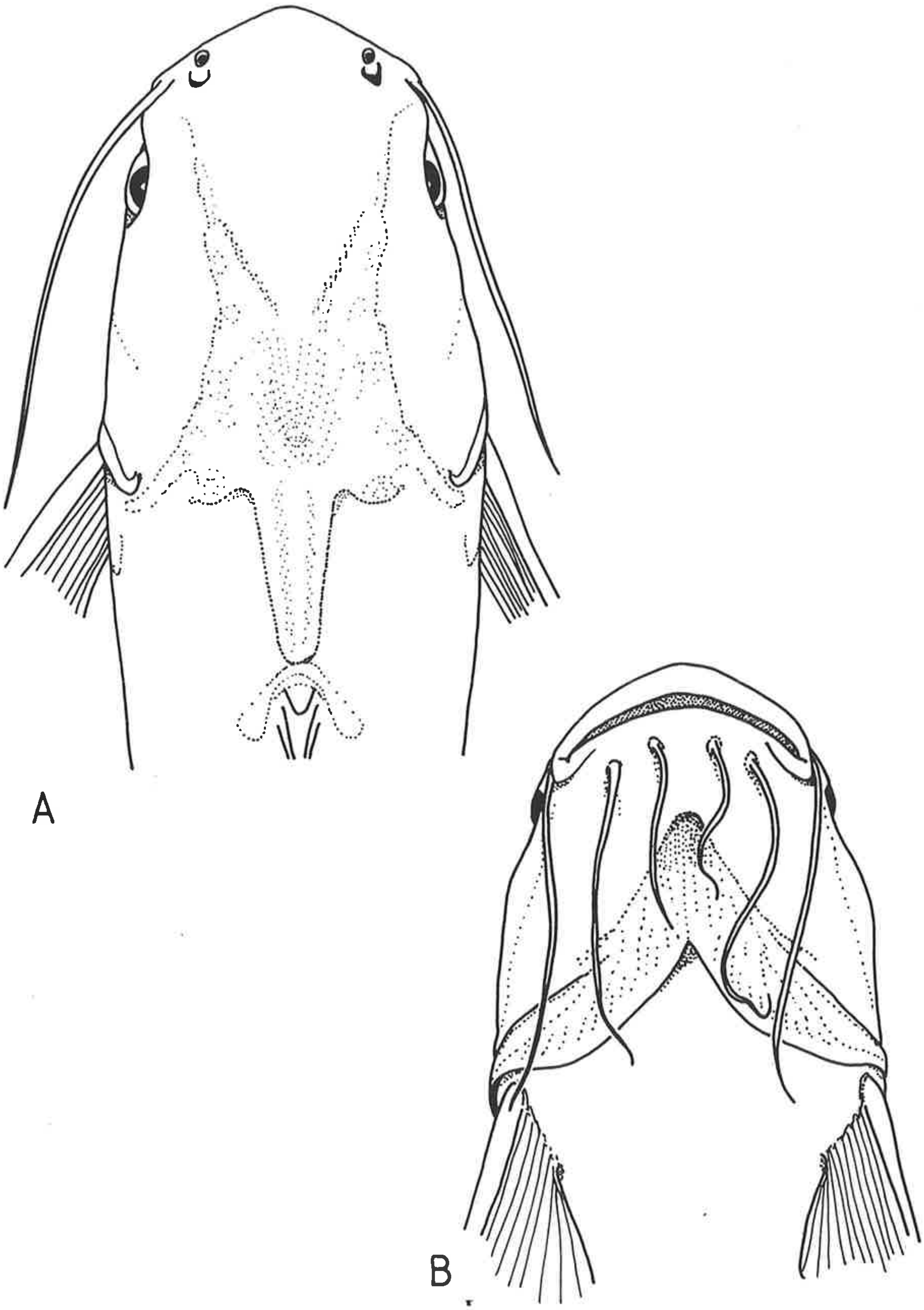


Figure 201. "Arius" latirostris: A) dorsal head view, 287mm SL specimen (x 1); B) ventral head view, same specimen (x 1).

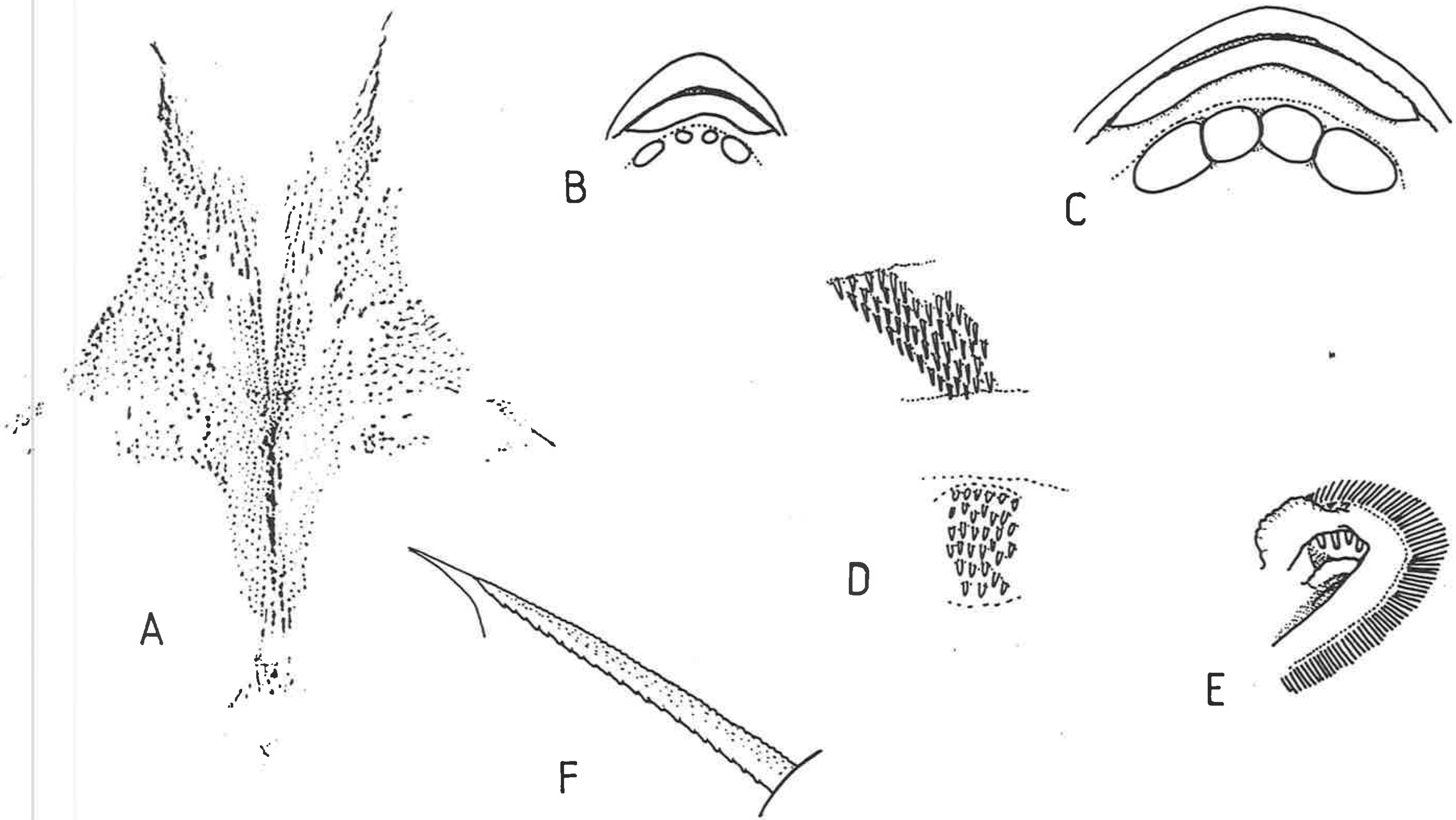


Figure 202. "Arius" latirostris: A) rubbing of head shield, 385mm SL specimen; B) form and arrangement of upper tooth patches, 119mm SL specimen; C) same, 287mm SL specimen; D) enlargement of premaxillary and palatal teeth, 287mm SL specimen; E) posterior of RHS 2nd gill arch, showing epithelial tissue; F) LHS pectoral spine, 287mm SL specimen (x 1).

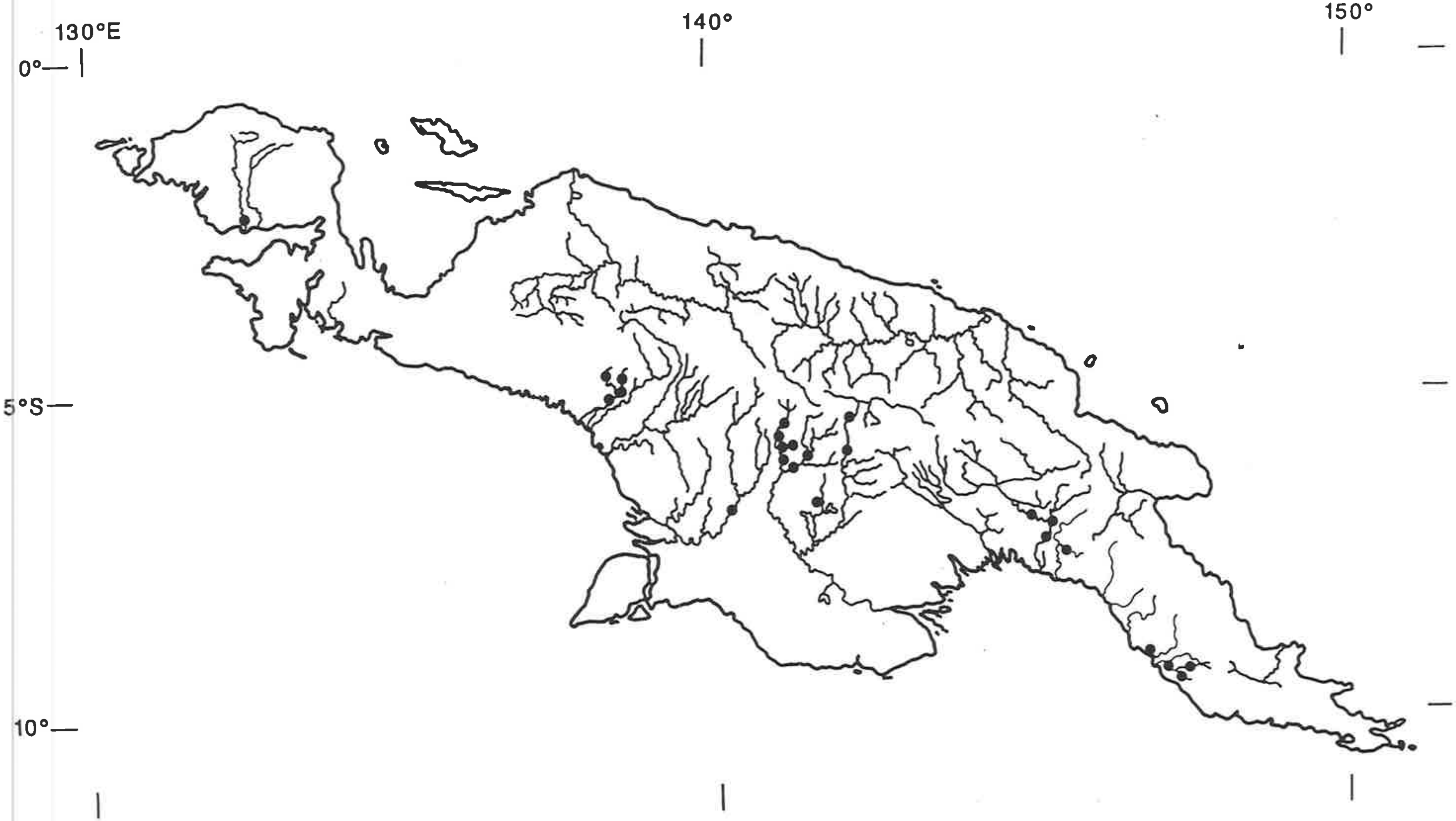


Figure 203. Distribution of "Arius" latirostris, based on material examined (solid circles indicate capture locality).

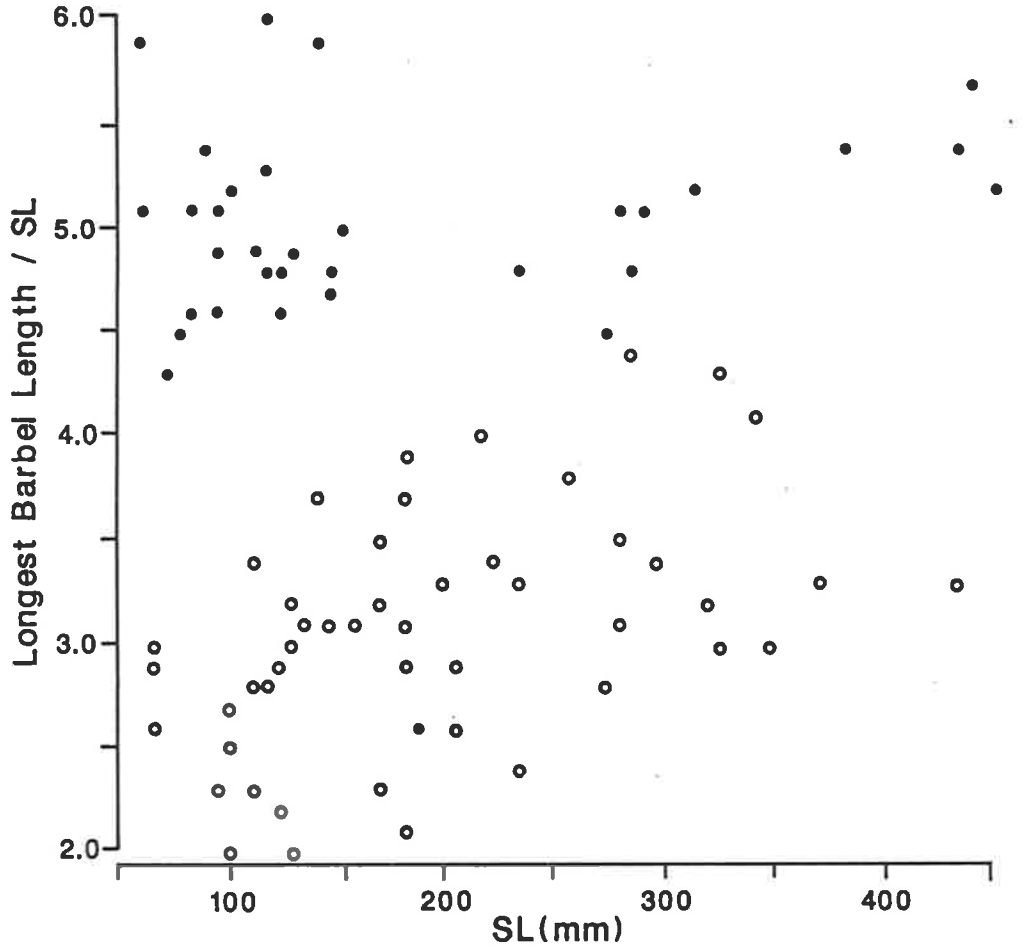


Figure 204. Comparison of longest (maxillary) barbel length between "Arius" latirostris (solid circles) and "Arius" leptaspis (hollow circles).

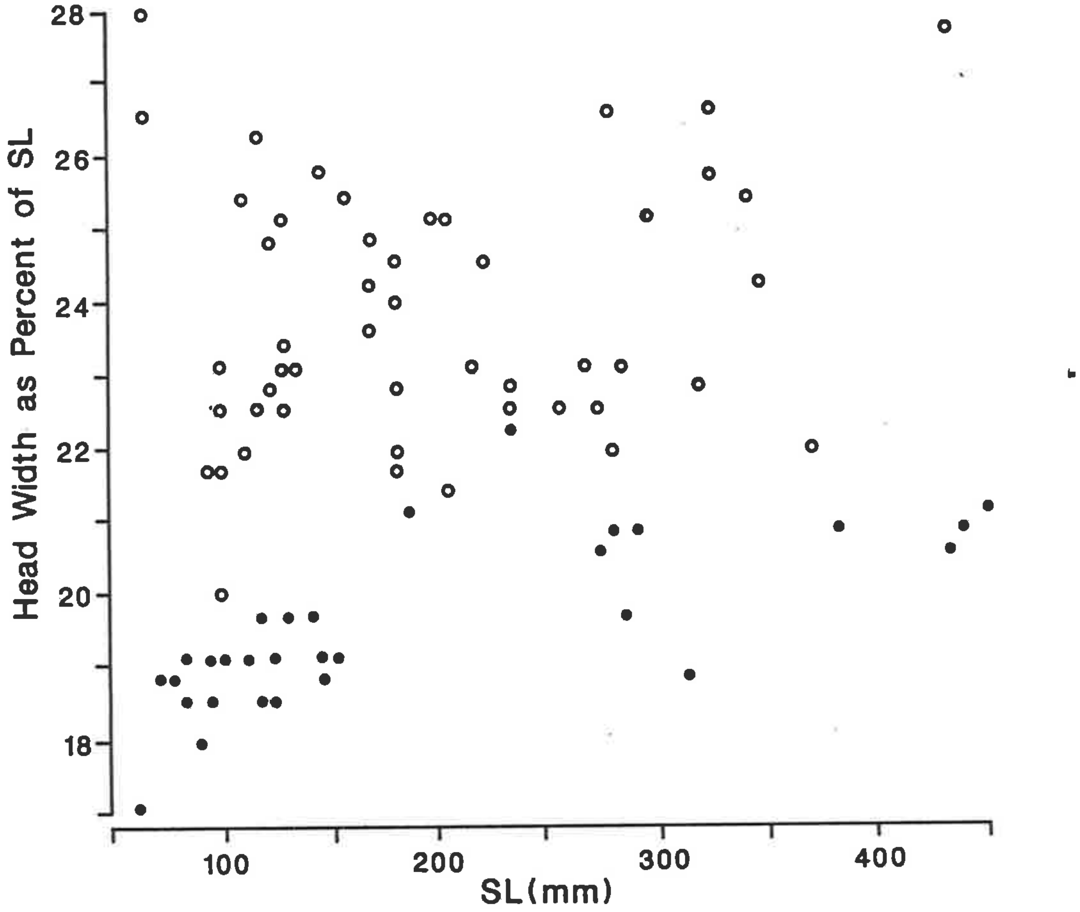


Figure 205. Comparison of head width between "Arius" latirostris (solid circles) and "Arius" leptaspis (hollow circles).

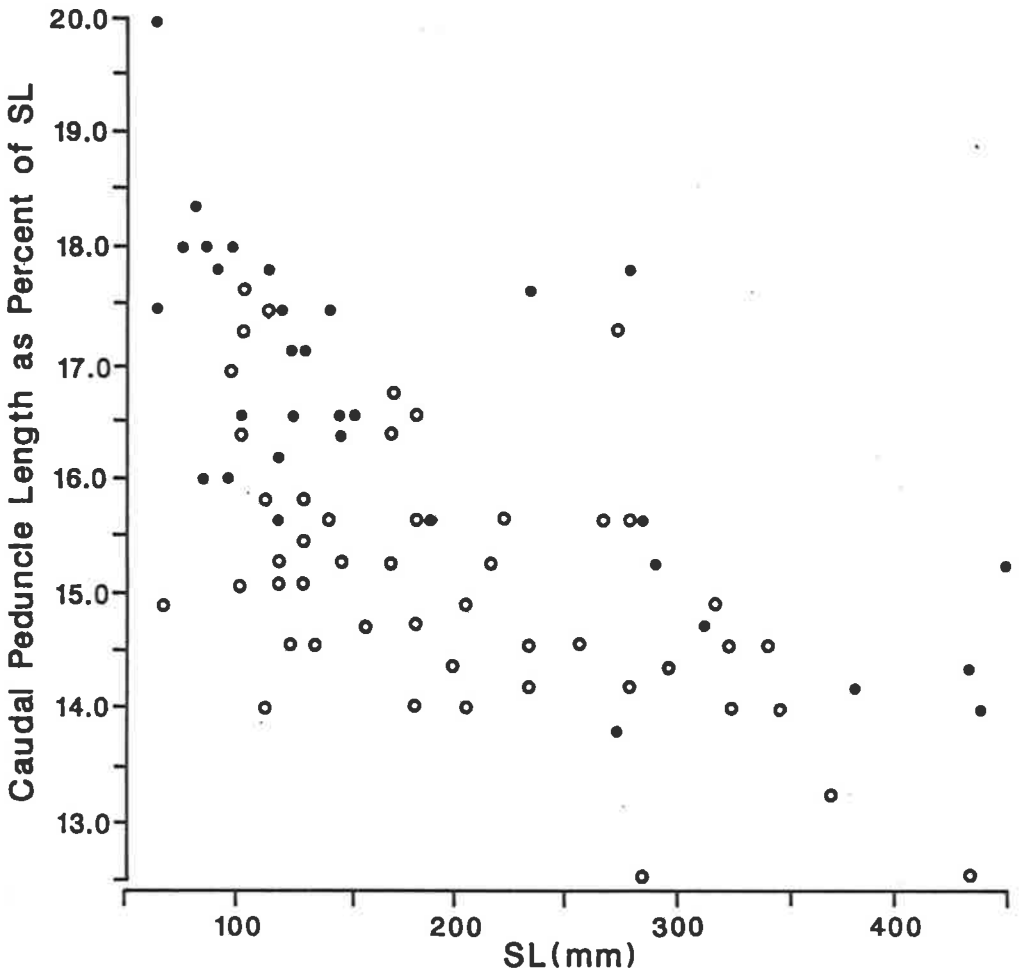


Figure 206. Comparison of caudal peduncle length between "*Arius*" *latirostris* (solid circles) and "*Arius*" *leptaspis* (hollow circles).

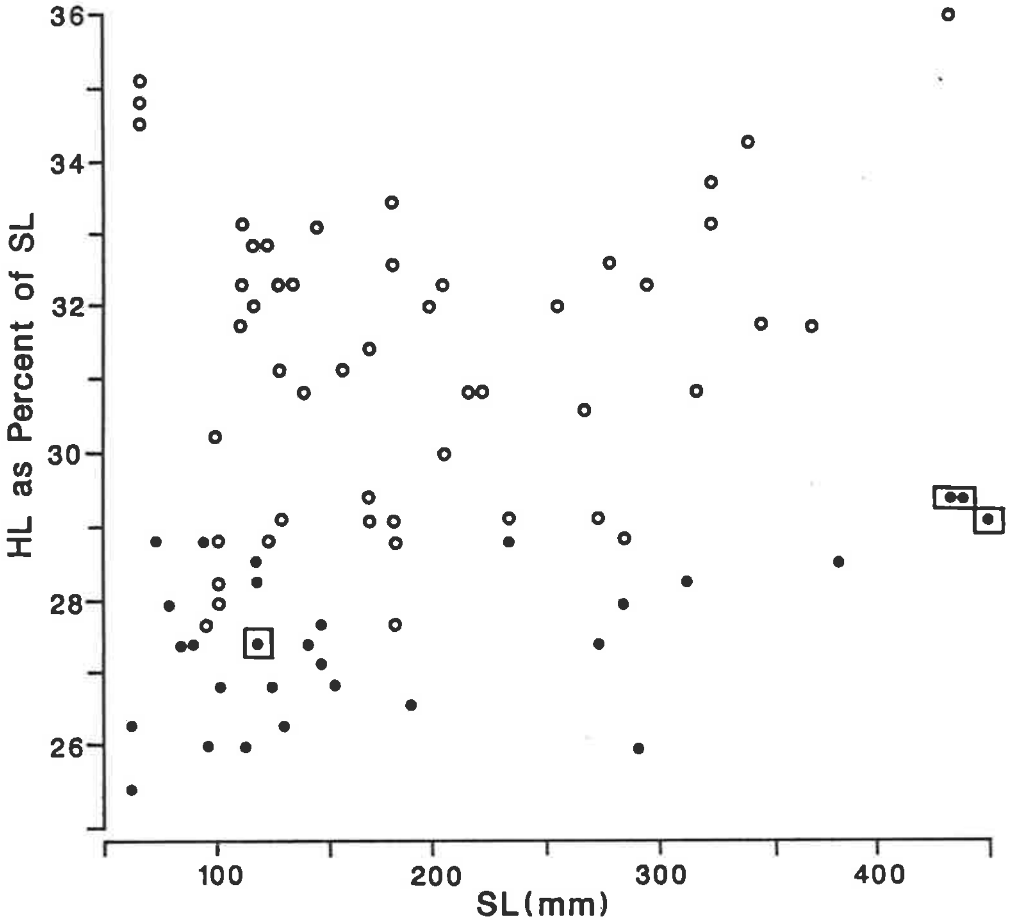


Figure 207. Comparison of HL between "*Arius*" *latirostris* (solid circles) and "*Arius*" *leptaspis* (hollow circles). Types of *acrocephalus* and *latirostris* are boxed.

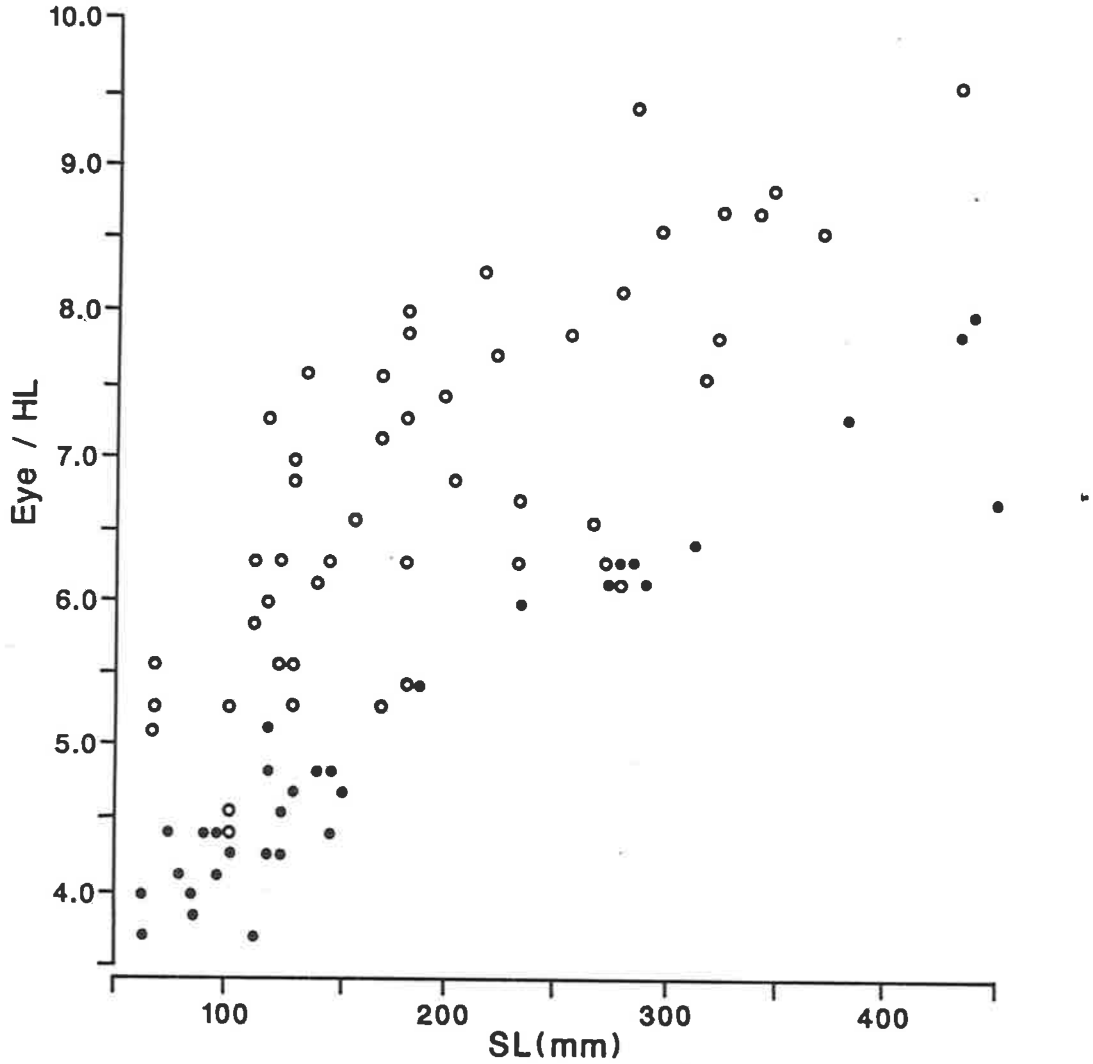


Figure 208. Comparison of eye size between "Arius" latirostris (solid circles) and "Arius" leptaspis (hollow circles).

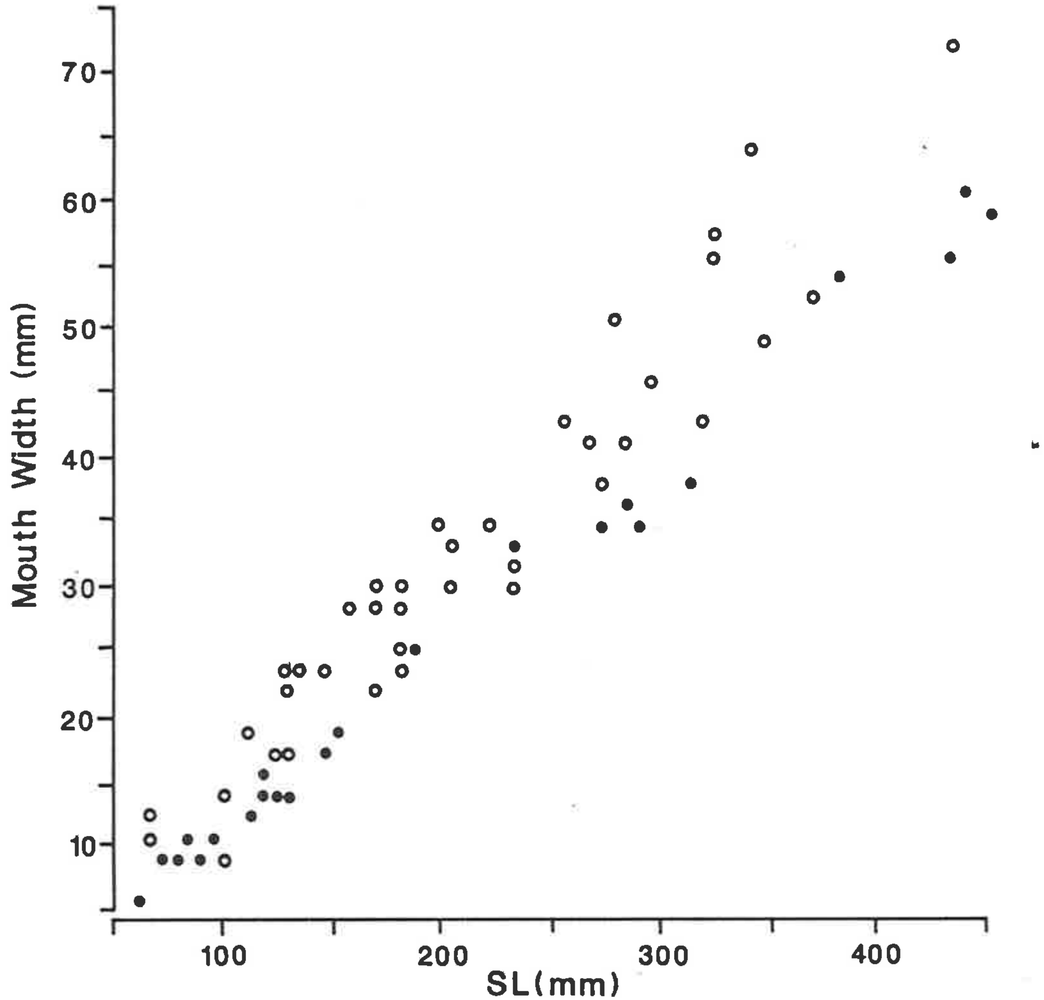


Figure 209. Comparison of mouth width between "Arius" latirostris (solid circles) and "Arius" leptaspis (hollow circles).

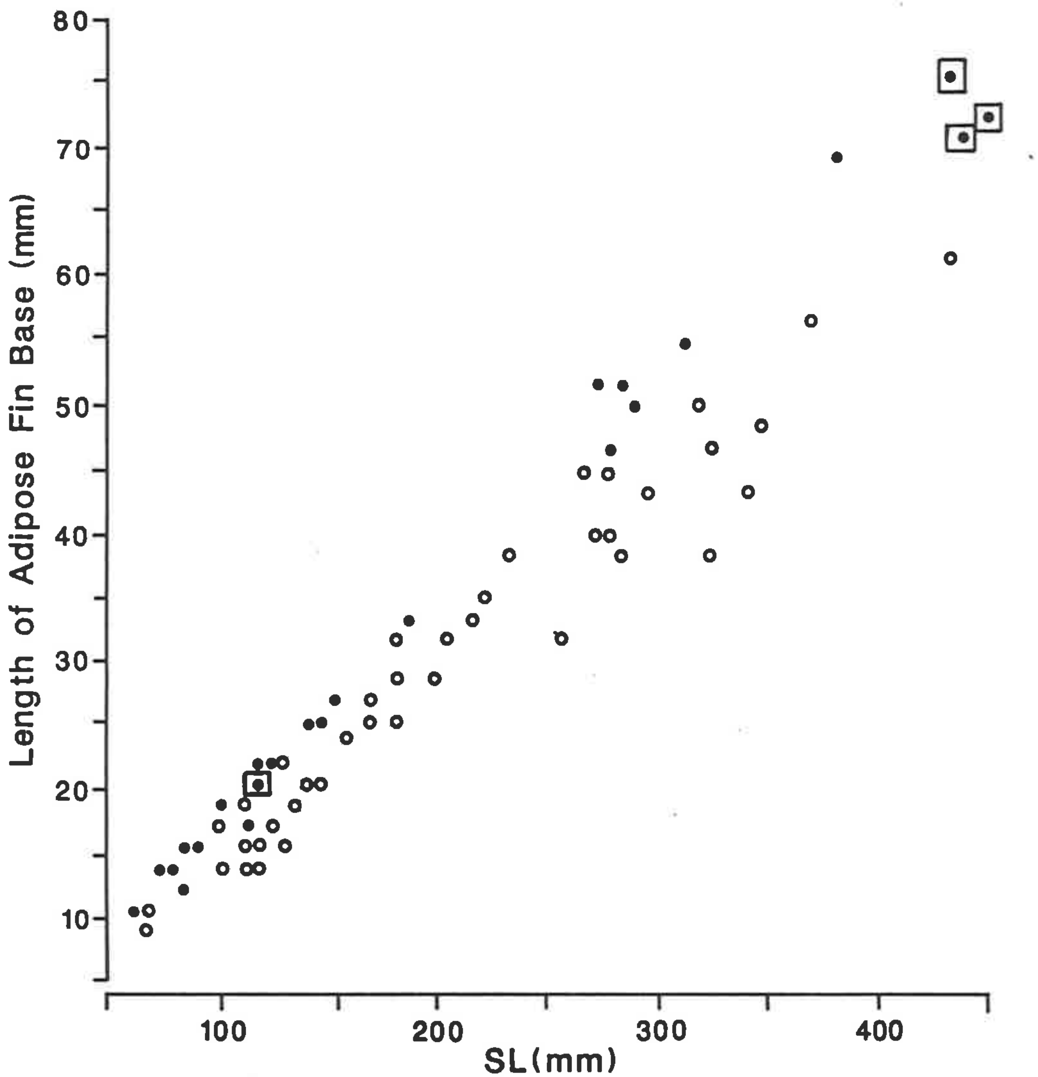


Figure 210. Comparison of adipose fin basal length between "*Arius*" *latirostris* (solid circles) and "*Arius*" *leptaspis* (hollow circles). Types of *latirostris* and *acrocephalus* are boxed.

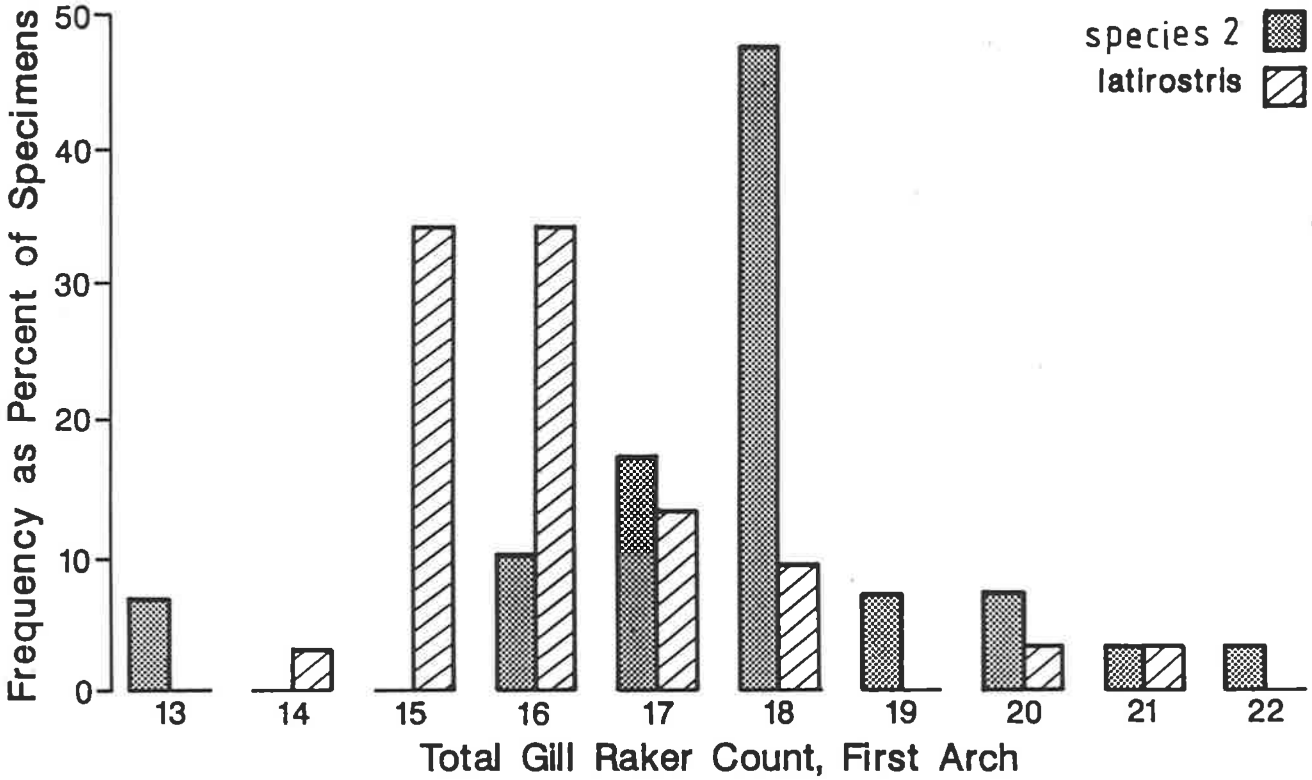


Figure 211. Range of total gill raker count (first arch) in "*Arius*" *latirostris* and "*Arius*" species 2.

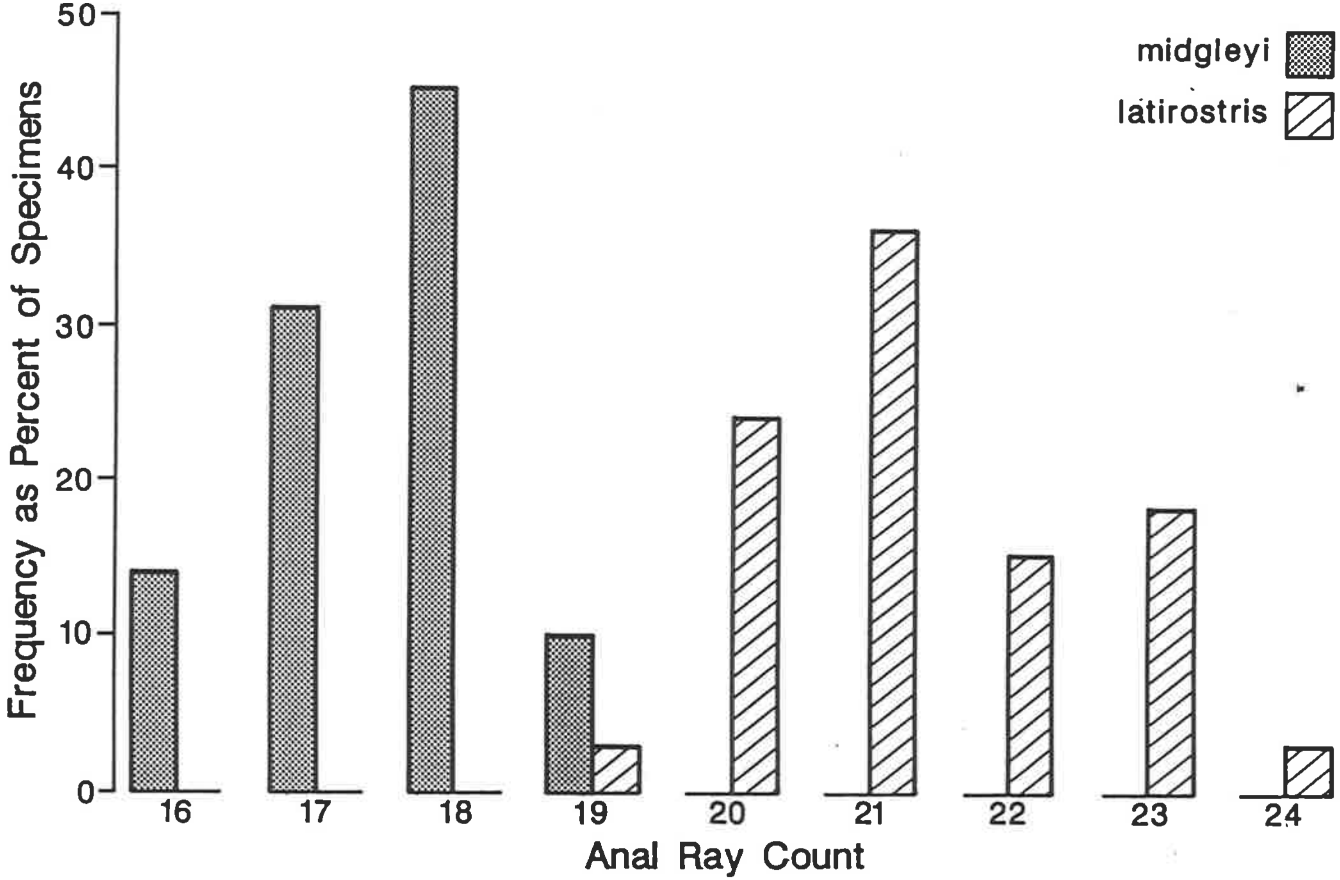


Figure 212. Range of anal ray count in "*Arius*" *midgleyi* and "*Arius*" *latirostris*.

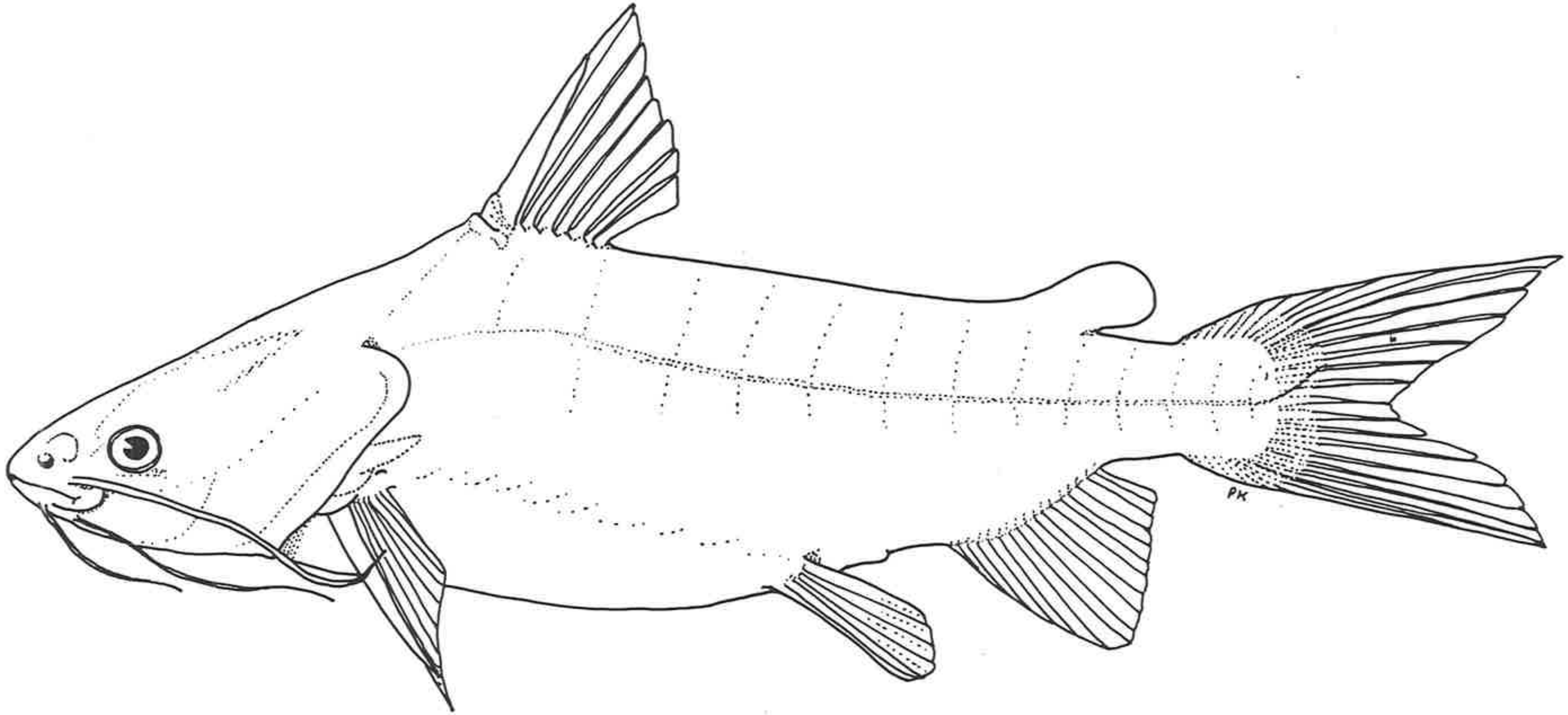


Figure 213. "Arius" leptaspis. Lateral view, 183mm SL specimen (x1).

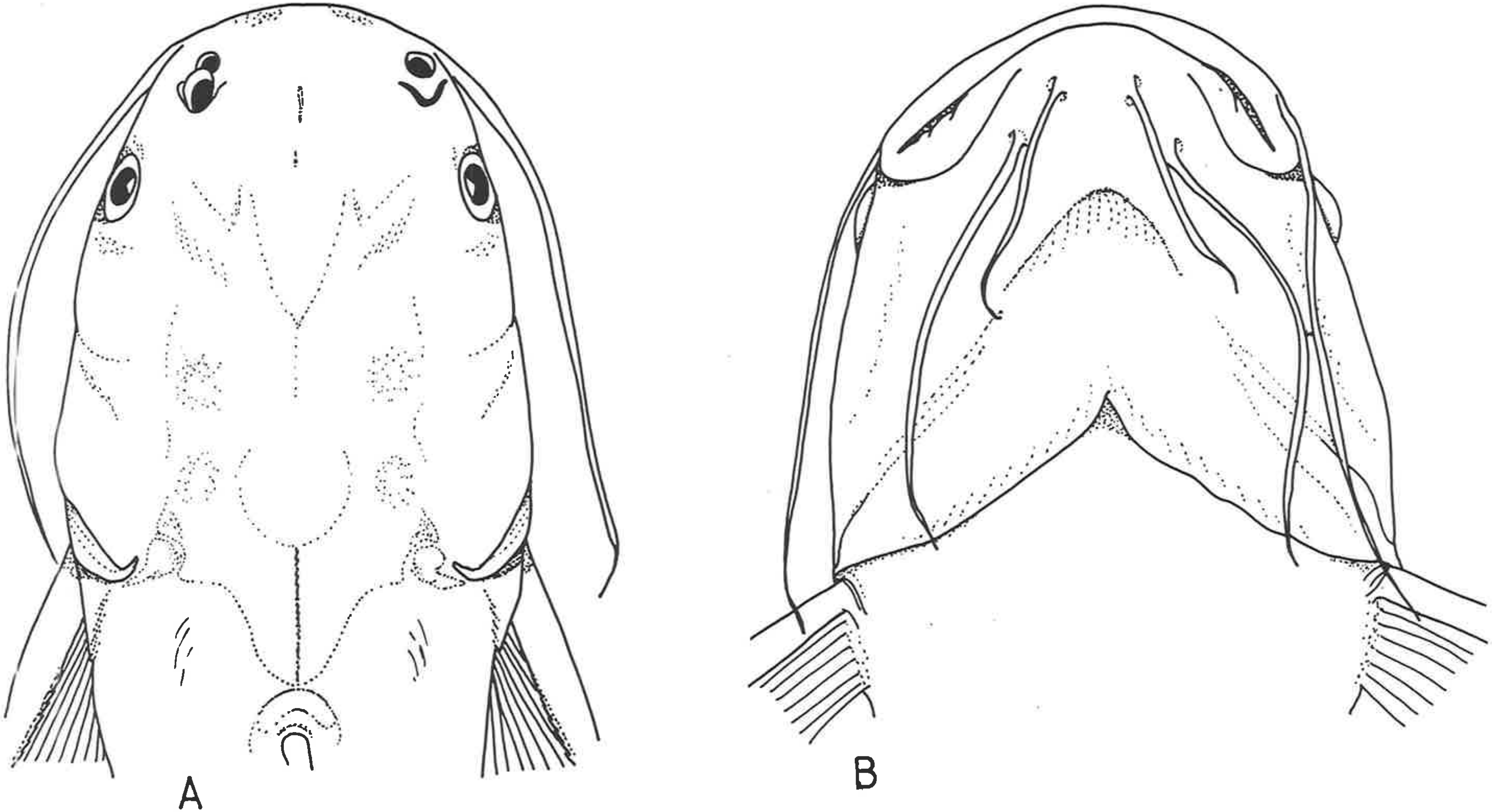


Figure 214. "Arius" leptaspis: A) dorsal head view, 280mm SL specimen (x1); B) ventral head view, 113mm HL (x 1).

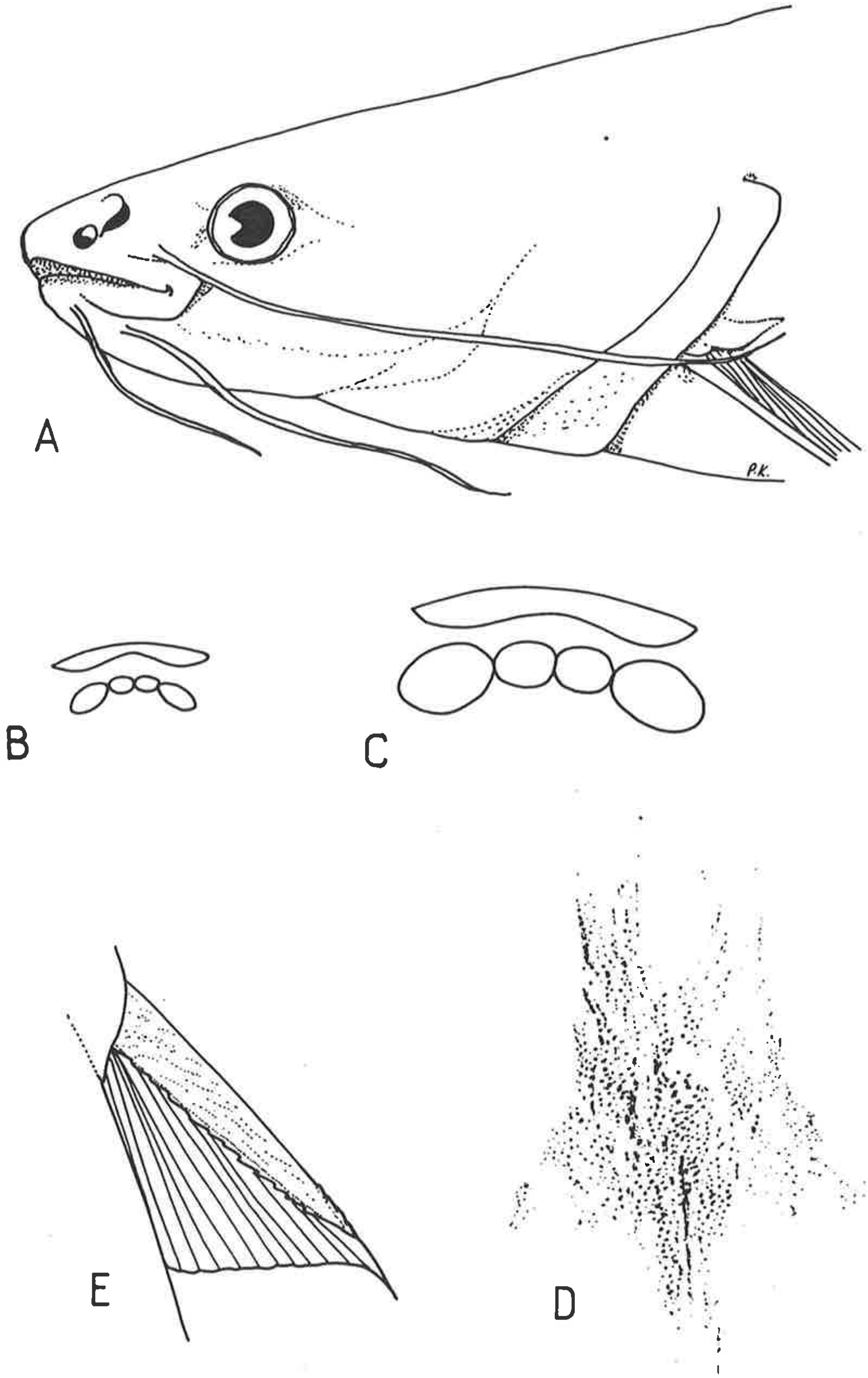


Figure 215. "Arius" leptaspis: A) lateral head view, 113mm HL specimen (x 1); form and arrangement of upper tooth patches, B) 159 mm SL specimen (x 2); C) 280mm SL specimen (x 1); D) head shield rubbing, 280mm SL specimen; E) pectoral spine, same specimen (x 1).

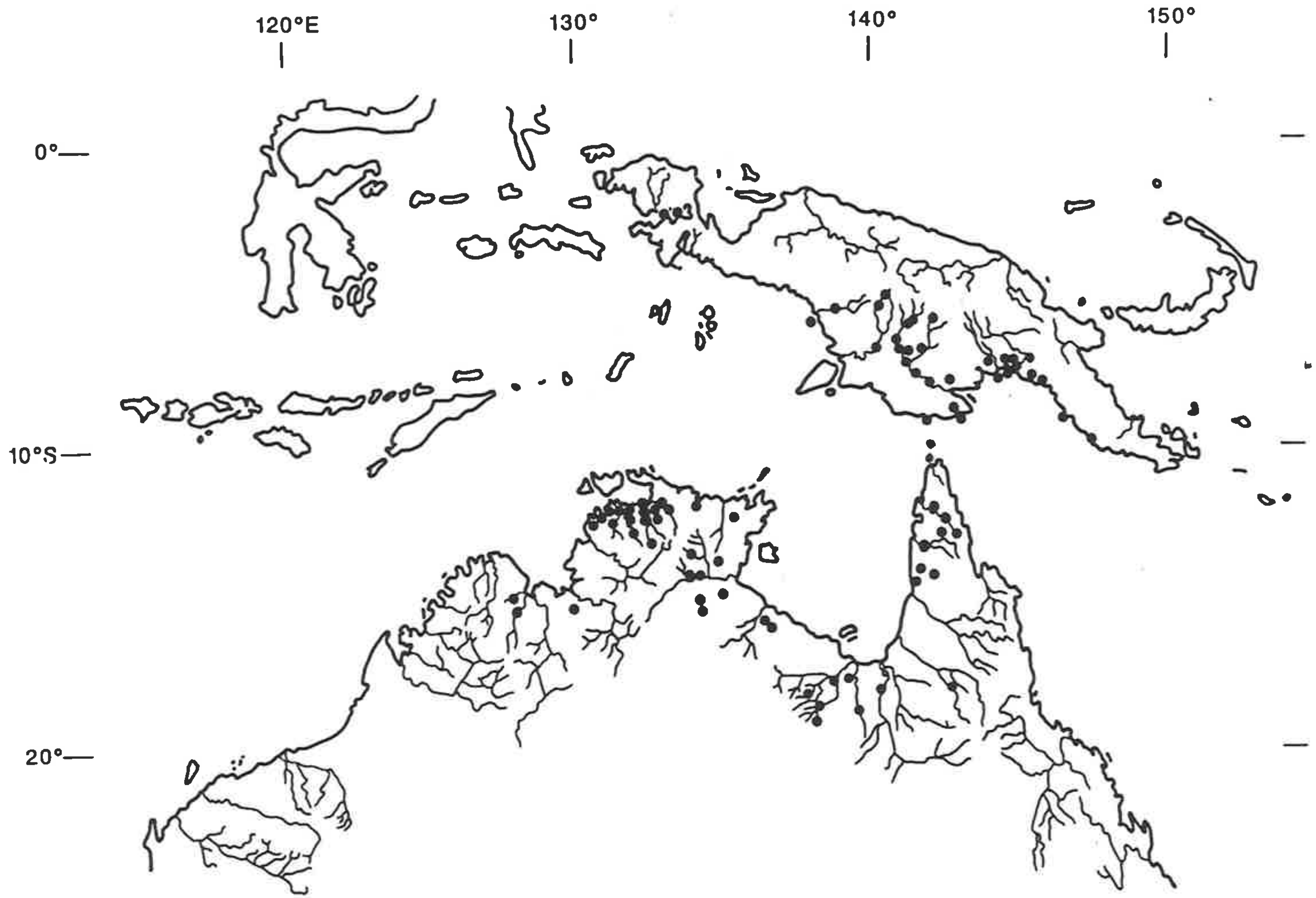


Figure 216. Distribution of "Arius" leptaspis, based on material examined (solid circles indicate capture locality).

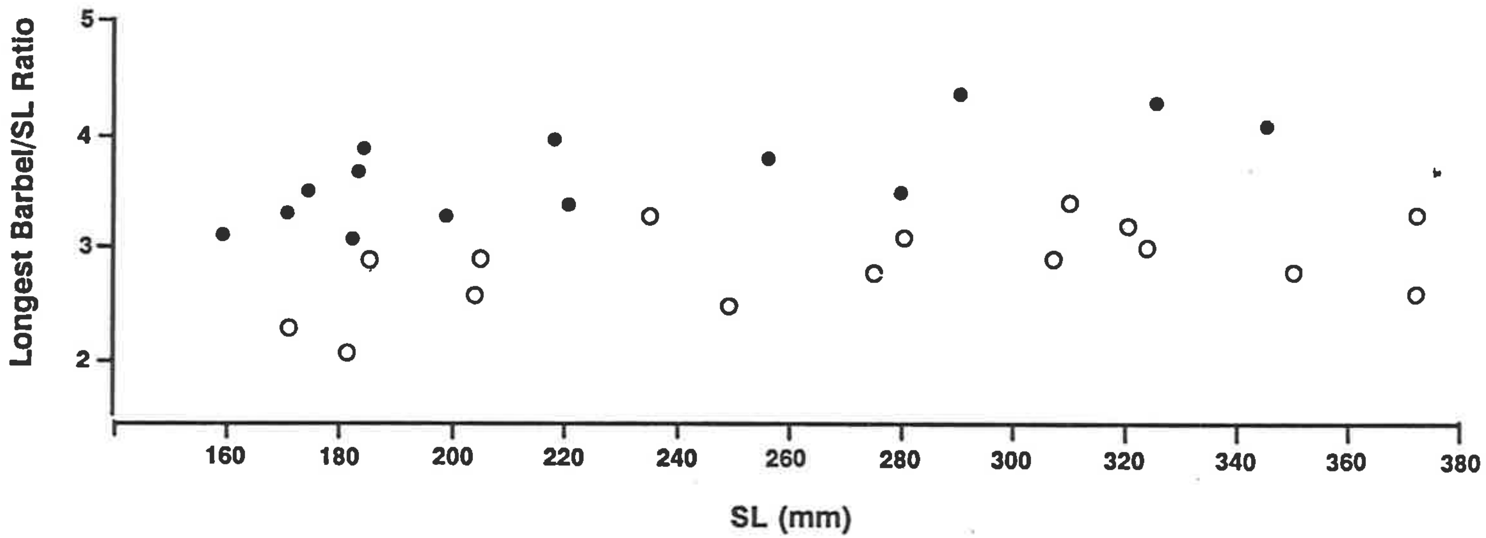


Figure 217. Comparison of longest (maxillary) barbel length in "*Arius*" *leptaspis* from Australia (solid circles) and New Guinea (hollow circles).

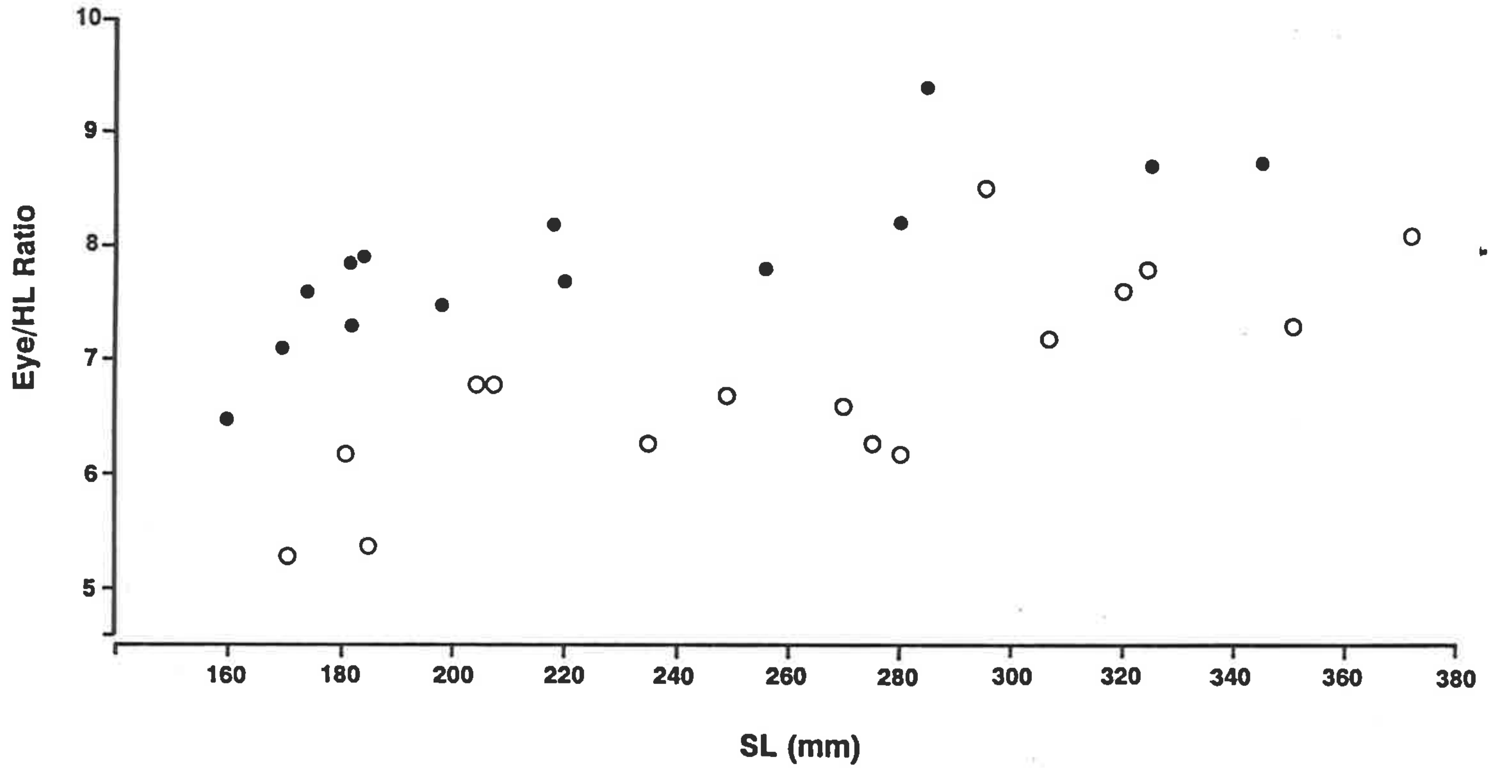


Figure 218. Comparison of eye diameter in "Arius" leptaspis from Australia (solid circles) and New Guinea (hollow circles).

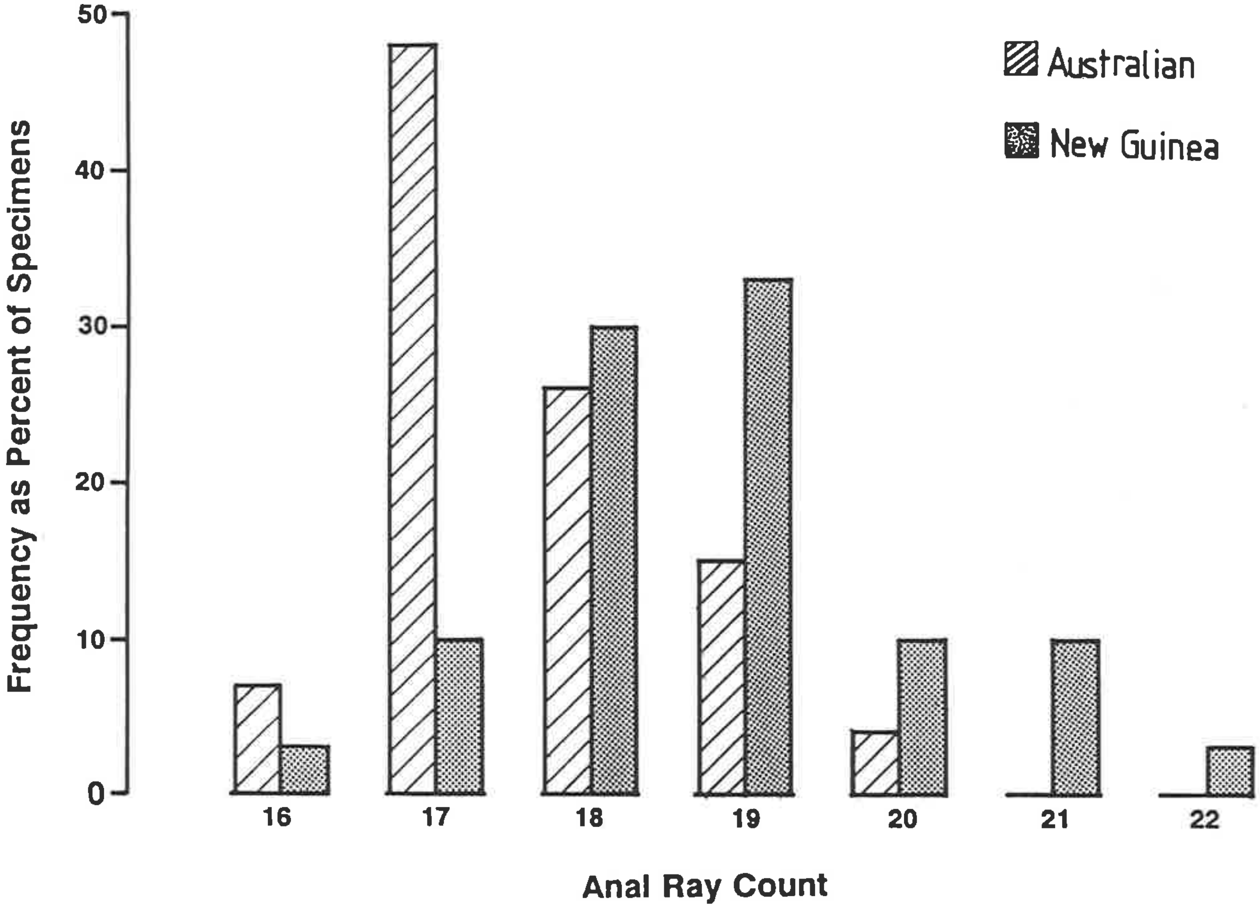


Figure 219. Range of anal ray count in "*Arius*" *leptaspis* from Australia and New Guinea.

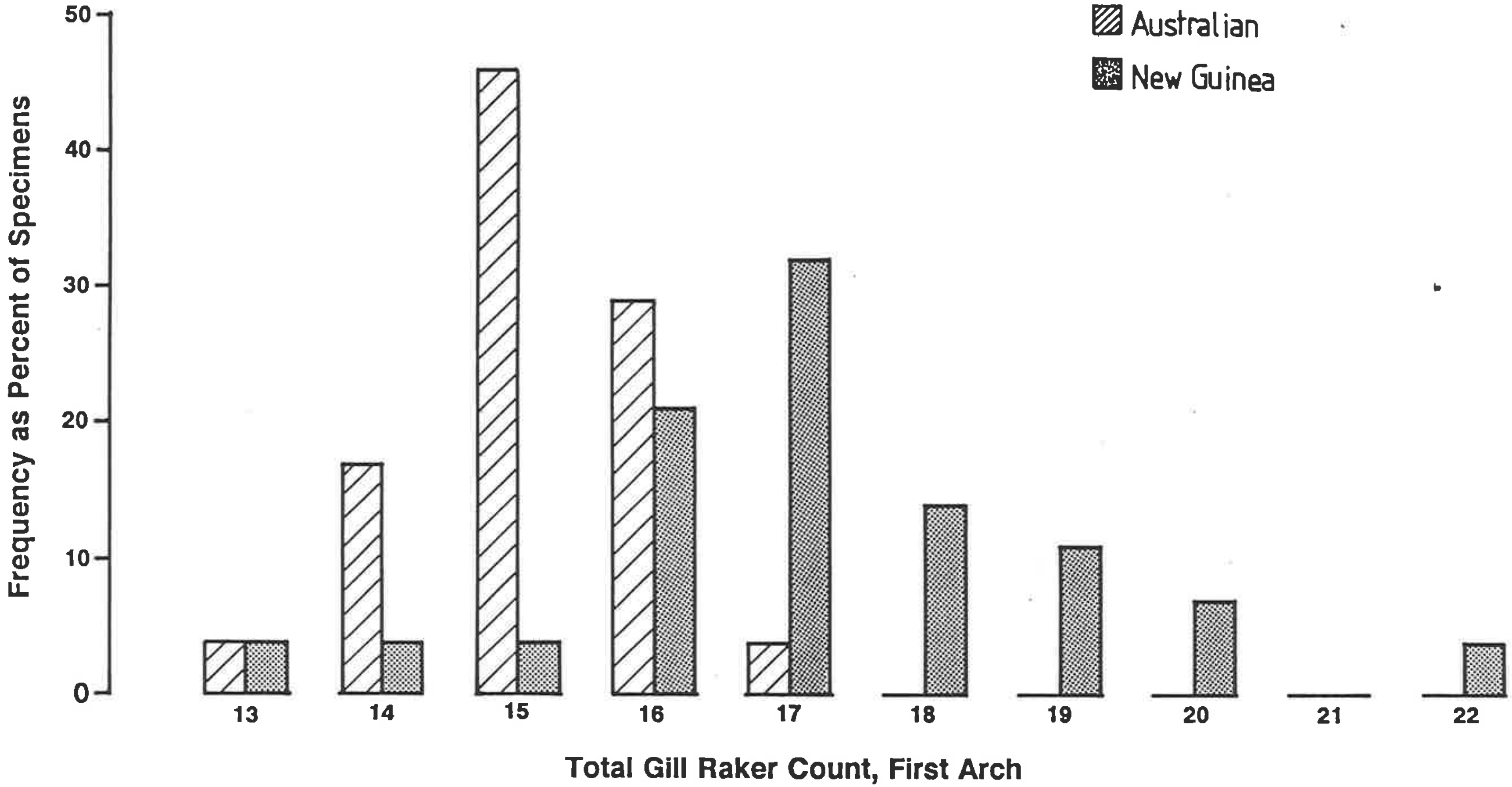


Figure 220. Range of total GR count (first arch) in "Arius" leptaspis from Australia and New Guinea.

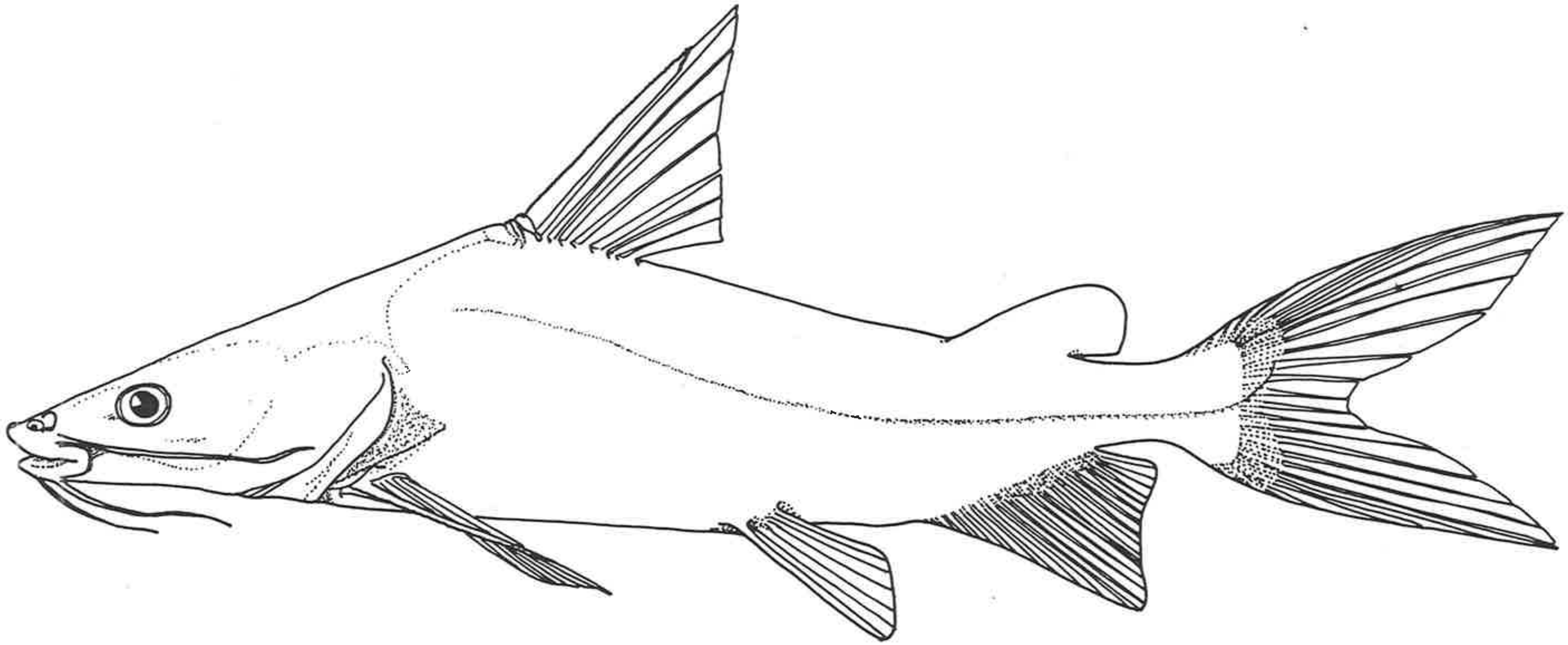


Figure 221. "Arius" midgleyi. Lateral view, 270mm SL specimen (x 0.7).

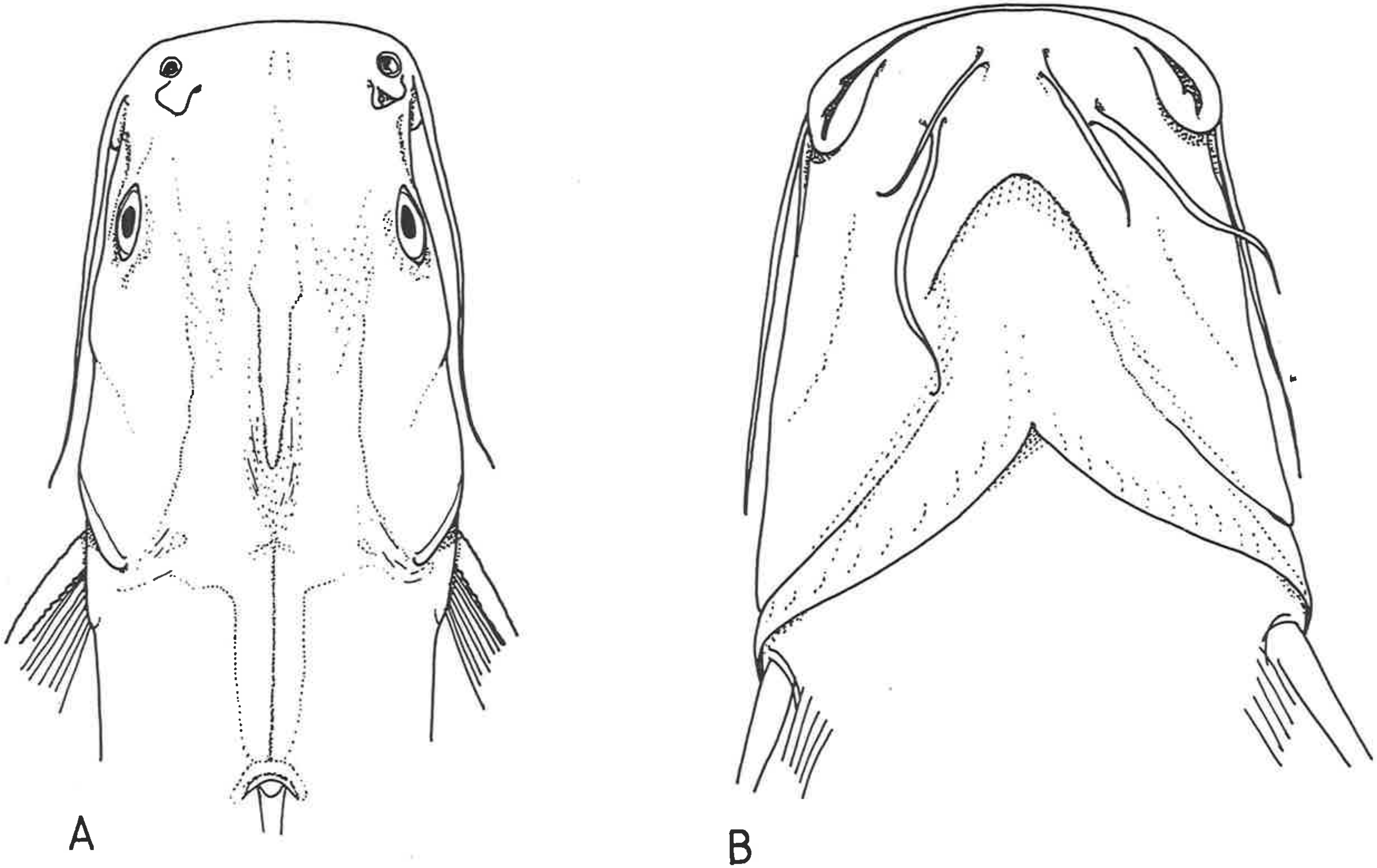


Figure 222. "Arius" midgleyi: A) dorsal head view. 270mm SL specimen (x1); B) ventral head view, 110 mm HL specimen (x1).

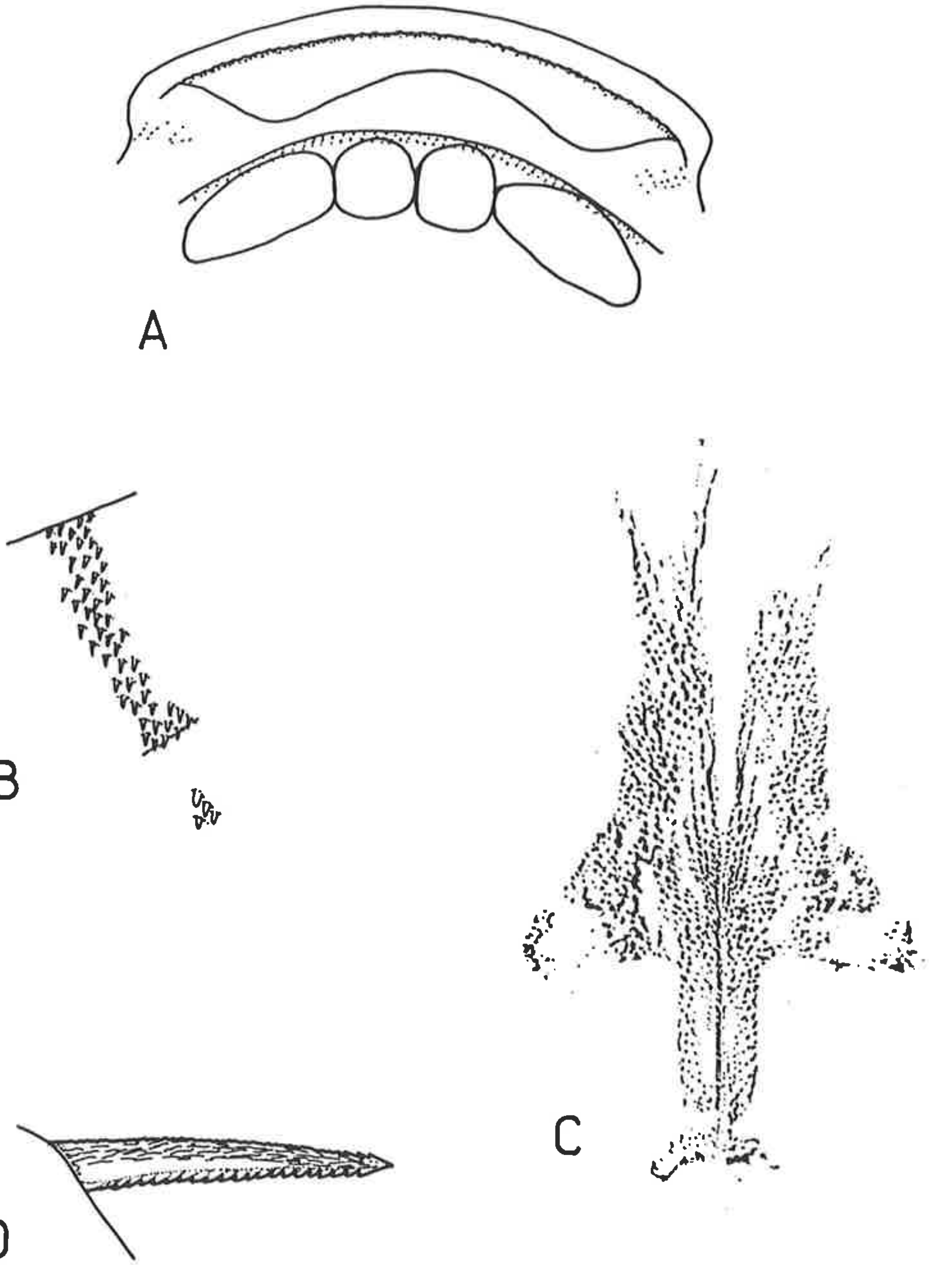


Figure 223. "Arius" midgleyi: A) form and arrangement of upper tooth patches, 244mm SL specimen; B) premaxillary and palatal teeth, 270mm SL specimen; C) head shiled rubbing, same specimen; D) RHS pectoral spine, same specimen (x1).

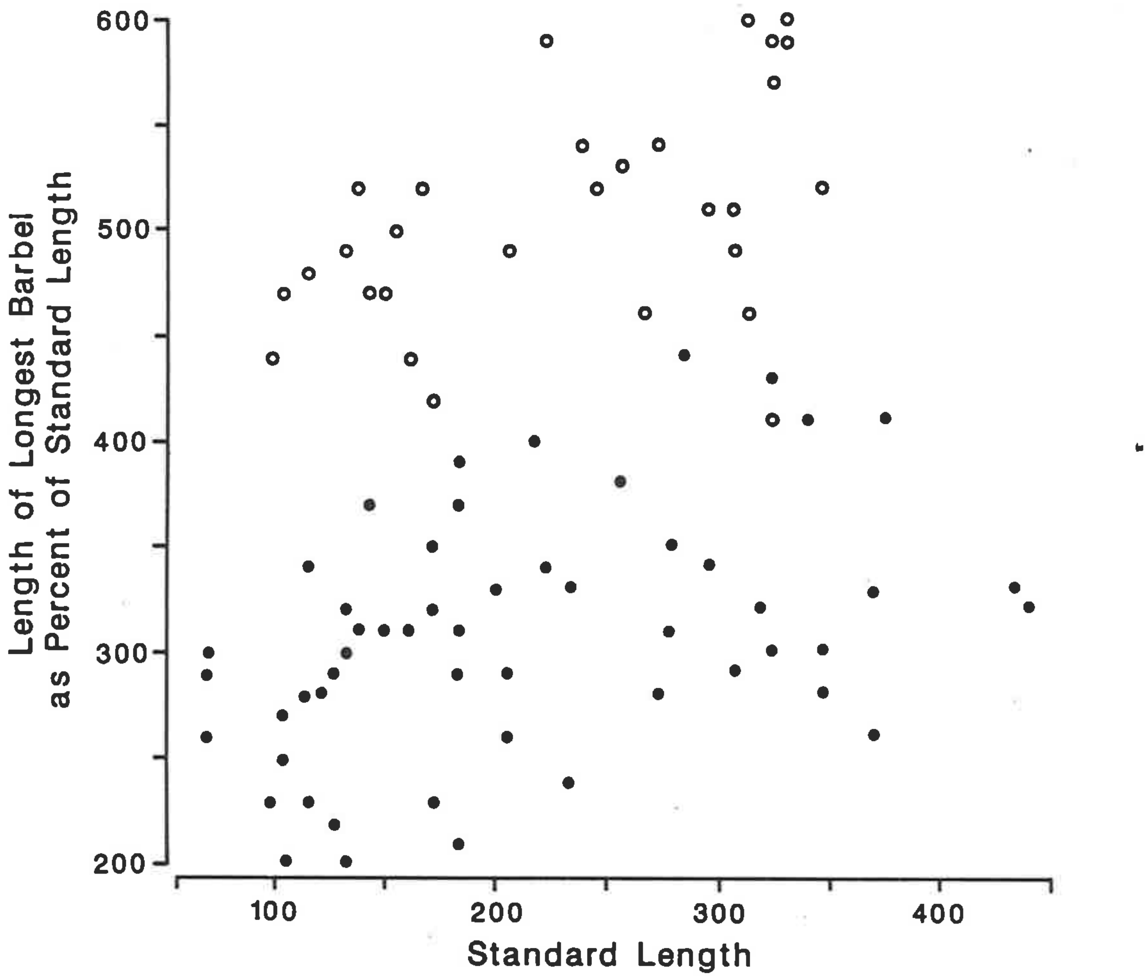


Figure 224. Comparison of longest (maxillary) barbel length in "Arius" midgleyi (hollow circles) and "Arius" leptaspis (solid circles).

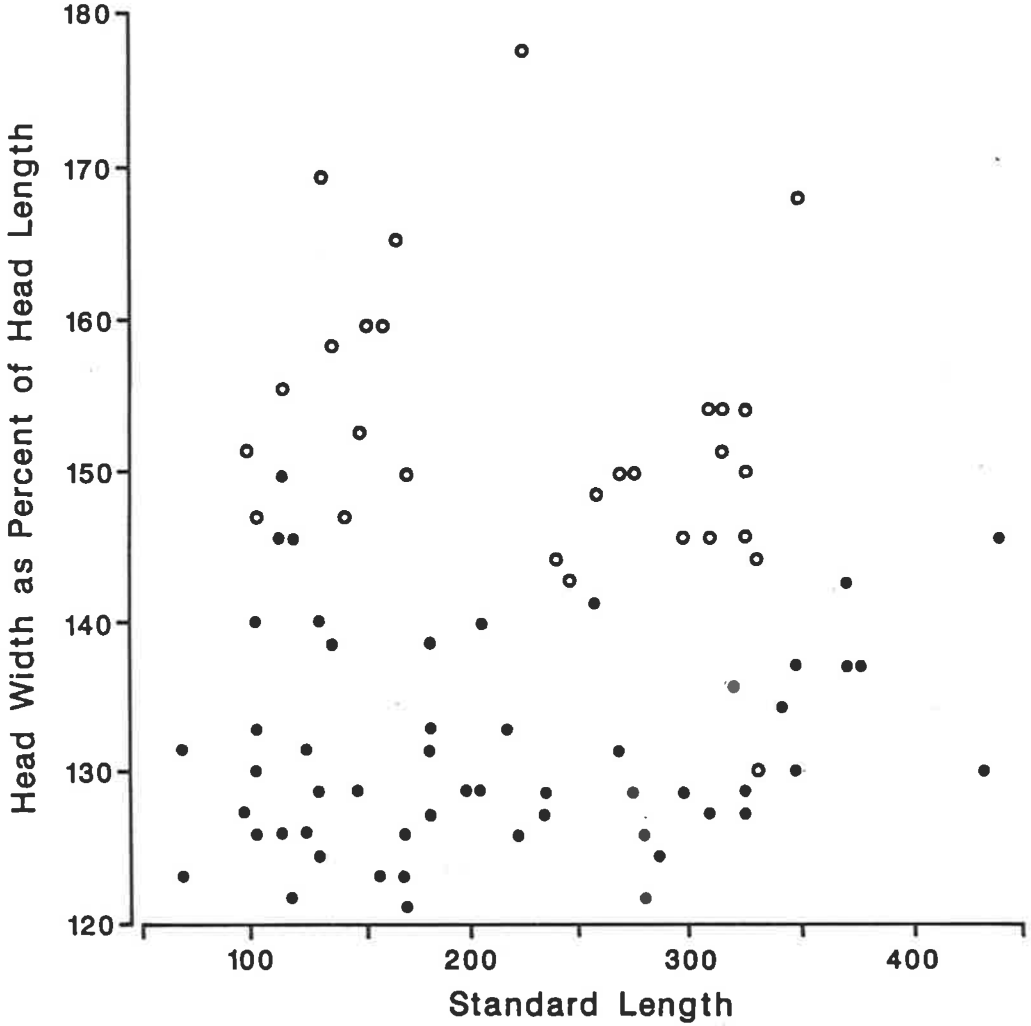


Figure 225. Comparison of head width in "Arius" midgleyi (hollow circles) and "Arius" leptaspis (solid circles).

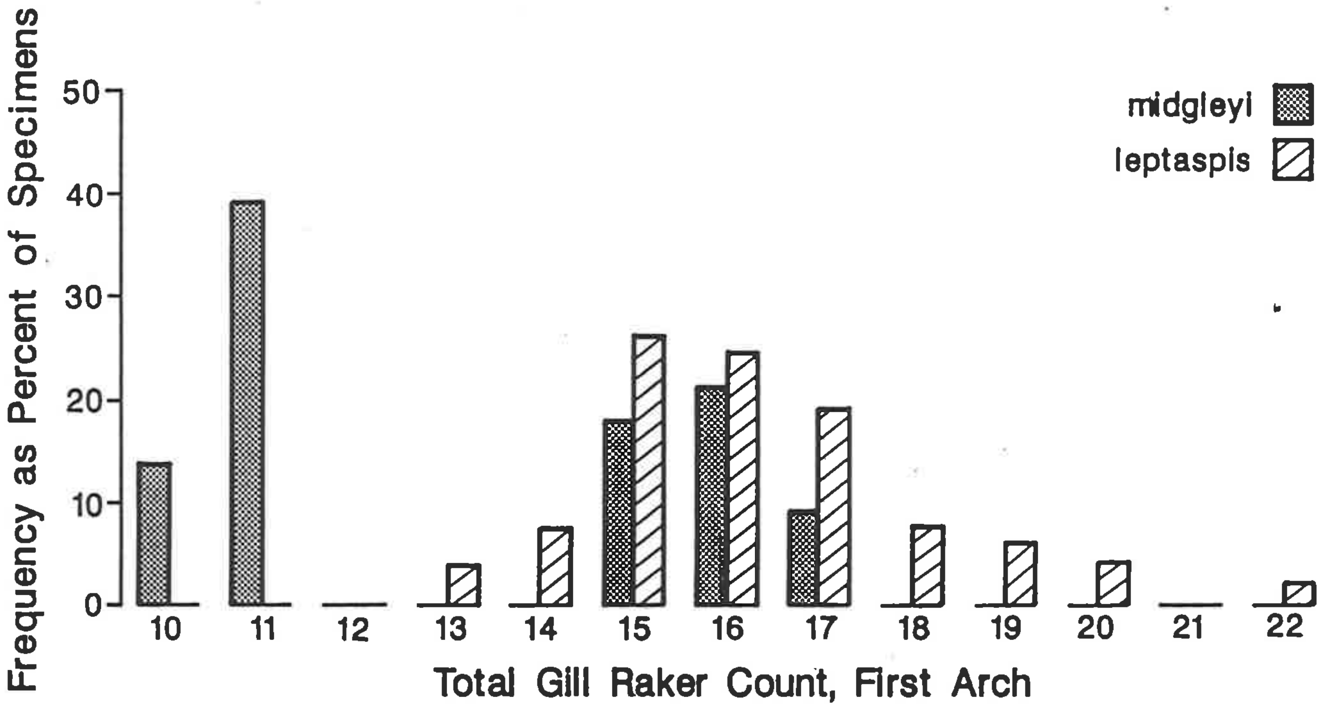


Figure 226. Range of gill raker count (first arch) in "*Arius*" *midgleyi* (subspecies combined) and "*Arius*" *leptaspis*.

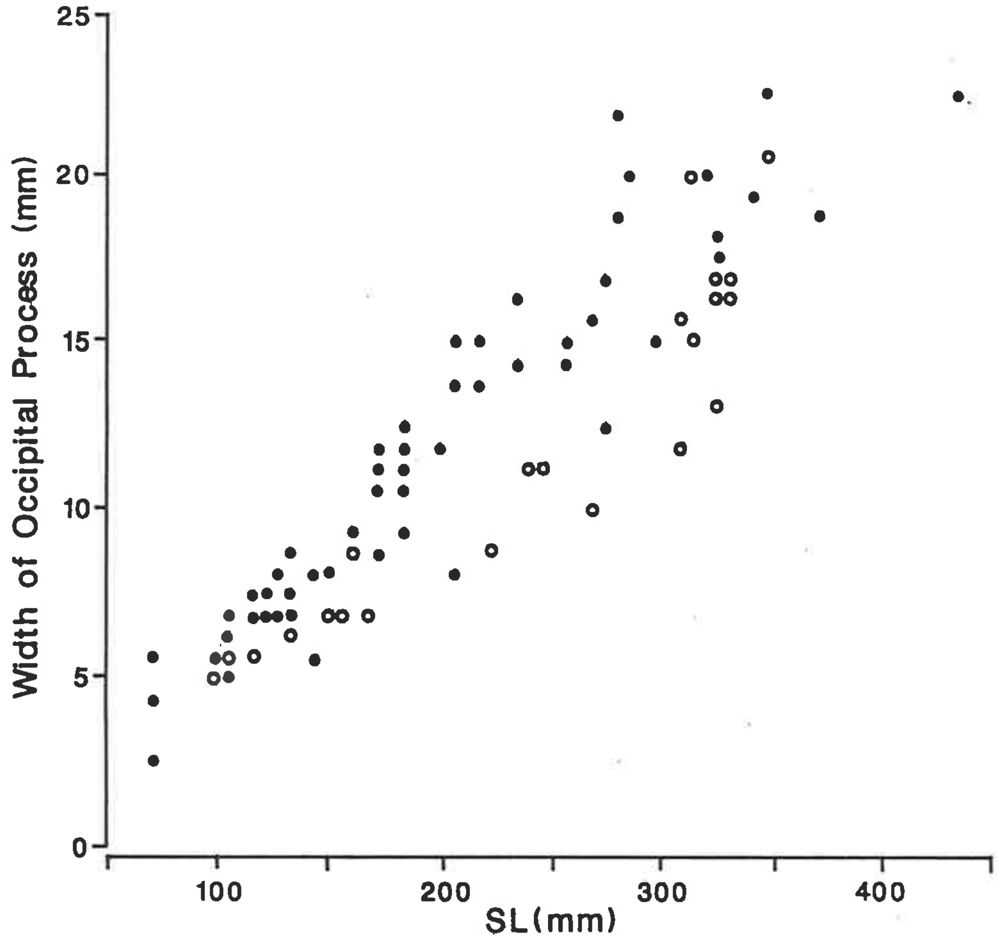


Figure 227. Comparison of supraoccipital process width (as "occipital process") between "*Arius*" *midgleyi* (hollow circles) and "*Arius*" *leptaspis* (solid circles).

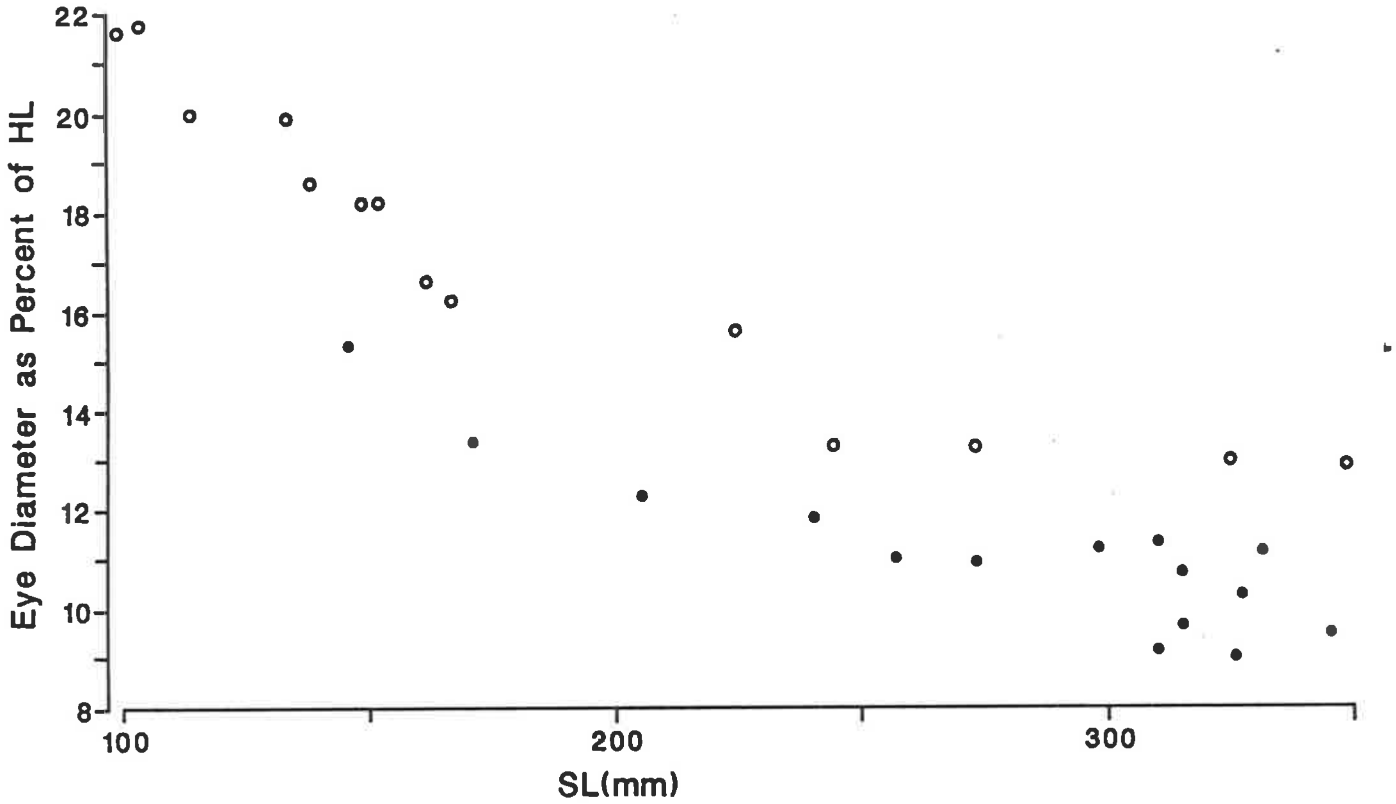


Figure 228. Comparison of eye size between western subspecies (hollow circles) and eastern subspecies (solid circles) of "*Arius*" *midgleyi*.

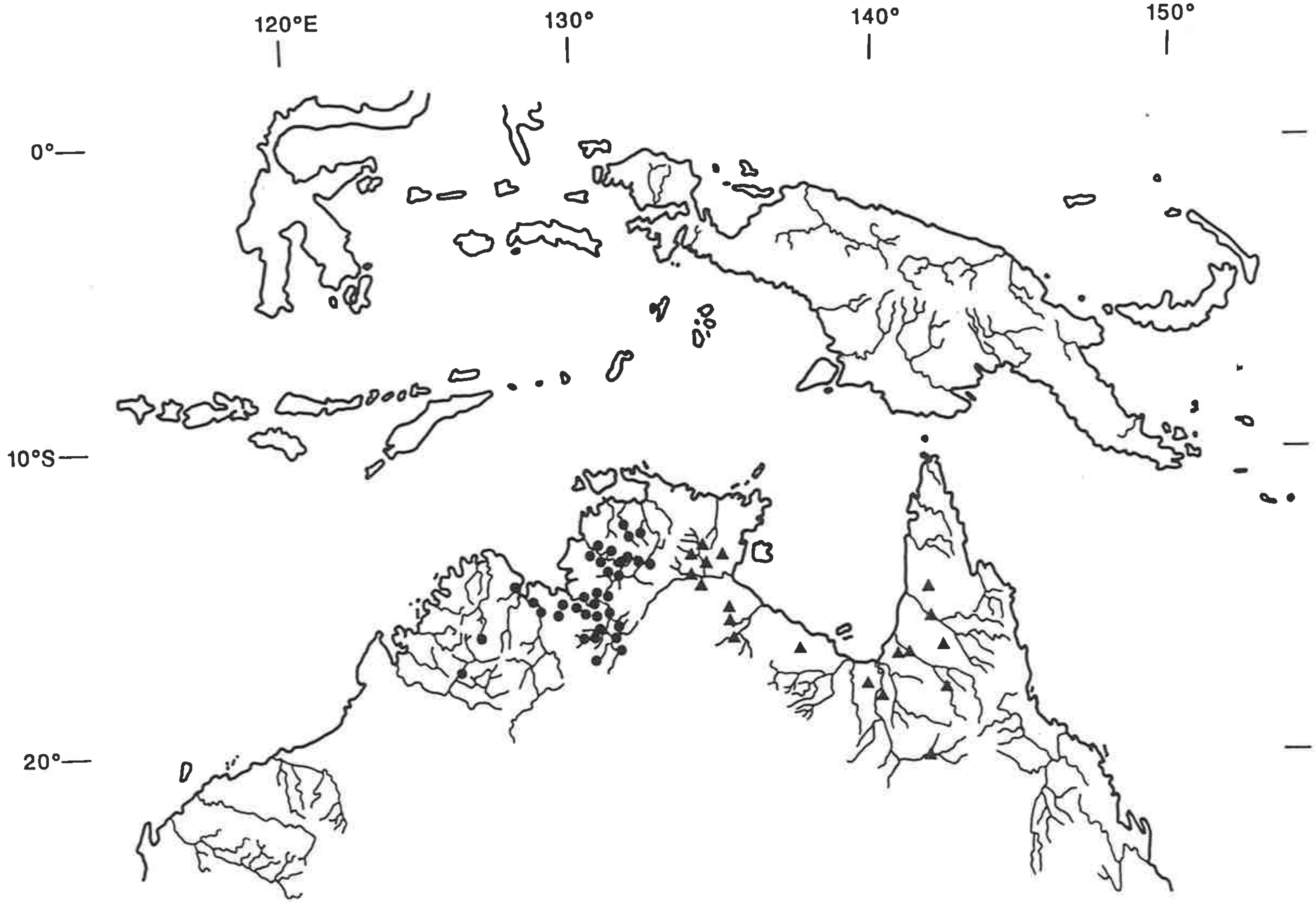


Figure 229. Distribution of "Arius" midgleyi subspecies, based on material examined: western subspecies (solid circles) and eastern subspecies (solid triangles) (symbols indicate capture locality).

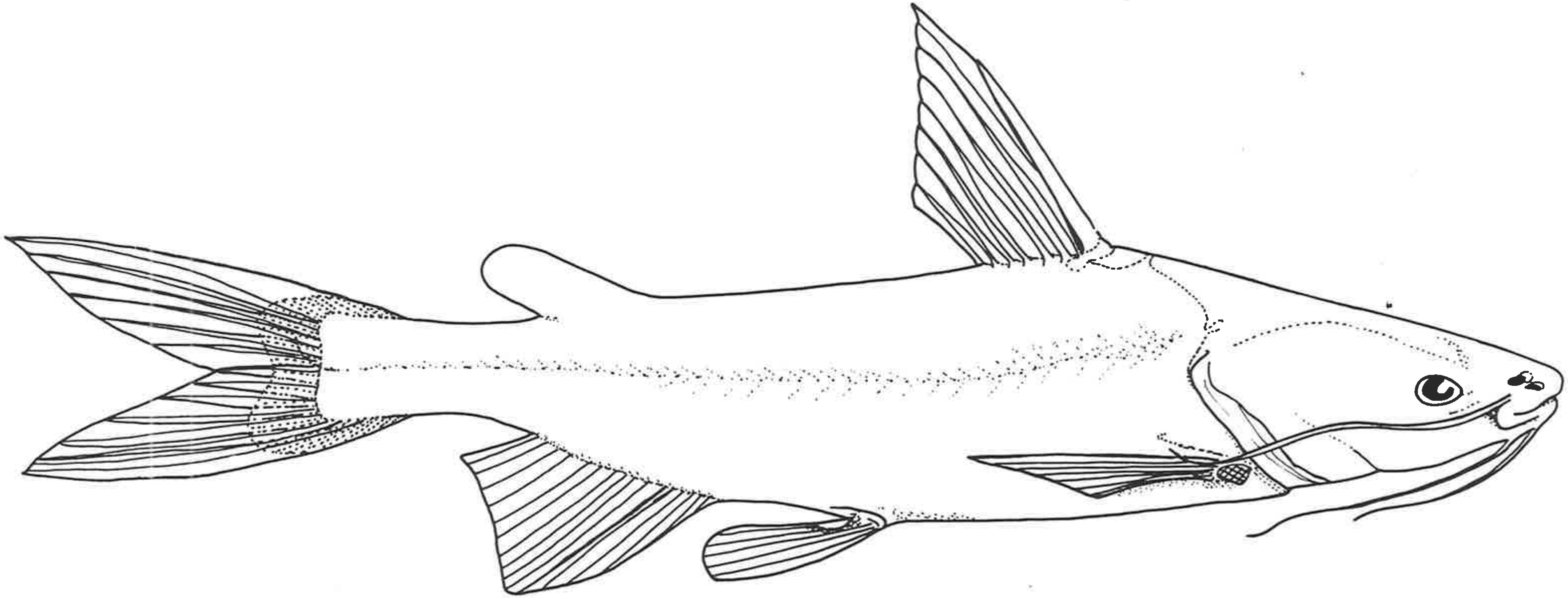


Figure 230. "<u>Arius</u>" species 2: Lateral view, 325mm SL specimen (x 0.6)(note: RHS pectoral spine removed).

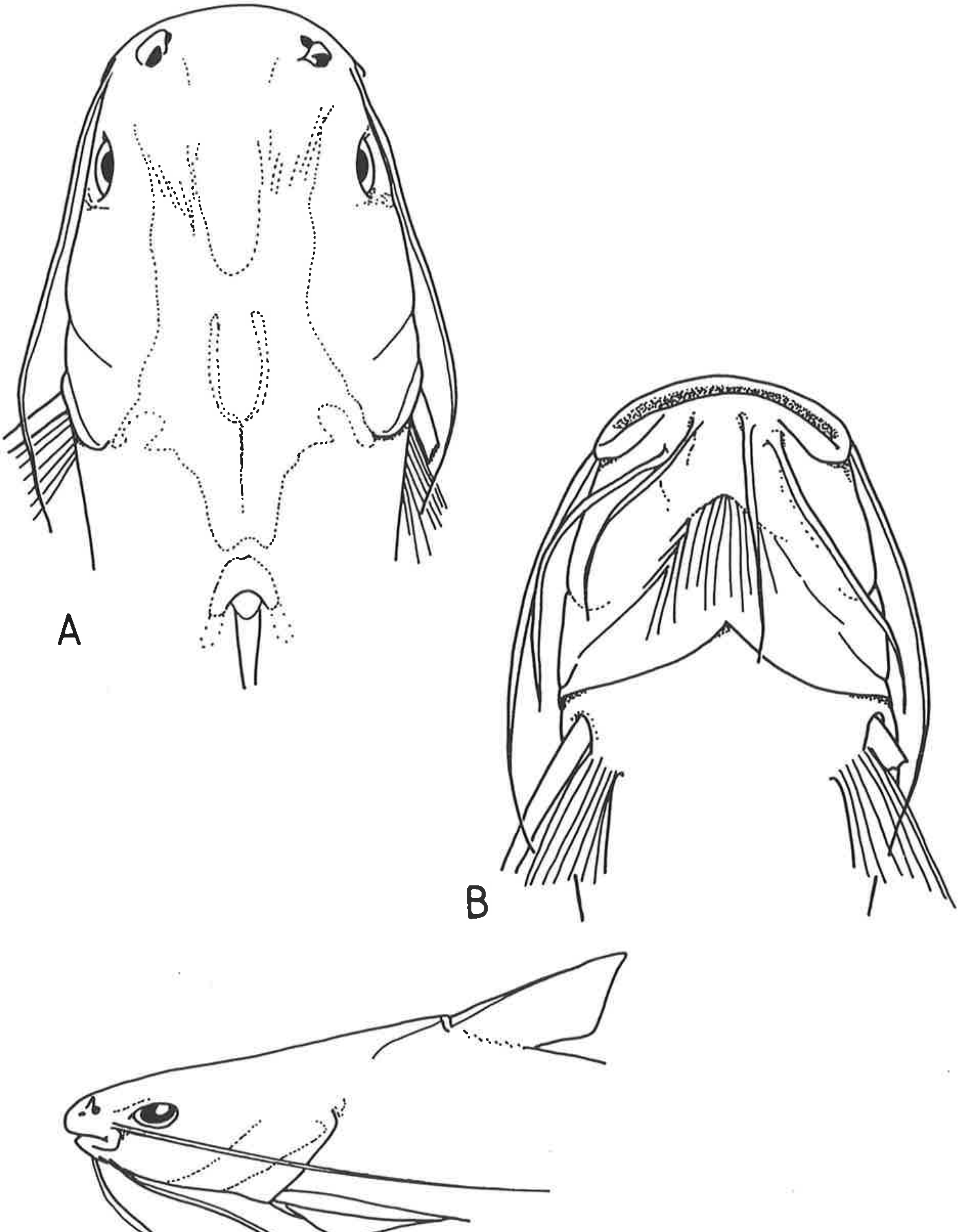


Figure 231. "Arius" species 2: A) dorsal head view, 325mm SL specimen (x 0.7); B) ventral head view, 294mm SL specimen (x 0.7); C) anterior half, lateral view, 133mm SL specimen (x 1.5).

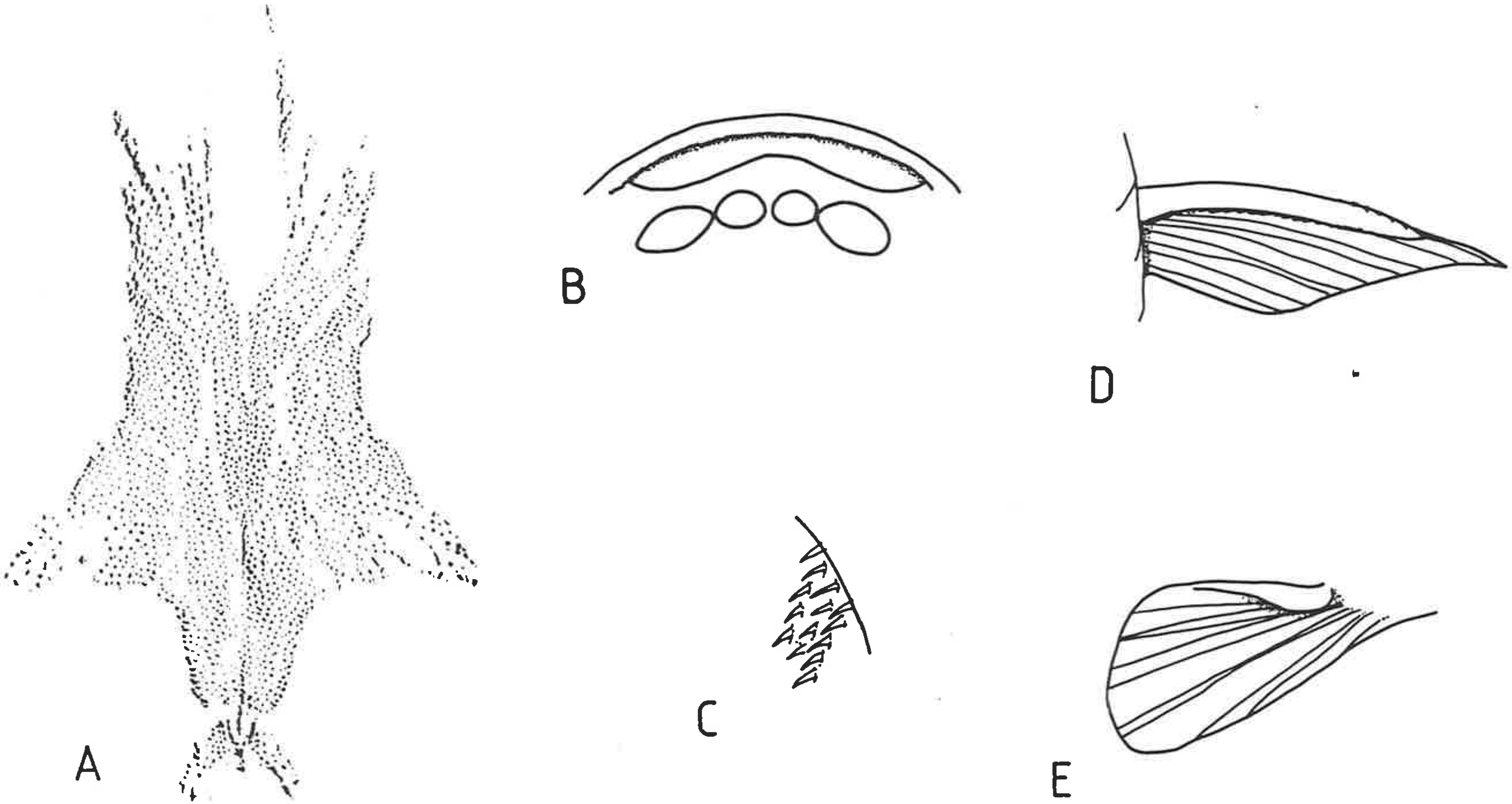


Figure 232. "Arius" species 2: A) rubbing of head shield, 325mm SL specimen; B) form and arrangement of upper tooth patches, 297mm SL specimen; C) premaxillary and palatal teeth, same specimen (x 3); D) RHS pectoral spine, 294mm SL specimen (x 0.7); E) RHS ventral fin of sexually mature female, showing epithelial pad (294mm SL specimen, x 0.7).

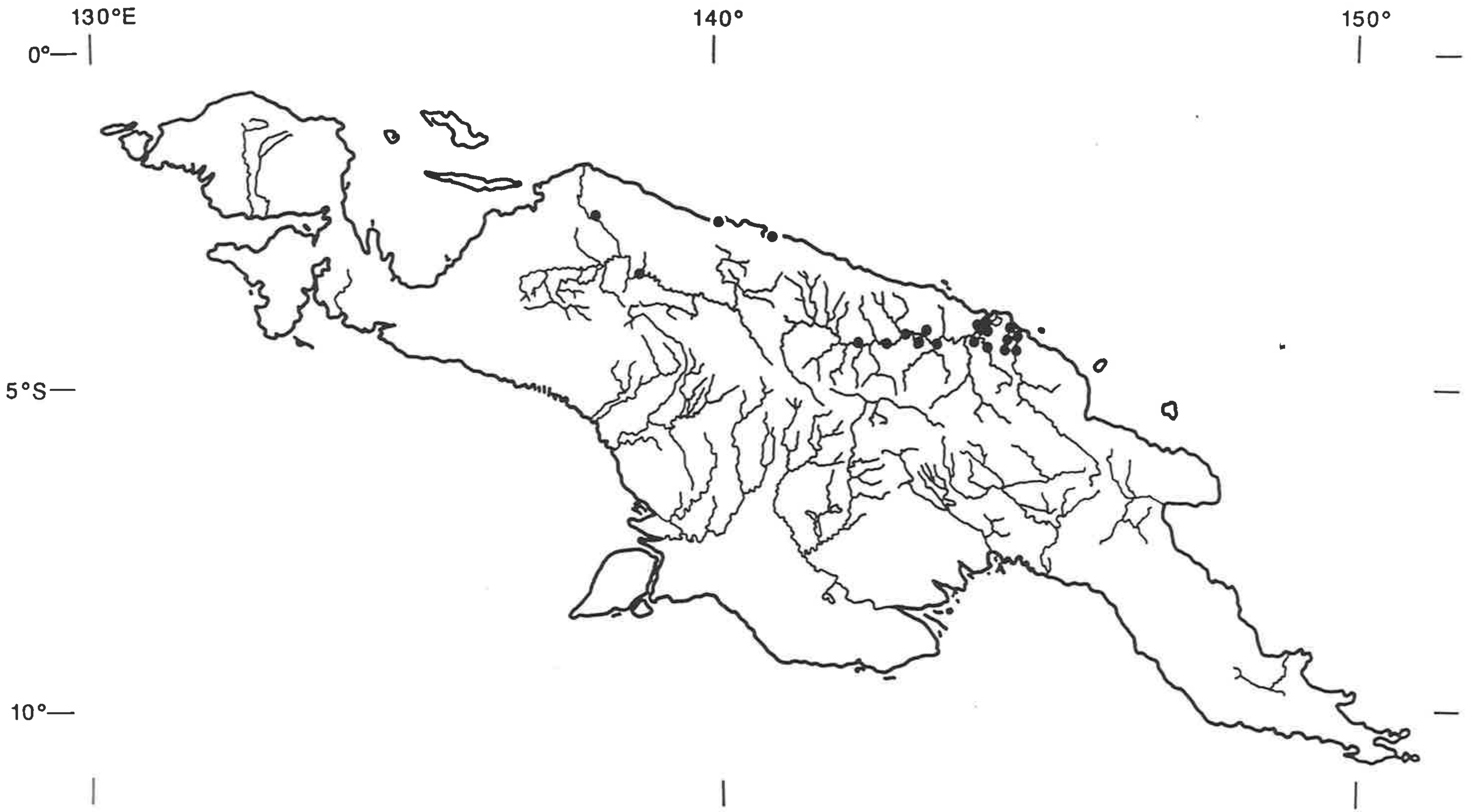


Figure 233. Distribution of "Arius" species 2, based on material examined (solid circles indicate capture locality).

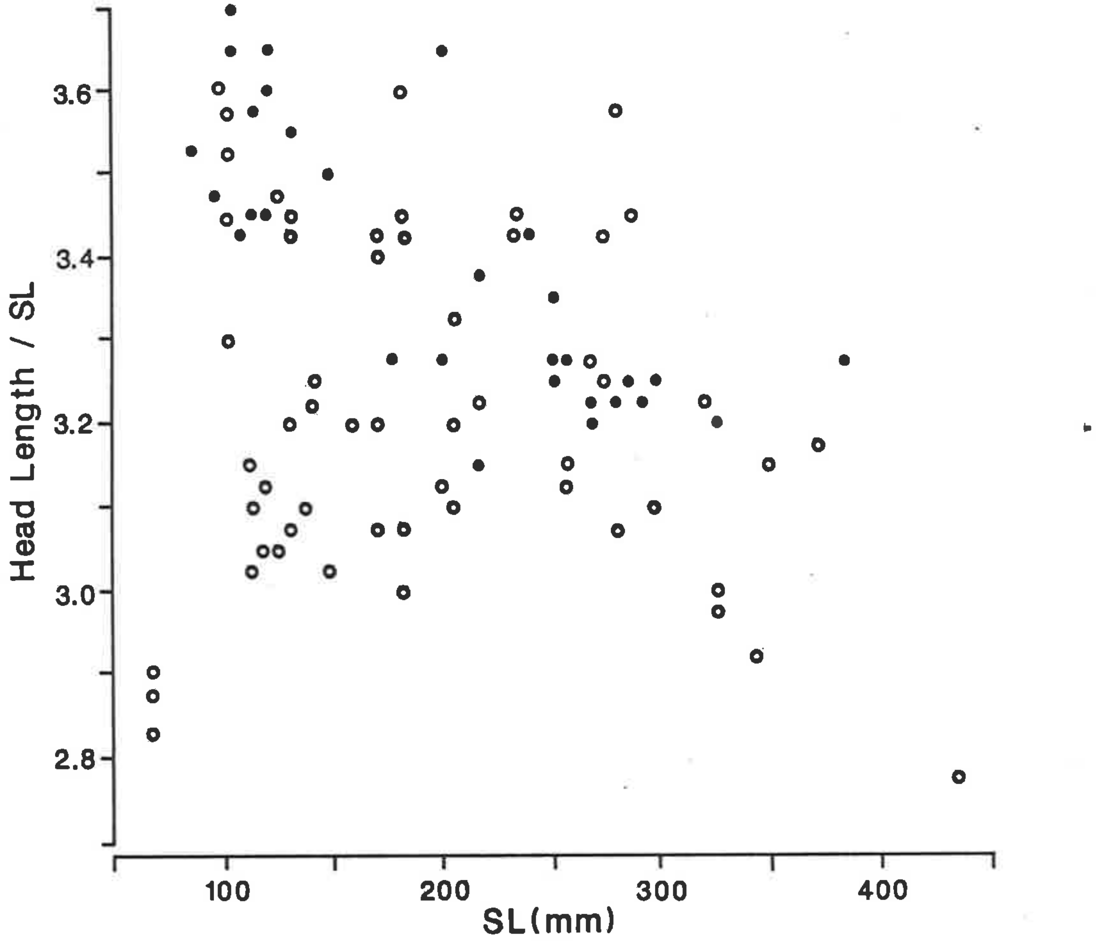


Figure 234. Comparison of head length between "Arius"species 2 (solid circles) and "Arius" leptaspis (hollow circles).

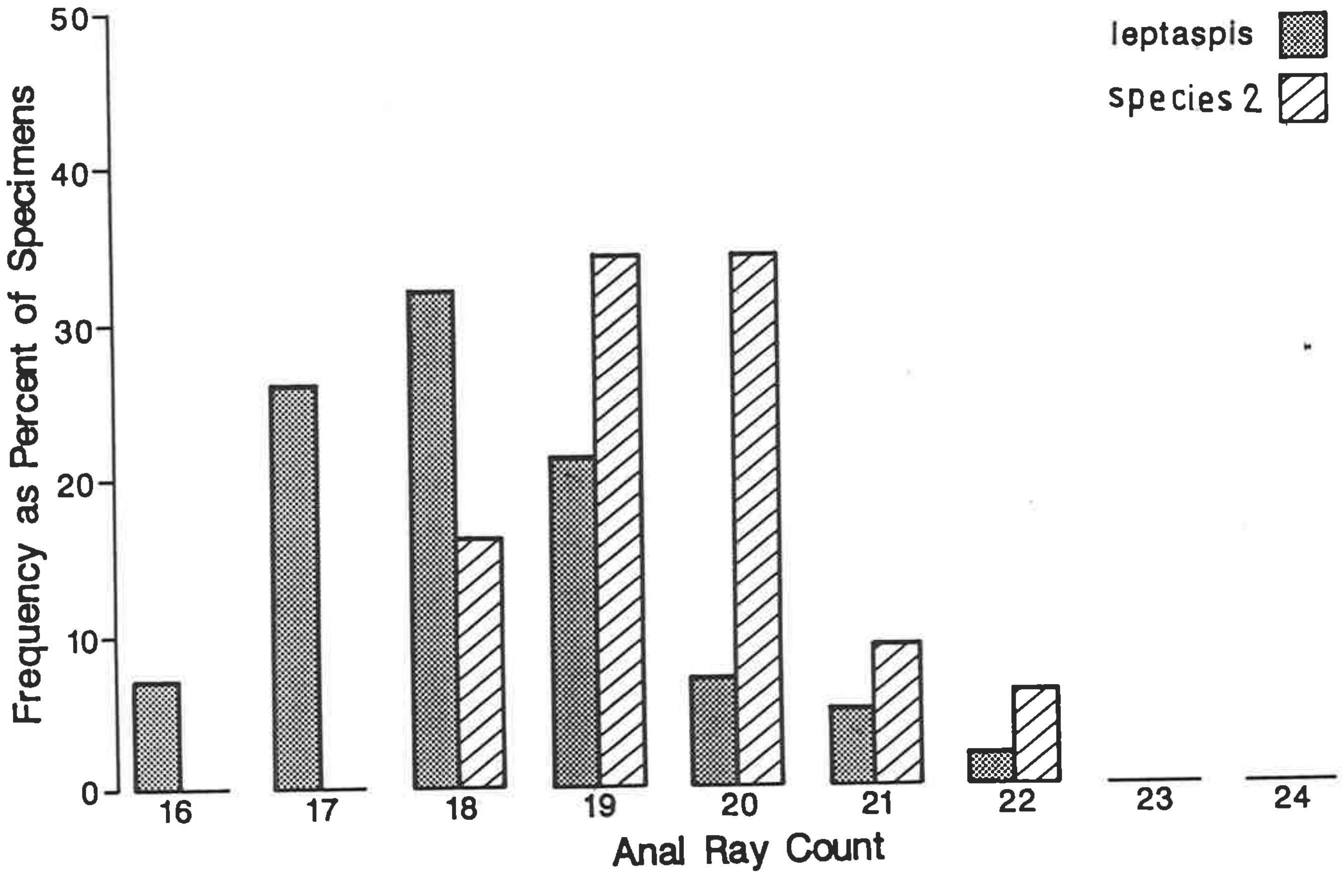


Figure 235. Range of anal ray count in "Arius" species 2 and "Arius" leptaspis.

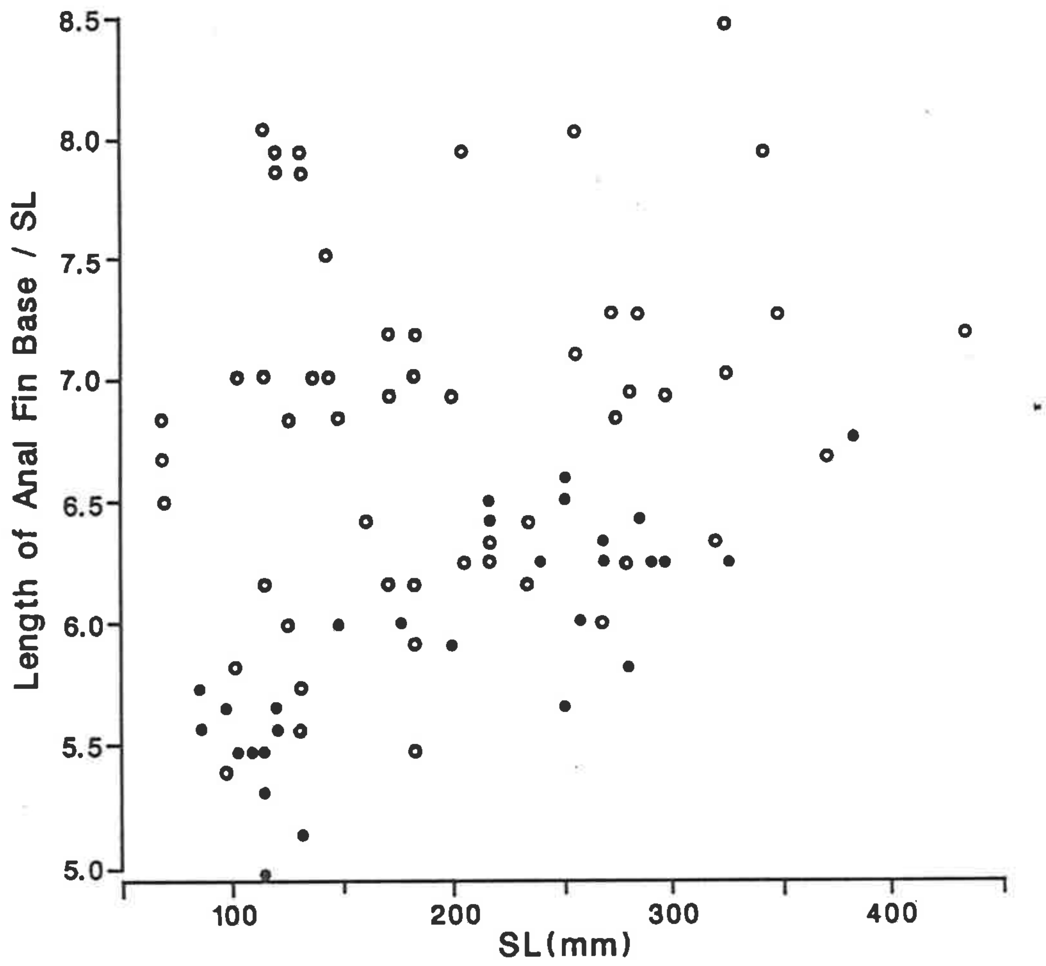


Figure 236. Comparison of anal fin basal length between "*Arius*" species 2 (solid circles) and "*Arius*" *leptaspis* (hollow circles).

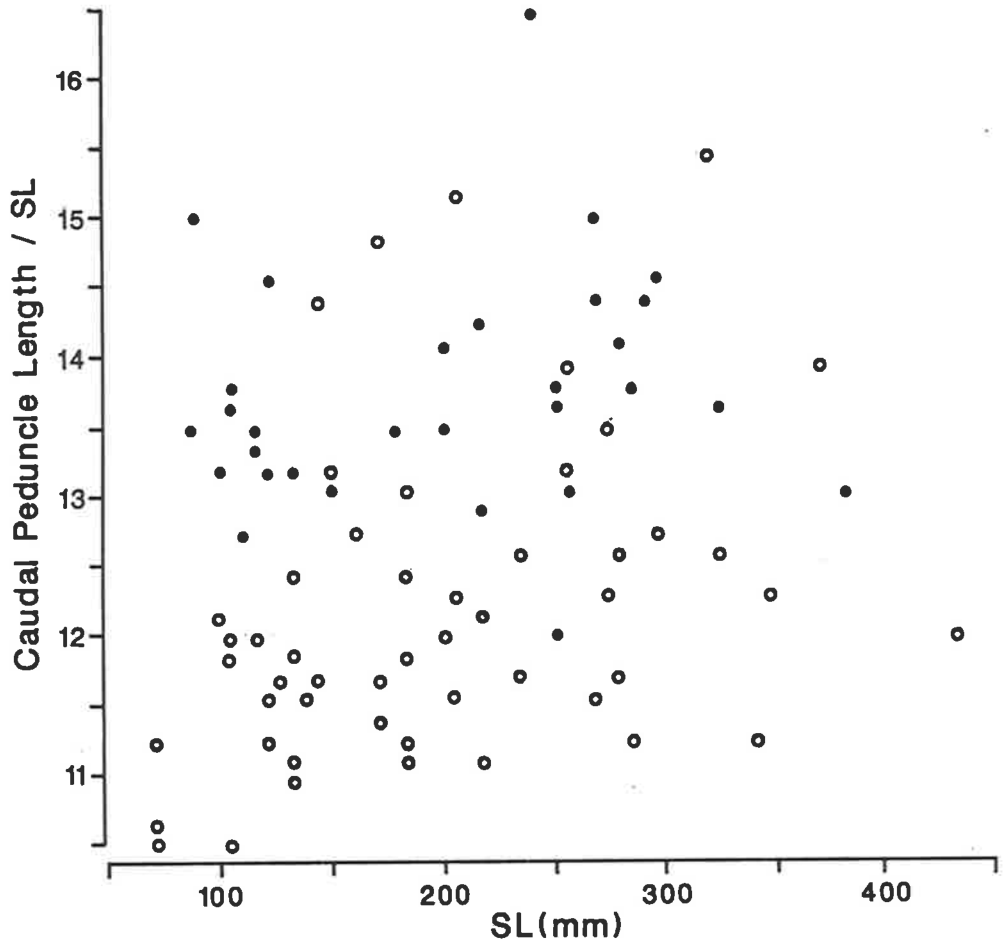


Figure 237. Comparison of caudal peduncle length between "*Arius*" species 2 (solid circles) and "*Arius*" *leptaspis* (hollow circles).

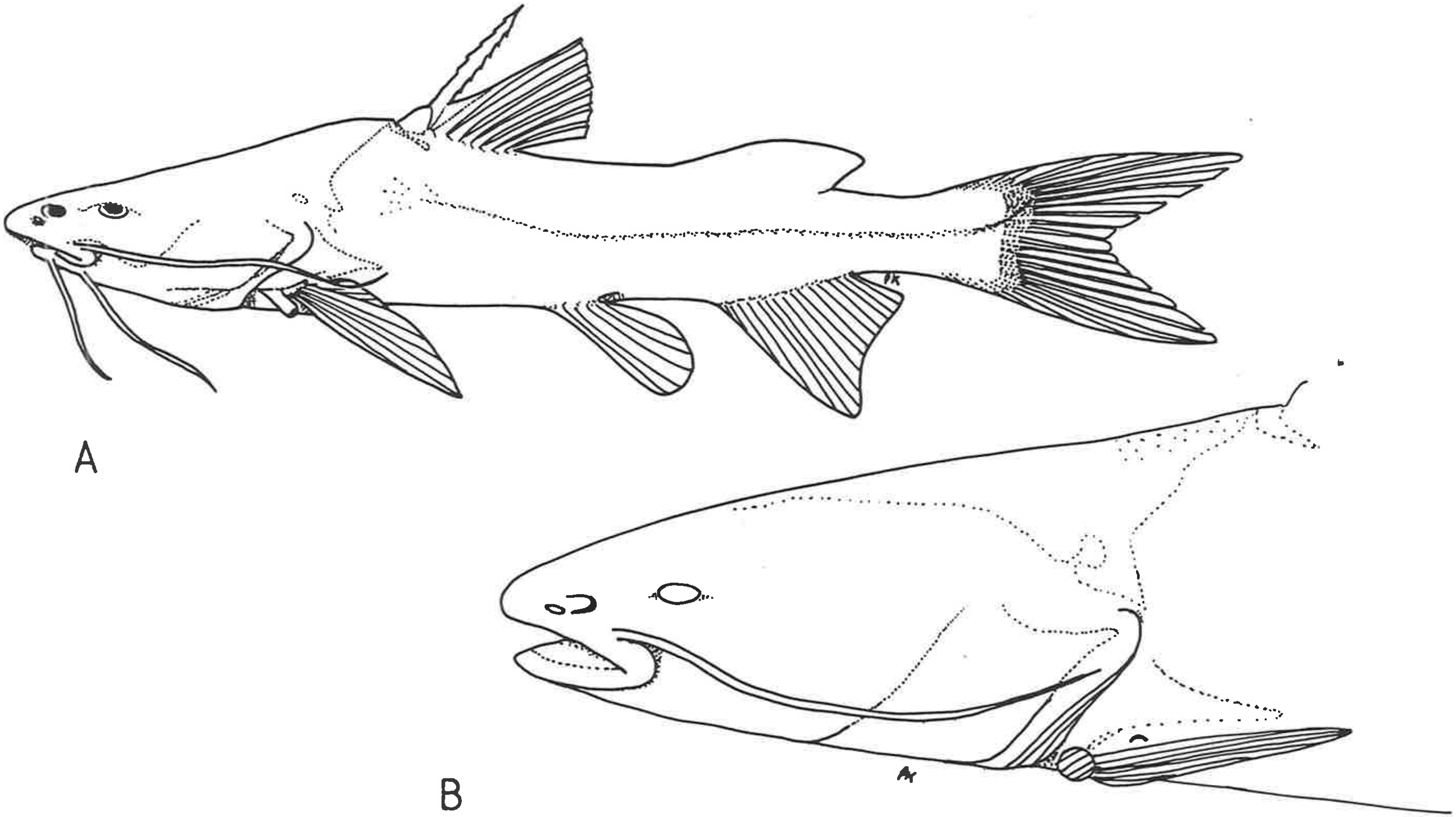


Figure 238. "Arius" species 6: A) lateral view, 74mm SL specimen (x 2); B) anterior half, lateral view (sketch), 254mm SL specimen (x 2).

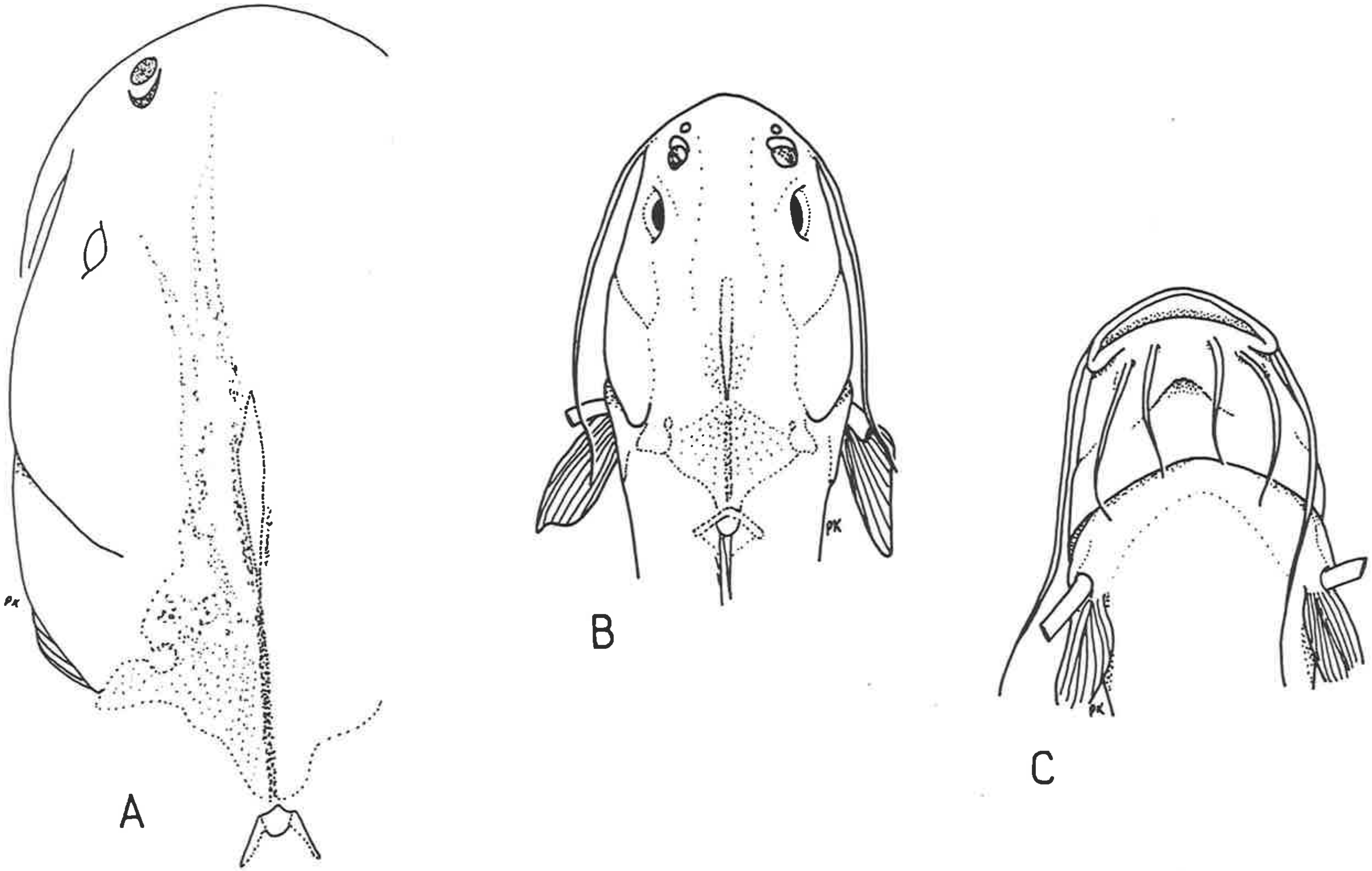


Figure 239. "*Arius*" species 6: A) dorsal head view (sketched), 254mm SL specimen (x 2.5); B) dorsal head view, 74mm SL specimen (x 2); C) ventral head view, same specimen (x 2).

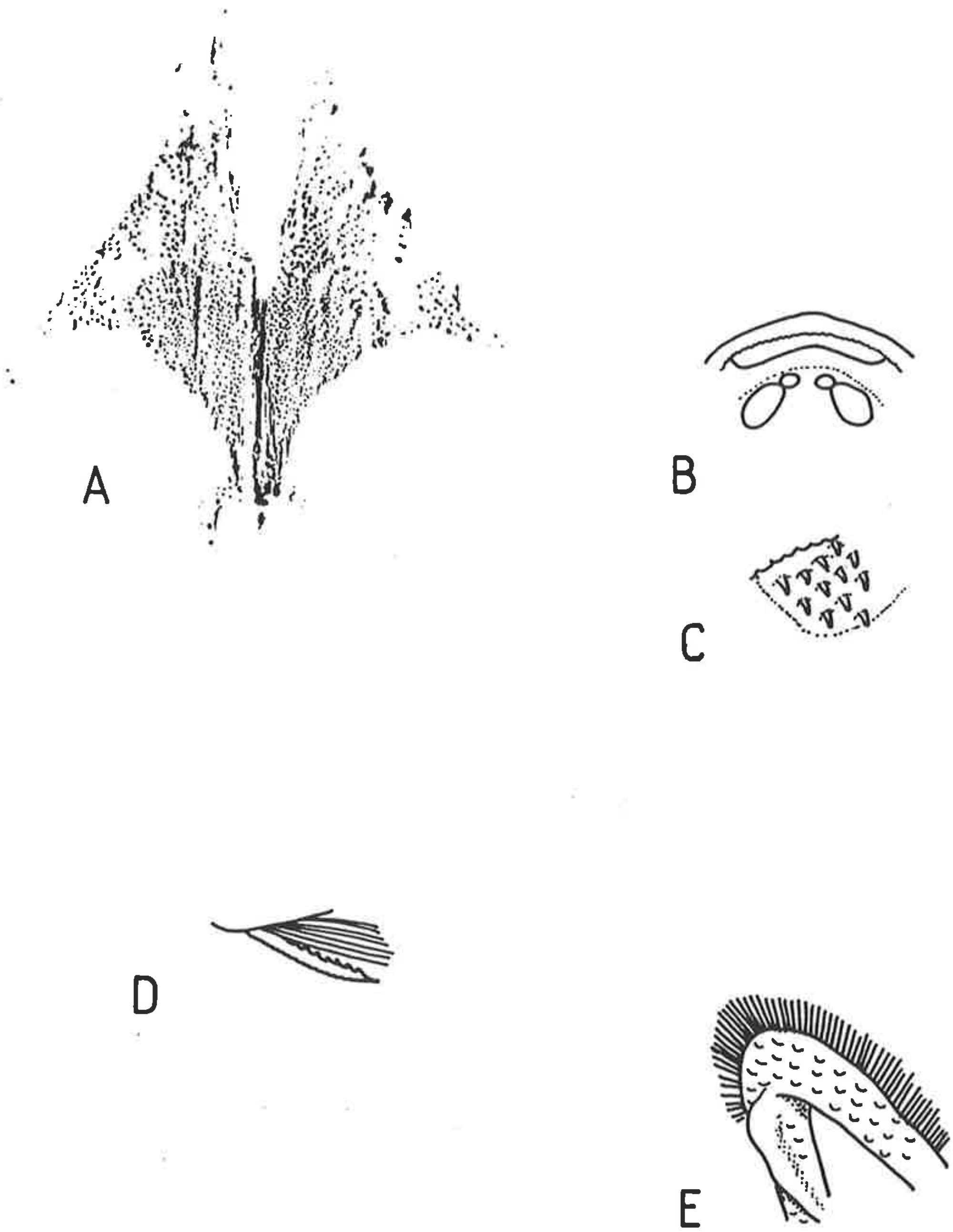


Figure 240. "Arius" species 6: A) rubbing of head shield, 250mm SL specimen; B) form and arrangement of upper tooth patches, 74mm SL specimen; C) enlargement of premaxillary teeth, same specimen; D) LHS pectoral spine, 58.5mm SL specimen (x 2); E) posterior of RHS 2nd gill arch, showing papillae and epithelial pad, 58.5mm SL specimen (x 6).

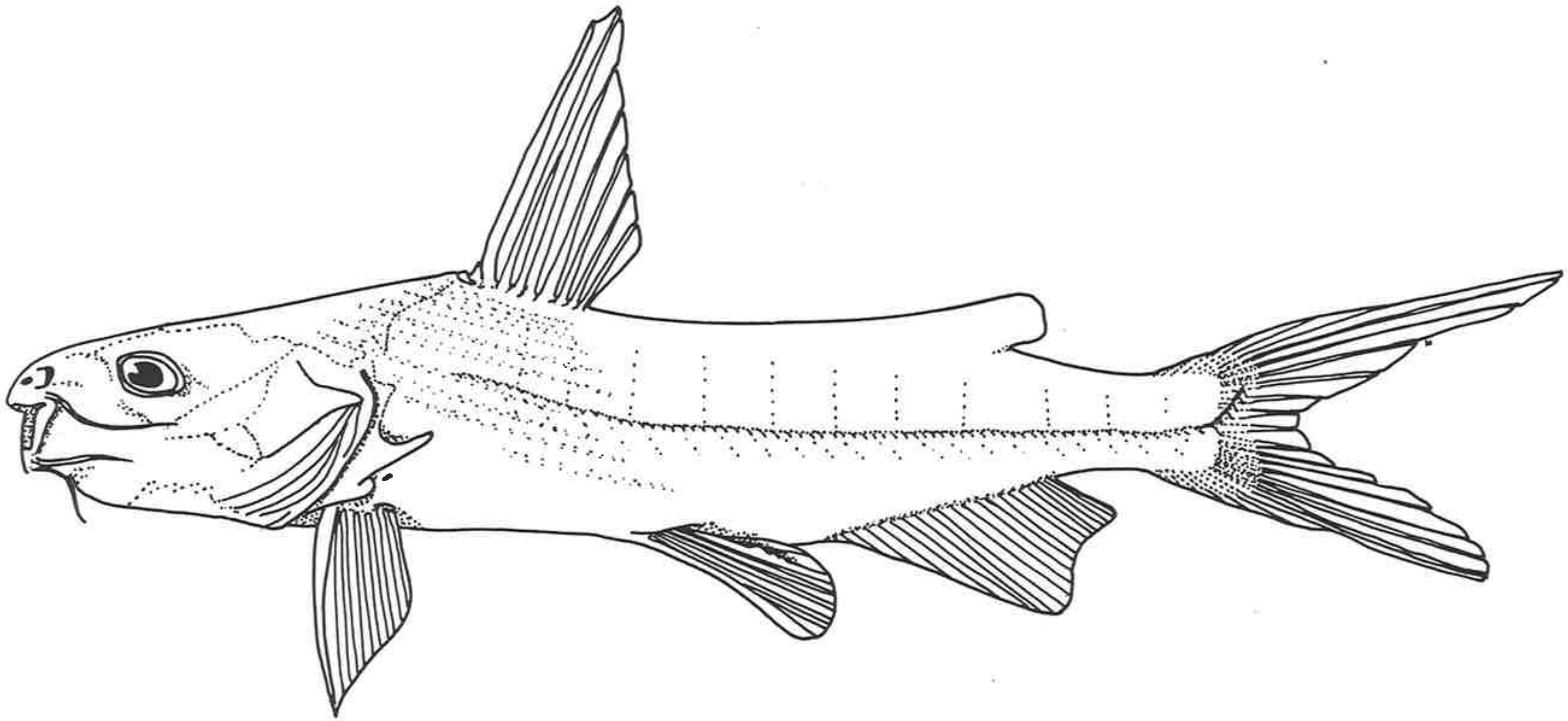


Figure 241. "Arius" species 4: lateral view, 228mm SL specimen (x 0.7).

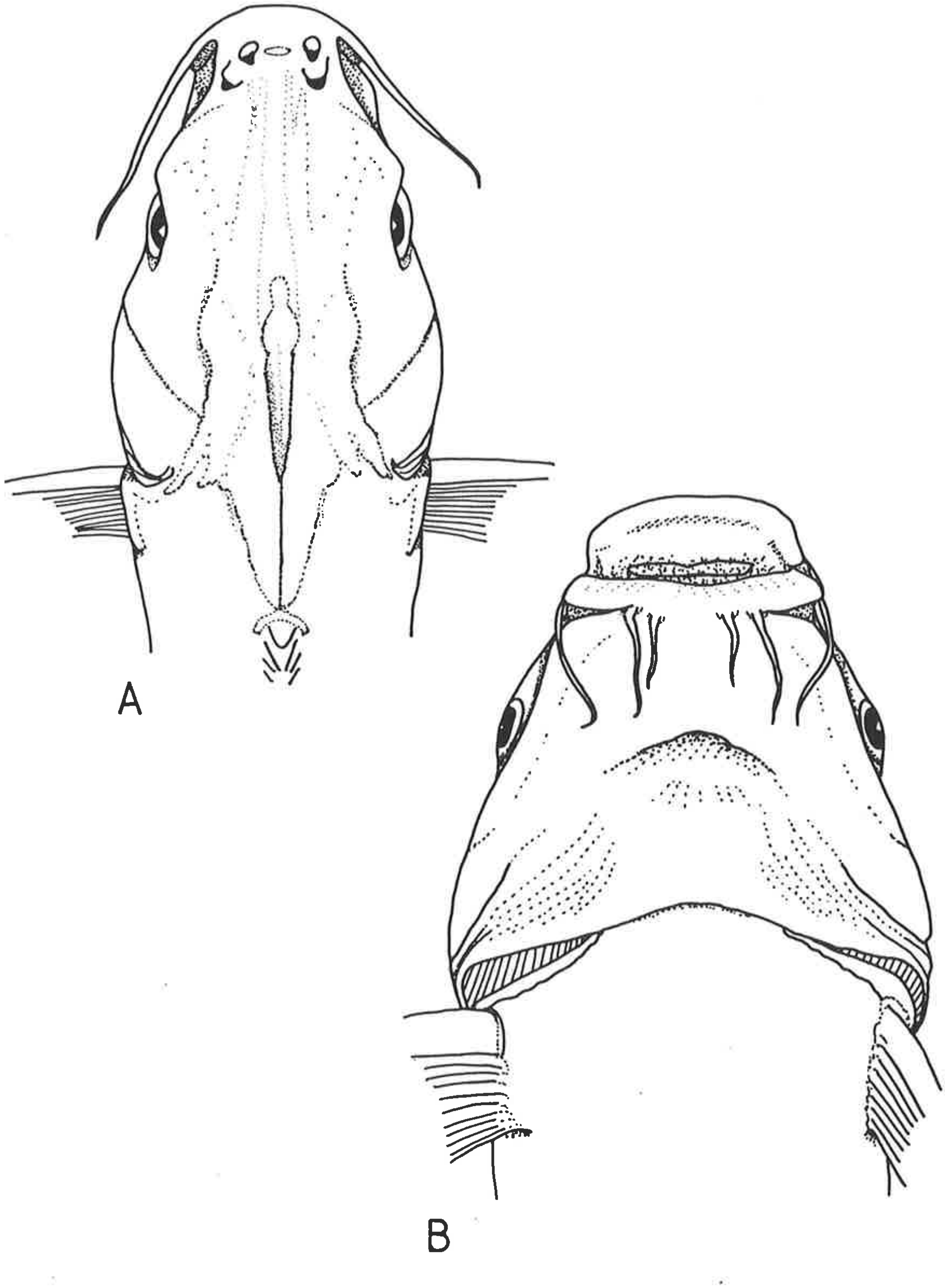


Figure 242. "Arius" species 4: A) dorsal head view, 228mm SL specimen (x 1); B) ventral head view, 304mm SL specimen (x 1).

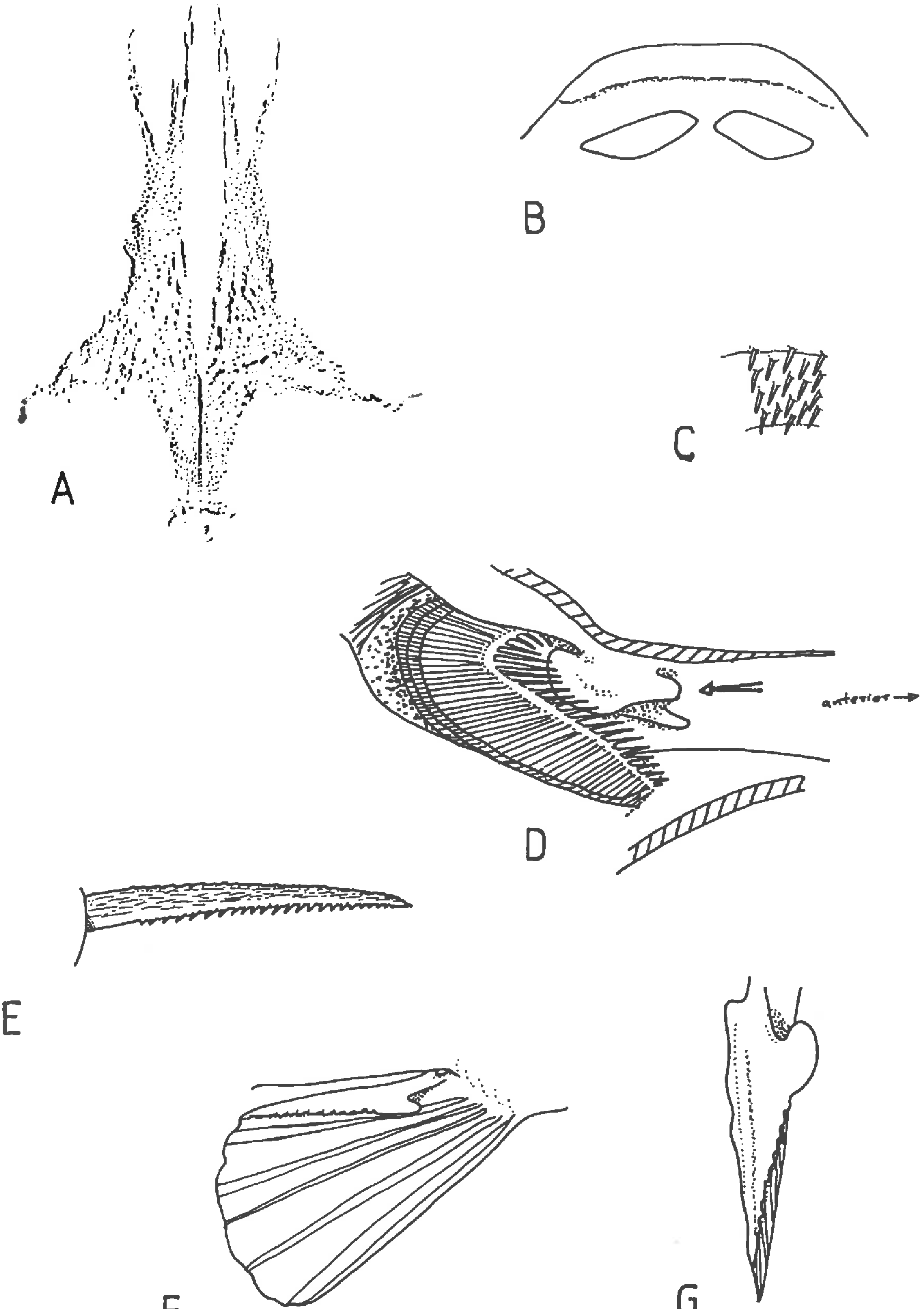


Figure 243. "Arius" species 4: A) rubbing of head shield, 228mm SL specimen; B) form and arrangement of upper tooth band, 204mm SL specimen; C) premaxillary teeth enlarged, same specimen; D) lateral view of palate and RHS gill arches (side of head cut away) showing large flaps of epithelial tissue (arrow)(136mm SL specimen, x 4); E) RHS pectoral spine, 228mm SL specimen (x 1); RHS ventral fin of mature female showing pad of epithelial tissue (228mm SL specimen), F) laterally; G) ventrally (both x 1).

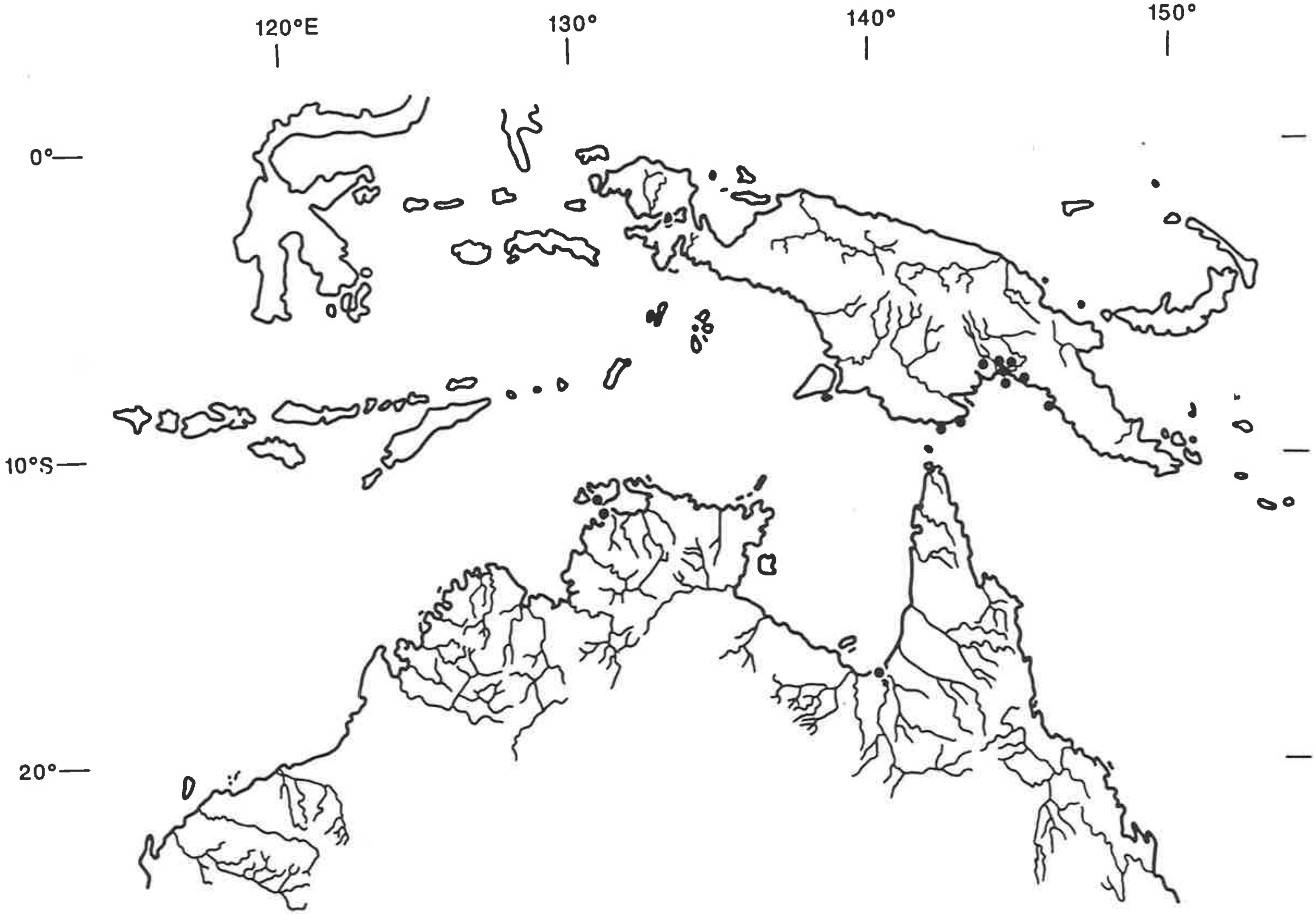


Figure 244. Distribution of "Arius" species 4, based on material examined (solid circles indicate capture locality).

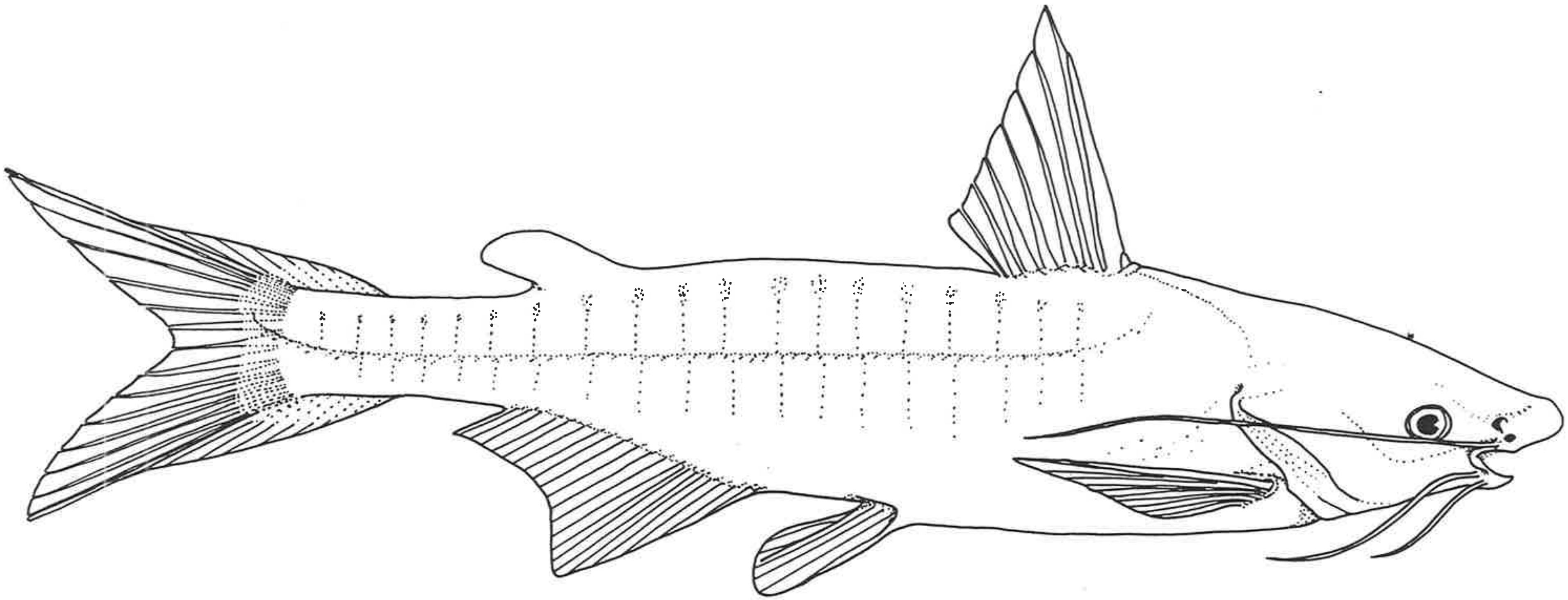


Figure 245. "Arius" macrorhynchus: lateral view, 211mm SL specimen (x 0.9).

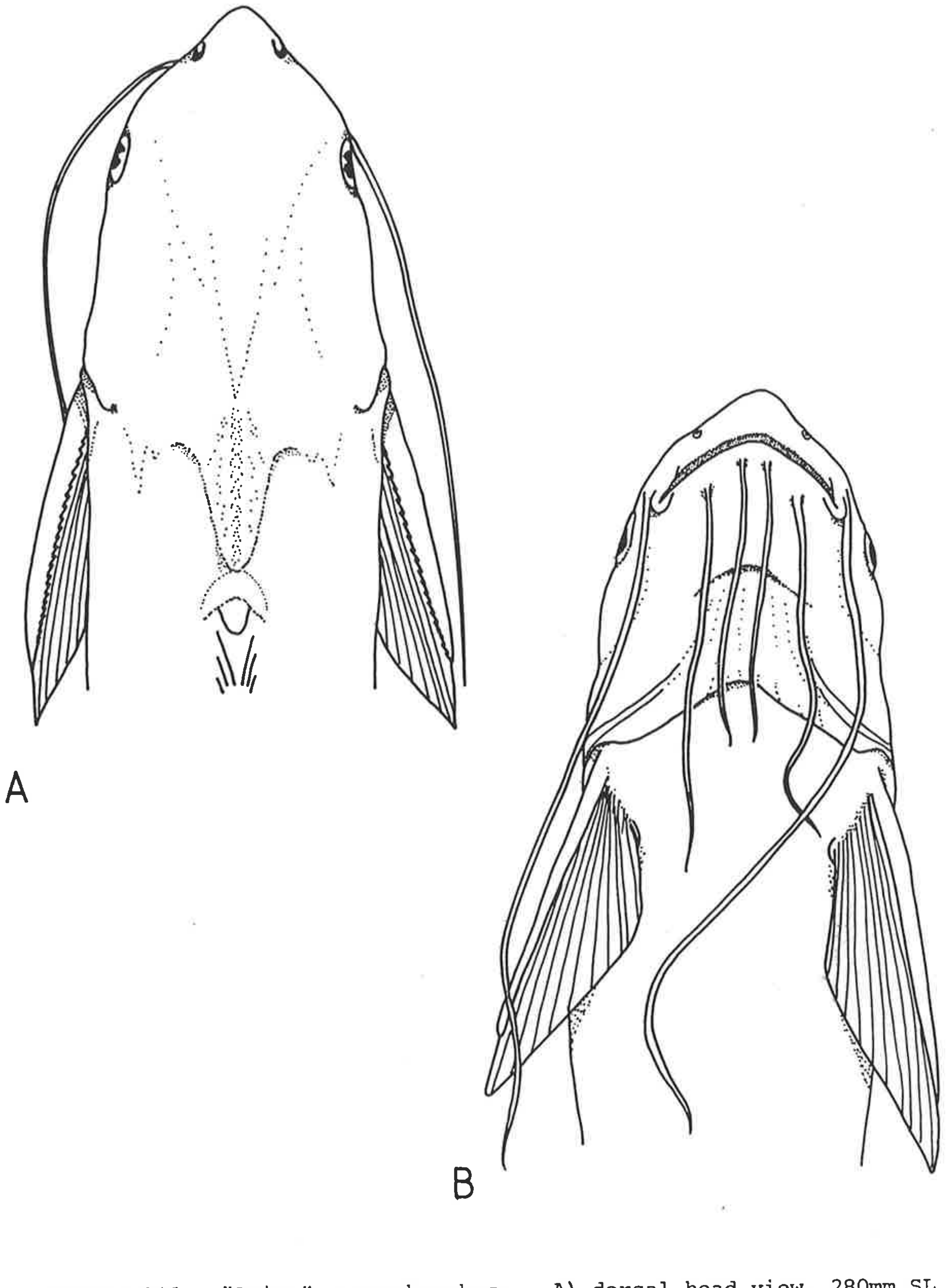


Figure 246. "Arius" macrorhynchus: A) dorsal head view, 280mm SL specimen (x 1); B) ventral head view, 313mm SL specimen (x 0.9).

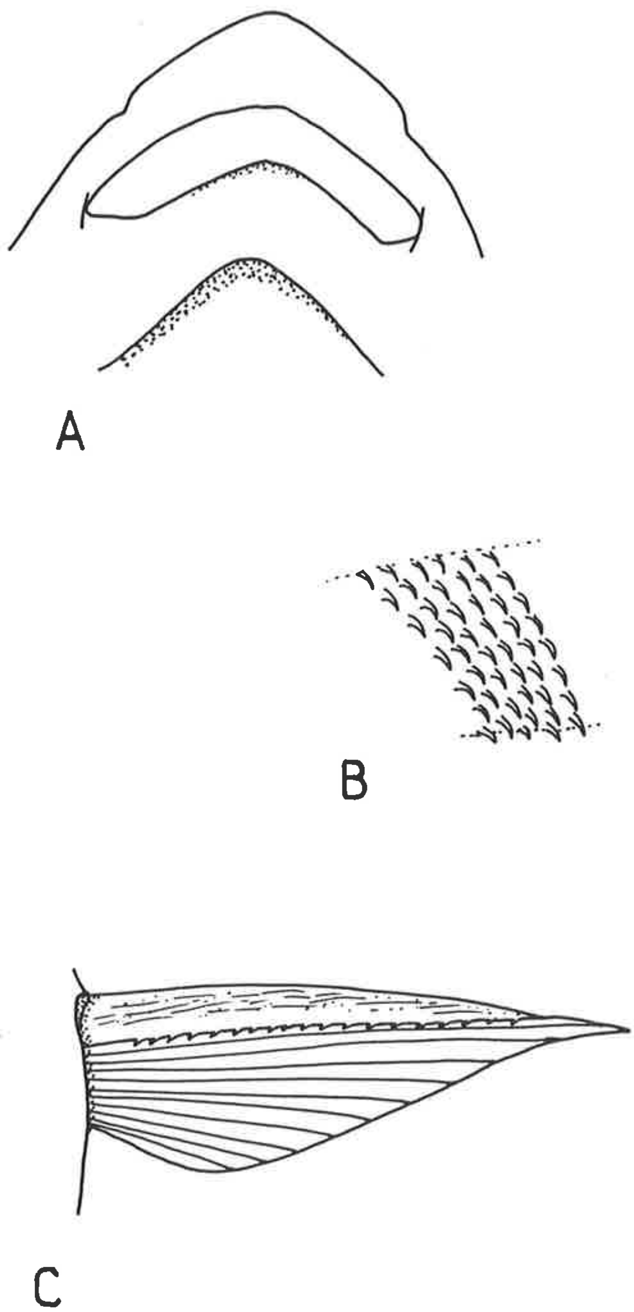


Figure 247. "Arius" macrorhynchus: A) form of upper tooth band, 280 mm SL specimen; B) enlargement of teeth, same specimen; C) RHS pectoral fin, 313mm SL specimen (x 1).

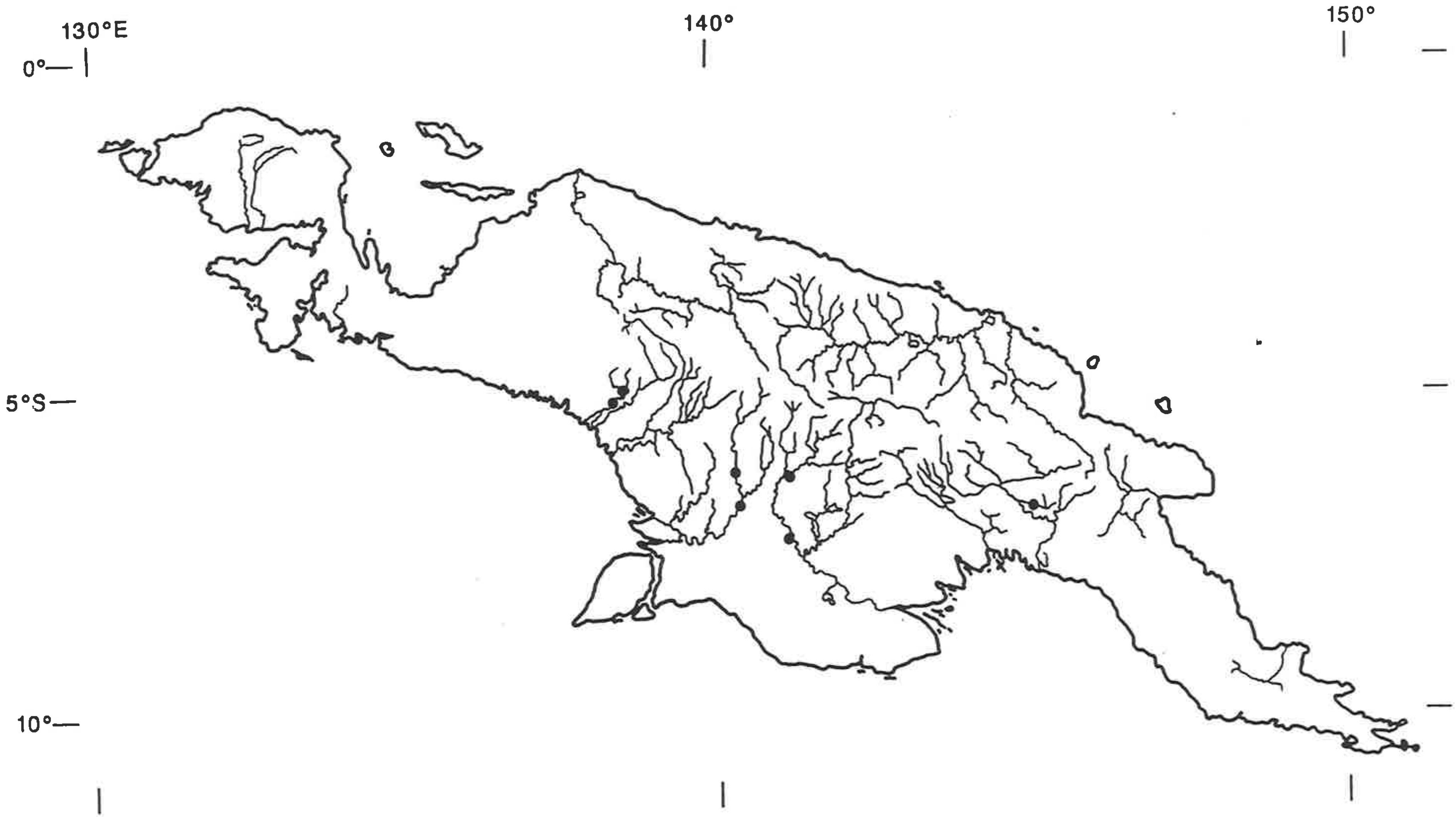


Figure 248. Distribution of "Arius" macrorhynchus, based on material examined (solid circles indicate capture locality).

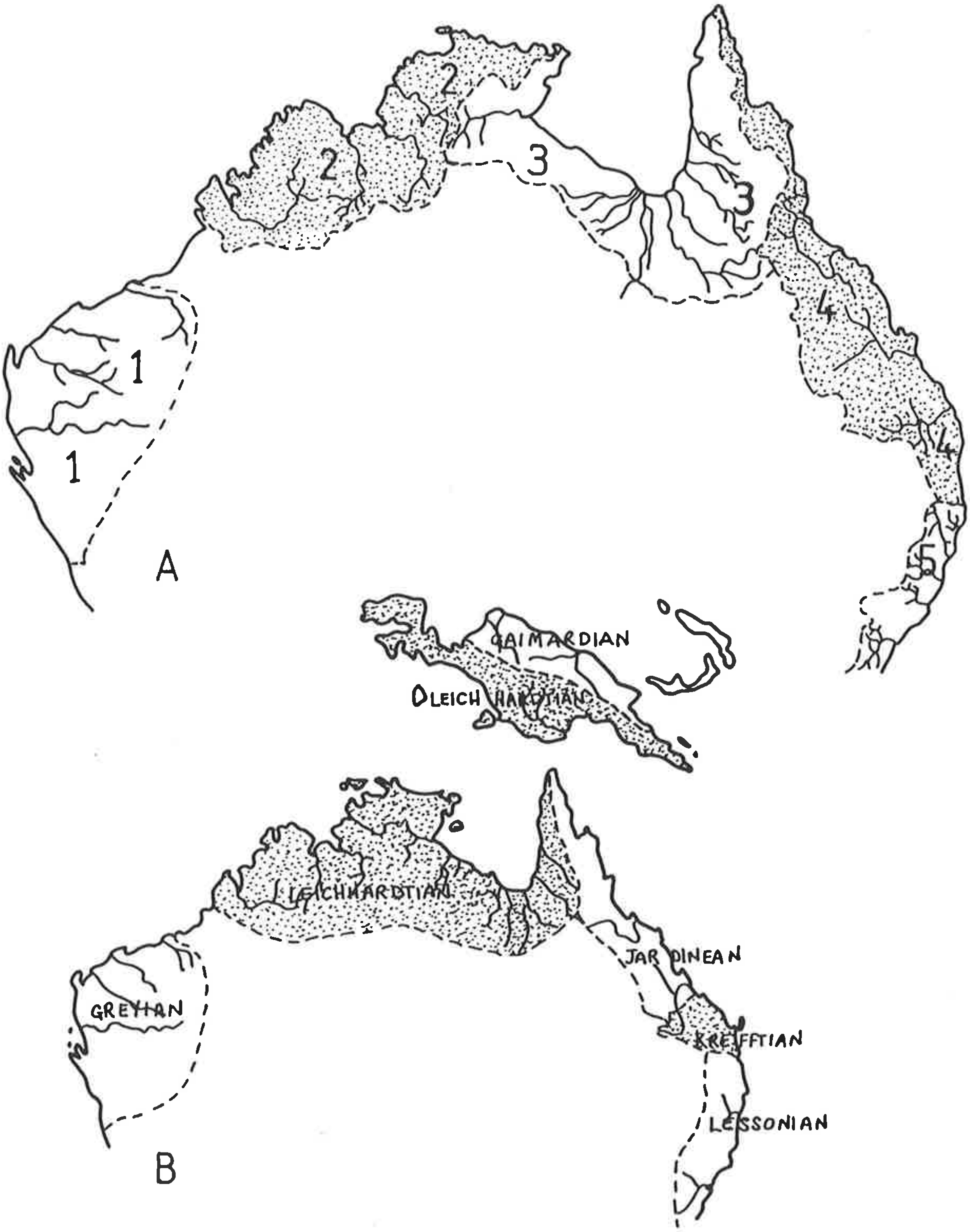


Figure 249. A) Drainage patterns in northern Australia (after Lake, 1971), where 1 = Indian Ocean drainage, 2 = Timor Sea, 3 = Gulf of Carpentaria, 4 = Northeast slopes, 5 = Southeast slopes; B) The "fluvifaunulae" of Iredale and Whitley (1938) (amended to correctly show the Leichhardtian province, after Whitley, 1947).

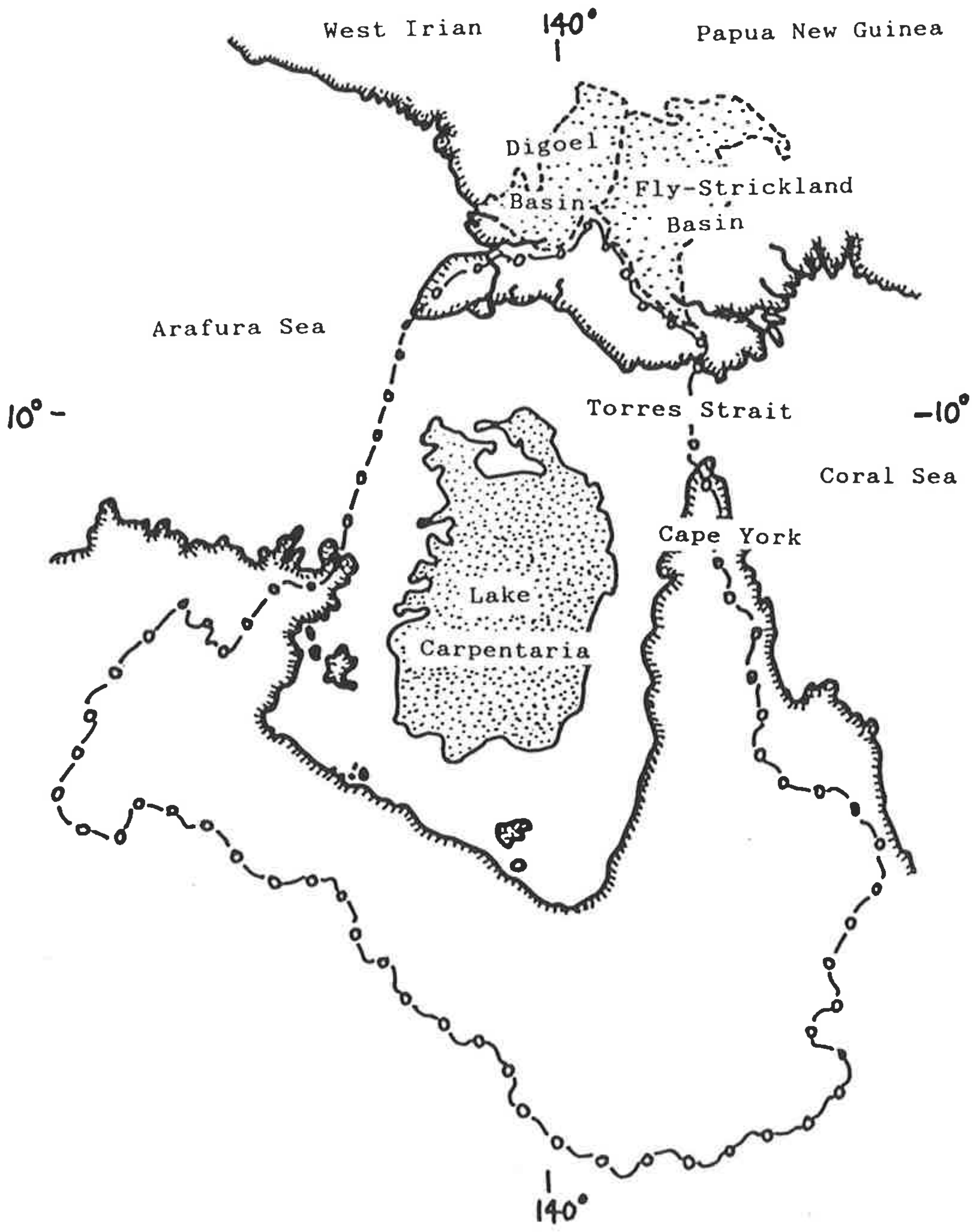


Figure 250. The maximum extent of Lake Carpentaria and its drainage basin (o-o-o-) during the last glacial maximum (after Torgersen et al., 1985). The Digoel River and Fly-Strickland River drainage basins at that period are also shown. The present coastline is shown for reference.

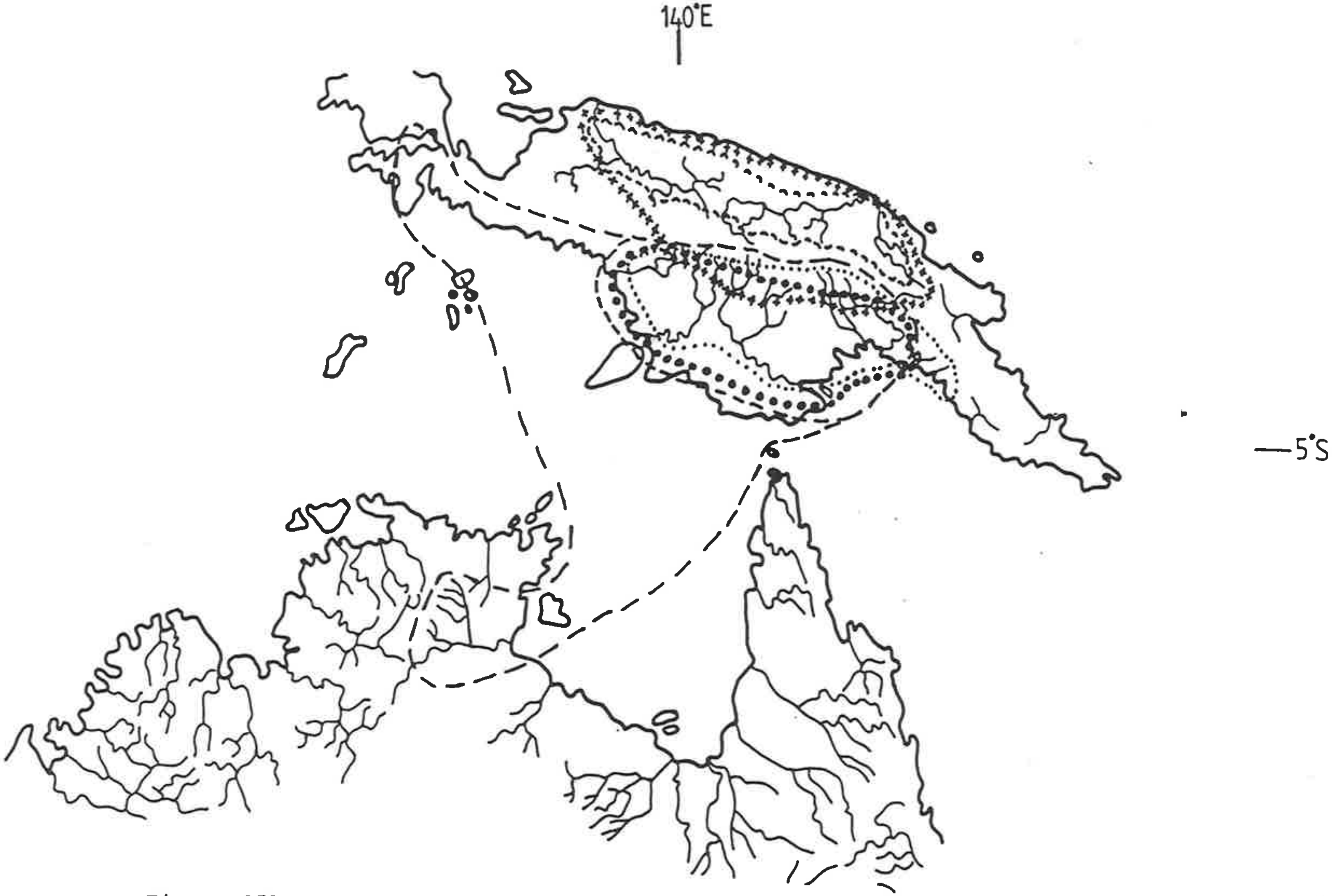


Figure 251. Generalised tracks of Cochlefelis (·····), Brustiarius (^^^^), Species Group A (++++), Nedystoma (●●●●) and Cinetodus, including Pachyula (- - -) (only C. froggatti is present in Australia).

Table 1. Nominal genera of the Ariidae.

Nominal genus, author, date	Type species, author, date	Type locality
Aelurichthys Gill, 1863	marinus Mitchill, 1815	NE America
Ailurichthys Baird & Girard, 1854	marinus Mitchill, 1815	NE America
Ancharius Steindachner, 1881	fuscus Steindachner, 1881	Madagascar
Anemanotus Fowler, 1944	panamensis Gill, 1863	central W. America
Ariodes Müller & Troschel, 1849	arenarius Müller & Troschel, 1849	China (?)
Ariopsis Gill, 1861	milberti Valenciennes, 1840 (= jun. syn. of felis Linnaeus, 1766)	central America
Arius Valenciennes, 1840	arius Hamilton-Buchanan, 1822	India
Aspistor Jordan & Evermann, 1898	luniscutis Valenciennes, 1840	S. America
Bagre Cloquet, 1816	bagre Linnaeus, 1766	America
Batrachocephalus Bleeker, 1846	ageneiosus Bleeker, 1846 (= jun. syn. of mino Ham. Buch., 1822)	India
Breviceps Swainson, 1838*	bagre Bloch, 1794	America
Brustiarius Herre, 1935	nox Herre, 1935	New Guinea
Catastoma Kuhl & van Hasselt, ms, in Valenciennes, 1840	nasutum Bleeker, 1858	India?
Cathorops Jordan & Gilbert, 1882	hypophthalmus Steindachner, 1875	central W. America
Cephalocassis Bleeker, 1858	melanochir Bleeker, 1852	Indonesia
Cinetodus Ogilby, 1898	froggatti Ramsay & Ogilby, 1886	New Guinea
Cochlefelis Whitley, 1941	spatula Ramsay & Ogilby, 1886	New Guinea
Doiichthys Weber, 1913	novaeguineae Weber, 1913	New Guinea
Felichthys Swainson, 1839	bagre Bloch, 1794	America
Galeichthys Valenciennes, 1840	feliceps Valenciennes, 1840	S. Africa
Genidens Castelnau, 1855	genidens Valenciennes, 1840	S. America
Guiritinga Bleeker, 1858	commersonii Lacepede, 1803 (= jun. syn. of barbus Lacepede, 1803)	S. America
Hemiarius Bleeker, 1862	stormii Bleeker, 1858	East Indies
Hemipimelodus Bleeker, 1858	borneensis Bleeker, 1851	Borneo; Sumatra
Hexanematichthys Bleeker, 1858	sundaicus Valenciennes, 1840 (= jun. syn. of sagor Ham. Buch., 1822)	Indonesia
Ketengus Bleeker, 1847	typus Bleeker, 1847	Java
Leptarius Gill, 1863	dowii Gill, 1863	central W. America

Table 1 continued

Nominal genus, author, date	Type species, author, date	Type locality
Mystus Gronow in Gray, 1854*	carolinensis Gray, 1854	central America
Nedystoma Ogilby, 1898	dayi Ramsay & Ogilby, 1886	New Guinea
Nemapteryx Ogilby, 1908	stirlingi Ogilby, 1898 (= jun. syn. of armiger De Vis, 1884)	New Guinea
Neoarius Castelnau, 1878	curtisii Castelnau, 1878 (= jun. syn. of graeffei Kner & Steind., 1866)	Queensland
Netuma Bleeker, 1858	nasuta Bleeker, 1858 (= jun. syn. of thalassinus Rüppell, 1837)	Indonesia
Notarius Gill, 1863	grandicassis Valenciennes, 1840	S. America
Osteogeneiosus Bleeker, 1846	macrocephalus Bleeker, 1846 (= jun. syn. of militaris Valenciennes, 1840)	Java
Pachyula Ogilby, 1898	crassilabris Ramsay & Ogilby, 1886	New Guinea
Paradiplomystes Bleeker, 1862**	coruscans Lichtenstein, 1819	S. America
Pararius Whitley, 1940	proximus Ogilby, 1898	N. Australia
Pimelodus Bleeker, 1864*	bagre Linnaeus, 1766	central America
Potamarius Hubbs & Miller, 1960	nelsoni Evermann & Goldsborough, 1902	central America
Pseudarius Bleeker, 1862	arius Valenciennes, 1840	India
Sarcogenys Kuhl & van Hasselt, ms in Bleeker, 1862	rostratus Kuhl & van Hasselt (= thalassinus Rüppell)	-
Sciadeichthys Bleeker, 1858	emphysetus Müller & Troschel, 1849	S. America
Sciadeops Fowler, 1844	troschelii Gill, 1863	S. America
Sciades Müller & Troschel, 1849**	pictus Müller & Troschel, 1849	S. America
Selenaspis Bleeker, 1858	herzbergii Bloch, 1794	S. America
Septobranchus Hardenberg, 1941	johannae Hardenberg, 1941	New Guinea
Tachysurus Lacepede, 1803[0]	sinensis Lacepede, 1803	China
Tetranesodon Weber, 1913	conorhynchus Weber, 1913	New Guinea

* = name preoccupied
** = belongs in the Pimelodidae
0 = nomen dubium; not an ariid; rejected
(Fossil ariid genera include +Peyeria Whitley, 1940, +Rhineastes Cope, 1872 and +Vorhisia Frizzell, 1965)

Table 2. Nominal ariid species and current allocation, in Australia & New Guinea. Previous generic allocation for endemic taxa is stated. Unnamed species 1-7 are not included.

Species, Author, Date	Nominal Genera, Endemic Australo-Papuan Ariids	Present Allocation
aaldereni Hardenberg, 1936	*Hemipimelodus*	*macrorhynchus* Weber
acrocephalus Weber, 1913	*Arius*	*latirostris* Macleay
acutus Bleeker, 1846		*argyropleuron* Val.
aeneus Sauvage, 1883		*thalassinus* Rüppell
andamanensis Day, 1870 (in part)		*thalassinus* Rüppell
andamanensis Day, 1870 (in part)		*bilineatus* Val.
arafurensis Hardenberg, 1948	*Arius*	*proximus* Ogilby
argyropleuron Valenciennes, 1840		*argyropleuron* Val.
armiger De Vis, 1884	*Arius*	*armiger* De Vis
augustus Roberts, 1978	*Arius*	*augustus* Roberts
australis Günther, 1866	*Arius*	*graeffei* Kner & Steind.
berneyi Whitley, 1941	*Pararius*	*berneyi* Whitley
bernhardi Nichols, 1940	*Hemipimelodus*	*solidus* Herre
bilineatus Valenciennes, 1840		*bilineatus* Val.
broadbenti Ogilby, 1908	*Tachysurus*	*argyropleuron* Val.
carchariorhynchos Bleeker, 1847		*thalassinus* Rüppell
carinatus Weber, 1913	*Arius* (*Hemiarius*)	*carinatus* Weber
cleptolepis Roberts, 1978	*Arius*	*berneyi* Whitley
colcloughi Ogilby, 1910	*Hemipimelodus*	*argyropleuron* Val.
conorhynchus Weber, 1913	*Tetranesodon*	*conorhynchus* Weber
crassilabris Ramsay & Ogilby, 1886	*Pachyula*	*crassilabris* Ramsay & Ogilby
curtisii Castelnau, 1878	*Neoarius*	*graeffei* Kner & Steind.
danielsi Regan, 1908	*Arius* (*Hemiarius*)	*danielsi* Regan
dayi Dmitrenko, 1974		*bilineatus* Val.
dayi Ramsay & Ogilby, 1886	*Nedystoma*	*dayi* Ramsay & Ogilby
digulensis Hardenberg, 1936	*Arius*	*latirostris* Macleay
froggatti Ramsay & Ogilby, 1886	*Cinetodus*	*froggatti* Ramsay & Ogilby
gagorides: Macleay, 1881	*Arius*	*mastersi* Ogilby
godfreyi Whitley, 1941	*Pararius*	*mastersi* Ogilby
graeffei Kner & Steindachner, 1866	*Arius*	*graeffei* Kner & Steind.

Table 2 continued

Species, Author, Date	Nominal Genera, Endemic Australo-Papuan Ariids	Present Allocation
Hamiltonis Bleeker, 1846		*argyropleuron* Val.
johannae Hardenberg, 1941	*Septobranchus*	*froggatti* Ramsay & Ogilby
kanganamanensis Herre, 1935	*Arius*	*solidus* Herre
laevigatus Valenciennes, 1840		*thalassinus* Rüppell
latirostris Macleay, 1884	*Arius*	*latirostris* Macleay
leiocephalus Bleeker, 1858		*nella* Val.
leiotetocephalus Bleeker, 1846		*nella* Val.
leptaspis Bleeker, 1862	*Hexanematichthys*	*leptaspis* Bleeker
macrocephalus Bleeker, 1846		*argyropleuron* Val.
macrorhynchus Weber, 1913	*Hemipimelodus*	*macrorhynchus* Weber
mastersi Ogilby, 1898	*Arius*	*mastersi* Ogilby
meyenii Müller & Troschel, 1849		*nella* Val.
microstomus Nichols, 1940	*Arius*	*solidus* Herre
midgleyi Kailola & Pierce, 1988	*Arius*	*midgleyi* Kailola & Pierce
nasutus Valenciennes, 1840		*thalassinus* Rüppell
nella Valenciennes, 1840		*nella* Val.
netuma Valenciennes, 1840		*thalassinus* Rüppell
novae-guineae Weber, 1913	*Doiichthys*	*novaeguineae* Weber
nox Herre, 1935 (in part)	*Brustiarius*	*nox* Herre
nudidens Weber, 1913	*Arius*	*spatula* Ramsay & Ogilby
osakae Jordan, 1925		*bilineatus* Val.
papillifer Herre, 1935	*Hemipimelodus*	*velutinus* Weber
polystaphylodon Bleeker, 1846		*polystaphylodon* Bleeker
proximus Ogilby, 1898	*Pararius*	*proximus* Ogilby
sagoroides Hardenberg, 1941	*Arius*	*mastersi* Ogilby
schlegeli Bleeker, 1863		*argyropleuron* Val.

Table 2 continued

Species, Author, Date	Nominal Genera, Endemic Australo-Papuan Ariids	Present Allocation
serratus Day, 1877 (in part)		thalassinus Rüppell
serratus Day, 1877 (in part)		bilineatus Val.
solidus Herre, 1935	Arius	solidus Herre
spatula Ramsay & Ogilby, 1886	Cochlefelis	spatula Ramsay & Ogilby
stirlingi Ogilby, 1898	Nemapteryx	armiger De Vis
taylori Roberts, 1978	Arius	taylori Roberts
thalassina jacksonensis Whitley, 1941	Arius	thalassinus Rüppell
thalassinus Rüppell		thalassinus Rüppell
velutinus Weber, 1908	Hemipimelodus	velutinus Weber
venaticus Richardson, 1845		invalid
vertagus Richardson, 1845		invalid

Table 3. Comparison of largely "adaptive" character states in Austro-Papuan ariids.

Taxon	Br. No.	Gill opening	Head height	Mouth width	Width Jaw tooth bands	GR No.	Lip thickness	Tooth movement	Mouth position	Diet (and see biolog. info; each species)
Nedystoma dayi	6	restricted	mod.high	mod.narrow	narrow	29-45	mod.thin & fleshy	depressible	subinferior	detritus, small items
Nedystoma novaeguineae	6	very wide	low	very wide	very narrow	45-51	thin & firm	sl.depressible	terminal/ superior	carnivorous, + plant material
Cinetodus (C.) froggatti	5	restricted	high	narrow	mod.narrow	11-16	thin & fleshy	sl.depressible	subinferior	bivalve & gastropod molluscs
Cinetodus (C.) carinatus	6	restricted	high	narrow	wide	15-19	thick & fleshy	depressible	subinferior	insects & detritus
Cinetodus (P.) crassilabris	6	restricted	high	narrow	wide	14-18	very thick & fleshy	depressible	subinferior	detritus
Cinetodus (P.) conorhynchus	6?	restricted	high	narrow	narrow	14	thin/absent	depressible	inferior	?
genus 1 argyropleuron	6	mod.narrow	mod.low	narrow	mod.narrow	10-16	mod.thick & fleshy	depressible	subterm./ subinferior	detritus?
genus 1 polystaphylodon	6	mod.narrow	mod.low	narrow	mod.wide	12-17	mod.thick, rubbery	depressible	subterminal	?
genus 1 nelaa	6	mod.narrow	mod.high	narrow	mod.narrow	13-16	mod.thick	depressible	subterminal	detritus? + seaurchins?
"Arius" (B.) nox	6	wide	low	mod.narrow	mod.narrow	56-67	thin	sl.depressible	terminal	insects, plants (detritus)
"Arius" (B.) solidus	6	wide	mod.low	moderate	mod.wide	19-30	thin	sl.depressible	terminal	insects, plants, detritus
"Arius" (C.) spatula	6	very wide	low	moderate	very wide	15-17	thick & rubbery	depressible	inferior	carnivorous (mostly crustacea)
"Arius" (C.) danielsi	6	very wide	low	very wide	very wide	18-24	thin & rubbery	sl.depressible	inferior	carnivorous (mostly crustacea)
"Arius" (Hem.) species 1	7	very wide	low	mod.wide	narrow	10-11	mod.thick	fixed	subterminal	carnivorous
"Arius" (Hem.) species 5	7	very wide	low	moderate	very narrow	11-12	mod.thin	fixed	terminal/ superior	carnivorous?
"Arius" (Hex.) mastersi	6	mod.wide	mod.low	mod.wide	wide	12-18	mod.thick	depressible	subterminal	carnivorous + plants, detritus
"Arius" thalassinus	5	mod.wide	mod.high	moderate	mod.wide	12-15	mod.thick	depressible	subterminal/ inferior	carnivorous
"Arius" bilineatus	5	mod.wide	mod.high	moderate	mod.wide	11-16	mod.thick	depressible	subterminal	carnivorous/ omnivore?
"Arius" proximus	6	mod.narrow	high	moderate	wide	10-13	mod.thick	depressible	subterminal	omnivorous
"Arius" velutinus	6	mod.wide	high	mod.narrow	mod.wide	13-18	mod.thick & fleshy	depressible	subinferior	omnivorous - detritus, plants, insects

Table 3 continued

Taxon	Br. No.	Gill opening	Head height	Mouth width	Width jaw tooth bands	GR No.	Lip thickness	Tooth movement	Mouth position	Diet (and see biolog. info; each species)
"Arius" taylori	-	mod.wide	high	mod.narrow	mod.wide	15	thick & fleshy	depressible	subinferior	fruit, plants, insects
"Arius" species 7	6	mod.wide	mod.high	mod.narrow	wide	13-17	mod.thick	depressible	subterminal	omnivorous
"Arius" graeffei	6	mod.wide	mod.high	moderate	mod.wide	16-23	mod.thick	depressible	subterminal	omnivorous
"Arius" berneyi	6	mod.narrow	mod.high	mod.narrow	mod.wide	15-20	mod.thin	depressible	subterminal	omnivorous (detritus, fish scales)
"Arius" species 3	6	mod.wide	high	mod.narrow	mod.wide	15-20	mod.thick & fleshy	depressible	subinferior	omnivorous?
"Arius" armiger	6	very wide	mod.high	mod.wide	narrow	16-22	mod.thick	sl.depressible	subterminal	carnivorous (prawns)
"Arius" augustus	7	very wide	mod.high	very wide	narrow	20-22	mod.thin	sl.depressible	terminal	carnivorous
"Arius" latirostris	6	very wide	mod.high	moderate	wide	14-21	mod.thick	depressible	subinferior	omnivorous
"Arius" leptaspis	6	very wide	mod.low	very wide	mod.wide	13-22	mod.thick	depressible	subterminal	omnivorous
"Arius" midgleyi (both sspp.)	6	very wide	mod.low	mod.wide	very wide	10-17	mod.thin	depressible	subterminal	carnivorous/ omnivorous
"Arius" species 2	6	mod.wide	mod.low	very wide	mod.wide	13-22	mod.thick	depressible	subterminal	omnivorous (fish scales, large detritus)
"Arius" species 6	6	mod.wide	mod.low	very wide	mod.wide	10-14	mod.thick & fleshy	sl.depressible	subinferior	?
species 4 (incertae sedis)	6	restricted	mod.low	narrow	narrow	28-37	thin & fleshy	depressible	subinferior	fruit & detritus
macrorhynchus (incertae sedis)	7	restricted	mod.high	narrow	mod.wide	12-16	thin & firm	depressible	inferior	fruit, plants, insects, detritus

Table 4. Vertebral counts of Australo-Papuan ariids.

	Precaudal (includes first 4)	Precaudal as % of total vert.	Haemal	Total caudal (incl. haemal)	Total	Max. recorded SL (mm) (or best est.)
Nedystoma dayi	13-15	37-45	4-6	33-35	47-49	approx. 320
N. novaeguineae	13-15	34-42	2-3	36-38	50-52	150
Cinetodus froggatti	17-18	33-37	4	33-34	49-52*	423
C. carinatus	18	35-37	3	32-33	49-51*	520
C. crassilabris	17	31-33	5	34	51-54*	500
C. conorhynchus	-	-	-	-	45	170
genus 1 argyropleuron	15-18	29-38	6-7	32-33	48-51	approx. 400
genus 1 polystaphylodon	21	42	7	29	50	340
genus 1 nella	20-22	40-47	4-6	26-30	47-50	approx. 780
"Arius" (Brustiarius) nox	16-17	30-33	5-8	35-37	51-53	285
"A." (Brustiarius) solidus	17-20	30-38	5-7	34-37	52-56	490
"A." (Cochlefelis) spatula	19-20	32-36	6	39	56-59*	approx. 580
"A." (Cochlefelis) danielsi	19-20	33-36	6-7	38-39	56-58*	approx. 500
"A." (Hemiarius) species 1	21	42-43	5	28-29	49-50	1200
"A". (Hemiarius) species 5	24	40	3	36	60	350
"A". (Hexanematichthys) mastersi	23-24	38-40	5	37	60-61	510
"A." (Netuma) thalassinus	19-20	40-43	6	25-28	46-48	1300
"A." (Netuma) bilineatus	20-21	34-40	7-9	35-37	53-58	620
"A." (Netuma) proximus	18-19	35-37	7-8	33	51-52	410
"A." velutinus	17-19	32-37	6-7	33-35	51-53	500
"A." taylori	-	-	5	33	49-50*	353
"A." species 7	21	38	5	35	56	660
"A." graeffei	18-21	33-39	6-8	32-35	52-54	approx. 500
"A." berneyi	17-19	33-39	5-6	31-33	49-51	approx. 480
"A." species 3	18	35	6	33	51	310
"A." armiger	15-17	29-33	5	35-36	52	295
"A". augustus	19	33-35	6	39	55-58*	900
"A". latirostris	18-20	33-37	5-7	33-35	53-54*	approx. 580
"A." leptaspis	19-22	34-42	4-6	31-34	53-56	640
"A." midgleyi[0]	20	36	7-8	35-36	55-56	1100
"A." species 2	18-19	34-36	7	35	53	450
"A." species 6	19-20	38-40	5	26	50	254
"A." species 4	17-18	34-37	3-5	31-33	49-50	302
"A." macrorhynchus	17	33	5-6	35	51-52*	463

* includes Roberts' (1978) counts
0 no difference between subspecies

Table 5. Vertebral counts for a range of extralimital ariids.

	Precaudal (includes first 4)	Haemal	Total caudal (incl. haemal)	Total vertebr.	Location
"Arius" arius (Valenciennes)	18-19	5-6	34	52-53	SE Asia
"Arius" arenarius (Müller & Troschel)	19-20	5	34	53-54	China Sea
"Arius" barba (Lacepede)	19-20	5-6	32-34	52-54	S. America
Bagre bagre (Linnaeus)	18	6	40	58	central America
Hemipimelodus borneensis (Bleeker)	14-15	5	32-33	46-48	S.E. Asia
Selenaspis dowii (Gill)	24-27	-	36-40	60-67	S. central America
Sciadeichthys emphysetus (Müller & Troschel)	15	-	40	55	S. America
"Arius" felis (Linnaeus)	18-19	6-8	35-36	53-54	N. central America
Galeichthys feliceps Valenciennes	17-18	5-6	34-35	51-53	S. Africa
"Arius" genidens (Valenciennes)	17-20	5-6	33-36	50-53	S. America
"Arius" luniscutis Valenciennes	19-20	5-6	35-36	53	S. America
Bagre marinus Mitchill	18-20	7	38	57-58	central America
Cephalocassis melanochir (Bleeker)	19	3	33	52	SE Asia
Osteogeneiosus militaris (Linnaeus)	17	6	34-35	51-52	SE Asia
Batrachocephalus mino Hamilton-Buchanan)	17	5	32	49	SE Asia
Potamarius nelsoni (Evermann & Goldsborough)	18	4-5	34-35	52-53	central America
Bagre panamensis (Gill)	16-18	6-8	41-43	57-61	central America
Selenaspis proops (Valenciennes)	27	2	30-31	57-58	S. America
"Arius" (Hexanematichthys) sagor (Hamilton-Buchanan)	20-21	5	33-34	53-55	SE Asia
"Arius" (Hemiarius) stormii (Bleeker)	15-18	4-6	30-32	46-48	SE Asia
"Arius" truncatus Valenciennes	20	4	35	55	SE Asia
Ketengus typus Bleeker	15	4-5	33	48	SE Asia
"Cathorops" species (3)	13-16	3-7	31-36	43-52	Central America
fam. MOCHOKIDAE?					
Ancharius fuscus Steindachner	17	4	29	46	Madagascar

Table 6. Character matrix used in reconstructing the hypothesised phylogeny of Australo-Papuan ariidae.

CHARACTERS and CHARACTER STATES

	OTU's	000000000111111111122222222223333333333444444444455555555 123456789012345678901234567890123456789012345678901234567
	Ingroup	
1	species 1	BCCCBBBBCAABBBAAADBAAAAAADCBBACBC-AAABBBBBCAABAAAAAABDABB
2	ARMIGER	BCCCBBBBCACBBDAAACBAAAAAABBBBACBAAAAABBBBBCAACACBAAADCBBB
3	PROXIMUS	BCCCBBBBCABABBACABAAABBAABBACABBCAAAABBBBBCAAA-ABAAAACBBB
4	MASTERSI	BCCCBBBBCABABBABABBAABAACBBABABAAAAAAABBBABAAA-ABAAABCABB
5	LATIROSTRIS	BCCCBBBBCAAABBAABBBAABAAABBABABBAAAAABBBBBBAABABBAAAACBBB
6	LEPTASPIS	BCCCBBBBCAAABBAAABBAABAAABBABABBAAAAABBBBBCAAA-ABAAAACABB
7	MIDGLEYI	BCCCBBBBCAAABBAAABBAABAAABBABABBAAAAABBBBBBAABAABAAAACBBB
8	AUGUSTUS	BCCCBBBBCAABBBAAABBAAAAAABBABACBAAAAABBBBBCAABABBAAAADBBB
9	species 2	BCCCBBBBCAAABBABABBAABAAABBABABBAAAAABBBBBBAABAABAAAACBBB
10	GRAEFFEI	BCCCBBBBCAAABBABABAAABAAABBABABBAAABABBBBBAAABAABAAAACABB
11	BERNEYI	BCCCBBBBCAAABBACBBAAABAAABBABABBAAABABBBBBAAABAABAAAACBBB
12	species 3	BCCCBBBBCAAABBABABAAABAAABBABABBAAB-ABBBBBAAABAABAAACCBBB
13	species 4	BCCCBBBBCABABDADCAABABAAADABCAAAAAB-ABBBBBAAACACCAABDCBBB
14	FROGGATTI	BCCCBBBBCACCCAADAAAAACABABBAAAAAABB-ABBBBBAAABABBAAABBBBB
15	CARINATUS	BCCCBBBBCACCCAADAAAAACABACBAAAAAABAAABBBBBAAABABBAAABCBBB
16	CRASSILABRIS	BCCCBBBBCACCBAADAAAAACABACABAAABABB-ABBBBBAAACACBB--ACCBB
17	DANIELSI	BCCCBBBBCAAABBAAACBAACAAABBAAACBA-AAABBBBBCAACAABAAAACBBB
18	SPATULA	BCCCBBBBCAABBBAAACBAACAAABBAAACBAAAAABBBBBCAACAABAAAACBBB
19	DAYI	BCCCBBBBCACBBDADCBAAABAACBACBAAAABB-ABBBBBAAACBCCB--DCCBA
20	NOVAEGUINEAE	BCCCBBBBCACBADBAADCCAAAACBBCBACAABB-DBBBBBAAACBCCAAACCCBA
21	species 5	BCCCBBBBCABAABBAADCBAAAAADBBCACBD-AAABBBBBCAABAAAAAAEDABB
22	THALASSINUS	BCCCBBBBCAABBBABAFBAABAAABBACABCCAAAABBBABCAABAABAAAABABB
23	BILINEATUS	BCCCBBBBCAABBBABABBAABAACBBACABCCAAAABBBBBCAABAABAAAABCBB
24	ARGYROPLEURON	BCCCBBBBCABABBACBAABBBAAADBACAACCAB-ABBAABBAABABCABAACBBB
25	POLYSTAPHYLODON	BCCCBBBBCABABBACBCABBBBAADCABAACB-B-ABBBABBAABABCABAACABB
26	NELLA	BCCCBBBBCAAABBACBCABBBBAADCABAACB-B-ABBBABBAABABCABAACABB
27	species 6	BCCCBBBBCABBBBABABAAABBAABBBAABBA-AAABBBBBCAABABBAAABCABB
28	NOX	BCCCBBBBCABABDAACBBAABAACCCBCABBAAABABABBBCAABABBAAADCCBB
29	SOLIDUS	BCCCBBBBCABABBAAACBAABAACCCBCABBAAABABABBBCAABABBAACACBBB
30	species 7	BCCCBBBBCABBBBABABBAABAAABBABABBA-B-ABBBBBBAACACBAAAACBBB
31	VELUTINUS	BCCCBBBBCABABBABBBBAABAAABBABABBAAB-ABBBBBBAACABBB--ACBBB
32	TAYLORI	BCCCBBBBCABA-BABBB--A-AAA--ABABB-AB-ABBBBBBAACBCBB--ACBBB
33	MACRORHYNCHUS	BCCCBBBBCABABBACAECBABAAACCACACBAAB-ABBBBBBAACAACB--DCBBB
34	CONORHYNCHUS	BCCCBBBBCA-B-AADAAA-----A--BAAAB--B-ABBBBBAAA----B--BCCBB
	Extralimitals	
35	ARIUS	BCCCBBBBCABABBABBAAAABAABCBABABBAAAAABBBBBAAABABBAAAACBBB
36	GALEICHTHYS	BCBBABBBCAABBCABABAAAAAAABBABABAA-AAABBBBBAAABBBAAAADCBBB
37	ANCHARIUS	-C-ABAA-AB---BADAACBAC---BCBAABB--B--BBBBBCAAA---B--C-BBB
38	ARIOPSIS	BCCCBBBBCABA-BACBBAAABAABCBABABB-AAAABBBBBCAABABBAAAACBBB
39	BATRACHOCEPHALUS	BCCCBBBBCABABBACADCCABAACDAABC-CA-B-ABBBBBAAAA-BAAAABBBBB
40	OSTEOGENEIOSUS	BCCCBBBBCABABDAAADBCABAABDABBB-CCBB-ABBBBBAAABACBAAADCBBB
41	GENIDENS	BCCCBBBBCAAABDACAAAAABAABCBAAABA--B-ABBBBBBAABABBAAAACBBB
42	BAGRE	BCCCBBBBCAACBDAB-DCCAABAACACCD-C--AA-BBBBBCAAA-ABAAADCCBB
43	HEXANEMATICHTHYS	BCCCBBBBCAAABBABABBAABAACBBABABBAAAAAABBBACAAA-ABAAABCABB
44	HEMIPIMELODUS	BCCCBBBBCACBBDBDCAAAABAACCBBAAACAAB-BBBBBBAAACBCCB--DBCB-
45	CEPHALOCASSIS	BCCCBBBBCACBBDBDCAAAAAAABCCBAAAB--B-BBBBBBCAACBCCAAAACBBB
46	CATHOROPS	BCCCBBBBCACCBDADBCCAAABBCCBBCABB-BB-ABBBBBAAAA-CDAAAACCB-
47	AILURICHTHYS	BCCCBBBBCAABBDA--CBBA-BABBABBD--AAAACBBBBBCAABBABAAADCBBB
48	SCIADEICHTHYS	BCCCBBBBCAA--BABABAAA-BAA--ABABBABAA-BBBBACAAA-BBAAAB-AB-
49	GUIRITINGA	BCCCBBBBCAAABBACABAAAB-ACCBABABB--AAABBBBBAAAA-ABAAAACBBB
50	G. PLANIFRONS	BCCCBBBBCAAABBABABBAAB-ABBBABABB--AAABBBBBAAAB-AAAAAACBBB
51	ARIODES ARENARIUS	BCCCBBBBCAB--BABB----------ABABBAA---BBBBBAAA----AAAACBBB
52	KETENGUS	BCCCBABBCABABDADACBCACAABDABBABCA-B--BBBBBCAAA--BB--ACCBB
53	HEMIARIUS	BCCCBBBBCABBBBAAADAAAAAAACBBAABBA-AAABBBBBCAACBCAAAABCBBB
54	A. TRUNCATUS	BCCCBBBBCABACBADACAABCABBABBAACC-B-ABBBBBAAABABAAAABCBBB
	Outgroup	
55	RITA	ABAAAAAABB-BAAACAAAAAAABCAABBF-A--AACBBBBBCBBA---B--ADCB-
56	PIMELODUS	AAABBAAABB-ABBAAADBB-BAABABBAACA--B-ABBBBBCBBA---B--ACCB-
57	RHAMDIA	AAAAAAAACB-CBBABBBBCAAAABACBAABA--B-ABBBBBCABA---B--AECB-
58	ANADORAS	ACCAAAABBB--AABDAC-DACABCA-ACEBA--B-ABB-B--BBA---B--BE-A-
59	PTERODORAS	ACCAAAABBB---ABDAC-DACABC--AAABA--B-ABB-B--BBA---B--BEAA-
60	NEOSILURUS	AAAAAAAAAB-BADABABBDACABCACB-EAA-BAAEBBBBBCDFCA--B--AECB-
61	MYSTUS	AAAAAAAAAB-C-D-A-BB--A--BBBBBABA--AACBBBBB-ABCA--AAAAEBB-
62	SCHILBE	AAAAAAAACB-B-D---AA-AA--BAAC------AA----BB--BBA--AAADFCB-
63	PANGASIUS	AAAA-BA-AB-A--AA-DA-A-AA-BA-CD----AA-BA--BAAB-------AF-B-
64	CHRYSICHTHYS	AAAAAAAAAB-C-B---A--ABAACACA------AA----BB-ABBB--B--A-BB-
65	BAGROIDES	AAAAAAAACB-Č-A---A--A-AACBCBAE-A--AA---BBB-ABBA--B--BDCB-
66	SYNODONTIS	AACAAAABAB-B-A---A--AB--CBCAAA----B----BBA--BA---B--B-C--
67	BAGRUS	AAAAAAAAAB-C-B-A-CA-ABA-CBC-----A-AAC--BBB-ABBA--AAADFCB-
68	ICTALURUS	AAAAAAAABB-C-B---AA-A-A-CBBB-----BAA---BBB-CBCA--B--ADDD
69	NOTURUS	AAAAAAAABB-A-D---A--ABABCBAC-----BAA---BBB-CFBA--B--ACCB-
70	PYLODICTUS	AAAAAAAABB-B-D---A--ABA-CBAB-----BAA---BBB-EBBA--B--ACAB-
71	PARASILURUS	AAAAAAAABB-B-D-A-ABCAAABBBBC------AAB---BB-DBBA--B--EFCB-
72	OMPOK	AAAAA--A-B---DBAA------------D-A--B--BB--BCBB----AAAEF-B-
73	SILURICHTHYS	AAAAA--A-B---DBAA------------D-A--B--BB--BCBB----B--E--B-
74	WALLAGONIA	AAAAAA-A-B---DBAA------------B-A--B--BB--BCEB----AAAEF-B-
75	DIANEMA	AAA----A-B---CAD-----------CBB-A-BB--BB---AAC----B--CA-A-
76	BROCHIS	AAA----A-B---CBD-----------CBB-A-BB--BB---AAC----B--DA-A-
77	DIPLOMYSTES	AAAAAAAAAB-AAAABAAAD--BACBABAB-AABAAEBBBBBAAEBA--B--AEABB
78	HYPOSTOMUS	AAAA-AAA-B----A--C-C-CABCCB-CB---BB-C--BBB-FDA---B--BACA-

<u>Table 7</u>. Derived character states mapped for branches of the consensus tree CAT6. Reversals are indicated by "r", uniquely derived states are underlined. Outgroup branches are not charted.

Node/Branch	Character State
1,2	<u>1B</u>, 2C, 3C, <u>4C</u>, <u>5B</u>, <u>6B</u>, <u>7B</u>, <u>8B</u>, <u>9C</u>, <u>10A</u>, 11C, 12C, 13B, 22C, 24B, 25A, 26C, 27B, 31A, 37B, <u>44A</u>, <u>45A</u>, 50A, 54B, 55B
2, *carinatus*	13C, 28A, 46B, 48B, 53B
2, 3	14D, 32B, 35B, 46C, 48C, 53A(r), 55C
3, *Cathorops*	17B, 18C, 19C, 22A, 23B, 29C, 31B(r), 46A(r), 49D
3, *crassilabris*	14A(r), 25A, 27A(r), 50B(r)
3, 4	12A(r), 22A(r), 25B, 32C, 34A, 49C
4, 5	12B, 15B, 17C, 47B
5, 6	34A, <u>37C</u>
6, *Cephalocassis*	14A(r), 22A, 27C, 43C, 55B
6, *Hemipimeloaus*	22B(r), 25C(r), 32C, 50B(r), 53D, 54A
5, 7	18B, 26B, 28C, 29B, 32A(r), <u>57A</u>
7, *novaeguineae*	13A(r), 16A, 17A(r), 18D, 19C, 20C, 22A, 31C, <u>37E</u>, <u>53C</u>
7, *dayi*	15A(r), 22B(r), 27A(r), 50B(r), 53D
4, 8	11B, 20B, 22B(r), 26C, 27A(r), 55B
8, 9	18C, 26D
9, species 4	17C, 18A(r), 25A, 29C, 32A(r), 34A, <u>52B</u>, 53D
9, 10	20C, 29B
10, 11	19B, 49B
11, *Ketengus*	6A(r), 22C, 31B(r), 43C, 46A(r), 50B(r), 55C
11, *Osteogeneiosus*	16A, 18D, <u>30B</u>, 33C, 46B, 53D
10, 12	14B, 48B, 49A, 53B
12, *truncatus*	13C, 20A(r), 21B, 22C, 23B, 26B, 33C, 46B
12, *Batrachocephalus*	16C, 18D, 19C, 28A, <u>30C</u>, 46A(r), 54A
8, 13	14B, 16C, 25A, 27C, 28A, 32B, 34A, 43B
13, *macrorhynchus*	<u>18E</u>, 19C, 29C, 48A, 50B(r), 53D
13, 14	29B, 46B, 48B
14, 15	17B, 21B, 26D, 32C, <u>41A</u>, <u>51B</u>
15, *nella*	11A, 18C, 23B, 55A
15, *argyropleuron*	27B, 29C, 32C, <u>40A</u>
14, 16	20A(r), 31B(r), 49B
16, *Genidens*	11A, 14D, 27B, 29A(r), 32A(r)
16, 17	18B, 25B, 35A(r), 43C
17, 18	16A, 19B, 28B, 29C, 36B, <u>39A</u>
18, *solidus*	18C, <u>52C</u>
18, *nox*	14D, 17C, 53D, 55C
17, 19	16B, 17B, 27B
19, *Ariopsis*	16C
19, 20	43A

Table 7 continued

Node/Branch	Character State
20, *Ariodes*	
20, *Arius*	18A(r)
20, 21	11A, 17A(r), 26B
21, *Galeichthys*	3B, 4B, 5A(r), 12B, 14C, 22A, 32A(r), 47B, 49A, 53D 21, 22 48A
22, 23	25A, 36B
23, *graeffei*	55A
23, *berneyi*	16C, 17B
22, 24	19B
24, *planifrons*	49A
24, 25	25A, 43B
25, species 2	
25, 26	11B(r), 35B, 46C, 48C
26, *taylori*	17B, 47B, 50B(r)
26, species 7	12B
25, 27	16A
27, *latirostris*	17B
27, *midgleyi*	48B
27, 28	43C, 46A, 55A
28, 29	16B
29, *leptaspis*	16A(r)
29, 30	53B
30, 32	12B, 19A(r), 23B, 48B
32, *Sciadeichthys*	48B(r), 42A
32, species 6	11B(r), 28B, 29A(r), 46B
30, 31	25B, 38A, 42A
31, *Hexanematichthys*	25C
31, *mastersi*	11B(r), 32A(r), 43B
30, 33	23B, 29C
33, *Bagre*	12C, 14D, 18D, 19C, 20C, 22A, 26C, 27A(r), 28C, 30D, 32C, 53D, 55C
33, *thalassinus*	18F, 23A(r), 32C, 33C, 41C, 46B, 54A
33, *proximus*	11B(r), 16C, 19A(r), 33C, 55B
28, 34	12B, 16A, 22A, 29A(r), 31C, 55B
34, *augustus*	48B, 54C
34, 35	18C, 46C
35, *spatula*	22C
35, 36	28B, 48C, 53D
36, *armiger*	11C(r), 14D, 29B
36, 37	11B(r), 18D, 26C, 33C, 49A, 53B
37, *Hemiarius*	19A(r), 47B
37, 38	26D, 46B, 48A, 54C, 55A
38, species 5	12A(r), 13A(r), 15B, 19C, 20B, 29C, 33D, 53E
38, species 1	11A(r), 27C, 29B

Table 8. Record of the most parsimonious number of changes of (non-family) character states performed by PAUP during reconstruction of the tree CAT6.

Character number	Possible number of states	Actual number of changes (ariids only)
11	3	12
12	3	9
13	3	5
14	4	9
15	2	3
16	4	11
17	3	11
18	6	16
19	3	12
20	4	6
21	2	2
22	3	13
23	2	6
24	2	2
25	3	11
26	4	10
27	3	11
28	3	8
29	3	15
30	6	3
31	3	6
32	3	12
33	4	8
34	2	5
25	2	3
36	2	2
37	5	3
38	2	1
39	2	1
40	2	1
41	2	2
42	2	2
43	3	8
46	3	14
47	2	4
48	3	12
49	4	8
50	2	7
51	2	1
52	3	2
53	5	16
54	5	6
55	3	13
57	2	1

Table 9. Derived character states mapped for branches of the consensus tree DOG1. Reversals are indicated by "r", uniquely derived states are underlined. Outgroup branches are not mapped. Undefined branches are based on autapomorphies.

Node/Branch	Character State
Ancestor, 1	1B, 2C, 3B, 4C, 5B, 6B, 7B, 8B, 9C, 10A, 14B, 16C, 20A, 22C, 28B, 30A, 31B, 32B, 35B, 37B, 44A, 45A, 56B
1, *Ancharius*	4A(r), 6A(r), 7A(r), 9A(r), 10B(r)
1, 2	13B, 14B, 20C
2, *Ketengus*	6A(r), 32C, 14C
2, 3	13C, 20A(r), 31A, 43A, 50A
3, *truncatus*	21B, 23B, 25B, 32C, 49A
3, 4	24B, 14A(r)
4, 5	13B(r), 50B(r)
5, *crassilabris*	
5, *conorhynchus*	
4, 6	28A, 32A, 13C
6, *carinatus*	35A(r)
6, *froggatti*	
3, 7	13B, 22B(r), 32A, 34A, 49C
7, species 4	20B, 52B, 14C
7, 8	25B, 28C, 34B(r), 57A, 14C
8, *dayi*	50B(r)
8, *novaeguineae*	13A(r), 15B, 16A(r), 20C, 22A, 31C, 37E
7, 9	14B(r), 16B(r), 20B, 28A, 32B(r), 43B, 50B(r)
9, *macrorhynchus*	
9, 10	21B, 32C, 41A, 51B
10, *nella*	23B
10, *argyropleuron*	40A
9, 11	20A(r), 31B(r), 49B(r), 50A
11, 12	50B(r)
11, species 3	43A
11, species 7	
12, *velutinus*	
12, *taylori*	
11, 13	35A(r)
13, *mastersi*	25B, 32A, 38A, 42A
13, *leptaspis*	16A(r), 43C(r)
13, *midgleyi*	16A(r)
13, species 2	
13, *berneyi*	36B, 43A
13, 14	32C, 43C(r)
14, *thalassinus*	41C
14, *bilineatus*	25B
13, 15	23B
14, species 6	28B(r)

Table 9 continued

Node/Branch	Character State
15, *proximus*	
13, 16	16A(r), 28B(r), 43C(r)
16, 17	25B, 36B, 39A
17, *nox*	14C
17, *solidus*	52C
16, 18	22A, 31C
18, 19	28A
19, *augustus*	
19, 20	22C(r)
20, *danielsi*	
20, *spatula*	
18, *armiger*	14C
18, 21	49A
21, species 1	
21, species 5	13A(r), 15B, 20B

Table 10. Record of the most parsimonious number of changes of (non-family) character states performed by PAUP during reconstruction of the tree DOG1.

Character number	Possible number of states	Actual number of changes (ariids only)
13	3	7
14	3	9
15	2	2
16	3	6
20	4	8
21	2	2
22	3	5
23	2	3
24	2	1
25	2	5
28	3	7
30	4	1
31	3	5
32	3	9
34	2	2
35	2	2
36	2	2
37	6	2
38	2	1
39	2	1
40	2	1
41	3	2
42	2	1
43	3	7
49	3	4
50	2	6
51	2	1
52	3	2
57	2	1

Table 11. Derived character states mapped for branches of the consensus tree DOG5. Reversals are indicated by "r", uniquely derived states are underlined. Outgroup branches are not charted.

Node/Branch	Character State
1, 2	<u>6B</u>, 16A, 22B, 43A, 48C, <u>50A</u>, 53D, 55B
2, *Osteogeneiosus*	16A, 18D, <u>30B</u>, 33C
2, 3	19A, <u>31A</u>
3, 5	14B, <u>48B</u>, 49A, 53B
5, *truncatus*	13C, 20A, 21B, 22C(r), 23B, 26A, 33C
5, *Batrachocephalus*	16B, 18D, 19C, 28A, <u>30C</u>, 54A
3, 4	11C, 12B, 17C, 20A, 26B, 27B, 29A, 32B, 47B, 49C, 55C(r)
4, *Cephalocassis*	15B, 18A, 22A, 27C, 37B, 43C(r), 53A(r), 55B
4, *Hemipimelodus*	15B, 18A, 32C(r), 34A, 37B, 50B(r), 53D, 54A
4, *novaeguineae*	<u>13A</u>, 15B, 16A, 17A(r), 18D, 19C, 20C(r), 22A, 26A, 28C, 29B(r), 31C, 32A, <u>37D</u>, 53C, 57A
4, *dayi*	18B, 26A, 27A(r), 28C, 29B(r), 32A, 50B(r), 57A
4, 6	12C, 17A(r), <u>24B</u>, 28C, 47A(r), 53A(r)
6, *"Cathorops"*	17B, 19C, 22A, 23B, 29C, 31B(r), <u>49D</u>
6, 7	<u>14A</u>, 18A, 22C(r), 25A, 49B(r)
7, *crassilabris*	27A(r), 50B(r)
7, 8	13C, 28A, 32A, 48B, 53B, 55B
8, *froggatti*	26A, 54A
8, *carinatus*	35A
3, 9	20B, 25A, 29C, 34A, 49C
9, species 4	17C, 18A, 32A, <u>52B</u>
9, 10	14B, 16B, 27C, 28A, 43B, 48B
10, *macrorhynchus*	<u>18E</u>, 19C, 26B, 32B, 48A(r), 50B(r)
10, 11	17B, 21B, 33C, <u>41A</u>, <u>51B</u>, 53A(r)
11, *argyropleuron*	18A, 27B, <u>40A</u>
11, 12	23B, 29B(r), <u>33B</u>, 55A
12, *nella*	11A
12, *polystaphylodon*	
10, 13	20A, 25B(r), 26B, 27B, 31B(r), 32B, 49B(r), 53A(r)
13, *Genidens*	11A, 14D(r), 18A, 29A, 32A
13, 14	18B, 35A, 43A
14, 15	16A, 19B(r), 27C, 36B, <u>39A</u>, 43C(r)
15, *solidus*	18C(r), <u>52C</u>
15, *nox*	14D(r), 17C, 53D, 55C(r)
14, 16	17B, 28A, 29B(r)
16, *Arius*	18A, 43C(r)
16, *Ariopsis*	43C(r)
14, *Ariodes*	
16, 17	11A, 17A(r), 48A(r)
17, *Guiritinga*	
17, 18	25A, 26A

Table 11 continued

Node/Branch	Character State
18, G. planifrons	19B(r), 25B(r), 49A
18, Galeichthys	3A, 4A, 5A, 12B, 14C, 22A, 32A, 47B, 48B, 49A, 53D
18, species 3	35B(r), 53C
18, berneyi	17B, 36B
18, graeffei	17B, 36B, 55A
18, 19	19B(r), 43B
19, species 2	
19, 20	11B(r), 35B(r), 48C
20, species 7	12B
20, 21	17B, 50B(r)
21, velutinus	48B
21, taylori	47B
19, 22	16A
22, midgleyi	
22, latirostris	17B, 48B
22, 23	43C(r)
23, 24	55A
24, leptaspis	
24, 25	16B
25, 26	42A, 53B
26, 27	12B, 19A, 23B, 48B
27, Sciadeichthys	34B(r)
27, species 6	11B(r), 28B(r), 29A, 42B(r)
26, 28	25B(r), 38A
28, mastersi	11B(r), 32A, 43B
28, Hexanematichthys	
25, 29	29C, 33C
29, proximus	11B(r), 19A, 23B, 25B, 55B
29, 30	12B, 32C(r), 54A
30, thalassinus	18F, 41C
30, bilineatus	25B(r), 55C(r)
23, 31	12B, 22A, 31C
31, augustus	48B, 54C
31, 32	18C(r), 29A
32, spatula	22C(r)
32, 33	28B(r), 29B(r)
33, 34	14D(r), 53D
34, armiger	11C, 48C
34, 35	16B, 23B, 27A(r), 30D, 37C
35, Ailurichthys	20B, 25B(r), 47B
34, Bagre	12C, 18D, 19C, 20C, 26B, 28C, 29C, 32C(r), 55C
33, 36	18D, 26B, 49A, 53B
36, Hemiarius	11C, 19A, 29A, 31B(r), 47B, 48C
36, species 1	26C(r), 27C, 33C, 54C, 55A

Table 12. Record of the most parsimonious number of changes of (non-family) characters states performed by PAUP during reconstruction of the tree DOG5.

Character number	Possible number of states	Actual number of changes (ariids only)
11	3	10
12	3	8
13	3	3
14	4	7
15	2	3
16	3	8
17	3	13
18	6	18
19	3	12
20	3	7
21	2	2
22	3	9
23	2	6
24	2	1
25	2	8
26	3	11
27	3	10
28	3	9
29	3	14
30	4	3
31	3	6
32	3	13
33	3	6
34	2	3
35	2	4
36	2	3
37	4	4
38	2	1
39	2	1
40	2	1
41	3	2
42	2	2
43	3	9
47	2	6
48	3	14
49	4	9
50	2	6
51	2	1
52	3	2
53	4	14
54	3	6
55	3	12
56	1	0
57	2	2

Table 13. Derived character states mapped for branches of the consensus tree FIN1. Reversals are indicated by "r", uniquely derived states are underlined. Outgroup branches are not charted.

Node/Branch	Character State
1,2	1B, 11B, 13B, 14B, 18B, 22B, 25A, 26B, 27B, 35B, 47B, 48C, 49B
2, 3	11C, 14D, 25B(r), 49C, 57A
3, novaeguineae	13A, 18D, 22A(r)
3, dayi	27A(r)
2, 4	34A
4, taylori	
4, 5	47A(r)
5, species 7	
5, 6	48B
6, velutinus	
6, 7	26C
7, 8	25B(r), 27C, 35A(r)
8, solidus	18C
8, nox	14D
7, 9	11C, 14A, 18A(r), 22C, 24B, 34B(r)
9, crassilabris	27A(r), 48C
9, 10	13C
10, carinatus	35A(r)
10, froggatti	26B(r)
7, 11	49C
11, macrorhynchus	18E, 27C, 48A(r)
11, 12	18A(r), 26D
12, species 4	14D, 27A(r), 48C
12, 13	21B, 41A
13, 14	18C, 23B, 27C
14, polystaphylodon	
14, nella	11A(r)
13, argyropleuron	
6, 15	35A(r)
15, 16	23B
16, species 6	
16, proximus	48A(r)
15, 17	
17, augustus	22A(r)
17, latirostris	
17, 18	48A(r)
18, thalassinus	18F, 41C
18, species 3	35B
18, midgleyi	
18, leptaspis	
18, 19	25B(r)

Table 13 continued

Node/Branch	Character State
119, *bilineatus*	
19, *mastersi*	11B, 38A
18, 20	18C, 22C
20, *spatula*	
20, *danielsi*	
20, 21	22A(r)
21, *armiger*	11C, 14D, 48C
21, 22	18D, 26D, 49A(r)
22, species 5	11B, 13A
22, species 1	27C

Table 14. Record of the most parsimonious number of changes of (non-family) character states performed by PAUP during reconstruction of the tree FIN1.

Character number	Possible number of states	Actual number of changes (ariids only)
11	3	8
13	3	4
14	4	6
18	6	10
21	2	1
22	3	6
23	2	2
24	2	1
25	2	4
26	4	5
27	3	8
34	2	2
35	2	5
38	2	1
41	3	2
47	2	2
48	3	8
49	4	4
57	2	1

Table 15. Derived character states mapped for branches of the consensus tree FIN3. Reversals are indicated by "r", uniquely derived states are underlined. Outgroup branches are not analysed.

Node/Branch	Character State
Ancestor, 1	<u>1B</u>, 14B
1, *Ketengus*	<u>1B</u>, 14B
1, 2	49A
2, 3	48B
3, *truncatus*	13C, 21B, 23B, 26B
3, *Batrachocephalus*	18D, 22B
2, 4	18A(r)
4, 5	14D, 34B(r), 48C
5, *Osteogeneiosus*	18D, 22B, 49B(r)
5, 6	11C, 26C
6, 7	22B, 47B, 49C
7, *Cephalocassis*	22A, 27C, 34A
7, 8	57A
8, 9	27B, 57B(r)
9, *Hemipimelodus*	34A
9, 10	22A
10, *Cathorops*	18C, 23B, 24B, <u>49D</u>
10, *novaeguineae*	<u>13A</u>, 18D, 26B, 57A
8, *dayi*	18B, 26B
6, 11	<u>14A(r)</u>, 24B, 25A, 49B(r)
11, *crassilabris*	
11, 12	13C, 27B, 48B
12, *carinatus*	35A
12, *froggatti*	26B
4, 13	22B, 25A, 49C
13, 14	48A(r)
14, *macrorhynchus*	<u>18E</u>, 26C
14, 15	21B, <u>41A</u>, 48B
15, 16	23B
16, *nella*	11A
16, *polystaphylodon*	
15, *argyropleuron*	27B
13, species 4	14D
4, 17	22B, 25B(r), 26C, 27B, 48B, 49B(r)
17, *Genidens*	11A, 14D
17, 18	35A
18, *Arius*	
18, 19	18B
19, *Ariopsis*	
19, 20	27C
20, *solidus*	18C
20, *nox*	14D
19, 21	11A, 48A(r)

Table 15 continued

Node/Branch	Character State
21, *Guiritinga*	
21, 22	26B
22, *G. planifrons*	49A
22, *bilineatus*	
22, 23	38A
23, *Hexanematichthys*	
23, *mastersi*	11B(r)
22, 24	25A
24, *thalassinus*	18F, 41C
24, 25	18C, 22C(r)
25, *spatula*	
25, *danielsi*	
24, species 3	35B(r)
24, *midgleyi*	
24, *leptaspis*	
24, 26	48B
26, *Sciadeichthys*	23B, 34B(r)
26, 27	11B(r), 35B(r)
27, *Ariodes*	35A
27, *taylori*	47B, 48C
27, *velutinus*	
27, species 7	48C
26, species 6	11B(r), 23B
26, *latirostris*	
26, *proximus*	11B(r), 23B, 48A(r)
26, 28	22A
28, *augustus*	
28, *armiger*	11A, 14D, 18C, 48C
28, 29	47B, 49A
29, *Galeichthys*	14C, 22B
29, 30	18D, 26C, 48A(r)
30, *Hemiarius*	11B(r), 48C
30, species 1	26D(r), 27C, 47A(r)
30, 31	14D, 23B, 27A(r), 49B(r)
31, *Ailurichthys*	18C, 25B(r), 26B
31, *Bagre*	47A(r)

Table 16. Record of the most parsimonious number of changes of (non-family) character states performed by y PAUP during reconstruction of the tree FIN3.

Character number	Possible number of states	Actual number of changes (ariids only)
11	3	10
13	3	3
14	4	9
18	6	14
21	2	2
22	3	10
23	2	7
24	2	2
25	2	5
26	4	11
27	3	8
34	2	4
35	2	5
38	2	1
41	3	2
47	2	5
48	3	14
49	4	10
57	2	3

Table 17. Valid Australo-Papuan species and present generic allocation.

Valid species	Present allocation
argyropleuron Valenciennes	genus 1
armiger De Vis	"Arius"
augustus Roberts	"Arius"
berneyi Whitley	"Arius"
bilineatus Valenciennes	"Arius"
carinatus Weber	Cinetodus (Cinetodus)
conorhynchus Weber	Cinetodus (Pachyula)
crassilabris Ramsay & Ogilby	Cinetodus (Pachyula)
danielsi Regan	"Arius" (Cochlefelis)
dayi Ramsay & Ogilby	Nedystoma
froggatti Ramsay & Ogilby	Cinetodus (Cinetodus)
graeffei Kner & Steindachner	"Arius"
latirostris Macleay	"Arius"
leptaspis Bleeker	"Arius"
macrorhynchus Weber	incertae sedis ("Arius")
mastersi Ogilby	"Arius" (Hexanematichthys)
midgleyi Kailola & Pierce	"Arius"
nella Valenciennes	genus 1
novaeguineae Weber	Nedystoma
nox Herre	"Arius" (Brustiarius)
polystaphylodon Bleeker	genus 1
proximus Ogilby	"Arius"
solidus Herre	"Arius" (Brustiarius)
spatula Ramsay & Ogilby	"Arius" (Cochlefelis)
taylori Roberts	"Arius"
thalassinus Rüppell	"Arius"
velutinus Weber	"Arius"
species 1	"Arius" (Hemiarius)
species 2	"Arius"
species 3	"Arius"
species 4	incertae sedis ("Arius")
species 5	"Arius" (Hemiarius)
species 6	"Arius"
species 7	"Arius"

Table 18. Percent of HL and SL* for Nedystoma (two species) and Arius species 4 (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	dayi				novaequineae				species 4			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	20	41-69	55	7.2	5	44-51	47	2.6	13	43-65	53.5	6.1
head width	20	62-72	67	2.6	5	57-64	62	3.1	13	52-69	64	5.6
eye length	20	16-38	19.5	4.7	5	8-13	10	2.1	13	14-24	19	2.7
mouth gape	16	33-46	38	3.4	5	50-62	55	4.9	13	27-38	32	2.7
internostr. distance	16	23-30	26	1.8	5	39-45	43	2.0	13	16-20	18	1.2
snout length	20	30-36	34	1.6	5	44-52	48	3.4	13	37-43	40	2.0
longest barbel length	19	46-76	61	8.3	3	181-192	186	5.4	13	29-56	42	9.0
bony interorb. width	20	29-36	32	1.8	5	18-26	23	3.1	13	23-30	28	2.0
occipital process length	20	35-44	40	2.5	5	36-43	39	2.6	13	22-50	29	7.2
occipital process width	20	9-25	18	4.5	5	12-13	13	0.6	13	12-21	17	2.7
Percent of SL												
HL*	20	27-31	28	1.3	5	26-29	27	1.6	13	28-35	31	2.1
head height	20	11-20	16	2.4	5	11-14	13	1.1	13	15-18	17	1.2
head width	20	18-20	19	0.8	5	16-19	17	1.1	13	17-22	20	1.4
eye length	20	4-12	5.5	1.6	5	2-3	3	0.5	13	5-7	6	0.5
mouth gape	16	10-12	11	0.6	5	13-18	15	2.1	13	9-12	10	1.1
internostr. distance	16	7-8	7	0.3	5	11-13	12	0.9	13	5-7	6	0.4
snout length	20	9-10	10	0.4	5	11-15	13	1.6	13	11-14	12.5	1.0
longest barbel length	19	14-22	17	2.2	3	51-57	53	3.0	13	9-16	13	2.0
bony interorb. width	20	8-10	9	0.5	5	5-7	6	0.6	13	8-10	9	0.7
occipital process length	20	10-13	11	0.7	5	10-12	11	0.7	13	8-14	9	1.6
predorsal length	20	36-41	39	1.2	5	34-38	36	1.6	13	36-43	40	1.7
D fin base length	20	10-13	11	0.8	5	10-10.5	10	0.3	13	10-12	11	0.6
interdorsal length	20	18-29	23	3.3	5	26-30	29	1.9	13	26-33	29	1.9
adipose fin base length	20	7-13	10	1.5	5	8-11	9	1.6	13	5-9	6.5	1.3
A fin base length	20	18-23	20	1.6	5	25-29	27	1.6	13	16-20	18	1.2
caudal peduncle depth	20	7-9	8	0.6	5	7-8	7	0.3	13	7-9	8	0.5
caudal peduncle length	20	16-20	18	1.2	5	16-17	16	0.2	13	14-18	16	1.2
pectoral spine length	19	18-24	21	1.6	4	18-24	16	0.9	12	19-26	23	1.9
dorsal spine length	20	20-27	24	1.9	5	18-22	20	1.6	11	21-28	24	1.7

Table 19. Meristics and relative body proportions* of Nedystoma (two species) and Arius species 4 (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	dayi Ramsay & Ogilby				novaeguineae Weber				species 4			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	20	75-253	161.5	49.9	5	84-150	118.8	27.9	13	88-304	173	63.9
HL in SL	20	3.2-3.8	3.5	0.6	5	3.4-3.9	3.7	0.2	13	2.8-3.6	3.2	0.2
eye length in HL	20	2.6-6.3	5.3	0.8	5	8.0-12.7	9.9	2.2	13	4.2-7.1	5.4	0.8
eye length in snout length	20	0.9-2.1	1.8	0.1	5	3.8-6.6	4.8	1.4	13	1.7-3.1	2.2	0.4
eye length in bony interorb. width	20	0.8-2.1	1.7	0.3	5	1.8-2.7	2.2	0.3	13	1.2-2.0	1.5	0.2
occipital proc. width in proc. length	20	1.5-4.6	2.4	0.8	5	2.8-3.3	3.0	0.2	13	1.2-2.4	1.7	0.4
D spine length in HL	20	1.0-1.4	1.2	0.1	5	1.2-1.6	1.4	0.2	11	1.0-1.4	1.3	0.1
P spine length in HL	19	1.1-1.7	1.4	0.2	4	1.6-1.9	1.7	0.1	12	1.1-1.5	1.3	0.1
adipose fin base length in D fin base length	20	0.8-1.7	1.2	0.2	5	0.9-1.4	1.1	0.2	13	1.2-2.1	1.7	0.3
adipose fin base length in interdorsal space	20	1.4-3.8	2.4	0.6	5	2.6-3.9	3.1	0.6	13	2.9-6.3	4.6	1.0
caudal peduncle depth in its length	20	1.8-2.6	2.2	0.2	5	2.2-2.4	2.3	0.1	13	1.8-2.4	2.1	0.2
predorsal length in SL	20	2.4-2.8	2.6	0.1	5	2.7-2.9	2.8	0.1	13	2.3-2.7	2.5	0.1
longest barbel in SL	19	4.6-7.0	5.9	0.7	3	1.8-2.0	1.9	0.1	13	6.3-10.5	7.8	1.3
head height in head width	20	0.9-1.7	1.2	0.2	5	1.2-1.5	1.3	0.1	13	1.0-1.4	1.2	0.9
l. premax. tooth band in its width	15	6-31	14.3	5.9	5	12.4-37.5	20.5	10.2	13	4.3-12.0	7.1	1.9
count of A fin rays	19	19-24	21.5	1.4	5	29-33	31.2	1.6	13	20-23	21.8	0.8
count of P fin rays	18	10-11	10.3	0.5	5	9-10	9.6	0.5	13	8-11	9.7	0.8
total GR (first arch)	16	29-45	39.4	4.4	5	45-51	48.4	2.3	13	28-37	33.5	2.3
total GR (last arch)	14	33-44	39.7	3.2	5	40-45	42.4	2.1	13	30-37	33.7	2.0

Table 20. Percent of HL and SL* for *Cinetodus froggatti*, *C. carinatus* and *C.* (*Pachyula*) *crassilabris* (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*froggatti* Ramsay & Ogilby				*carinatus* Weber				*crassilabris* Ramsay & Ogilby			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	17	47-67	59	6.7	15	59-69	62	3.3	6	50-68	59	7.9
head width	17	62-77	70	5.2	15	62-77	70	4.1	7	61-78	70	6.0
eye length	17	12-17	14	1.4	15	10-19	15	2.4	7	9-17	13	2.9
mouth gape	16	27-31	29	1.5	15	30-43	35	3.6	7	16-35	26	5.7
internostr. distance	17	14-18	16	1.3	15	18-28	22	3.2	7	18-28	23	3.1
snout length	17	28-36	32	2.2	15	32-37	34	1.2	7	27-44	37	5.7
longest barbel length	17	57-117	90	14.5	14	57-104	84	13.5	7	43-76	57	11.1
bony interorb. width	17	25-34	30	2.0	15	18-31	26	2.9	7	18-30	25	3.9
occipital process length	15	29-50	41	5.8	15	40-52	45	3.0	7	32-51	42	7.4
occipital process width	15	18-37	22	4.7	15	21-40	30	5.9	7	15-32	24	5.8
Percent of SL												
HL	15	22-32	27	2.3	15	26-29	28	0.9	7	25-29	27	1.7
head height	15	12-20	17	1.9	15	16-19	17	1.1	6	14-17	16	1.6
head width	15	17-22	19	1.2	15	17-22	20	1.3	7	17-20	19	1.2
eye length	15	3-5	4	0.4	15	3-5	4	0.7	7	3-5	3	0.7
mouth gape	14	6-10	8	0.8	15	8-12	10	1.0	7	4-9	7	1.7
internostr. distance	15	4-5	4	0.4	15	5-8	6	0.9	7	5-7	6	1.0
snout length	15	8-10	9	0.7	15	8-10	10	0.5	7	7-13	10	2.1
longest barbel length	15	17-34	25	4.7	14	17-28	23	3.3	7	11-20	15	3.2
bony interorb. width	15	7-10	8	0.9	15	5-9	7	0.9	7	5-8	7	10.0
occipital process length	15	9-13	11	1.2	15	11-15	12	1.0	7	9-13	11	1.4
predorsal length	15	35-42	40	1.8	15	39-42	40	1.3	7	37-41	40	1.7
D fin base length	15	11-14	13	0.7	15	11-13	12	0.6	7	12-14	13	0.7
interdorsal length	15	16-23	20	2.1	15	12-20	16	2.2	7	16-27	20	3.8
adipose fin base length	15	12-16	14	1.2	15	14-22	18	2.1	7	14-19	17	2.0
A fin base length	15	13-19	15	1.5	15	13-17	15	1.2	7	14-16	16	0.8
caudal peduncle depth	15	6-8	7	0.5	15	5-8	7	0.7	7	6-7	7	0.5
caudal peduncle length	15	15-19	17	1.2	15	16-21	18	1.2	7	15-20	18	1.7
pectoral spine length	13	19-26	22	1.9	15	18-24	21	2.0	5	18-23	20	2.3
dorsal spine length	11	19-23	21	1.3	10	14-17	16	1.2	6	18-22	20	1.4

Table 31. Meristics and relative body proportions* of *Cinetodus froggatti*, *C. carinatus* and and *C.* (*Pachyula*) *crassilabris* (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*froggatti* Ramsay & Ogilby				*carinatus* Weber				*crassilabris* Ramsay & Ogilby			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	15	103-370	211	82.9	15	50-338	159	91.1	7	80-340	236	109
HL in SL	15	3.2-4.5	3.7	0.3	15	3.4-3.8	3.6	0.1	7	3.5-4.1	3.7	0.2
eye length in HL	17	5.9-8.2	7.1	0.7	15	5.3-9.8	7.1	1.3	7	6.0-11.5	8.4	2.0
eye length in snout length	17	1.9-2.7	2.3	0.3	15	1.8-3.4	2.4	0.5	7	1.8-5.1	3.1	1.2
eye length in bony interorb. width	17	1.7-2.7	2.1	0.3	15	1.1-2.7	1.9	0.4	7	1.1-2.8	2.1	0.6
occipital proc. width in proc. length	15	1.2-2.4	1.9	0.3	15	1.1-2.1	1.5	0.3	7	1.2-2.1	1.8	0.3
D spine length in HL	11	1.2-1.6	1.3	0.1	10	1.6-2.1	1.8	0.2	6	1.2-1.6	1.4	0.2
P spine length in HL	13	1.0-1.7	1.3	0.2	15	1.1-1.6	1.3	0.1	5	1.1-1.6	1.4	0.2
adipose fin base length in D fin base length	15	0.7-1.1	0.9	0.1	15	0.6-0.8	0.7	0.1	7	0.6-0.9	0.8	0.1
adipose fin base length in interdorsal space	15	1.0-1.9	1.4	0.2	15	0.6-1.3	0.9	0.2	7	0.8-1.9	1.2	0.4
caudal peduncle depth in its length	15	1.9-2.9	2.4	0.2	15	2.2-3.5	2.7	0.4	7	2.1-3.2	2.6	0.4
predorsal length in SL	15	2.4-2.9	2.5	0.1	15	2.4-2.6	2.5	0.1	7	2.4-2.7	2.5	0.1
longest barbel in SL	15	3.0-6.0	4.2	0.8	14	3.6-6.0	4.4	0.7	7	4.9-9.0	6.7	1.5
head height in head width	17	0.9-1.4	1.2	0.1	15	1.0-1.3	1.1	0.1	6	1.1-1.4	1.2	0.1
l. premax. tooth band in its width	17	2.9-5.5	4.0	0.7	15	3.7-7.1	5.3	0.9	6	2.2-4.2	3.2	0.7
count of A fin rays	15	17-19	18.3	0.7	15	16-19	17.3	0.9	7	17-19	18.3	1.0
count of P fin rays	17	10-11	10.2	0.4	15	9-11	10.1	0.8	7	10-11	10.3	0.5
total GR (first arch)	15	11-16	13.4	1.4	14	15-19	16.6	1.1	7	14-18	16.2	1.5
total GR (last arch)	15	10-16	13.3	1.6	15	15-20	17.8	1.6	7	16-21	19.0	1.6

Table 22. Meristics, relative body proportions, percent of HL and SL for Cinetodus (Pachyula) conorhynchus (Weber). This species is only known by the type.

Character	
SL (mm)	170.0
HL in SL	4.0
eye length in HL	6.5
eye length in snout length	2.2
eye length in bony interorb. width	1.1
occipital proc. width in proc. length	2.1
D spine length in HL	1.1
P spine length in HL	1.1
adipose fin base length in D fin base length	0.9
adipose fin base length in interdorsal space	1.5
caudal peduncle depth in its length	2.7
predorsal length in SL	2.6
longest barbel in SL	9.9
head height in head width	1.0
length premax. tooth band in its width	3.1
count of A fin rays	18
count of P fin rays	10
total GR (first arch)	14
total GR (last arch)	18
Percent of HL	
head height	70
head width	70
eye length	15
mouth gape	20
internostr. distance	23
snout length	34
longest barbel length	41
bony interorb. width	17
occipital process length	47
occipital process width	22

Character	
Percent of SL	
HL	25
head height	17
head width	17
eye length	4
mouth gape	5
internostr. distance	6
snout length	8
longest barbel length	10
bony interorb. width	4
occipital process length	12
predorsal length	38
D fin base length	13
interdorsal length	21
adipose fin base length	14
A fin base length	16
caudal peduncle depth	7
caudal peduncle length	19
pectoral spine length	24
dorsal spine length	22

Table 23. Percent of HL and SL* for genus 1: argyropleuron, polystaphylodon and nella (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	argyropleuron Valenciennes				polystaphylodon Bleeker				nella Valenciennes			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	43	38-62	49	5.1	25	48-60	53	3.5	23	41-68	56	5.1
head width	47	54-70	63	3.2	25	61-70	67	2.6	23	63-74	68	2.9
eye length	48	11-21	15	2.1	25	14-20	17	2.0	23	14-20	17	1.4
mouth gape	43	24-40	31	3.5	24	26-39	34	2.8	21	30-39	34	2.4
internostr. distance	47	15.5-28	20	2.2	25	18-25	22	1.8	21	20-24	22	1.2
snout length	47	27.5-45.5	40.5	14.1	25	36-46	40	2.1	23	40-45	43	1.5
longest barbel length	48	51-115	78	13.8	25	57-124	98	15.1	23	69-114	90	12.5
bony interorb. width	46	19-36	26	3.4	25	24-31	26	1.7	23	24-36	28	2.8
occipital process length	48	18-36	32	3.1	24	31-36	34	1.4	21	30-37	33	2.4
occipital process width	48	11-26	16	3.0	24	17-25	21	2.1	21	15-24	19	2.3
Percent of SL												
HL*	48	27-36	32	2.0	25	29-33	31	0.9	23	29-33	31	0.9
head height	43	13-19	16	1.6	25	15-20	17	1.0	23	13-20	17	1.5
head width	47	18-23	20	1.3	25	19-23	21	1.0	23	19-23	21	1.1
eye length	48	4-6	5	0.5	25	4-6	5	0.6	23	4-6	5	0.4
mouth gape	43	7-13	10	1.3	24	8-12	10	0.9	21	9-13	10	0.9
internostr. distance	47	4-8	6	0.8	25	6-8	7	0.7	21	6-8	7	0.4
snout length	47	9-16	13	4.7	25	11-15	13	0.8	23	12-14	13	0.7
longest barbel length	48	18-34	25	3.7	25	17-38	31	5.0	23	21-34	28	3.4
bony interorb. width	46	5-13	8	1.3	25	7-9	8	0.5	23	8-11	9	0.9
occipital process length	48	6-12	10	1.0	24	10-12	10	0.5	21	9-12	10	0.8
predorsal length	48	37-49	43	2.1	25	40-45	42	1.4	23	39-44	41	1.3
D fin base length	48	9-21	11	1.9	25	10-12	11	0.6	23	10-12	11	0.7
interdorsal length	48	23-34	28	2.4	25	26-31	29	1.5	23	24-34	30	2.4
adipose fin base length	48	4-9	6	1.2	25	5-8	6	0.8	23	3-8	5	1.0
A fin base length	48	12-17	14	1.2	25	11-14	13	0.9	23	11-14	13	0.9
caudal peduncle depth	48	7-11	9	0.9	25	8-9	8	0.4	23	7-9	8	0.5
caudal peduncle length	48	12-19	15	1.2	25	13-18	15	1.2	23	14-18	16	0.9
pectoral spine length	36	16-22	19.5	1.6	18	19-25	23	1.8	23	19-22	21	1.1
dorsal spine length	28	15-23	20	1.8	18	20-26	23	1.6	23	18-22	21	1.3

Table 24. Meristics and relative body proportions* of genus 1: argyropleuron, polystaphylodon and nella (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	argyropleuron Valenciennes				polystaphylodon Bleeker				nella Valenciennes			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	48	49-373	210	82.0	25	103-294	171	56.1	23	82-291	158	55.5
HL in SL	48	2.8-3.7	3.1	0.2	25	3.0-3.4	3.2	0.1	23	3.0-3.4	3.2	0.9
eye length in HL	48	4.8-9.1	6.7	0.9	25	5.0-7.3	6.1	0.7	23	5.1-7.1	5.8	0.5
eye length in snout length	47	1.9-3.8	2.7	1.1	25	1.8-3.4	2.5	0.4	23	2.1-3.1	2.5	0.3
eye length in bony interorb. width	46	0.9-2.8	1.7	0.4	25	1.3-2.0	1.6	0.2	23	1.4-2.2	1.6	0.2
occipital proc. width in proc. length	48	1.1-2.9	2.0	0.4	24	1.3-2.0	1.6	0.2	21	1.3-2.2	1.8	0.3
D spine length in HL	28	1.3-2.0	1.6	0.2	18	1.3-1.6	1.4	0.8	23	1.4-1.7	1.5	0.8
P spine length in HL	36	1.4-2.2	1.7	0.2	18	1.3-1.6	1.4	0.1	23	1.4-1.6	1.5	0.7
adipose fin base length in D fin base length	48	1.2-5.1	1.9	0.6	25	1.5-2.3	1.9	0.2	23	1.3-3.2	2.3	0.4
adipose fin base length in interdorsal space	48	2.7-7.2	5.0	1.1	25	3.6-6.2	4.9	0.7	23	3.0-9.1	6.1	1.2
caudal peduncle depth in its length	48	1.3-2.1	1.7	0.2	25	1.5-2.3	1.9	0.2	23	1.7-2.3	2.0	0.2
predorsal length in SL	48	2.0-2.7	2.3	0.1	25	2.2-2.5	2.4	0.8	23	2.3-2.6	2.4	0.1
longest barbel in SL	48	3.0-5.5	4.1	0.6	25	2.6-5.8	3.4	0.6	23	3.0-4.8	3.6	0.5
head height in head width	43	1.1-1.6	1.3	0.1	25	1.2-1.4	1.3	0.6	23	1.1-1.6	1.2	0.1
l. premax. tooth band in its width	47	3.8-9.5	5.9	1.5	25	2.9-6.2	4.6	0.9	23	2.9-5.6	4.4	0.7
count of A fin rays	48	14-21	17.7	1.4	25	15-20	16.5	1.0	23	14-17	15.7	0.9
count of P fin rays	48	10-12	10.9	0.3	25	10-12	11.4	0.8	23	10-13	11.7	0.6
total GR (first arch)	44	10-16	12.1	1.4	23	12-17	14.4	1.1	22	13-16	14.3	0.8
total GR (last arch)	40	9-15	11.7	1.0	22	11-14	12.6	0.7	21	11-15	13.0	1.2

Table 25 Percent of HL and SL* for Arius macrorhynchus, Arius (Brustiarius) nox and A. (B.) solidus (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	macrorhynchus Weber				nox Herre				solidus Herre			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	9	48-64	56	4.8	18	42-52	46	3.1	43	42-65	53	6.6
head width	9	57-72	63	4.6	18	55-63	59	2.1	49	52-78	68	4.3
eye length	9	13-19	16	1.9	18	13-23	16	2.4	49	13-26	18	2.5
mouth gape	9	30-40	35	3.2	18	33-43	37	3.0	41	38-53	45	5.1
internostr. distance	9	24-30	27	2.1	18	21-30	27	2.2	47	25-50	33	4.4
snout length	9	32-38	36	2.1	18	27-33	31	1.8	49	31-37	34	1.4
longest barbel length	9	130-164	145	13.6	13	67-103	84	8.8	48	66-120	96	12.5
bony interorb. width	9	32-37	34	2.0	18	29-34	31	1.2	49	27-37	33	2.1
occipital process length	9	35-42	39	2.1	18	23-60	28	8.2	47	23-36	29	2.6
occipital process width	9	15-22	18	2.1	18	11-18	14	1.8	47	12-21	16	2.5
Percent of SL												
HL	9	25-27	26	0.8	18	27-34	31	1.7	49	28-34	30	1.3
head height	9	13-17	14	1.2	18	13-16	15	0.9	49	10-19	16	1.8
head width	9	15-19	16	1.2	18	16-20	18	1.0	49	17-23	20	1.4
eye length	9	4-5	4	0.4	18	4-6	5	0.5	49	4-7	5	0.6
mouth gape	9	8-10	9	0.7	18	9-14	11	1.2	45	10-19	13	1.6
internostr. distance	9	6-8	7	0.5	18	6-10	9	1.0	47	7-15	10	1.4
snout length	9	8-10	9	0.7	18	8-11	10	0.9	49	9-12	10	0.6
longest barbel length	9	33-44	37	3.7	13	22-30	27	1.9	48	23-36	29	3.4
bony interorb. width	9	8-10	9	0.5	18	8-11	10	0.7	49	8-12	10	0.8
occipital process length	9	9-11	10	0.6	18	7-18	9	2.3	47	8-11	9	0.7
predorsal length	9	35-38	36	1.1	18	34-40	38	1.5	49	36-42	38	1.3
D fin base length	9	10-11	11	0.4	18	9-11	10	0.4	48	9-17	11	1.2
interdorsal length	9	27-31	30	1.3	18	29-33	31	1.2	49	26-35	30	1.7
adipose fin base length	9	5-8	6	1.4	18	4-7	6	0.9	49	4-9	7	0.9
A fin base length	9	17-23	19	2.0	18	15-18	16	1.0	45	13-18	16	1.9
caudal peduncle depth	9	7-8	7	0.4	18	6-8	7	0.5	49	7-9	8	0.5
caudal peduncle length	9	15-18	16	0.9	18	17-22	18	1.2	49	7-31	18	2.7
pectoral spine length	7	15-23	18	2.6	18	15-20	18	1.2	40	17-24	20	1.6
dorsal spine length	7	16-21	18	1.5	18	16-19	18	1.1	44	17-22	19	1.2

Table 26. Meristics and relative body proportions* of *Arius macrorhynchus*, *Arius* (*Brustiarius*) *nox* and *A*. (*B*.) *solidus* (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*macrorhynchus* Weber				*nox* Herre				*solidus* Herre			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	9	168-300	220	52.1	18	100-282	192	51.3	49	74-270	154	51.4
HL in SL	9	3.7-4.0	3.9	0.1	18	2.9-3.7	3.2	0.2	49	2.9-3.6	3.3	0.1
eye length in HL	9	5.3-7.5	6.5	0.8	18	4.4-7.7	6.2	0.8	49	3.9-7.6	5.6	0.8
eye length in snout length	9	1.9-2.8	2.3	0.3	18	1.3-2.6	1.9	0.3	49	1.2-2.7	1.9	0.3
eye length in bony interorb. width	9	1.8-2.7	2.2	0.3	18	1.3-2.6	2.0	0.3	49	1.3-2.5	1.8	0.3
occipital proc. width in proc. length	9	1.8-2.5	2.1	0.3	18	1.5-4.8	2.0	0.8	47	1.2-2.6	1.8	0.3
D spine length in HL	7	1.3-1.6	1.4	0.1	18	1.5-2.0	1.7	0.1	44	1.3-2.0	1.6	0.1
P spine length in HL	7	1.1-1.7	1.4	0.2	18	1.6-2.0	1.7	0.1	40	1.2-1.8	1.5	0.1
adipose fin base length in D fin base length	9	1.3-2.4	1.8	0.4	18	1.4-2.3	1.8	0.3	48	1.1-2.9	1.7	0.3
adipose fin base length in interdorsal space	9	3.7-6.4	4.9	1.0	18	4.3-7.5	5.6	0.9	49	3.4-6.6	4.5	0.8
caudal peduncle depth in its length	9	2.0-2.6	2.2	0.2	18	2.1-3.2	2.6	0.3	43	1.8-2.6	2.3	0.4
predorsal length in SL	9	2.6-2.9	2.8	0.1	18	2.5-3.0	2.7	0.1	49	2.4-2.8	2.6	0.1
longest barbel in SL	9	2.3-3.0	2.7	0.3	13	3.4-4.5	3.8	0.3	48	2.8-4.4	3.5	0.4
head height in head width	9	1.0-1.2	1.1	0.1	18	1.1-1.4	1.3	0.1	49	1.0-1.8	1.3	0.2
l. premax. tooth band in its width	9	5.6-11.4	8.9	2.0	18	5.7-10.2	8.2	1.4	48	5.2-10.9	7.6	1.2
count of A fin rays	9	20-22	21.6	0.7	18	18-21	19.6	0.9	49	17-23	19.3	1.2
count of P fin rays	9	10-11	10.8	0.4	18	8-9	8.8	0.4	49	8-10	9.4	0.5
total GR (first arch)	9	12-16	14.0	1.2	18	56-67	60.6	3.3	48	19-30	24.0	2.4
total GR (last arch)	9	15-19	16.4	1.6	13	48-57	52.9	2.9	48	19-30	24.7	3.5

Table 27. Percent of HL and SL* for Arius augustus, A. (Cochlefelis) danielsi and A. (C.) spatula (* percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	augustus Roberts				danielsi Regan				spatula Ramsay & Ogilby			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
Percent of HL												
head height	6	54-61	58	3.1	15	37-62	45	6.9	7	38-48	43	3.8
head width	6	71-78	75	2.5	15	58-72	65	4.9	7	52-63	57	3.6
eye length	6	10-13	11	1.0	15	8-31	14	5.2	7	6-12	10	2.0
mouth gape	6	50-56	53	2.2	15	44-59	51	4.5	7	42-45	44	1.7
internostr. distance	6	40-44	42	1.5	15	36-42	39	1.6	7	32-35	33	1.6
snout length	6	31-36	34	1.8	15	37-41	38	1.3	7	38-40	39	0.9
longest barbel length	5	34-42	36	3.1	12	72-124	102	18.2	7	51-81	63	10.0
bony interorb. width	6	33-38	36	1.8	15	26-31	28	1.6	7	21-27	24	1.9
occipital process length	6	32-33	32	0.6	15	25-32	28	2.1	7	25-30	28	1.9
occipital process width	6	15-18	16	1.3	15	13-20	16	1.8	7	12-17	15	1.9
Percent of SL												
HL	6	29-32	30	1.0	15	29-33	31	1.4	7	30-34	33	1.5
head height	6	16-18	17	0.9	15	12-18	14	2.1	7	11-16	14	1.6
head width	6	21-25	22	1.1	15	17-23	20	1.5	7	17-21	19	1.6
eye length	6	3-4	3	0.3	15	3-10	4	1.7	7	2-4	3	0.6
mouth gape	6	15-17	16	0.7	15	13-18	16	1.4	7	13-15	14	0.8
internostr. distance	6	12-14	13	0.6	15	11-14	12	0.8	7	10-12	11	0.9
snout length	6	9-11	10	0.5	15	11-14	12	0.7	7	11-13	13	0.7
longest barbel length	5	10-12	11	0.8	12	23-38	32	4.9	7	17-28	20	3.7
bony interorb. width	6	10-12	11	0.6	15	8-10	9	0.8	7	7-9	8	0.7
occipital process length	6	9-10	10	0.3	15	8-10	9	0.5	7	8.5-9	9	0.4
predorsal length	6	37-40	38	1.2	15	37-41	38	1.0	7	40-42	41	1.0
D fin base length	6	10-11	11	0.5	15	9-11	10	0.6	7	9-11	10	0.6
interdorsal length	6	23-27	25	1.7	15	26-34	30	2.7	7	22-25	24	1.2
adipose fin base length	6	9-13	12	1.4	15	7-12	9	1.3	7	10-16	14	2.0
A fin base length	6	17-19	18	0.8	15	19-22	21	0.8	7	14-19	17	1.6
caudal peduncle depth	6	7-8	7	0.3	15	7-8	8	0.4	7	6-7	6	0.5
caudal peduncle length	6	13-15	14	0.6	15	12-16	14	1.2	7	13-15	14	0.6
pectoral spine length	5	17-20	18	0.6	13	16-25	18	2.3	7	13-17	15	1.6
dorsal spine length	5	17-21	19	1.3	12	15-21	19	1.6	6	15-22	18	2.3

Table 28 Meristics and relative body proportions* of Arius augustus, A. (Cochlefelis) danielsi and A. (C.) spatula (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	augustus Roberts				danielsi Regan				spatula Ramsay & Ogilby			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	6	185-308	231	45.3	15	120-425	209	86.2	7	143-500	302	152.2
HL in SL	6	3.2-3.4	3.4	0.1	15	3.0-3.4	3.3	0.1	7	2.9-3.3	3.1	0.1
eye length in HL	6	7.9-10.0	9.0	0.8	15	3.2-12.1	7.9	1.9	7	8.3-15.4	10.9	2.6
eye length in snout length	6	2.6-3.5	3.1	0.3	15	1.2-4.9	3.0	0.8	7	3.3-5.8	4.2	1.0
eye length in bony interorb. width	6	2.7-3.7	3.3	0.4	15	0.9-3.6	2.2	0.6	7	1.9-3.7	2.6	0.7
occipital proc. width in proc. length	6	1.8-2.2	2.0	0.2	15	1.4-2.3	1.8	0.3	7	1.7-2.4	1.9	0.3
D spine length in HL	5	1.5-1.7	1.6	0.1	12	1.4-2.2	1.7	0.2	6	1.5-2.1	1.8	0.2
P spine length in HL	5	1.6-1.7	1.6	0.1	13	1.2-2.0	1.7	0.2	7	1.9-2.5	2.2	0.3
adipose fin base length in D fin base length	6	0.8-1.1	0.9	0.1	15	0.9-1.4	1.2	0.2	7	0.6-1.0	0.8	0.1
adipose fin base length in interdorsal space	6	1.9-2.5	2.2	0.2	15	2.3-4.4	3.4	0.7	7	1.4-2.4	1.8	0.3
caudal peduncle depth in its length	6	1.8-2.2	2.1	0.2	15	1.6-2.2	1.8	0.2	7	1.9-2.4	2.2	0.2
predorsal length in SL	6	2.5-2.7	2.6	0.1	15	2.5-2.7	2.6	0.1	7	2.4-2.5	2.4	0.1
longest barbel in SL	5	8.2-9.8	9.3	0.7	12	2.6-4.4	3.2	0.5	7	3.6-5.9	5.0	0.8
head height in head width	6	1.2-1.4	1.3	0.05	15	1.2-1.7	1.5	0.2	7	1.2-1.6	1.4	0.1
l. premax. tooth band in its width	6	6.7-10.0	7.9	1.2	15	5.8-8.2	6.8	0.7	7	4.1-5.5	5.1	0.5
count of A fin rays	6	21-22	21.5	0.5	15	21-27	25.3	1.5	7	20-23	21.6	1.0
count of P fin rays	6	10-11	10.7	0.5	15	10-11	10.1	0.4	7	11-12	11.3	0.5
total GR (first arch)	6	20-22	21.0	1.1	14	18-24	21.7	1.9	7	15-17	15.6	0.8
total GR (last arch)	5	18-20	19.0	0.7	14	20-25	22.7	1.3	5	14-16	15.2	0.8

Table 29. Percent of HL and SL* for <u>Hemiarius</u> (two species) and <u>Arius</u> <u>armiger</u> (* percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	species 1				species 5				<u>armiger</u> de Vis			
<u>Percent of HL</u>	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	10	38-50	44	3.8	4	35-40	38	2.3	34	48-67	56	4.9
head width	11	64-71	67	2.2	4	62-67	64	2.0	34	66-83	74	3.6
eye length	11	7-14	10	2.8	4	5-7	6	0.5	34	10-17	14	1.8
mouth gape	11	45-52	48	2.0	4	43-46	44	1.2	22	43-54	48	2.2
internostr. distance	11	33-38	35	1.5	4	31-35	32	1.5	23	24-33	30	2.4
snout length	11	32-41	36	2.8	4	28-32	29	1.8	34	32-40	36	1.5
longest barbel length	11	47-80	67	11.1	4	32-52	40	8.5	34	107-204	145	23.6
bony interorb. width	11	25-35	30	3.3	4	26-28	26	0.9	32	26-35	31	2.0
occipital process length	11	26-32	29	1.6	4	29-37	33	3.5	33	23-35	30	2.6
occipital process width	11	14-22	16	2.7	4	8-15	11	3.0	33	15-26	19	2.7
<u>Percent of SL</u>												
HL	11	31-33	32	0.6	4	30-32	31	1.2	34	25-31	28	1.5
head height	10	12-16	14	1.3	4	11-13	12	0.9	34	14-20	16	1.2
head width	11	20-23	21	0.7	4	19-21	20	1.1	34	19-25	21	1.2
eye length	11	2-4	3	0.9	4	2-2	2	0.1	34	3-5	4	0.4
mouth gape	11	15-16	15	0.5	4	13-14	14	0.6	22	12-15	14	0.8
internostr. distance	11	11-12	11	0.4	4	9-11	10	0.7	23	6-10	9	0.9
snout length	11	11-13	11	0.8	4	9-10	9	0.7	34	8-12	10	0.8
longest barbel length	11	15-25	21	3.6	4	11-16	12	2.7	34	30-56	41	5.9
bony interorb. width	11	8-11	10	1.1	4	8-8	8	0.3	32	7-10	9	0.8
occipital process length	11	8-10	9	0.6	4	9-11	10	0.8	33	7-10	8	0.7
predorsal length	11	38-43	40	1.4	4	35-37	36	0.9	34	34-39	37	1.3
D fin base length	11	11-13	12	0.7	4	10-12	12	0.9	34	10-13	11	0.8
interdorsal length	11	15-25	21	3.6	4	25-29	27	1.9	34	24-32	27	2.0
adipose fin base length	11	8-16	12	2.7	4	9-11	10	0.9	34	6-13	9	1.3
A fin base length	11	14-17	16	1.1	4	15-17	16	0.9	34	18-23	21	1.1
caudal peduncle depth	11	7-8	7	0.5	4	6-7	6	0.4	33	7-9	8	0.4
caudal peduncle length	11	11-17	15	1.6	4	13-15	14	0.7	33	13-19	16	1.3
pectoral spine length	10	15-22	18	2.5	4	15-16	15	0.6	29	17-23	21	1.7
dorsal spine length	10	14-24	19	3.3	3	16-18	17	1.3	30	20-33	25	3.3

Table 3a Meristics and relative body proportions* of Hemiarius (two species) and Arius armiger (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	species 1				species 5				armiger de Vis			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	11	85-460	211	156	4	188-351	274	67.0	34	74-285	174	65
HL in SL	11	3.0-3.2	3.1	0.1	4	3.1-3.4	3.2	0.1	34	3.2-4.0	3.5	0.2
eye length in HL	11	7.2-14.8	10.3	3.0	4	14.6-18.0	16.6	1.4	34	5.9-10.0	7.4	1.0
eye length in snout length	11	2.6-5.2	3.7	1.0	4	4.1-5.7	4.8	0.7	34	1.9-3.6	2.7	0.4
eye length in bony interorb. width	11	1.8-5.2	3.2	1.3	4	4.1-4.7	4.4	0.2	32	1.6-3.3	2.4	0.4
occipital proc. width in proc. length	11	1.5-2.2	1.8	0.3	4	2.4-3.9	3.2	0.6	33	1.1-1.9	1.6	0.2
D spine length in HL	10	1.4-2.2	1.7	0.3	3	1.6-1.9	1.8	0.2	30	0.8-1.4	1.2	0.1
P spine length in HL	10	1.5-2.1	1.8	0.2	4	1.9-2.1	2.0	0.1	29	1.2-1.7	1.4	0.1
adipose fin base length in D fin base length	11	0.7-1.4	1.0	0.2	4	1.1-1.2	1.1	0.03	34	0.7-1.4	1.3	0.2
adipose fin base length in interdorsal space	11	0.9-3.2	1.9	0.7	4	2.3-3.2	2.6	0.4	34	2.0-5.1	3.0	0.6
caudal peduncle depth in its length	11	1.6-2.3	2.1	0.2	4	1.9-2.4	2.2	0.2	33	1.5-2.3	1.9	0.2
predorsal length in SL	11	2.3-2.7	2.5	0.1	4	2.7-2.8	2.8	0.1	34	2.6-3.0	2.7	0.1
longest barbel in SL	11	4.0-6.6	4.8	0.9	4	6.1-9.5	8.3	1.5	34	1.8-3.3	2.5	0.4
head height in head width	10	1.4-1.7	1.5	0.1	4	1.6-1.8	1.7	0.1	34	1.1-1.5	1.3	0.1
l. premax. tooth band in its width	11	7.0-9.8	8.1	1.0	4	12.6-21.0	16.6	3.8	33	4.3-10.6	8.1	1.4
count of A fin rays	11	17-21	18.6	1.3	4	19-23	20.5	1.7	34	22-25	24.0	0.9
count of P fin rays	11	11-12	11.6	0.5	4	10-10	10.0	0.0	34	9-12	10.1	0.6
total GR (first arch)	10	10-11	10.4	0.5	4	11-12	11.5	0.6	33	16-22	19.3	1.3
total GR (last arch)	8	9-11	10.4	0.7	4	10-13	11.5	1.3	29	16-22	19.5	1.9

Table 3/. Percent of HL and SL* for <u>Arius</u> <u>thalassinus</u>, <u>A</u>. <u>bilineatus</u> and <u>A</u>. <u>proximus</u> (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	<u>thalassinus</u> Rüppell				<u>bilineatus</u> Valenciennes				<u>proximus</u> Ogilby			
<u>Percent of HL</u>	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	58	38-65	55	7.6	63	49-72	59	4.7	25	48-72	60	7.2
head width	58	58-74	67	5.4	63	59-77	70	3.1	25	67-79	73	3.6
eye length	55	11-24	19	3.9	63	14-25	19	2.4	29	14-28	19	4.1
mouth gape	49	33-49	43	4.0	57	30-53	44	3.8	26	40-54	45	3.2
internostr. distance	50	27-41	31	2.5	57	27-43	31	2.5	26	23-33	29	2.5
snout length	56	36-46	41	2.8	63	36-43	40	1.9	29	25-41	36	4.1
longest barbel length	54	41-91	66	14.3	62	56-98	74	10.7	29	55-119	83	18.4
bony interorb. width	53	31-47	37	3.3	63	34-44	38	2.1	29	23-40	35	3.7
occipital process length	52	32-53	39	3.5	61	18-48	39	4.2	29	27-41	33	3.5
occipital process width	52	18-30	21	2.5	61	11-40	19	4.3	29	7-28	20	4.1
<u>Percent of SL</u>												
HL	58	26-32	29	1.7	63	26-33	28	1.5	29	25-34	29	2.3
head height	53	11-19	16	1.6	63	14-20	17	1.2	25	15-20	18	1.2
head width	53	16-21	19	1.2	63	18-23	20	1.0	25	18-24	21	1.6
eye length	53	3-7	5	1.0	63	4-7	5	0.6	29	4-8	6	0.9
mouth gape	50	10-14	12	1.0	57	8-15	13	1.2	26	12-15	13	0.9
internostr. distance	50	8-12	9	0.7	57	7-12	9	0.8	26	6-10	8	1.1
snout length	52	10-14	12	1.0	63	10-13	11	0.8	29	7-13	11	1.7
longest barbel length	52	9-26	19	3.6	62	16-27	21	2.6	29	17-32	24	3.8
bony interorb. width	53	9-13	11	0.7	63	10-14	11	0.9	29	6-13	10	1.6
occipital process length	52	10-14	11	0.9	61	5-13	11	1.1	29	8-11	10	0.9
predorsal length	53	35-41	39	1.4	63	35-41	37	1.4	29	34-42	38	2.1
D fin base length	53	8-16	12	1.3	63	10-13	11	0.7	29	10-13	11	0.8
interdorsal length	53	28-39	32	2.5	63	29-23	34	2.0	29	21-32	27	2.3
adipose fin base length	53	2-11	4	1.4	63	3-6	4	0.6	29	6-12	8	1.5
A fin base length	53	8-14	12	1.2	63	10-15	13	0.9	29	13-17	14	1.3
caudal peduncle depth	53	6-12	7	0.9	63	4-8	7	0.6	29	7-10	8	0.6
caudal peduncle length	53	6-17	15	1.6	63	12-20	14	1.2	29	14-19	16	1.4
pectoral spine length	51	15-23	19	1.7	54	17-22	19	1.1	27	15-22	19	1.8
dorsal spine length	36	15-25	21	2.2	41	17-24	20	1.4	26	16-24	20	1.8

Table 32. Meristics and relative body proportions* of Arius thalassinus, A. bilineatus and A. proximus (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	thalassinus Rüppell				bilineatus Valenciennes				proximus Ogilby			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	58	98-740	264	163	63	88-476	236.5	87.1	29	53-375	202	102
HL in SL	58	3.2-3.8	3.4	0.2	63	3.0-3.9	3.5	0.2	29	3-4	3.5	0.3
eye length in HL	57	4.1-8.7	5.5	1.3	63	4.1-7.0	5.3	0.7	29	3.5-7.2	5.4	1.0
eye length in snout length	52	1.5-4.8	2.3	0.6	63	1.5-3.0	2.1	0.3	29	1.2-2.9	2.0	0.5
eye length in bony interorb. width	53	1.5-4.4	2.1	0.6	63	1.5-3.0	2.0	0.3	29	0.9-2.5	1.9	0.4
occipital proc. width in proc. length	52	1.2-2.3	1.9	0.3	61	0.5-3.3	2.2	0.5	29	1.2-5.5	1.8	0.8
D spine length in HL	40	1.1-2.1	1.4	0.2	41	1.2-1.8	1.4	0.1	26	1.2-1.8	1.5	0.1
P spine length in HL	55	1.3-2.0	1.5	0.1	54	1.3-1.7	1.5	0.1	27	1.3-1.9	1.5	0.1
adipose fin base length in D fin base length	53	1.1-4.7	2.8	0.6	63	2.0-3.6	2.6	0.3	29	1.0-1.9	1.4	0.2
adipose fin base length in interdorsal space	53	2.6-17.0	7.7	2.6	63	5.3-13.3	7.9	1.4	29	1.9-4.8	3.4	0.8
caudal peduncle depth in its length	53	1.5-2.5	2.0	0.3	62	1.5-2.6	2.0	0.4	29	1.6-2.3	1.9	0.2
predorsal length in SL	53	2.4-2.9	2.6	1.0	63	2.4-2.9	2.7	1.0	29	2.4-2.9	2.6	0.1
longest barbel in SL	52	3.9-11.0	5.6	1.3	62	3.7-6.3	4.9	0.6	29	3.1-6.0	4.3	0.7
head height in head width	53	1.0-1.6	1.2	0.1	63	1.0-1.4	1.2	0.1	25	1.0-1.4	1.2	0.1
l. premax. tooth band in its width	46	2.2-8.0	6.2	1.1	56	4.7-10.0	6.7	1.1	22	3.9-8.8	5.5	1.1
count of A fin rays	49	15-17	16.0	0.7	62	17-19	17.9	0.7	28	16-19	17.2	0.8
count of P fin rays	51	10-12	11.0	0.6	62	10-12	11.0	0.4	29	10-12	10.6	0.6
total GR (first arch)	36	12-15	13.5	1.0	48	11-16	13.9	1.2	25	10-12	10.9	0.6
total GR (last arch)	33	11-14	12.6	0.8	33	10-15	13.1	1.2	21	10-12	10.8	0.6

Table 33. Percent of HL and SL* for *Arius velutinus*, *A. taylori* and *Arius* species 7 (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*velutinus* Weber				*taylori* Roberts				species 7			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	40	46-72	60	5.2	2	61-63	62	1.4	9	53-65	57	3.4
head width	40	58-81	70	5.4	2	73-75	74	1.5	9	65-77	70	3.5
eye length	40	10-24	16	3.6	2	13-14	13	0.2	9	8-11	9	0.8
mouth gape	38	31-44	37	2.9	2	41-44	43	2.4	9	39-46	43	2.2
internostr. distance	39	21-31	26	2.1	2	30-31	31	1.2	9	29-33	30	1.4
snout length	40	33-44	38	2.3	2	39-43	41	2.7	9	34-37	36	1.3
longest barbel length	40	54-114	89	15.6	2	91-95	93	2.7	9	28-34	31	2.0
bony interorb. width	40	28-36	32	2.3	2	35-37	36	1.0	9	29-37	33	2.4
occipital process length	39	28-41	34	3.4	2	33-38	36	3.6	9	21-38	31	5.0
occipital process width	39	13-21	18	1.7	2	21-21	21	0.1	9	12-17	15	1.6
Percent of SL												
HL	40	26-32	28	1.6	2	27-27	27	0.04	9	29-32	31	0.9
head height	40	14-20	17	1.2	2	17-17	17	0.3	9	16-21	17	1.4
head width	40	16-23	20	1.7	2	20-21	20	0.4	9	19-25	21	1.5
eye length	40	3-6	4	0.9	2	4-4	4	0.1	9	3-3	3	0.2
mouth gape	38	8-13	11	1.0	2	11-12	12	0.7	9	12-14	13	0.9
internostr. distance	39	6-9	7	0.8	2	8-9	8	0.3	9	8-11	9	0.6
snout length	40	9-14	11	1.0	2	11-12	11	0.7	9	10-12	11	0.6
longest barbel length	40	16-32	25	4.0	2	25-26	26	0.8	9	9-10	10	0.5
bony interorb. width	40	7-11	9	0.9	2	10-10	10	0.3	9	9-12	10	0.9
occipital process length	39	8-11	9	0.8	2	9-11	10	1.0	9	6-11	9	1.6
predorsal length	40	35-41	38	1.5	2	37-38	37	0.6	9	37-40	39	0.9
D fin base length	40	10-19	12	1.3	2	13-13	13	0.2	9	10-11	10	0.4
interdorsal length	40	20-33	28	2.7	2	27-27	27	0.1	9	24-30	27	2.1
adipose fin base length	40	7-14	10	1.8	2	10-12	11	1.1	9	8-10	9	0.7
A fin base length	40	15-22	18	1.7	2	18-19	18	0.5	9	14-17	15	0.9
caudal peduncle depth	39	7-9	8	0.5	2	8-8	8	0.3	9	7-8	7	0.3
caudal peduncle length	39	13-18	16	1.2	2	16-18	17	1.7	9	12-16	15	1.2
pectoral spine length	38	15-21	18	1.8	2	20-21	21	1.0	6	17-20	19	1.2
dorsal spine length	38	15-23	18	1.9	2	20-21	20	1.0	8	16-19	17	0.9

Table 34: Meristics and relative body proportions* of Arius velutinus, A. taylori and Arius species 7 (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	velutinus Weber				taylori Roberts				species 7			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	40	73-380	191	90.6	2	290-325	308	24.7	9	237-450	321	72.1
HL in SL	40	3.2-3.9	3.6	0.2	2	3.6-3.6	3.6	0	9	3.1-3.4	3.3	0.1
eye length in HL	40	4.2-10.0	6.8	1.5	2	7.4-7.6	7.5	0.1	9	9.3-11.9	10.6	0.8
eye length in snout length	40	1.6-4.3	2.6	0.6	2	2.9-3.2	3.1	0.3	9	3.1-4.4	3.8	0.4
eye length in bony interorb. width	40	1.2-3.1	2.2	0.6	2	2.6-2.8	2.7	0.1	9	2.7-4.4	3.5	0.5
occipital proc. width in proc. length	39	1.5-2.4	1.9	0.2	2	1.6-1.8	1.7	0.2	9	1.3-2.8	2.1	0.4
D spine length in HL	38	1.2-1.9	1.6	0.2	2	1.3-1.4	1.4	0.1	8	1.6-2.0	1.8	0.1
P spine length in HL	38	1.2-1.9	1.6	0.2	2	1.3-1.4	1.3	0.1	6	1.5-1.7	1.6	0.1
adipose fin base length in D fin base length	40	0.8-1.6	1.2	0.2	2	1.1-2.3	1.2	0.1	9	1.1-1.4	1.2	0.1
adipose fin base length in interdorsal space	40	1.6-4.6	2.8	0.7	2	2.3-2.6	2.4	0.2	9	2.7-3.7	3.1	0.4
caudal peduncle depth in its length	39	1.7-2.4	2.1	0.2	2	2.0-2.2	2.1	0.1	9	1.8-2.4	2.1	0.2
predorsal length in SL	40	2.4-2.9	2.6	0.1	2	2.6-2.7	2.7	0.04	9	2.5-2.7	2.6	0.1
longest barbel in SL	40	3.1-6.3	4.2	0.8	2	3.8-4.0	3.9	0.1	9	9.8-11.4	10.5	0.5
head height in head width	40	0.8-1.4	1.2	0.1	2	1.2-1.2	1.2	0	9	1.2-1.3	1.2	0.05
l. premax. tooth band in its width	37	3.1-8.2	4.6	1.0	2	5.1-5.5	5.3	0.3	9	4.6-7.2	6.0	0.8
count of A fin rays	40	17-24	20.9	2.0	2	19-19	19	0	9	19-21	19.8	0.7
count of P fin rays	40	10-12	10.6	0.6	2	11-11	11	0	9	10-12	10.8	0.7
total GR (first arch)	39	13-18	16.1	1.3	2	15-15	15	0	9	13-17	14.7	1.1
total GR (last arch)	38	15-19	17.3	1.1	2	15-17	16	1.4	8	15-17	15.5	0.8

Table 35. Percent of HL and SL* for Arius graeffei, A. berneyi and Arius species 3 (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	graeffei Kner & Steindachner				berneyi Whitley				species 3			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	143	41-77	55	6.5	51	47-69	58	5.5	13	55-64	61	2.7
head width	144	50-99	71	4.8	52	66-79	71	2.8	13	66-73	70	2.5
eye length	148	10-28	18	4.0	53	16-32	23	3.9	13	19-28	24	3.1
mouth gape	113	36-52	43	3.2	44	32-47	39	3.6	13	35-51	41	4.2
internostr. distance	108	22-35	29	2.4	43	22-49	26	3.8	13	20-28	25	2.1
snout length	145	30-47	37	2.1	53	21-39	34	3.4	13	34-41	37	2.0
longest barbel length	144	56-146	95	19.5	51	104-176	140	15.5	12	80-134	107	13.1
bony interorb. width	142	28-43	34	2.6	53	29-37	33	1.7	13	26-31	28	1.7
occipital process length	142	21-38	30	3.4	53	27-38	32	2.3	12	28-38	33	2.6
occipital process width	142	14-29	21	2.7	53	15-26	22	2.6	12	19-26	22	2.7
Percent of SL												
HL	145	26-34	30	1.7	53	26-32	28	1.2	13	26-29	27	1.3
head height	141	13-22	16	1.5	51	14-20	16	1.3	13	15-18	16	0.9
head width	142	14-29	21	1.5	52	18-22	20	1.0	13	17-21	19	0.9
eye length	145	4-8	5	1.0	53	5-9	7	1.0	13	5-7	7	0.7
mouth gape	110	10-16	13	1.3	44	9-13	11	1.1	13	9-14	11	1.3
internostr. distance	105	6-11	9	1.0	43	6-14	7	1.1	13	5-8	7	0.7
snout length	142	9-13	11	0.9	53	6-11	10	1.1	13	9-11	10	0.7
longest barbel length	142	17-41	28	4.7	51	33-48	40	3.9	12	23-39	29	4.0
bony interorb. width	140	8-13	10	1.1	53	8-11	9	0.7	13	7-9	8	0.5
occipital process length	142	7-11	9	0.7	53	8-11	9	0.5	12	8-10	9	0.6
predorsal length	142	34-42	38	1.4	53	36-41	38	1.1	13	35-38	36	1.1
D fin base length	141	9-14	11	0.9	53	10-14	12	0.7	13	11-13	12	0.6
interdorsal length	141	18-32	28	2.1	53	22-32	27	2.2	13	17-30	27	3.5
adipose fin base length	141	4-14	9	1.5	53	5-10	8	1.1	13	8-12	9	1.2
A fin base length	139	9-17	14	1.3	53	12-17	14	0.9	12	16-19	18	3.2
caudal peduncle depth	140	5-9	8	0.6	53	6-9	8	0.5	13	7-9	8	0.4
caudal peduncle length	140	13-19	16	1.1	53	13-19	17	1.1	13	16-20	17	1.2
pectoral spine length	130	13-27	20	2.4	51	19-28	24	1.9	13	19-26	21	1.8
dorsal spine length	122	14-26	19	2.4	49	11-27	23	2.5	12	21-27	23	1.9

Table 36 Meristics and relative body proportions* of Arius graeffei, A. berneyi and Arius species 3 (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	graeffei Kner & Steindachner				berneyi Whitley				species 3			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	145	46-400	201	89.0	53	58-280	146	55.2	13	56-226	115	40.2
HL in SL	145	2.9-3.9	3.4	0.2	53	3.2-3.8	3.5	0.1	13	3.4-3.9	3.7	0.2
eye length in HL	148	3.6-9.6	5.9	1.3	53	3.2-6.4	4.4	0.7	13	3.6-5.2	4.2	0.6
eye length in snout length	145	1.2-3.6	2.2	0.5	53	0.9-2.3	1.5	0.3	13	1.3-2.0	1.6	0.3
eye length in bony interorb. width	142	1.1-4.1	2.0	0.6	53	0.9-2.3	1.4	0.3	13	1.0-1.5	1.2	0.2
occipital proc. width in proc. length	142	1.1-2.1	1.4	0.2	53	1.2-2.1	1.5	0.2	12	1.2-2.0	1.5	0.2
D spine length in HL	122	1.1-2.2	1.6	0.3	49	1.1-2.8	1.3	0.3	12	1.0-1.3	1.2	0.1
P spine length in HL	130	1.1-2.2	1.5	0.2	51	1.0-1.6	1.2	0.1	13	1.0-1.5	1.3	0.1
adipose fin base length in D fin base length	141	0.8-2.4	1.4	0.2	53	1.1-2.2	1.5	0.2	13	1.0-1.6	1.3	0.2
adipose fin base length in interdorsal space	141	1.7-6.6	3.4	0.8	53	2.4-5.4	3.7	0.7	13	2.1-3.8	3.0	0.6
caudal peduncle depth in its length	140	1.6-3.1	2.0	0.2	53	1.7-2.8	2.2	0.2	13	2.0-2.8	2.2	0.3
predorsal length in SL	142	2.4-2.9	2.6	0.1	53	2.4-2.7	2.6	0.1	13	2.6-2.8	2.8	0.1
longest barbel in SL	142	2.5-5.8	3.6	0.6	51	2.1-3.0	2.5	0.2	12	2.6-4.3	3.5	0.4
head height in head width	143	0.8-1.7	1.3	0.1	51	1.0-1.5	1.2	0.1	13	1.1-1.2	1.1	0.03
l. premax. tooth band in its width	115	3.9-9.4	6.5	1.2	52	4.2-16.7	7.9	2.2	12	3.6-9.2	5.0	1.5
count of A fin rays	141	15-21	17.8	0.9	53	16-20	17.5	0.8	13	17-22	19.2	1.4
count of P fin rays	136	9-12	10.5	1.0	49	9-12	10.2	0.6	13	8-11	9.8	0.9
total GR (first arch)	134	16-23	19.4	1.2	50	15-20	18.3	1.3	13	15-20	18.4	1.4
total GR (last arch)	95	15-23	18.7	1.6	40	14-20	17.8	1.2	13	14-18	15.5	1.3

Table 37. Percent of HL and SL* for *Arius latirostris*, *A. midgleyi* and *Arius* species 2 (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	latirostris Macleay				midgleyi Kailola & Pierce (2 subspp. combined)				species 2			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	33	46-68	58	5.3	29	40-56	47	4.6	32	45-63	54	4.8
head width	33	64-80	70	4.0	29	56-76	66	3.9	32	67-82	75	3.9
eye length	33	13-27	20	4.0	30	9-22	14	3.9	32	12-18	14	2.1
mouth gape	32	36-52	45	3.0	24	41-51	47	3.3	32	46-56	50	3.1
internostr. distance	33	30-38	33	2.2	24	29-39	34	3.3	32	30-39	35	2.3
snout length	33	32-44	37	3.0	29	33-40	36	1.8	32	35-40	38	1.4
longest barbel length	33	59-148	74	14.6	30	50-76	63	7.4	32	90-177	123	23.2
bony interorb. width	33	26-38	33	3.2	28	26-38	33	3.4	32	31-40	35	2.4
occipital process length	33	22-78	34	8.4	30	25-35	30	2.4	32	24-72	30	8.2
occipital process width	32	14-24	19	2.4	29	11-19	15	2.1	32	16-25	21	2.0
Percent of SL												
HL	33	25-29	28	1.1	29	29-34	31	1.3	32	27-32	29	1.4
head height	33	13-18	16	1.2	28	13-17	15	1.1	32	14-18	16	1.0
head width	33	17-22	19	1.1	28	18-24	21	1.5	32	20-25	22	1.4
eye length	33	4-7	6	1.0	29	3-6	4	1.1	32	4-5	4	0.5
mouth gape	32	9-14	12	1.1	23	12-17	15	1.5	32	13-17	15	1.3
internostr. distance	33	8-11	9	0.8	23	9-12	11	1.3	32	8-12	10	1.0
snout length	33	8-13	10	1.1	28	10-13	11	0.7	32	10-13	11	0.8
longest barbel length	33	17-39	21	3.7	29	17-24	20	2.1	32	28-50	36	5.5
bony interorb. width	33	7-11	9	1.1	27	8-12	10	1.3	32	9-12	10	1.0
occipital process length	33	6-22	9	2.4	29	8-11	9	0.7	32	7-21	9	2.3
predorsal length	33	32-39	37	1.5	29	37-42	40	1.4	32	34-39	38	1.3
D fin base length	33	10-14	12	0.7	29	9-12	10	0.8	32	8-14	11	0.9
interdorsal length	33	22-31	26	2.1	28	23-29	26	1.6	32	24-32	28	2.0
adipose fin base length	33	7-14	10	1.3	28	7-11	10	1.0	32	6-12	9	1.5
A fin base length	33	14-20	17	1.1	29	12-16	14	0.8	32	15-20	17	1.3
caudal peduncle depth	33	7-9	8	0.5	29	6-7	7	0.3	32	6-8	7	0.4
caudal peduncle length	33	14-20	17	1.4	29	12-18	15	1.1	32	14-19	16	1.2
pectoral spine length	33	15-23	19	2.0	25	13-19	17	1.6	28	19-24	21	1.5
dorsal spine length	33	16-22	19	1.6	27	13-21	18	2.5	30	16-22	19	1.7

Table 38. Meristics and relative body proportions* of *Arius latirostris*, *A. midgleyi* and *Arius* species 2 (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*latirostris* Macleay				*midgleyi* Kailola & Pierce				species 2			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	33	63-450	181	117	29	99-348	234	83	32	84-380	194	83.3
HL in SL	33	3.4-3.9	3.6	0.1	29	3.0-3.5	3.2	0.1	32	3.2-3.7	3.4	0.2
eye length in HL	33	3.7-8.0	5.1	1.2	30	4.6-11.4	7.8	2.1	32	5.4-8.6	7.1	1.0
eye length in snout length	33	1.2-3.5	1.9	0.6	29	1.6-4.2	2.8	0.8	32	2.0-3.3	2.7	0.4
eye length in bony interorb. width	33	1.0-3.1	1.7	0.6	28	1.3-4.1	2.6	0.9	32	1.8-3.4	2.5	0.5
occipital proc. width in proc. length	32	1.2-4.2	1.9	0.5	29	1.5-2.8	2.0	0.3	32	1.0-3.4	1.5	0.4
D spine length in HL	33	1.2-1.8	1.5	0.1	28	1.4-2.4	1.8	0.3	30	1.3-2.0	1.5	0.2
P spine length in HL	33	1.2-1.8	1.5	0.2	26	1.6-2.4	1.9	0.2	28	1.1-1.6	1.4	0.1
adipose fin base length in D fin base length	33	0.9-1.5	1.2	0.1	28	0.9-1.4	1.1	0.1	32	0.8-1.9	1.2	0.2
adipose fin base length in interdorsal space	33	1.7-3.8	2.7	0.5	28	2.1-3.7	2.8	0.4	32	2.1-4.7	3.0	0.7
caudal peduncle depth in its length	33	1.7-3.1	2.2	0.3	29	1.7-2.6	2.1	0.2	32	1.8-2.8	2.2	0.2
predorsal length in SL	33	2.5-3.1	2.7	0.1	29	2.4-2.7	2.5	0.1	32	2.6-2.9	2.7	0.9
longest barbel in SL	33	2.6-6.0	5.0	0.6	29	4.1-6.0	5.1	0.5	32	2.0-3.6	2.8	0.4
head height in head width	33	1.0-1.5	1.2	0.1	29	1.2-1.7	1.4	0.2	32	1.2-1.7	1.4	0.1
l. premax. tooth band in its width	32	4.3-9.6	6.6	1.3	28	5.2-10.0	7.7	1.3	31	5.5-10.1	7.6	1.2
count of A fin rays	33	19-24	21.3	1.2	29	16-19	18.0	0.9	32	18-22	19.6	1.0
count of P fin rays	33	9-12	11.0	0.7	29	9-11	10.4	0.6	32	9-10	9.8	0.4
total GR (first arch)	32	14-21	16.2	1.5	28	10-17	13.0	2.6	30	13-22	17.7	1.8
total GR (last arch)	30	14-21	17.4	1.6	25	11-19	15.0	2.4	28	16-21	19.5	1.3

Table 39. Percent of HL and SL* for Arius leptaspis, A. mastersi and Arius species 6 (*percentages could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	leptaspis Bleeker				mastersi Ogilby				species 6			
Percent of HL	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
head height	51	33-63	53	6.0	30	45-61	53	4.6	4	50-56	52	2.6
head width	51	67-83	77	3.9	30	69-86	80	4.0	4	72-76	74	1.8
eye length	52	10-23	15	3.1	30	11-21	17	3.0	4	8-11	10	1.3
mouth gape	44	35-58	50	4.7	27	46-54	49	1.9	4	52-54	53	0.7
internostr. distance	44	30-40	35	2.6	26	30-37	33	2.2	4	30-35	32	2.6
snout length	51	30-44	36	2.8	30	29-39	35	2.3	4	35-39	37	2.1
longest barbel length	51	70-174	111	26.7	30	73-167	132	24.5	4	78-110	98	15.3
bony interorb. width	49	25-45	35	3.5	30	32-40	35	2.0	4	30-34	32	2.2
occipital process length	52	23-35	30	2.9	29	11-34	29	4.2	4	27-42	34	6.0
occipital process width	52	12-25	20	3.0	30	19-34	26	3.7	4	15-26	22	5.0
Percent of SL												
HL	52	28-36	31	2.1	30	25-31	27	1.3	4	32-33	32	0.5
head height	51	10-22	17	2.3	30	13-17	14	1.1	4	16-18	17	0.8
head width	51	20-28	24	1.8	30	19-24	22	1.0	4	23-25	24	0.5
eye length	52	3-7	5	0.9	30	3-5	4	0.7	4	3-4	3	0.4
mouth gape	44	10-19	15	2.0	27	12-16	13	0.9	4	17-18	17	0.4
internostr. distance	44	9-14	11	1.2	26	8-11	9	0.9	4	10-11	10	0.7
snout length	51	10-14	11	1.0	30	8-11	9	0.6	4	11-13	12	0.6
longest barbel length	51	23-51	34	6.9	30	21-45	36	5.8	4	25-36	32	5.2
bony interorb. width	49	9-14	11	1.1	30	8-11	9	0.9	4	10-11	10	0.6
occipital process length	52	7-12	9	0.9	29	3-10	8	1.1	4	9-14	11	2.1
predorsal length	52	35-43	39	1.7	30	34-39	36	1.0	4	39-42	40	1.1
D fin base length	52	9-13	11	0.9	30	10-12	11	0.6	4	11-14	12	1.4
interdorsal length	52	16-33	28	3.1	30	23-33	29	2.3	4	14-21	17	3.2
adipose fin base length	52	7-14	10	1.5	30	7-15	10	2.0	4	12-19	17	3.5
A fin base length	52	12-18	15	1.7	29	13-19	16	2.1	4	12-17	15	2.0
caudal peduncle depth	51	7-10	8	0.6	30	6-9	7	0.5	4	7-8	7	0.5
caudal peduncle length	51	13-18	15	1.1	30	14-19	16	1.1	4	15-18	16	1.3
pectoral spine length	48	15-25	20	2.3	28	17-23	20	1.3	2	17-21	19	2.3
dorsal spine length	45	12-24	18	2.4	27	15-20	18	1.3	3	16-19	17	1.4

Table 40 Meristics and relative body proportions* of *Arius leptaspis*, *A. mastersi* and *Arius* species 6 (*ratios could not be computed if character is missing or damaged on a specimen). n = sample size; SD = standard deviation.

Character	*leptaspis* Bleeker				*mastersi* Ogilby				species 6			
	n	range	mean	SD	n	range	mean	SD	n	range	mean	SD
SL (mm)	52	67-435	193	88.1	30	79-395	179	92.8	4	56-253	111	95.6
HL in SL	52	2.8-3.6	3.2	0.2	30	3.2-3.9	3.7	0.2	4	3.0-3.1	3.1	0.04
eye length in HL	52	4.3-9.5	6.8	1.3	30	4.7-8.9	6.3	1.2	4	8.9-11.9	10.6	1.4
eye length in snout length	51	1.5-4.1	2.4	0.5	30	1.7-2.8	2.2	0.4	4	3.5-4.5	4.0	0.6
eye length in bony interorb. width	49	1.3-4.0	2.4	0.6	30	1.6-3.2	2.2	0.5	4	3.0-4.0	3.4	0.5
occipital proc. width in proc. length	52	1.0-2.7	1.6	0.3	29	0.6-1.5	1.1	0.2	4	1.3-1.8	1.6	0.3
D spine length in HL	45	1.3-2.3	1.8	0.3	27	1.2-1.9	1.5	0.2	3	1.7-2.0	1.9	0.2
P spine length in HL	48	1.2-2.2	1.6	0.2	28	1.2-1.7	1.4	0.1	2	1.6-1.9	1.7	0.2
adipose fin base length in D fin base length	52	0.8-1.5	1.1	0.2	30	0.8-1.6	1.1	0.2	4	0.6-1.1	0.8	0.2
adipose fin base length in interdorsal space	52	1.4-4.2	2.9	0.6	30	1.8-4.9	2.9	0.8	4	0.8-1.8	1.1	0.5
caudal peduncle depth in its length	51	1.4-2.3	1.8	0.2	30	1.9-2.5	2.2	0.2	4	2.0-2.4	2.2	0.2
predorsal length in SL	52	2.3-2.8	2.6	0.1	30	2.6-2.9	2.8	0.1	4	2.4-2.6	2.5	0.7
longest barbel in SL	51	2.0-4.4	3.0	0.6	30	2.2-4.7	2.9	0.5	4	2.8-4.0	3.2	0.6
head height in head width	51	1.2-2.4	1.5	0.2	30	1.3-1.8	1.5	0.1	4	1.4-1.5	1.4	0.1
l. premax. tooth band in its width	50	5.3-16.1	9.2	2.0	27	5.2-10.4	7.0	1.3	4	5.5-7.1	6.4	0.7
count of A fin rays	52	16-22	18.3	1.4	30	16-20	18.3	1.0	4	16-17	16.3	0.5
count of P fin rays	51	9-11	10.1	0.4	30	9-11	10.0	0.7	4	9-10	9.3	0.5
total GR (first arch)	48	13-22	16.3	1.8	26	12-18	14.7	1.5	4	10-11	10.5	0.6
total GR (last arch)	42	13-23	19.0	2.0	23	12-18	15.8	1.5	4	9-9	9.0	0

APPENDIX A. Extralimital ariid material

In order to assess intrafamilial variability and phylogenetic value of characters, I examined representatives of many nominal ariid taxa that do not occur in New Guinea and Australian waters. Many of these are listed below, occasionally with statements on synonymies realised or confirmed during the course of this study.

Taxa are listed in alphabetic order of the specific epithet. Number of specimens, institution register number, abbreviated collection data, specimen size and status are given.

acutirostris Day, 1876

1, AMS B.7733, Irrawaddy River, Burma, no date, Day's Collection, purch. 1885, 82 mm SL, "TYPE"; 5, NHRM MAL/1934.457.3513, Moulmein, Burma, Nov. 1934, 107-132 mm SL.

arenarius Müller and Troschel, 1849

1, ZMB 3001, China, 254.5 mm SL, TYPE; 3, USNM 191247, Tanshui, Taipei Hsien, Taiwan, Dec. 1960, 217-250 mm SL; 1, CAS SU 27967, Hong Kong, Oct. 1931, 240 mm SL.

arius Hamilton-Buchanan, 1822 (falcarius Richardson, 1844; boakei Turner, 1866 = junior synonyms)

5, RMNH 6899, no collection data, coll. P. Bleeker, 1879, 161, 190, 213, 224 and 271 mm SL (= TYPES of Pseudarius arius); 1, LACMNH 38126-27, Karachi fish market, Pakistan, April 1978, 176 mm SL; 6, LACMNH 38129-95, WNW mouth of Korangi Creek, Sind, Pakistan, April

1978, 99-190 mm SL (112 and 190 mm SL specimens C&S); 1, LACMNH 38132-63 (in part), mouth of Turshian Creek, Sind, Pakistan, April 1978, 83 mm SL; 1, LACMNH 38134-52, about 6 miles south of Hajambro Creek, Sind, Pakistan, April 1978, 188 mm SL; 1, LACMNH 38135-35, lower 10 km of Hajambro Creek, Sind, Pakistan, April 1978, 243 mm SL; 1, NMV 45949, East Indies Archipelago, no date, Bleeker Collection A, 156 mm SL; 1, AMS B.7943, Bombay, India, no date, Day's Collection, reg. Sept. 1885, 258 mm SL; 1, NMV unreg., "Island of Formosa", no date, 153 mm SL; 1, BMNH 1866.7.11: 1, Ceylon, don. Turner, 163 mm SL (= TYPE of boakei); 3, RMNH 3032, Amoy, China, before 1862, 142-237 mm SL (misidentified as schlegelii by Bleeker, 1863).

bagre Linnaeus, 1766

1, unreg., Baia de Santos, Sao Paulo, Brazil, 1986, 111 mm SL (C&S); 1, GCRL V81: 17228, 04°41'S, 51°16'W, Nov. 1977, 193 mm SL.

barba Lacepede, 1803

1, unreg., 32°58'S, 52°27'W, Jan., 1972, 179 mm SL; 1, USNM 44969, Uruguay, no date, no SL.

bicolor Fowler, 1935

1, ANSP 60777, Bangkok, Thailand, May 1934, 190 mm SL.

bleekeri Popta, 1900

2, RMNH 6825, no collection data, but probably East Indies Archipelago, 114 and 124 mm SL, TYPES.

borneensis Bleeker, 1851

1, RMNH 27618, Bandjermassin, Borneo, before 1859, 113 mm SL, TYPE (= syntype of Hemipimelodus macrocephalus Bleeker, 1858: M. Boeseman, in litt.); 1, NMV 46464, East Indies Archipelago, ex. Bleeker Collection A, Aug. 1885, 82 mm SL; 1, ANSP 60710-15, Bangkok, Siam, May 1934, 105.5 mm SL (C&S); 5, UMMZ 181175, Tonle Sap, Mekong River drainage, Cambodia, Feb.1959, 98-128 mm SL (122 and 123 mm SL specimens C&S); 1, UMMZ unreg., Chan Doc market, Vietnam, 1974, 120 mm SL.

brevibarbis Boulenger, 1911 (?= family Mochokidae)

2, MNHN 1960-237, Region de l'Est, freshwater, no date, 119 and 173 mm SL.

burmanicus Day, 1869

1, AMS B.7520, Moulmein, Borneo, no date, 265 mm SL, TYPE; 1, NHRM Mal/1934-457 3512, Moulmein, Borneo, Nov. 1934, 163 mm SL.

caelatus Valenciennes, 1840

1, MNHN B.589, Batavia, Java, no date, coll. Quoy and Gaimard, 260 mm SL, TYPE; 1, unreg., Tanjung Priok, Jakarta, Dec. 1980, 295 mm SL; 2, unreg., Muarakarang, Jakarta, Dec. 1980, 129 and 198 mm SL; 3, unreg., Muarakarang, Jakarta, Dec. 1980, 206-229 mm SL; 1, MZB 2160, Belukang, Lampung Selatan, June 1975, 154 mm SL; 1, AMS B.7940, Bombay, India, no date, Day's Collection, purch. 1885, approx. 290 mm SL; 1, NMV 45986, East Indies Archipelago, no date, Bleeker Collection A, SL not noted.

<u>couma</u> Valenciennes, 1840

1, MCZ 51717, Georgetown, Guyana, 1970, 197 mm SL.

<u>crossocheilus</u> Bleeker, 1846

3, RMNH 6894, "East Indies", 155, 161, 297 mm SL, TYPES; 1, BMNH 1863.12.4.56, "East Indies", 285 mm SL (= TYPES of <u>tonggol</u> Bleeker, 1846).

<u>dasycephalus</u> Günther, 1864

1, BMNH 1855.9.19: 1100, "Oahu, Hawaii", Haslar collection, no date, 229 mm SL, TYPE; 1, AMS I.4981, Panama, 1901, pres. J.D. Ogilby, 220 mm SL.

<u>dispar</u> Herre, 1926

4, unreg., Dau market, Manila, Philippines, May 1986, 175.5-231 mm SL; 2, NSMT P.43697 (in part), East China Sea (32°35'N, 122°40'E), Oct. 1984, 156.5 and 177 mm SL; 1, CAS SU 35081, Los Banos, Philippines, no date, no SL (skeleton).

<u>dowii</u> Gill, 1863

1, CAS SU 5548, Panama, no date, HL 284 mm (skeleton).

<u>dussumieri</u> Valenciennes, 1840

1, AMS B.8013, Malabar, India, no date, Day's Collection, purchased 1885, 111 mm SL; 1, SAM 12381, Chinoe River, no date, coll. K.H. Barnard, 187 mm SL; 1, SAM 12403, Chinoe Ocean Beach, no date, coll. K.H. Barnard, 163 mm SL; 3, LACMNH 38131-48, Hajambro Creek nouth, Sind, Pakistan, Nov. 1978, 141-161 mm SL.

emphysetus Müller and Troschel, 1849

1, ZMB 2990, Surinam, 320 mm SL (= TYPE of Sciadeichthys Bleeker).

feliceps Valenciennes, 1840 (peronii Valenciennes, 1840 = junior synonym)

1, MNHN 1207, "Terres australis", coll. Peron and Le Sueur, 112.5 mm SL (= TYPE of peronii); 1, SAM 23981, Strandfontein, no date, 93 mm SL; 3, SAM 25000, no data, 138-171 mm SL; 2, AMS I.19799-002, Knysa, South Africa, no date, 39 and 42 mm SL; 3, unreg., South Africa, Feb. 1987, 280-290 mm SL (280 mm spec. C&S).

felis Linnaeus, 1766

1, MCZ 31925, Beaufort, North Carolina, America, 1910, 216 mm SL; 46, unreg., Ship Island, Biloxi, Mississippi, July 1988, 130-150 mm SL; 1, GCRL V71: 7705, Lemon Bay, Florida, June 1978, 205 mm SL.

fuscus Steindachner, 1880 (?= family Mochokidae)

3, NMHN1966-897, Madagascar, freshwater, no date, 100, 131 and 140 mm SL.

gagora Hamilton-Buchanan, 1822

1, AMS B.7706, Calcutta, India, no date, Day's Collection, reg. 1885, 192 mm SL; 1, ANSP 87532, Bombay, 1923, 154 mm SL; 4, CAS SU 33795, Rangoon, Burma, April 1937, 110-208 mm SL.

genidens Valenciennes, 1840

1, unreg., Cananeia, Sao Paulo, Brazil, July 1971, 123 mm SL (C&S).

goniaspis Bleeker, 1858

1, BMNH 1863.12.11: 159, Sumatra, no date, 73 mm SL, TYPE.

grandicassis Valenciennes, 1840

1, USNM, 214876, HL 90 mm (skeleton); 3, GCRL V81: 17226, Surinam, Nov. 1977, 156-237 mm SL.

guatemalensis Günther, 1864

5, GCRL V71: 6501, Oxaca, Mexico, Aug. 1967, 55-130 mm SL.

harmandi Sauvage, 1883

1, MNHN 2390, Ile de Phu-Quoc (Gulf of Siam), no date, 122 mm SL, TYPE.

hypophthalmus Steindachner, 1875

2, USNM 76827, Panama, no date, 195 and 197 mm SL; 2, USNM 293275, Panama, Feb. 1985, 168 and 184 mm SL; 2, CAS SU 7020, Panama, no date, 188 and 200 mm SL.

izabelensis Hubbs and Miller, 1960

1, USNM 134348, Lake Ysabel, Guatemala, April, 1946, PARATYPE, 213 mm SL; 2, UMMZ 177252, Lake Ysabel, 45 and 51 mm SL (mouth juveniles).

jatius Hamilton-Buchanan, 1822

1, AMS B.7997, Burma, no date, Day's Collection, purch. 1885, 158.5 mm SL; 3, AMNH 17805, Monywa, Chindwin River, Burma, 1935, 144-148.5 mm SL.

<u>kessleri</u> Steindachner, 1846

16, LACMNH unreg., Panama, 54-412 mm SL.

<u>layardi</u> Günther, 1866 (<u>tenuispinis</u> Day, 1879 and <u>satparanus</u> Chaudhuri, 1916 = junior synonyms)

3, LACMNH 38132-63 (in part), mouth of Turshian Creek, Sind, Pakistan, April 1978, 118-127.5 mm SL; 1, LACMNH 38126-20, Karachi fish market, Sind, Pakistan, April 1978, 172 mm SL; 4, LACMNH 38129-93, south of Karachi, WNW mouth of Korangi Creek, Sind, Pakistan, April 1978, 131-160 mm SL; 7, LACMNH 38136-60, south of Hajambro Creek mouth, Sind, Pakistan, April 1978, 149-185 mm SL; 1, MCZ 59239, Khor Al Sabiya, Kuwait, Sept. 1982, 130 mm SL.

<u>leptonotacanthus</u> Bleeker, 1849

1, BMNH 1863.12.4: 114, Madura, Indonesia, no date, 195 mm SL, TYPE; 1, unreg., Tanjung Priok, Jakarta, Dec. 1980, 245 mm SL; 2, unreg., Paknam fish market, Samutprakan, Thailand, Nov. 1985, 174 and 188 mm SL; 1, MCZ 23707, Penang, Malaya, 169 mm SL.

<u>luniscutis</u> Valenciennes, 1840

4, MCZ 7643, Bahia, Brazil, 1865, 162-192 mm SL; 1, MCZ 7682, Cannavienias, Brazil, 1866, 212 mm SL.

<u>macronotacanthus</u> Bleeker, 1846

1, BMNH 1863.12.4: 59, Batavia, Java, no date, 180 mm SL, TYPE; 1, RMNH 6901, Batavia fish market, Java, ca.1845, 232 mm SL, TYPE; 1, MZB NIP434, Pontianak, Borneo, LON stn 5 (00°05'N, 111°00'E), Aug. 1949, 106 mm SL; 3, CAS SU 32707, Pinang, March 1937, 148-240 mm SL.

maculatus Thunberg, 1792 (pidada Bleeker, 1846 = junior synonym)

1, MZB 2102, Belukang, Lampung Selatan, June 1975, 134.5 mm SL; 1, MZB NIP478, Kupang, Timor, LON stn 6, Dec. 1953, 232 mm SL; 1, MZB NIP435, Pontianak, Borneo, LON stn 7, April 1949, 107 mm SL; 1, AMNH 9517, Borneo, May 1909, 106 mm SL; 1, AMS B.7924, Java, Day's Collection, purch. 1885, 221 mm SL; 1, BMNH 1863.12.4: 57, East Indies, no date, 190 mm SL (= TYPE of pidada); 5, RMNH6900, East Indies, no date, 117, 151, 172, 218 and 232 mm SL (= TYPES of pidada); 1, AMS B.7965, Java, no date, Day's Collection, 152 mm SL (= TYPE of pidada); 1, NMV 45948, East Indies Collection, no date, Bleeker Collection A, 158.5 mm SL.

madagascariensis Vaillant, 1894

1, MNHN 1960-236, Region de l'Est, freshwater?, Madagascar, 1960, 140 mm SL; 1, MNHN 1922-168, Ambatomainty, province de Maevetanana (riviere Mahavavy), Madagascar, no date, 61 mm SL; 1, AMNH 17454, Madagascar, no date, 191.5 mm SL.

magatensis Herre, 1926

1, CAS(SU) 29983, Cagayan Province at Aparri, no date, coll. A.W. Herre, 129 mm SL.

manillensis Valenciennes, 1840 (philippinus Sauvage, 1880 = junior synonym)

1, MNHN A.2615, Lake Laglaize, Luzon, Philippines, no date, 103 mm SL (= TYPE of philippinus); 17, ANSP 98261, Manila, June 1924, 83-247 mm SL.

marinus Mitchill, 1815

2, Ship Island, Biloxi, Mississippi, July, 1988, 79 and 122 mm SL (C&S); 1, UMMZ 200576, Guatemala, 365 mm SL (skeleton); 3, GCRL unreg., Hoin Island, Mississippi, 70-93 mm SL.

melanochir Bleeker, 1852

1, BMNH 1863.12.4: 68, no data, 152 mm SL, TYPE; 2, CAS 49426 (in part), Sintang market, Kapuas, Borneo, July 1976, 166 and 188.5 mm SL (166 mm spec. C&S); 2, USNM 230311, same data, 178 and 225 mm SL.

microcephalus Bleeker, 1855

1, BMNH 1863.12.11: 149, no data, 108 mm SL, TYPE.

militaris Linnaeus, 1758

1, MZB NIP503, Tanjung Sentani, June 1944, LON stn 3, 121 mm SL; 1, LACMNH 38131-46, from 20 km south of Paitiani Creek, Sind, Pakistan, April 1978, 240 mm SL; 1, LACMNH 38134-50, off Hajambro Creek mouth, Sind, Pakistan, April 1978, 205 mm SL; 1, LACMNH 38135-33, lower 10 km of Hajambro Creek, Sind, Pakistan, April 1978, 157 mm SL; 1, unreg. Pabean, Surabaya, Dec. 1980, 285 mm SL (C&S); 1, NMV 45847, East Indies Collection, no date, Bleeker Collection A, SL not noted; 1, NMV 46593, East Indies Collection, no date, Bleeker Collection A, SL not noted; 1, NMV 46594, same date as previous specimen, SL not noted.

mino Hamilton-Buchanan, 1822

1, LACMNH 38116-35, Karachi fish market, Sind, Pakistan, April 1978, 245 mm SL; 1, LACMNH 38132-62, mouth of Turshian Creek, Sind, Pakistan, April 1978, 225 mm SL; 1, NMV 46019, East Indies Archipelago, no date, Bleeker Collection A, SL not noted.

<u>nelsoni</u> Evermann and Goldsborough, 1901

1, USNM 50001, Rio Usumacincta, Yucatan, May, 1900, 327 mm SL, TYPE; 1, UMMZ 198713, Rio de la Pasion, Guatemala, 480 mm SL (skeleton); 1, UMMZ 143498, Yalac Lake, Guatemala, 195 mm SL

<u>oetik</u> Bleeker, 1846

1, NMV 45987, East Indian Archipelago, Bleeker Collection A, received Jan. 1885, no other data, 146 mm SL; 1, MZB 1465, Sunda Strait, Parimbang, Feb. 1971, 125 mm SL; 22, unreg., Songkhla market, probably ex Songkhla Lake (brackish water), Thailand, Nov. 1985, 109-163 mm SL.

<u>panamensis</u> Gill, 1863

1, UMMZ 177343-S, 250 mm SL (skeleton); 10, LACMNH W55-140, Baja, Mexico, no date, 115-220 mm SL; 1, GCRL V79: 16523, Jiquitisco Bay, El Salvador, June 1976, 102 mm SL.

<u>parkeri</u> Trail, 1832

1, USNM 273376, no data (skeleton); 1, USNM 215204, Brazil, May, 1975, no SL noted.

<u>parvipinnis</u> Day, 1878

1, ANSP 74831, Bombay, 1924, 124 mm SL.

<u>peruvianus</u> Lutken, 1874

1, AMNH 7939, Peru, 1919, 208 mm SL.

<u>planifrons</u> Higuchi, Reis and Araujo, 1982

1, unreg., Lagoa dos Patos, Rio Grande, Brazil, Dec. 1984, 138 mm SL; 5, MCZ 58691, Rio do Sul, Brazil, 1982, 65-138 mm SL (PARATYPES).

<u>proops</u> Valenciennes, 1840

1, USNM 264836, no date, N.E. South America (large skeleton); 1, USNM 214860, Mercado, Cartagena, Columbia, Nov. 1970 (large skeleton); 1, CAS unreg., no collection data (large skeleton).

<u>quadriscutis</u> Valenciennes, 1840

1, USNM 215201, Brazil, HL 115 mm (skeleton); 1, MCZ 30097, Georgetown, Guyana, 1908, 310 mm SL.

<u>rugispinis</u> Valenciennes, 1840

1, MCZ 30101, Georgetown, Guyana, 1908, 235 mm SL; 2, MCZ 7720, Para, Brazil, 1865, 186-224 mm SL.

<u>sagor</u> Hamilton-Buchanan, 1822 (<u>sundaicus</u> Bleeker = junior synonym)

6, unreg., Songkhla market, caught in Songkhla Lake, Nov. 1985, 182.5-198 mm SL; 3, CAS SU 27734, Sandakan, north Borneo, June 1929, 142.5-233 mm SL (142.5 and 233 mm SL spec. C&S); 3, MZB NIP3831, Muarakarang, Jakarta, LON stn 8, May 1975, 64-68 mm SL; 5, MZB 1470, Gulf of Banten, west Java, July 1970, 55-120 mm SL; 1, MZB NIP3830, Muarakarang, Jakarta, LON stn 4, July 1974, 86 mm SL; 1, AMNH 9293, Sumatra, no date, 92 mm SL; 7, CAS SU 29454, Sandakan, north Borneo, 1929, 48-52 mm SL; 3, CAS SU32709, Tawau, north Borneo, Jan. 1937, 180-212 mm SL; 1, AMS B.8017, Moulmein, Burma, Day's Collection, purch. 1885, 200 mm SL; 1, NMV 46559, East Indies Archipelago, no date, Bleeker Collection A, SL not noted.

sciurus Smith, 1931

3, UMMZ unreg., Can Tho market, Vietnam, July 1974, 98-163 mm SL; 1, USNM 90310, Tapi River, Bandon, Thailand, Sept. 1923, 202 mm SL (TYPE).

seemanni Günther, 1864

8, GCRL V70: 5113, 03°49'N, 77°11'W, Colombia, June 1970, 88-119 mm SL.

sona Hamilton-Buchanan, 1822 (gagoroides Valenciennes probably = junior synonym)

1, AMS B.7953, Calcutta, India, Day's Collection, purch. 1885, no date, 280 mm SL; 2, LACMNH 38130-81, from 20 km south of Paitiani Creek, Sind, Pakistan, April 1978, 191 and 226 mm SL; 1, LACMNH 38133-71, 3-4 km west of Turshian Creek mouth, Sind, Pakistan, April 1978, 164 mm SL; 1, AMS IA.2663, Bandar, Maharani, Johor state, Malaya, no data, April 1926, large specimen - SL not noted.

stormii Bleeker, 1858

1, RMNH 6893, Sumatra?, no date, 340 mm SL, "TYPE"; 1, BMNH 1863.12.4: 65, Sumatra, no date, 280 mm SL, "TYPE"; 1, CAS 49427, Kapuas River basin, purch. Sintang Market, Borneo, July-Aug. 1976, 393 mm SL; 2, ANSP 60720 (in part), Bangkok, May 1934, 72 and 72.5 mm SL (both C&S); 1, USNM 230312, Sintang market, Kapuas River basin, Borneo, July 1976, 288 mm SL; 1, UMMZ unreg., Mekong River channel, My Tho, Vietnam, 1974, 99 mm SL.

subrostratus Valenciennes, 1840

1, AMS B.7610, Canara, India, Day's Collection, purch. 1885, 275 mm SL; 1, AMS B.7611, same data, 157 mm SL; 1, MCZ 4275, Canara, India, 170 mm SL.

taylori Hildebrand, 1946

2, AMNH 32448, Chiquimulilla Canal, Santa Rosa, Guatemala, April 1974, 148 and 155 mm SL.

truncatus Valenciennes, 1840 (cochlearis Fowler, 1935 = junior synonym)

1, MZB 2161, no data, 185 mm SL; 2, CAS 32710, Kuala Kangsar, Perak, Malaysia, March 1937, 221 and 224 mm SL (224 mm spec. C&S); 1, ANSP 61636, Sriraja, Thailand, July 1934, 163 mm SL; 6, ANSP 60768-60773, Paknam, Thailand, Aug. 1934, 137-156 mm SL (= paratypes of cochlearis); 1, USNM 103185, Bangpakong River, Thailand, 266 mm SL.

typus Bleeker, 1847

1, BMNH 1863.12.4: 112, no data, 188 mm SL, TYPE; 2, BMNH 1855.9.19: 1110-1111, no locality and date, Haslar Collection, 78 and 92 mm SL; 1, ZMA 119.360, Batu Pangal, Kutei (=Mahakkan) River, Borneo, June 1899, 122 mm SL; 1, NMV 46234, East Indies Archipelago, no date, Bleeker Collection A, SL not noted; 5, ANSP 60704, Bangkok, Thailand, May 1934, 35-130 mm SL (88 and 113 mm specimens C&S).

<u>venosus</u> Valenciennes, 1840

1, MNHN 1205 (in part), Rangoon, Burma, no date, 230 mm SL (= one of two SYNTYPES); 1, MZB 098, Batavia, Java, no other data, 185 mm SL; 1, ANSP 90521, Bombay, India, 1924, 280 mm SL; 4, CAS SU 27749, Sandakan, Borneo, June 1929, 140-172 mm SL.

"<u>Arius</u>" species (<u>cf</u>.: <u>nenga</u> Hamilton-Buchanan, <u>parvipinnis</u> Day; not = <u>caelatus</u> Valenciennes)

4, unreg., Paknam market, Samutprakan, Thailand, Nov. 1985, 128.5-210 mm SL; 1, unreg., Paknam, Samutprakan, Thailand, Nov. 1985, 196 mm SL; 1, LACMNH 38128-47, Hawkes Bay, west of Karachi, Sind, Pakistan, April 1978, 194 mm SL.

"<u>Cathorops</u>" species

1, unreg., no data but probably Sao Paulo, Brazil, 131 mm SL; 3, GCRL V79: 16676, Jiquilisco Bay, El Salvador, July 1976, 121-142 mm SL; 6, GCRL V79: 16688, same locality, Sept. 1975, 115-148 mm SL.

APPENDIX B. Gazeteer

Locality	°S.	°E.
Abraham's Lagoon	14°54	133°05'
Abrolhos Islands	28°35'	113°40'
Adelaide River (mouth)	12°16'	131°16'
Agu River (middle Fly)	07°07'	141°08'
Aiome	05°09'	144°44'
Aird Hills	07°25'	144°20'
Aird River	07°45'	144°20'
Akoma	07°50'	145°00'
Alele Passage	07°50'	145°12'
Alexander River	18°28'	140°14'
Alkmaar	04°28'	138°45'
Alligator River - East	13°09'	132°22'
Alligator River - South:		
Oenpelli - Darwin Road crossing	12°25'	132°22'
Oenpelli - Pine Creek Rd crossing	13°21'	132°22'
Alligator Rivers region	12°20'	132°25'
Ambot	04°20'	144°10'
Amipoke (Island)	07°25'	144°53'
Angoram	04°04'40"	144°04'
Annanberg	04°54'	144°38'
Anu Creek	07°20'	144°20'
Ara'avo	see: Arehava	
Arafura Sea	11°30'	134°15'
Arafura Swamp	12°35'	135°02'
Aramia River	08°00'	143°00'
Archer River	13°35'	142°09'
Arehava	07°35'	144°57'
Arnhem Land	13°20'	134°32'
Arrnarrama	? in Northern Territory	
Arso River	02°56'	140°45'
Ash Island (Hunter River)	32°51'	151°43'
Ashburton River (mouth)	21°51'	114°59'
Avioua	07°45'	144°30'
Awoonga Dam	24°05'	151°18'
Baimuru	07°33'	144°51'
Balamuk	08°45'	141°10'
Balimo	08°01'20"	142°57'
Ballina	28°52'	153°34'
Barea	07°50'	144°56'
Baroalba Creek crossing	12°48'	130°43'
Beara	07°30'	144°50'
Bedford Weir	16°12'	145°26'
Bedout Island	19°35'	119°50'
Bensbach River	08°57'	141°15'
Bernhard Camp on Idenburg River	03°30'	139°00'

Locality	°S.	°E.
Bevan Rapids	07°22'	145°16'
Beverley Springs Station	16°35'	125°29'
Bewani River	02°57'	140°50'
Bibis River	see: Sande River	
Big Horse Creek	15°48'	130°24'
Binge River mouth	06°32.5'	140°55'
Bintuni Bay	02°21'	133°40'
Bintuni River	02°05'	133°21'
Bogie River - Burdekin River junct.	19°41'	147°21'
Bohle River	19°15'	146°43'
Border Store	18°04'	137°59'
Bosmun	14°10'	144°39'
Bosngun River	04°10'	144°39'
Bowen	20°00'	148°00'
Bowthorn Station	18°06'	138°18'
Boyne River near Awoonga Dam	24°12'	151°15'
Breakfast Creek	25°04'	151°16'
Brisbane River	27°28'	153°02'
Broken Water Bay	04°00'	144°40'
Broome	17°58'	122°14'
Brown River	09°10'	147°15'
Bui River	02°07'	133°45'
Bullo River Station	15°28'	129°46'
Bunapas Station (mission)	04°14'40"	144°41'
Burdekin River	20°00'	146°40'
Burketown	17°45'	139°33'
Burnett River	26°39'	152°09'
Burns Shoals	see: Point Arrowsmith	
Bynoe River	17°56'	141°04'
Cane River	21°41'	115°22'
Cannon Hill	12°23'	132°57'
Cahill's Crossing (E. Allig. River)	12°26'	132°48'
Caiman Creek, Port Essington	11°16'	132°14'
Cairns	16°55'	145°46'
Caldbeck Reef	10°06'	143°10'
Cape Arnhem	12°21'	136°59'
Cape Cleveland	19°11'	147°01'
Cape Grenville	11°58'	143°14'
Cape Wessel	11°00'	136°46'
Cape York	11°48'	142°21'
Carlton Hill "crossing" Station	15°29'	128°32'
Carson River	14°43'	126°44'
Chambri Lakes	04°17'	143°08'
Chapman River	14°56'	141°38'
Clarence River	29°18'	152°32'
Cleveland Bay	19°13'	146°55'
Cobble Lagoon, Smithburne River	17°05'	141°23'
Coburg Peninsular	11°30'	132°20'

Locality	°S.	°E.
Coen River	13°57'	143°12'
Connors River - Isaac River junct.	22°25'	149°00'
Cooinda	in Kakadu Nat. Park, N.T.	
Cooper's Creek (Qld)	20°41'	147°08'
Cox River headwaters	16°00'	134°41'
Croker Island	11°07'	132°33'
D'Albertis Island	08°13'	142°04'
Daly River Police Stn/Crossing	13°46'	130°46'
Dampier	20°39'	116°43'
Danau Biru	02°29'	138°00'
Daru (Island)	09°05'	143°12'
Daru Roads	09°04'	143°14'
Darwin	12°27'	130°46'
Dawson River	24°33'	149°52'
Dawson River - Delusion Ck junct.	25°11'	150°11'
Death Adder Creek	13°03'	132°52'
Deception Bay	27°10'	153°05'
Delusion Creek	see: Dawson River	
Derby	17°19'	123°38'
Desailly Creek	16°22'	144°55'
Digoel (or Digul) River	07°07'	138°42'
Dua - Strickland Rivers juntion	06°01'	142°06'
Dunbar Station	16°03'	142°23'
East Alligator River	see: Alligator River	
Edward River	14°39'	142°03'
Eidsvold	25°23'	151°04'
Elangowan Island (lower Fly)	07°49'	141°39'
Elevala River	06°03'	141°24'
Elsey Station	14°58'	133°20'
Era River	07°20'	144°50'
Erave River	06°45'	144°32'
Exmouth Gulf	21°53'	114°22'
8 - mile Passage, Fly River delta	08°30'	143°30'
Finniss River	12°51'	130°37'
Fitzroy River (Qld)	23°25'	149°58'
Fitzroy River (WA)	17°55'	125°54'
Flinders River	20°45'	143°20'
Flinders River near Maxwellton	20°47'	142°43'
Flinders River near Hughenden & Richmond	20°44'	143°08'
Florina Station on Daly River	14°27'	131°41'
Fly River	08°22'	142°40'
Foelsche River	16°19'	136°53'
Forbes Yard	16°53'	126°32'
Forest Home Station on Gilbert River	18°15'	143°02'
Fortescue River	22°02'	118°03'

Locality	°S.	°E.
Galley Reach	09°07'	146°57'
Gayndah (on Burnett River)	25°37	150°21'
Georgetown billabong	12°41'	132°56'
Gilbert River	17°30'	142°25'
Gloucester Head	19°58'	148°27'
Goldie River	09°10'	147°45'
Goosehill Creek	15°36'	128°22'
Goyder River	12°45'	135°15'
Grafton	29°41'	152°56'
Gregory River	18°09'	139°08'
Groote Eylandt	13°57'	136°28'
Gulf of Carpentaria	13°00'	141°20'
Gulf of Papua	08°00'	145°00'
Gunn Point, Leaders' Creek	12°11'	131°00'
Gusah River	? lower Ramu River system	
Gwaimasi (village)	05°54'	142°06'
Hall Sound	08°50'	146°33'
Hann River	16°26'	126°20'
Hodgson River	14°54'	134°33'
Holtekang (or Hollekang)	02°37'	140°46'
Houtman Abrolhos Islands	see: Abrolhos Islands	
Hughenden	20°51'	144°12'
Humboldt Bay	02°35'	140°45'
Idenburg River	02°54'	138°27'
Ihu	07°55'	145°20'
Imbil (Yabba Creek)	26°28'	152°41'
Indium billabong	see: Magela Creek	
Ini Island	07°35'	144°44'
Isaac River	22°30'	148°55'
Isdell River	17°00'	125°28'
Ivo River	07°39'	145°01'
Jabiru	12°40'	132°53'
Jaja Billabong	12°36'	132°52'
Japero (or Yapero)	04°59'	137°11'
Jasper Gorge	16°02'	130°41'
Jim Jim crossing	13°05'	132°42'
Jimmi River NE of Mt Hagen	05°30'	144°25'
Kabarao	04°14'	143°21'
Kai River	07°04'	141°06'
Kaivu	07°30'	144°40'
Kali tujuh village	02°05'	133°29'
Kambaramba	04°09'	144°00'

Locality	°S.	°E.
Kampong Gariau (on Jamoer Island)	03°42'	134°56'
Kamundan River	02°17'	132°39'
Kanganaman	04°12'	143°17'
Kapolga	12°36'	132°25'
Kapogere	see: Kempwelch River	
Kapuna	07°35'	144°58'
Karama River mouth	08°03'	145°56'20"
Karamonge Creek	05°27'	141°17'
Karumba (and Gulf)	17°29'	140°50'
Kasila Creek	in Kikori River delta	
Kasuri River	02°40'	133°20'
Katau	09°08'	142°56'
Katherine	14°28'	132°16'
Katherine River 8 mi. from Katherine	14°23'	132°21'
Kempwelch River	09°47'	147°43'
Keram	04°25'	144°15'
Kerame River	04°25'	144°15'
Kerema	07°58'	145°43'
Kerema Bay	07°58'	145°43'
Kibi Creek	see: Wabo	
Kikori River	07°10'	144°09'
King Creek (Melville Island)	12°30'	130°35'
King River	15°40'	128°05'
Kiunga	06°08'	141°18'
Kiwai Island	08°35'	143°25'
Koki market	09°29'	147°10'
Kone	see: Wabo	
Koragu	04°05'	143°08'
Kubipara	? (Papua)	
Kubiri Creek	07°15'	144°42'
Kubuna River	09°01'	146°49'
Kuku Creek	07°20'	145°15'
Kwatit River - Sepik River junct.	04°05'	143°06'
Lake Argyle	16°15'	128°45'
Lake Bosset	07°14'	141°08'
Lake Holmes	see: Danau Biru	
Lake Murray	07°00'	141°30'
Lake Sentani	02°35'	140°32'
Lake Toeba	06°41'	140°20'
Lakekamu River	08°12'	146°10
Laloki River	09°20'	147°15'
Lawn Hill Creek	18°42'	138°29'
Leader's Creek (on Gunn Point)	12°11'	131°00'
Leichhardt River	18°35'	139°50'
Limestone Creek - Katherine R. junct.	14°42'	131°48'
Limmen Bight River	15°30'	135°24'
Liverpool River	12°22'	134°07'
Lohiki Creek	07°40'	145°35'

Locality	°S.	°E.
Long Harry's Billabong	12°40'	132°53'
Lorentz River	05°23'	138°04'
Ludmilla Creek	see: Darwin	
MacArthur River (Qld)	24°46'	143°44'
Mackenzie River at Bedford Weir	16°12'	145°26'
Magela Creek	12°42'	132°57'
Magendo 2	04°06'	144°04'
Mainoru River	14°01'	134°03'
Maitland River	20°55'	116°42'
Malalaua	08°00'	146°13'
Malamon (Malimon) River	15°04'	141°43'
Malu	04°15'	142°52'
Mamberamo River	01°26'	137°53'
Manimeri River	02°06'	133°45'
Mannaburoo Hole	16°05'	135°22'
Mapaio	07°39'	145°06'
Mapoon	11°58'	141°53'
Mareeba	17°00'	145°26'
Marienberg	03°55'	144°15'
Marui	see: Murui	
Mary River	13°16'	131°54'
Mary River East, road crossing	12°44'	131°45'
Massey Baker's Junction	07°29'	141°29'
Matupi River at Murua	see: Murua	
Maude Creek Station	14°23'	132°24'
Maxwellton	20°47'	142°43'
May River	04°35'	141°35'
McArthur River (NT)	15°58'	135°21'
McKinlay River	12°58'	131°40'
Melville Island	11°18'	130°27'
Merauke	08°28'	140°20'
Miae	07°56'	145°23'
Mickett Creek	12°21'	131°00'
Milingimbi	12°05'	134°53'
Millstream on Fortescue River	21°35'	117°04'
Minderoo Station on Ashburton R.	22°00'	115°03'
Mining Hut Creek	see: Kapalga	
Mira Point	07°45'	144°55'
Mitchell River	16°00'	142°20'
Miwa (on Lake Murray)	07°15'	141°35'
Moaif River	02°25'	140°02'
Moinamu	07°35'	144°12'
Moll Gorge on Hann River	16°26'	126°20'
Moonkan River	14°52'	141°37'
Moreton	12°27'	142°38'
Moreton Bay	27°25'	153°20'
Morowan (or Moravamu)	07°35'	144°58'
Mourilian Harbour	17°36'	146°08'

Locality	°S.	°E.
Mt. Borrodaile	12°03'	132°54'
Mt. Carbine	16°22'	144°55'
Mt. House Station	17°03'	125°42'
Mt. Otto	05°29'	145°25'
Mt. Ringwood Lagoon	13°06'	131°21'
Mud Island, Moreton Bay	27°20'	153°15'
Mundubbera, on Burnett River	25°35'	151°18'
Murganella Creek	11°51'	132°48'
Murik Lakes	03°47'	144°17'
Murua	07°52'	145°47'
Murui	04°05'	143°00'
Napier Broome Bay	13°59'	126°36'
NE Islet, Gulf of Carpentaria	13°39'	136°57'
Newberry River	07°38'	144°18'
Newcastle	32°56'	151°46'
Nicholson River	17°57'	138°50'
Ningerum	05°41'	141°09'
Noord River	see: Lorentz River	
Norman River	17°32'	140°50'
Normanton	17°40'	141°04'
Nourlangie Creek	12°43'	132°33'
Nyourangi	near Kanganaman	
Oenpelli	12°19'	133°03'
Oetakwa River mouth	04°59'	137°13'
Ok Mart	05°53'	141°15'
Ok Tedi	05°40'	141°10'
Orange Weir on Dawson River	27°22'	152°48'
Ord River	15°52'	128°16'
Ord River below Duncan H'way crossing	16°00'	129°40'
Oreke River mouth	08°42'	146°29'
Oriomo River mouth	09°02'	143°12'
Orokolo Bay	07°54'	145°20'
Orontes Reef	11°04'	132°05'
O'Shannessy River	19°20'	138°38'
O'Shannessy - Gregory Rivers junct.	19°09'	137°18'
Oxley Creek	27°32'	153°00'
Pagwi	04°06'	143°06'
Pai'ia Inlet	07°39'	144°33'
Palmer's Creek	12°55'	131°14'
Palmer River	05°47'	141°37'
Panaroa River mouth	07°49'	145°07'
Pangoa	07°00'	141°30'
Parama Island	09°01'	143°22'
Pawria	07°25'	145°10'

Locality	°S.	°E.
Peach Creek, Archer River system	13°41'	143°09'
Pellew Islands	15°30'	136°53'
Phelp River	14°28'	135°13'
Pie River	07°30'	144°50'
Pine Creek, Daly River	13°47'	131°55'
Pine Peak Island	21°31'	150°16'
Pioniersbivak	02°15'	138°00'
Plain Creek	see: Beverley Springs Stn	
Poee	02°42'	140°35'
Point Arrowsmith	13°15'	136°27'
Police Water Hole	16°08'	129°39'
Port Essington	11°16'	132°14'
Port Jackson	see: Sydney	
Port Moresby harbour	09°29'	147°08'
Prauwenbivak	03°12'	138°50'
Proserpine River	20°24'	148°38'
Pue	see: Poee	
Purari River	07°46'	145°10'
Purari River - delta	07°40'	144°50'
Purari River - mid	07°26'	145°12'
Ramu River mouth	04°06'	144°40'
Ravikoupara	07°40'	145°15'
Red Lily Lagoon	13°45'	130°43'
Regen Island	04°54'	138°50'
Reynolds River	13°11'	130°35'
Richmond	20°44'	143°08'
Richmond River	28°49'	152°59'
Ritui River mouth	02°14'	133°30'
Riversleigh Station	19°02'	138°45'
Robinson River	16°55'	136°51'
Rokeby	13°40'	142°40'
Roper River	14°46'	134°01'
Roper River mission	14°44'	134°44'
Rumginae	05°53'40"	141°16'
Sampan Creek	12°20'	131°45'
Sande River	04°30'	138°30'
Saxby River	19°44'	142°48'
Sagero	see: Daru	
Scotts Creek	12°55'	131°14'
Sepe, NW of Kiwai Island	08°23'	143°12'
Sepik River	03°40'	143°45'
Shark Bay	25°25'	113°35'
Shoal Bay (NT)	11°48'	130°39'
Shoal Bay (Qld)	20°04'	148°29'
Sir Edward Pellew Islands	see: Pellew Islands	
Smith's Point, Coburg Peninsular	11°07'	132°08'

Locality	°S.	°E.
Snake Bay, Melville Island	11°24'	130°41'
Soda Creek	see: Mary River East	
South Alligator River	12°20'	132°25'
Staaten River	17°12'	143°26'
Stockyard Pool, Ord River	21°50'	121°04'
Strathgordon Lagooon (Edward R.)	14°41'	142°10'
Strickland River	06°00'	142°05'
Sturt Island in Fly River	08°10'	142°17'
Sydney	35°53'	151°13'
Taldora Station	19°23'	141°17'
Tami River	02°36'	140°55'
Tami River entrance	02°50'	140°55'
Tanah Merah	06°05'	140°17'
Tanah Tinggi	05°57'	140°15'
Tarawin River	02°28'	139°45'
Tauri River	07°40'	146°00'
Timbunke	04°11'	143°32'
Tjantung Okiba	on upper Digoel River	
Toowong Reach, Brisbane River	27°29'	153°00'
Toro Pass	08°59'	143°25'
Torres Strait	09°41'	142°17'
Towns River (lower)	15°03'	135°12'
Townsville	19°16'	146°49'
Traine River	17°18'	126°22'
Tsenap	04°14'	142°19'
Tubridgi Creek (Point)	21°51'	114°39'
Tureture village	09°07'	142°59'40"
Ulmarra on Clarence River	29°38'	153°02'
Uralla Waterhole, Saxby River	18°37'	140°59'
Vailala River	07°25'	145°25'
Van Diemens' Inlet	16°58'	140°59'
Vanimo	02°40'	141°20'
Van Weelskamp	04°52'	138°45'
Varen River	04°50'	138°35'
Varoi River	07°46'	144°56'
Victoria River	15°37'	130°56'
Vogelkopf Peninsular	01°20'	133°00'
Wabo	06°55'	145°00'
Waigani Swamp	09°22'	147°11'
Wai Ketu	06°05'	141°31'
Walkers' Bend Crossing, Flinders R.	18°10'	140°52'
Wam River	07°15'	141°05'

Locality	°S.	°E.
Wame River	07°35'	144°55'
Waterhouse Creek	14°41'	133°07'
Wearyan River road crossing	16°12'	136°46'
Wenlock River	13°02'	142°55'
Wickham Gorge	15°31'	130°46'
Wickham River	16°28'	130°51'
Wide Bay	25°52'	153°07'
Wildman River mouth	12°26'	132°09'
Wilton River	13°46'	134°28'
Withnell Bay	20°35'	116°47'
Wollogorang Station	17°13'	137°57'
Woods Inlet	12°29'	130°46'
Wurio	08°14'	143°24'
Wyndham	15°28'	128°06'
Yabba Creek	26°28'	152°41'
Yeeda Creek Station	17°37'	123°39'
Yule Island	08°50'	146°30'
Zenap	see: Tsenap	
Zirken	04°02'	144°41'

APPENDIX C. Raw data on New Guinea and Australian ariids

I. Z functions for stepwise discriminant function analysis

The discriminant function which separates 100 per cent of cases accurately in a robust jackknife classification matrix (BMDP, 7M; Dixon, 1985) (refer 6.2), and where the highest Z score determines membership, has been calculated for several pairs of phenotypically similar taxa. These functions are stated here:

"Arius" graeffei and "Arius" berneyi

$Z_{graeffei}$ = -1228.945 + 8.283 (supraoccipital process length) + 29.008 (anal fin count) + 17.571 (first arch, total GR count) + -3.959 (arrangement of palatal teeth) + 65.349 (caudal peduncle depth/peduncle length) + 3.324 (head height/HL x 100) + 14.409 (snout length/HL x 100) + 25.476 (eye diameter/SL x 100) + 2.791 (maxillary barbel length/SL x 100) + 29.037 (dorsal fin basal length/SL x 100) + 5.256 (adipose fin basal length/SL x 100); $Z_{berneyi}$ = -1197.987 + 9.670 (supraoccipital process length) + 27.239 (anal fin count) + 14.969 (total GR count, first arch) + -0.725 (arrangement of palatal teeth) + 73.549 (caudal peduncle depth/peduncle length) + 3.835 (head height/HL x 100) + 13.012 (snout length/HL x 100) + 33.139 (eye diameter/SL x 100) + 4.118 (maxillary barbel length/SL x 100) + 24.078 (dorsal fin basal length/SL x 100) + 3.002 (adipose fin basal length/SL x 100).

"Arius" latirostris and "Arius" leptaspis

$Z_{latirostris}$ = -1921.646 + 22.636 (total GR count, first arch) + 35.088 (supraoccipital process width/supraoccipital process length) + 122.390 (dorsal spine length/HL) + 615.122 (predorsal length/SL) +

31.513 (maxillary barbel length/SL + 56.688 (head width/SL x 100) + 15.157 (anal basal length/SL) x 100) + 2.751 (caudal peduncle length/SL x 100); $Z_{\underline{leptaspis}}$ = -2083.966 + 26.366 (total GR count, first arch) + 24.041 (supraoccipital process width/supraoccipital process length) + 187.183 (dorsal spine length/HL x 100) + 673.003 (predorsal length/SL) +-3.195 (maxillary barbel length/SL) + 62.213 (head width/SL x 100) + 11.472 (anal basal length/SL x 100) + -0.733 (caudal peduncle length/SL x 100).

"Arius" *leptaspis* and "Arius" *midgleyi*

$Z_{\underline{leptaspis}}$ = -366.366 + 12.523 (total GR count, first arch) + 83.390 (dorsal spine length/HL) + 0.234 (head width/HL x 100) + 1.231 (snout length/HL x 100) + 0.015 (maxillary barbel length/SL x 100); $Z_{\underline{midgleyi}}$ = -369.429 + 9.722 (total GR count, first arch) + 51.859 (dorsal spine length/HL) + 0.874 (head width/HL x 100) + 1.081 (snout length/HL x 100) + 0.145 (maxillary barbel length/SL x 100).

"Arius" *leptaspis* and "Arius" species 2

$Z_{\underline{leptaspis}}$ = -771.916 + 0.585 (interdorsal space) + 72.168 (pectoral ray count) + -12.790 (form of palatal teeth) + 15.924 (eye diameter/snout length) + 83.901 (head height/head width) + 11.159 (anal fin basal length/SL x 100) + 57.907 (caudal peduncle depth/SL x 100) + -0.321 (dorsal spine length/SL x 100); $Z_{species\ 2}$ = -713.130 + -0.374 (interdorsal space) + 65.934 (pectoral ray count) + -5.704 (form of palatal teeth) + 40.704 (eye diameter/snout length) + 72.230 (head height/head width) + 13.053 (anal fin basal length/SL x 100) + 45.837 (caudal peduncle depth/SL x 100) + 1.453 (dorsal spine length/SL x 100).

II Raw Data

Morphometric, meristic and ecological information is presented. Explanation of information and column format is as follows:

Species were numbered arbitrarily as follows (only by specific epithet): 1 = species 1; 2 = armiger; 3 = proximus; 4 = mastersi; 5 = latirostris; 7 = leptaspis; 8 = midgleyi; 9 = augustus; 10 = species 2; 11 & 41 = graeffei; 12 = berneyi; 14 = species 3; 15 = species 4; 16 = froggatti; 17 = carinatus; 18 = crassilabris; 19 = danielsi; 20 = spatula; 21 = dayi; 22 = novaeguinea; 23 = species 5; 24 = thalassinus; 25 = bilineatus; 26 = argyropleuron; 28 = polystaphylodon; 29 = nella; 30 = species 6; 31 = nox; 33 = solidus; 35 = species 7; 36 = velutinus; 37 = taylori; 39 = macrorhynchus; 42 = conorhynchus.

The order in which the measurements and meristics are arranged on these columns and on the VAX data file are: species number, specimen number, SL, HL, head height, head width, eye diam., mouth width, internostril dist., snout l., width premax. tooth band, l. premax. tooth band, l. maxillary barbel, bony interorb. width, l. occipital process, width occipital process, predorsal l., l. dorsal fin base, interdorsal dist., l. adipose fin base, l. anal fin base, caudal peduncle depth, caudal peduncle length, P spine l., D spine l., anal count, pectoral count, total GR count (first arch), total GR count (fourth arch). The last five entries are coded parameters for: (a) presence of rakers on the posterior face of the first three gill arches, (b) "palatine" tooth type, (c) arrangement of the "palatine" (= autogenous tooth plates: refer Chapter 2), (d) habitat preference, (e) geographic source of specimen.

The codes for these five parameters are broken down as:

(a) 1 = rakers present on all arches, 2 = rakers absent from first arch, 3 = rakers absent from first two arches;

(b) 1 = villiform/fine, slender, often depressible, 2 = strong, caniniform, 3 = granular, molariform, 4 = teeth absent from palate, 5 = conical, pointed, peg-like;

(c) 1 = teeth absent from palate, 2 = one tooth patch present on one side of palate, 3 = one tooth patch present on each side of palate, 4 = 4 tooth patches (2 each side) arranged transversely on palate, 5 = 6 tooth patches (3 each side), 6 = one patch of granular/molariform teeth on each side of palate, 7 = 2 patches of granular/moliform teeth on each side of palate, 8 = solid, median patch of teeth covering anterior portion of palate, 9 = "butterfly" patch of teeth extending medially over anterior portion of palate;

(d) 1 = fully freshwater; 2 = tidal river; 3 = estuarine, lower salinity coastal waters, 4 = marine;

(e) 1 = northern New Guinea (north of the central cordillera; i.e. north-flowing rivers), 2 = southern New Guinea (south of the central cordillera; i.e. south-flowing rivers), 3 = Australia, 4 = Indonesia, 5 = other areas.

Parameters (d) and (e) were omitted from the final analysis.

The numeral "9999.0" substituted where data is lacking.

```
101 102.6  32.7  12.8  22.2   3.4  16.0  11.6  11.2  14.6   2.1
     25.3   8.7  10.1   4.6  41.1  12.1  22.2  11.3  15.8   6.9
     15.59999.0  17.5  17.0  11.0  10.0  10.0   3.0   2.0   4.0
      3.0   3.0
102 430.0 135.2  51.5  89.7   9.2  63.9  48.3  46.9  54.6   7.2
     73.5  44.8  38.0  24.9 169.4  46.6  98.0  44.8  72.8  28.0
     59.4  84.0  93.7  20.0  12.0  10.0  10.0   3.0   2.0   4.0
      3.0   3.0
103 172.0  54.19999.0  36.9   4.9  28.3  19.4  20.1  24.6   3.1
     32.0  16.9  15.0   7.9  68.1  20.3  39.7  17.8  27.2  12.5
     26.4  29.6  33.0  19.0  12.0  11.09999.0   3.0   2.0   4.0
      3.0   3.0
104 200.0  66.6  27.5  42.4   6.8  29.8  22.2  22.5  26.7   3.4
     48.4  19.3  19.1   9.0  83.0  23.8  45.5  24.4  33.9  13.1
     29.5  44.0  48.1  18.0  12.0  10.0  11.0   3.0   2.0   4.0
      4.0   2.0
105 159.4  52.6  22.1  34.5   5.6  24.1  18.5  17.6  22.4   2.7
     37.6  15.4  15.6   7.2  66.1  21.0  36.9  17.6  25.2  10.8
     23.2  33.9  34.3  18.0  12.0  11.0   9.0   3.0   2.0   4.0
      4.0   2.0
106  85.3  27.4  12.5  18.0   3.6  13.0   9.4   9.4  12.0   1.6
     21.1   7.8   7.8   4.7  34.2  11.1  12.5  13.4  13.4   6.5
     12.6  14.7  15.1  18.0  11.0  10.0  10.0   3.0   2.0   4.0
      2.0   2.0
107  89.4  28.2  12.5  18.4   3.8  13.5  10.2  11.3  11.0   1.5
     22.5   8.0   8.7   4.5  35.7  10.3  16.4  13.8  15.5   7.0
     15.5  13.6  15.1  17.0  12.0  11.0  11.0   3.0   2.0   4.0
      2.0   2.0
108  85.2  27.3  12.7  18.4   3.6  13.0  10.5  11.2  11.5   1.6
     18.5   7.3   7.2   4.3  32.0  10.0  13.5  12.8  13.6   6.5
     14.0  13.4  12.3  19.0  11.0  11.0  11.0   3.0   2.0   4.0
      2.0   2.0
109  88.6  28.0  11.5  18.0   3.9  13.1  10.0  10.5  11.7   1.4
     19.9   7.1   8.1   4.4  35.0  11.0  16.0  12.5  14.3   6.4
     14.3  13.6  13.9  18.0  12.0  10.0  11.0   3.0   2.0   4.0
      2.0   2.0
110 450.0 146.3  73.2  99.1  10.0  71.1  48.4  47.3  61.4   6.3
     68.7  50.0  43.5  29.2 185.2  51.4 114.6  36.0  65.7  30.7
     70.0  89.4 104.5  20.0  11.09999.09999.0   3.0   2.0   4.0
      4.0   3.0
111 460.0 147.9  69.5 105.5  10.0  72.5  52.6  52.4  63.0   6.4
     80.1  52.4  47.5  32.2 197.0  51.8 111.7  41.9  62.1  32.0
     51.5  91.29999.0  21.0  12.0  10.09999.0   3.0   2.0   4.0
      4.0   3.0
201 134.0  35.6  20.7  27.5   4.79999.09999.0  12.6  16.9   2.6
     66.7  12.0  10.8   9.3  47.4  15.3  36.5  10.7  26.7  10.8
     22.59999.09999.0  25.0  10.0  20.0  21.0   3.0   1.0   4.0
      4.09999.0
202 148.2  41.6  21.2  29.4   5.79999.09999.0  14.8  20.2   2.4
     60.3  14.4  12.2   7.9  54.7  16.7  44.7   8.7  30.2  10.9
     22.9  33.59999.0  24.0  10.0  20.0  21.0   3.0   1.0   4.0
      4.09999.0
203 273.0  80.9  47.0  64.1  10.6  37.1  25.0  29.6  30.8   7.1
     91.4  25.9  24.0  14.8 101.9  30.3  70.8  26.6  56.8  22.7
     45.3  57.0  67.1  25.0  10.0  19.0  19.0   3.0   1.0   4.0
      2.0   3.0
204 285.1  82.5  47.6  62.1   9.2  35.2  23.0  29.0  33.7   4.3
    101.6  26.8  21.6  15.1 103.0  31.6  76.2  24.7  56.7  22.9
     38.4  58.7  66.4  25.0  10.0  19.0  21.0   3.0   1.0   4.0
      2.0   3.0
205 255.0  74.9  41.4  52.9  10.6  36.5  24.9  25.7  31.5   4.3
     87.0  23.2  20.7  14.6  93.5  30.0  73.8  20.7  50.7  20.4
     38.2  47.6  61.6  25.0   9.0  19.0  21.0   2.0   1.0   4.0
      2.0   3.0
206 161.2  43.0  25.4  30.7   5.8  20.3  11.1  15.4  17.6   2.4
     57.7  13.5  13.6   9.3  56.7  16.6  47.9  13.5  34.0  13.9
```

```
      26.7  35.3  38.6  24.0  10.0  20.0  18.0   2.0   1.0   4.0
       2.0   3.0
207  188.3  58.9  37.3  41.9   8.5  26.8  15.0  20.4  22.1   2.6
      68.9  19.1  17.8   9.8  72.4  20.6  45.8  19.7  39.1  15.9
      28.9  37.6  41.6  25.0  10.0  19.0  18.0   1.0   1.0   4.0
       2.0   3.0
208  260.0  77.4  40.3  58.6   9.2  37.2  24.9  27.7  34.5   4.1
     110.5  26.0  20.7  17.4  95.4  31.6  71.3  25.6  54.3  22.3
      40.4  47.8  59.9  25.0  10.0  19.0  16.0   3.0   1.0   4.0
       2.0   3.0
209  201.5  60.2  33.7  46.0   7.1  29.5  18.1  23.9  27.5   3.5
      94.5  18.5  17.1  10.2  74.9  24.3  52.3  21.3  43.5  16.8
      26.0  40.6  50.4  25.0  10.0  20.0  19.0   3.0   1.0   4.0
       2.0   3.0
210  236.5  68.9  39.7  54.5   7.6  34.4  20.6  26.6  29.8   4.0
      96.0  20.5  18.8  10.9  88.5  27.0  68.8  22.4  45.8  19.7
      33.6  40.7  57.4  23.0  10.0  19.0  22.0   2.0   1.0   4.0
       2.0   3.0
211  184.5  56.7  29.4  40.9   6.7  28.5  17.4  21.8  25.9   2.8
      86.1  17.9  15.9  10.4  72.3  21.3  45.8  18.1  33.3  14.9
      27.4  38.5  45.6  22.0  10.0  20.0  21.0   3.0   1.0   4.0
       2.0   3.0
212  173.5  50.5  28.1  37.0   6.2  23.5  14.7  18.6  20.8   2.1
      84.0  14.5  14.2   8.6  63.4  20.0  41.3  16.5  34.6  14.6
      24.8  37.7  50.8  25.0  10.0  18.0  19.0   3.0   1.0   4.0
       2.0   3.0
213   92.5  24.8  16.0  18.9   3.6  11.8   7.3   8.8  10.5   1.2
      40.5   8.0   7.0   5.7  31.5  10.7  23.7   8.6  20.0   7.6
      15.9  20.9  23.7  24.0  10.0  22.0  22.0   2.0   1.0   4.0
       4.0   2.0
214  155.0  47.7  24.2  31.6   7.7  22.5  14.6  16.9  20.7   2.6
      70.4  15.9  13.2  11.9  59.5  18.5  41.4  12.7  33.3  14.1
      24.7  36.0  48.9  23.0  11.0  19.0  22.0   2.0   1.0   4.0
       4.0   2.0
215  256.5  76.2  37.7  55.8   7.7  37.7  24.5  27.5  37.1   4.6
      90.9  25.2  26.6  13.7 100.0  27.3  68.0  22.5  49.4  22.9
      37.29999.0  59.5  23.0  10.0  17.0  19.0   2.0   1.0   4.0
       3.0   2.0
216  129.3  35.6  23.7  29.5   5.2  18.0  11.4  12.9  15.4   2.6
      72.8  10.7  11.3   6.5  46.9  16.5  32.1  12.7  28.6  11.3
      20.99999.09999.0  24.0  10.0  19.0  19.0   2.0   1.0   4.0
       2.0   2.0
217  110.9  29.7  18.4  21.4   5.09999.09999.0  11.1  13.6   1.9
      47.59999.0   9.8   5.8  38.2  12.1  29.7  10.3  23.0   9.4
      19.4  22.3  23.7  23.0  10.0  21.09999.0   3.0   1.0   4.0
       3.0   3.0
218  104.8  28.9  16.8  20.4   4.49999.09999.0  10.1  12.4   1.7
      44.59999.0   8.6   5.3  37.1  11.6  28.5  10.8  22.1   9.3
      16.0  21.7  24.5  23.0  10.0  20.09999.0   3.0   1.0   4.0
       3.0   3.0
219  149.9  42.6  23.2  32.8   6.7  20.7  13.8  14.9  18.3   1.9
      66.7  12.7  12.2   7.0  54.3  16.1  37.5  15.5  33.9  13.1
      23.29999.0  44.4  24.0  10.0  17.0  19.0   3.0   1.0   4.0
       2.0   2.0
220   78.6  21.6  12.9  16.0   3.49999.09999.0   7.6   8.9    .9
      33.5   5.6   6.7   5.0  28.3   8.5  20.1  10.3  17.2   6.7
      13.6  16.7  17.2  24.0  10.0  19.0  16.0   3.0   1.0   4.0
       4.0   3.0
221   89.2  24.2  13.6  17.1   3.99999.09999.0   8.5   9.5   1.3
      30.9   7.0   8.5   5.1  31.8   9.3  24.0   9.5  18.2   7.7
      14.4  17.9  20.1  24.0  11.0  20.0  16.0   3.0   1.0   4.0
       4.0   3.0
222  101.7  27.9  14.1  20.1   4.1  15.1   7.9   9.7  12.5   1.2
      51.0   8.6   7.9   5.8  36.7  11.5  27.1   9.0  20.6   7.8
      17.9  21.0  24.2  23.0  10.0  19.0  19.0   3.0   1.0   4.0
       2.0   3.0
```

```
223 110.5  30.8  16.9  22.6   4.39999.09999.0  10.3  12.9   1.3
     48.3   9.0  10.2   5.9  40.0  13.0  27.7  11.5  22.2   9.2
     19.9  22.2  27.8  24.0  10.0  19.0  21.0   3.0   1.0   4.0
      2.0   3.0
224  74.0  20.8  12.4  14.6   2.89999.09999.0   7.5   7.4    .7
     32.9   5.7   6.0   4.7  27.1   8.0  17.7   7.4  15.1   5.8
     13.1  13.3  14.5  24.0  10.0  18.0  18.0   3.0   1.0   4.0
      2.0   3.0
225 220.8  67.7  32.7  46.5   8.09999.09999.0  23.4  27.0   2.9
     85.4  21.9  15.7  10.3  82.8  22.6  58.0  17.5  41.0  16.6
     34.7  40.6  50.2  24.0   9.0  17.09999.0   3.0   1.0   4.0
      2.0   3.0
226 280.5  81.0  47.0  59.9   9.69999.09999.0  30.9  32.2   3.5
     90.2  26.6  24.0  13.8 105.9  32.2  84.7  21.7  54.4  22.4
     52.7  52.6  64.9  25.0   9.09999.09999.0   3.0   1.0   4.0
      2.0   3.0
227 142.0  40.1  21.7  30.1   4.5  20.0  11.5  14.5  18.4   2.6
     43.0  13.1  12.4   8.1  51.8  15.6  41.8  11.5  29.8  12.1
     23.4  27.8  35.7  23.0  11.0  16.0  17.0   2.0   1.0   4.0
      2.0   2.0
228 178.2  50.3  26.3  36.9   7.69999.0  13.4  18.6  19.9   2.4
     61.8  17.2  16.4   9.2  65.5  19.8  50.4  14.0  35.8  13.9
     25.4  34.59999.0  24.0   9.0  20.0  20.0   2.0   1.0   4.0
      3.0   3.0
229  86.5  21.4  14.0  16.4   3.6  10.6   5.1   6.99999.09999.0
     39.6   6.59999.09999.0  29.0   8.9  24.2   9.1  18.79999.0
   9999.0  17.4  19.9  25.0  11.0  20.09999.0   3.0   1.0   4.0
      2.0   3.0
230 215.1  59.2  34.7  46.5   8.59999.09999.0  21.8  24.5   2.9
     78.0  18.4  17.1  10.3  76.3  23.0  54.8  20.6  41.6  18.3
     34.7  43.7  54.6  22.0  10.0  20.0  22.0   3.0   1.0   4.0
      4.0   3.0
231 243.0  69.1  34.6  50.8   9.0  33.8  21.3  22.8  32.3   5.1
     97.3  23.8  21.9  13.5  90.1  27.6  67.4  16.9  54.3  19.7
     36.99999.0  71.4  25.0  10.0  20.0  21.0   3.0   1.0   4.0
      3.0   2.0
232 146.3  44.7  22.0  30.0   6.5  21.6  13.4  16.1  18.6   2.4
     58.8  14.4  11.3   7.0  56.8  18.4  40.6  13.8  31.6  12.4
     23.3  34.0  41.5  23.0  10.0  22.0  22.0   2.0   1.0   4.0
      3.0   2.0
233 195.0  54.2  33.3  38.5   7.4  26.1  16.9  19.5  24.3   3.6
     78.2  17.8  16.5   9.7  70.2  25.1  62.5  16.5  40.3  17.7
     31.9  44.0  65.2  25.0  10.0  20.0  18.0   2.0   1.0   4.0
      3.0   2.0
234 234.2  66.2  35.2  48.1   9.0  32.2  20.6  24.0  27.6   4.0
     89.0  20.1  19.5  12.1  84.0  31.3  70.0  20.2  48.6  20.2
     39.4  54.7  73.0  23.0  12.0  20.0  18.0   2.0   1.0   4.0
      3.0   2.0
301 338.0 107.4  52.0  74.4  16.9  45.6  32.9  38.8  37.4   6.2
     63.9  41.5  29.0  20.7 134.4  35.2  93.5  25.5  42.9  25.4
     46.9  57.4  58.3  18.0  10.0  10.09999.0   3.0   1.0   4.0
      3.0   3.0
302 187.0  52.59999.09999.0   9.9  23.5  15.1  14.89999.0   4.0
     42.7  17.7  21.0   3.8  72.8  21.3  51.9  15.4  25.6  14.9
     28.3  33.7  34.0  16.0  11.0  11.0  10.0   3.0   1.0   4.0
      2.0   3.0
303 209.2  57.69999.09999.0  10.5  26.5  15.5  17.5  20.9   3.8
     48.7  20.5  18.0  10.2  76.7  22.1  58.3  15.2  30.2  17.6
     31.6  44.7  43.2  17.0  11.0  12.0  11.0   3.0   1.0   4.0
      2.0   3.0
304 186.2  51.59999.09999.0   9.0  24.0  13.6  13.6  17.5   3.4
     36.9  17.5  17.9   9.9  70.4  20.7  49.9  16.0  25.9  15.3
     28.6  32.89999.0  16.0  11.0  12.0  11.0   3.0   1.0   4.0
      2.0   3.0
305 152.6  42.8  28.6  33.9   9.0  22.5  11.1  16.6  15.4   3.3
     35.7  15.9  15.0   9.6  57.8  15.2  41.8  10.0  22.8  13.1
```

```
       22.1   32.0   29.3   17.0   10.0   11.0   11.0    3.0    1.0    4.0
        4.0    3.0
306    52.7   14.5   10.4   10.2    4.1    7.0    3.5    5.39999.09999.0
       16.4    4.8    5.0    3.0   19.7    7.1   13.8    6.2    9.1    4.2
        9.6   10.4    9.9   17.0   10.0   11.09999.0     3.0    1.0    4.0
        2.0    3.0
307    54.6   14.3   10.2   10.7    3.9    6.7    3.5    5.29999.09999.0
       15.2    4.7    5.9    3.7   20.2    6.2   11.7    6.1    9.0    4.5
       10.1   10.1    9.7   18.0   11.09999.09999.0      3.0    1.0    4.0
        2.0    3.0
308    53.9   14.5    8.8    9.9    3.9    7.0    3.3    4.89999.09999.0
       15.3    3.4    5.4    3.0   20.0    6.6   13.1    5.4    8.1    5.3
       10.0    8.3   10.2   17.0   11.0   11.09999.0     3.0    1.0    4.0
        2.0    3.0
309    54.0   14.0    9.3    9.8    3.6    6.6    4.4    4.89999.09999.0
       14.8    4.8    4.3    2.2   19.2    6.4   13.1    5.0    8.9    4.5
        9.2    8.9    8.4   17.0   11.09999.09999.0      3.0    1.0    4.0
        2.0    3.0
310    70.1   19.1   12.2   13.6    4.69999.09999.0     7.0    7.0     .8
       22.3    6.4    5.9    4.6   25.2    7.7   18.3    6.4   10.2    5.6
       12.0   13.8   13.9   19.0   10.0   10.0   11.0    3.0    1.0    4.0
        3.0    3.0
311    83.9   21.2   14.9   16.5    5.0   11.4    5.8    7.8    8.1    1.1
       25.4    7.6    6.7    4.5   28.6    9.9   23.6    8.7   12.9    6.7
       14.8   15.4   17.2   18.0   11.0   11.0   12.0    3.0    1.0    4.0
        4.0    3.0
312   185.6   52.6   33.2   40.6   10.09999.09999.0    21.7   19.3    3.8
       43.0   19.3   18.3   10.7   69.9   20.1   47.6   13.7   27.8   15.6
       27.5   36.1   37.7   18.0   11.0   11.0   11.0    3.0    1.0    4.0
     9999.0    3.0
313    76.0   19.8   13.7   15.7    4.79999.09999.0     7.0    6.8    1.6
       20.8    7.0    7.6    5.4   27.2    9.6   16.0    8.1   13.2    6.4
       11.8   12.8   14.7   18.0   10.0   12.0   10.0    3.0    1.0    4.0
        4.0    3.0
314   288.0   83.7   46.0   57.8   13.5   33.8   24.3   31.79999.09999.0
       58.9   32.1   24.0   16.4  105.1   30.8   84.0   18.0   37.8   21.6
       43.2   48.9   53.79999.0    10.09999.09999.0      3.0    1.0    4.0
        4.0    3.0
315   264.1   76.4   46.7   56.1   14.1   31.6   22.6   30.4   28.1    5.2
       59.3   28.7   26.4   14.1  100.8   27.7   75.2   19.3   35.7   21.5
       39.8   53.5   54.0   16.0   10.0   11.0   11.0    3.0    1.0    4.0
        2.0    3.0
316   239.0   75.0   40.1   53.6   14.3   32.2   21.7   28.69999.09999.0
       50.0   28.0   22.7   18.5   95.2   27.5   65.0   18.1   31.5   19.2
       36.9   46.79999.0    17.0   11.0   11.09999.0     3.0    1.0    4.0
        4.0    3.0
317   181.4   49.69999.09999.0     9.2   22.5   13.2   12.5   17.8    3.0
       44.4   17.5   18.3    8.8   67.5   20.1   50.3   13.0   25.6   14.1
       26.8   34.1   33.5   16.0   10.0   11.0   10.0    3.0    1.0    4.0
        4.0    3.0
318   158.2   45.6   27.5   34.8    8.6   20.1   12.6   17.6   15.4    2.3
       43.3   15.6   15.1   10.2   59.2   18.5   46.0   14.3   23.1   14.4
       23.5   32.4   37.0   18.0   10.0   10.0   11.0    3.0    1.0    4.0
        4.0    3.0
319   140.8   37.0   26.5   28.0    7.0   17.2   11.7   12.9   12.5    3.0
       32.8   12.6   11.5    6.8   48.7   15.2   40.2   14.2   21.0   12.7
       24.0   26.7   26.5   18.0   10.0   11.0   10.0    3.0    1.0    4.0
        4.0    3.0
320   169.1   51.6   31.5   39.5    9.0   22.8   15.5   20.6   18.3    4.7
       42.6   17.7   17.0    8.1   66.1   21.1   43.5   12.8   25.5   13.9
       27.6   35.2   36.6   18.0   11.0   10.0   11.0    3.0    1.0    4.0
        4.0    2.0
321   320.0  107.5   59.0   75.3   16.3   43.4   30.5   41.4   36.7    6.9
       62.8   40.0   30.0   20.1  133.9   35.0   86.7   23.2   44.3   25.1
       46.4   62.5   64.5   18.0   11.0   11.0   11.0    3.0    1.0    4.0
        2.0    3.0
```

323	333.0	111.1	64.0	78.0	17.8	49.0	31.1	38.2	38.7	6.0
	67.5	41.7	32.0	17.7	135.0	40.2	97.3	22.6	42.1	24.0
	45.99999.0		71.0	17.0	10.0	11.0	10.0	3.0	1.0	4.0
	4.0	3.0								
324	283.0	90.1	49.9	61.7	14.9	42.5	26.7	31.4	32.0	6.4
	69.6	29.9	26.9	16.4	110.3	33.8	82.1	18.0	38.8	23.3
	39.5	61.5	67.1	18.0	11.0	11.0	12.0	3.0	1.0	4.0
	4.0	3.0								
325	192.3	58.7	35.6	44.0	10.2	26.5	17.4	22.7	22.5	4.0
	45.6	21.2	19.5	9.8	76.1	25.7	47.7	14.0	24.8	15.5
	31.1	40.9	42.1	16.0	10.0	11.0	11.0	3.0	1.0	4.0
	4.0	2.0								
326	375.0	113.8	57.5	82.6	15.8	50.5	35.3	45.8	43.2	8.7
	62.6	39.6	36.8	28.1	153.4	42.5	105.4	27.6	53.1	29.6
	54.7	73.9	77.6	17.0	11.0	11.0	11.0	3.0	1.0	4.0
	4.0	3.0								
327	345.0	110.5	53.8	73.5	17.2	47.7	32.9	44.5	39.4	7.2
	79.2	41.8	37.2	31.0	146.3	37.9	97.2	26.9	43.9	25.5
	52.1	66.5	65.8	16.0	11.09999.09999.0			3.0	1.0	4.0
	4.0	3.0								
328	310.0	90.3	49.4	65.6	14.3	43.4	29.4	35.7	35.3	6.8
	59.7	32.5	28.4	16.8	119.7	32.5	82.0	21.5	45.3	22.4
	45.3	66.5	61.4	17.0	12.0	10.0	10.0	3.0	1.0	4.0
	4.0	3.0								
329	258.0	77.7	47.4	58.4	11.8	33.7	24.3	28.7	26.8	6.0
	56.8	17.8	27.9	14.5	101.4	28.8	83.4	17.3	38.5	20.0
	37.4	56.6	56.6	17.0	11.0	11.0	11.0	3.0	1.0	4.0
	4.0	3.0								
330	310.0	98.3	52.3	71.0	15.8	42.0	30.9	39.5	36.0	5.9
	67.0	39.1	32.5	19.6	126.3	35.0	87.8	24.0	43.1	25.5
	45.59999.09999.0			17.0	11.0	11.0	11.0	3.0	1.0	4.0
	4.0	2.0								
401	243.0	62.9	33.2	50.1	9.39999.09999.0			21.9	26.1	4.6
	64.2	23.3	20.2	18.8	83.5	23.3	72.8	19.2	36.7	18.6
	40.1	47.1	41.1	18.0	10.09999.0		14.0	3.0	1.0	5.0
	4.0	3.0								
402	305.0	86.9	38.7	70.8	11.2	44.1	29.9	27.8	36.7	5.3
	79.5	34.6	20.3	22.8	108.5	29.0	87.7	29.2	42.7	21.3
	43.6	59.7	57.1	18.0	11.0	13.0	15.0	3.0	1.0	5.0
	4.0	3.0								
403	89.6	22.7	13.9	18.8	4.79999.09999.0			8.9	9.4	.9
	33.1	7.6	7.7	5.6	30.9	10.4	24.1	13.1	16.7	6.7
	14.8	18.7	18.3	20.0	9.0	14.09999.0		3.0	1.0	5.0
	3.0	3.0								
404	197.0	54.1	29.5	43.7	7.1	26.8	17.7	19.8	21.4	3.2
	70.8	19.5	17.3	15.2	71.3	20.4	65.5	16.7	29.1	14.8
	28.8	38.9	34.7	19.0	10.0	13.0	15.0	3.0	1.0	5.0
	3.0	2.0								
405	89.4	23.2	13.2	19.8	4.9	11.5	7.7	8.5	8.7	1.4
	38.4	7.6	6.7	5.0	30.6	10.4	25.9	11.0	14.7	7.3
	14.6	18.2	17.6	19.0	11.0	14.0	12.0	3.0	1.0	5.0
	4.0	3.0								
406	130.4	35.7	21.7	28.5	6.4	17.3	10.7	13.4	14.9	2.5
	43.0	12.3	11.3	9.3	45.6	14.2	37.8	11.4	20.9	10.1
	21.8	26.6	23.4	19.0	10.0	14.0	13.0	3.0	1.0	5.0
	4.0	3.0								
407	231.5	60.9	32.6	46.7	8.1	29.6	20.7	20.09999.09999.0		
	71.3	22.4	19.6	20.9	81.1	23.5	76.4	18.7	31.7	15.5
	39.4	39.09999.0		16.0	10.0	12.0	14.0	3.0	1.0	5.0
	4.0	3.0								
408	242.0	63.9	31.8	51.0	9.9	34.4	23.4	20.1	29.6	4.3
	76.6	23.1	21.0	20.5	84.5	24.5	74.9	21.5	37.6	15.5
	37.09999.09999.0			19.0	10.0	14.0	17.0	3.0	1.0	5.0
	4.0	2.0								
409	94.1	25.3	14.9	20.1	5.1	12.9	8.6	9.7	10.4	2.0
	40.4	8.3	7.5	6.5	34.1	10.4	27.2	11.8	18.2	7.1

	17.1	19.5	18.2	20.0	9.0	16.0	17.0	3.0	1.0	5.0
	3.0	3.0								
410	99.4	26.0	13.7	21.8	5.1	12.3	8.1	8.8	9999.0	9999.0
	37.6	8.7	8.0	6.1	34.6	11.5	28.8	12.3	17.9	7.2
	16.8	19.0	16.7	18.0	10.0	15.0	9999.0	3.0	1.0	5.0
	3.0	3.0								
411	105.6	27.6	15.5	23.2	5.2	13.6	9.0	9.6	11.1	1.7
	42.9	9.5	8.6	7.4	36.4	11.7	24.7	11.6	17.5	7.9
	16.7	20.4	18.8	19.0	11.0	15.0	16.0	3.0	1.0	5.0
	3.0	3.0								
412	93.6	24.1	13.7	20.6	4.6	11.6	9999.0	8.7	9999.0	9999.0
	39.6	8.1	9999.0	6.9	32.6	10.0	25.3	11.8	16.0	7.0
	15.9	18.9	16.7	19.0	10.0	15.0	15.0	3.0	1.0	5.0
	3.0	3.0								
413	97.1	26.0	15.4	20.4	5.0	12.6	7.7	9.0	11.4	1.1
	43.3	8.3	8.5	6.2	34.3	10.5	24.3	12.0	17.2	7.0
	14.2	17.6	15.7	18.0	11.0	16.0	17.0	3.0	1.0	5.0
	3.0	3.0								
414	360.0	105.9	53.5	75.5	13.0	50.4	37.0	32.9	48.0	7.0
	77.2	40.1	27.2	28.8	131.5	37.0	115.5	23.8	47.1	25.5
	54.5	72.8	58.7	19.0	10.0	9999.0	9999.0	3.0	1.0	5.0
	4.0	3.0								
415	79.4	21.7	13.1	17.3	4.2	9999.0	9999.0	7.3	7.9	1.1
	32.2	6.9	6.9	5.7	27.7	9.1	21.9	10.5	13.6	6.8
	12.7	16.6	14.5	18.0	11.0	16.0	9999.0	3.0	1.0	5.0
	3.0	3.0								
416	83.8	23.0	12.8	18.9	4.2	11.1	7.0	7.8	9.1	1.0
	32.4	7.5	6.9	6.6	29.7	8.7	22.1	11.1	13.8	6.4
	13.9	17.1	14.5	18.0	11.0	16.0	18.0	3.0	1.0	5.0
	3.0	3.0								
417	116.2	31.6	16.2	24.4	5.7	14.4	9.8	10.5	13.6	1.7
	47.6	10.6	10.1	7.4	41.8	12.8	35.4	13.2	18.4	9.2
	17.5	26.3	19.5	16.0	9.0	16.0	17.0	3.0	1.0	5.0
	3.0	3.0								
418	116.0	29.7	16.4	25.6	5.4	14.5	9.3	10.3	11.6	1.7
	46.9	10.0	9.1	6.2	40.2	11.5	33.6	13.6	20.0	8.7
	19.5	24.7	21.3	19.0	10.0	9999.0	9999.0	3.0	1.0	5.0
	3.0	3.0								
419	103.9	28.6	15.4	22.3	5.3	13.9	8.6	10.0	11.1	1.4
	43.1	9.1	8.6	7.2	37.5	11.1	27.6	12.4	17.2	8.0
	15.9	21.1	18.3	18.0	10.0	18.0	17.0	3.0	1.0	5.0
	3.0	3.0								
420	113.3	29.6	14.2	23.1	5.3	14.9	9.7	10.5	12.3	2.3
	42.8	9.4	9.0	6.5	39.4	13.3	33.7	13.6	19.0	8.7
	21.0	25.0	22.5	19.0	10.0	16.0	16.0	3.0	1.0	5.0
	3.0	3.0								
421	103.9	27.8	15.8	22.5	5.0	13.4	8.8	9.9	11.4	1.6
	41.2	9.0	8.1	8.3	36.7	11.7	28.8	11.2	17.4	8.6
	19.0	21.9	20.6	18.0	10.0	18.0	16.0	3.0	1.0	5.0
	3.0	3.0								
422	194.2	54.4	28.7	43.0	8.7	27.2	18.6	19.6	22.5	3.0
	65.2	19.5	15.8	16.1	71.0	20.2	52.8	18.1	30.2	14.1
	31.0	39.3	33.1	18.0	9.0	13.0	15.0	3.0	1.0	5.0
	2.0	2.0								
423	243.0	69.5	33.7	55.3	9.3	36.4	23.1	23.9	30.0	4.7
	94.8	23.7	22.0	18.3	90.2	27.1	70.2	23.4	38.8	17.9
	40.9	48.3	44.3	19.0	10.0	14.0	18.0	3.0	1.0	5.0
	3.0	3.0								
424	395.0	112.4	55.7	94.0	12.7	52.3	41.0	35.7	48.1	6.2
	112.2	41.0	29.2	29.2	138.1	39.1	104.2	42.8	61.8	26.2
	61.1	73.5	59.5	19.0	9.0	13.0	16.0	3.0	1.0	5.0
	2.0	3.0								
425	340.0	105.1	52.2	80.1	12.4	54.1	38.1	30.8	44.7	6.9
	104.1	38.8	32.3	32.2	131.1	32.3	92.0	31.2	49.3	21.5
	51.7	60.6	54.6	18.0	9.0	14.0	17.0	2.0	1.0	5.0
	3.0	3.0								

```
426 290.0   81.8   36.8   56.2   10.4   38.9   29.5   27.7   36.5    5.3
     93.2   29.0   24.0   26.2  102.6   30.1   92.0   27.6   46.4   20.7
     47.0   63.1   52.6   18.0   10.09999.09999.0    3.0    1.0    5.0
      2.0    3.0
427 180.8   50.2   25.5   40.4    8.4   24.5   17.1   18.8   21.5    3.4
     63.5   18.0   15.2   14.7   66.0   19.7   53.1   15.9   28.8   13.3
     30.0   38.2   32.3   17.0   11.0   14.0   17.0    3.0    1.0    5.0
      4.0    2.0
428 161.5   44.3   23.4   34.6    8.2   20.7   15.7   15.6   17.2    2.9
     59.7   14.7   13.0   10.7   57.5   17.0   51.3   16.2   24.8   12.5
     28.2   33.2   28.4   19.0   10.0   14.09999.0    3.0    1.0    5.0
      4.0    3.0
429 224.0   64.2   29.5   46.9    9.0   31.7   23.2   24.8   27.8    4.0
     66.0   22.2   16.7   12.8   82.6   23.5   64.4   17.5   32.2   15.8
     36.29999.09999.0   17.0   10.0   14.0   16.0    3.0    1.0    5.0
      4.0    2.0
430 248.0   69.8   34.3   55.3   10.1   36.3   23.9   24.0   30.3    5.4
     83.0   24.6    8.0   13.2   91.0   25.9   78.7   19.9   18.4   18.4
     42.7   47.8   41.8   18.0   10.0   16.0   16.0    3.0    1.0    5.0
      4.0    3.0
501  99.8   28.8   15.2   18.5    6.5   11.8    9.0   10.5    9.7    1.8
     21.7    9.1    7.9    4.8   37.5   12.4   23.5   12.1   18.4    7.9
     17.9   17.4   18.4   22.0   11.0   15.0   14.0    3.0    1.0    4.0
      1.0    2.0
502 118.0   33.3   19.1   23.3    7.7   14.8   11.5   12.6   12.2    2.0
     24.4   10.1   10.3    7.1   43.9   13.2   31.3   11.6   23.1    9.5
     20.5   24.7   22.2   21.0   12.0   16.0   19.0    2.0    1.0    4.0
      1.0    2.0
503  99.7   28.8   16.1   19.2    6.7   12.3    9.2    9.2   11.1    2.0
     19.5    9.1    8.2    4.4   38.8   13.5   23.6   11.4   18.0    8.2
     16.0   18.3   20.2   19.0   11.0   15.0   17.0    3.0    1.0    4.0
      1.0    2.0
504 100.1   27.0   15.0   19.3    6.2   12.3    9.4    9.5   10.6    2.0
     19.2    8.5    9.8    5.5   36.8   11.5   24.9   11.0   19.0    7.6
     16.6   17.9   18.2   23.0   11.0   15.0   17.0    2.0    1.0    4.0
      1.0    2.0
505 149.6   41.4   23.0   28.7    8.4   17.0   12.4   15.0   14.7    1.9
     31.0   13.1   13.7    8.6   58.0   16.9   41.7   11.0   26.4   12.1
     24.5   26.2   29.0   21.0   12.0   15.09999.0    3.0    1.0    4.0
      1.0    2.0
506 385.0  109.9   54.5   79.8   15.2   54.7   40.5   42.3   49.8    5.2
     71.4   42.1   37.5   19.3  148.8   48.0   93.7   39.5   69.2   31.5
     54.5   69.8   74.1   20.0   12.0   15.0   17.0    2.0    1.0    4.0
      1.0    2.0
507 145.7   40.1   25.9   28.6    8.29999.0   13.9   17.6   14.2    1.8
     24.6   13.6   13.79999.0   52.8   15.9   38.8   13.9   25.4   10.6
     25.5   25.5   26.5   21.0   11.0   16.0   18.0    3.0    1.0    4.0
      1.0    2.0
508 272.0   74.7   43.6   55.8   12.0   35.2   26.6   29.3   31.9    6.1
     60.3   27.4   27.5   11.7  103.0   33.4   72.9   28.9   50.5   21.3
     37.6   58.4   53.1   21.0    9.0   16.0   18.0    2.0    1.0    4.0
      1.0    2.0
509 189.0   50.1   25.8   39.8    9.1   25.9   18.9   18.6   21.5    2.9
     74.0   18.2   14.4   11.3   65.9   21.5   58.5   16.3   34.0   15.0
     29.7   42.8   38.1   23.0   10.09999.09999.0    3.0    1.0    4.0
      1.0    2.0
510 120.3   34.4   19.0   22.5    6.7   15.3   10.8   13.5   14.0    2.1
     20.2   10.7   10.6    5.1   45.5   14.0   27.0   16.3   20.2   10.0
     19.4   20.4   20.7   20.0   11.0   15.0   18.0    3.0    1.0    4.0
      1.0    2.0
511 234.0   67.6   40.0   52.0   11.3   33.1   23.2   26.6   29.2    4.0
     48.3   22.5   21.5   12.1   91.4   27.6   60.8   22.4   37.5   17.7
     41.2   46.6   47.5   20.0   11.0   15.0   16.0    3.0    1.0    4.0
      1.0    2.0
512 280.0   78.1   46.0   58.5   12.5   38.3   28.8   30.4   34.1    5.2
     54.9   28.1   17.5   14.4  106.0   35.6   77.7   30.7   46.8   22.7
```

```
     49.7  60.7  56.0  21.0  11.0  16.0  17.0   2.0   1.0   4.0
      1.0   2.0
513 287.0  80.1  42.4  56.6  12.7  36.8  28.1  30.1  34.0   5.4
     59.5  28.5  29.8  12.7 110.0  35.5  74.8  28.4  50.5  23.5
     45.2  64.1  57.6  21.0  12.0  17.0  16.0   3.0   1.0   4.0
      1.0   2.0
514  63.3  16.7  10.5  10.8   4.1   7.0   5.3   6.0   6.0   0.7
     12.4   5.5   6.0   3.1  22.2   7.3  17.0   6.3  11.1   4.3
     11.0   9.2   9.9  22.0  11.0  18.0  19.0   2.0   1.0   4.0
      1.0   2.0
515  63.0  16.0  10.3  10.8   4.3   5.8   5.0   5.3   6.0   0.8
     10.7   4.5   5.6   3.3  20.2   7.9  16.4   7.0  11.3   4.1
     12.6   9.4  10.1  23.0  11.0  16.0  18.0   3.0   1.0   4.0
      1.0   2.0
516 450.0 131.0  67.9  95.0  19.4  58.8  45.2  50.8  58.5   8.4
     86.2  47.1  40.7  30.8 177.2  48.7 132.5  39.0  71.5  32.0
     68.9  91.3  78.8  20.0  10.0  18.09999.0   3.0   1.0   4.0
      1.0   2.0
517 440.0 129.0  60.5  91.4  16.2  60.8  43.4  56.0  53.8   8.0
     77.0  49.5  38.5  24.4 170.4  52.4 134.5  38.6  69.9  31.4
     62.1  78.2  74.9  20.0  11.0  15.0  19.0   3.0   1.0   4.0
      1.0   2.0
518 435.0 127.8  63.9  89.5  16.3  56.8  45.9  53.2  50.49999.0
     80.5  47.7  42.8  27.3 167.2  48.5 125.7  38.0  74.4  30.4
     63.0  80.5  70.8  20.0  11.0  16.0  18.0   3.0   1.0   4.0
      1.0   2.0
519 312.0  88.5  40.8  59.0  13.7  39.1  31.4  32.0  33.7   5.7
     60.0  31.4  30.6  20.1 119.2  36.0  84.0  26.3  53.6  22.1
     45.9  60.4  57.5  21.0  11.0  17.0  17.0   2.0   1.0   4.0
      1.0   2.0
520  90.0  24.8  15.0  16.3   5.5   9.9   8.5   9.7   7.9   1.4
     16.6   7.4   8.0   5.5  32.9  10.9  25.5   9.6  16.3   6.4
     16.0  15.4  14.1  21.0  11.0  20.0  21.0   3.0   1.0   4.0
      1.0   2.0
521 119.0  32.7  20.4  22.0   6.7  14.1  11.2  11.7  11.2   2.6
     22.3  10.0  10.8   5.9  44.7  14.0  26.9  13.8  20.3   9.5
     18.7  20.2  23.0  21.0  11.0  21.0  19.0   3.0   1.0   4.0
      1.0   2.0
522  73.7  21.2  12.8  14.0   4.7   9.6   7.6   7.9   7.7   1.5
     17.0   5.5   7.1   4.0  28.1   9.4  17.0   8.8  13.8   5.9
     13.3  14.8  15.0  21.0  11.0  15.0  17.0   3.0   1.0   4.0
      1.0   2.0
523  87.8  24.2  14.3  16.8   6.0  11.2   7.8   8.7   9.2   1.8
     19.0   7.9   8.5   4.4  33.5  10.5  23.4   9.1  15.4   6.7
     15.8  16.7  16.0  20.0  11.0  16.0  18.0   2.0   1.0   4.0
      1.0   2.0
524  82.0  23.0  13.2  15.4   5.5  10.2   7.1   9.3   8.5   2.0
     18.4   7.9  17.9   4.3  30.5   9.7  20.7   9.0  15.2   6.2
     15.1  15.0  13.7  22.0  11.0  18.0  18.0   2.0   1.0   4.0
      1.0   2.0
525 290.0  75.7  45.1  60.3  12.4  35.2  26.9  27.9  31.8   4.3
     56.7  29.1  26.5  13.7 105.4  34.1  80.1  31.5  48.8  25.0
     44.2  61.3  63.5  21.0  12.0  16.0  20.0   3.0   1.0   4.0
      1.0   2.0
526  88.5  24.4  13.0  16.5   6.2  10.7   7.7   8.3   9.0   1.5
     17.3   7.8   7.5   3.9  32.8   9.8  22.4   8.3  12.3   6.5
     14.2  17.6  18.1  23.0  10.0  16.0  17.0   3.0   1.0   4.0
      1.0   2.0
527 112.6  29.3  17.9  21.5   7.7  12.6   8.7   9.9  10.2   1.3
     23.2   8.2  10.7   5.3  40.5  11.8  32.4  10.1  18.2   8.7
     20.1  21.2  20.1  23.0  10.0  17.0  18.0   3.0   1.0   4.0
      1.0   2.0
528 146.7  39.8  23.5  27.6   8.8  17.6  12.7  14.0  15.4   2.2
     30.9  13.2  14.9   6.5  54.0  17.0  36.6  14.8  26.1  11.1
     24.4  30.1  30.2  22.0  11.0  17.0  15.0   3.0   1.0   4.0
      1.0   2.0
```

```
529  98.8  25.7  15.9  18.9   6.2  11.1   8.0   8.3   8.7   1.6
     20.3   7.6   8.5   5.1  34.1  11.0  24.4   9.5  18.1   7.8
     15.9  18.2  18.4  24.0  11.0  16.0  16.0   3.0   1.0   4.0
      1.0   2.0
530 123.8  33.3  22.6  23.8   7.3  14.4  10.6  11.2  13.2   1.7
     26.0  10.2  11.2   4.7  44.3  14.7  30.6  10.6  22.3   9.5
     20.4  24.1  22.1  23.0  12.0  15.0  18.0   3.0   1.0   4.0
      1.0   2.0
531 155.3  41.8  24.9  29.8   8.7  18.6  13.3  14.0  15.6   1.9
     31.3  12.6  13.0   6.6  56.5  18.0  40.9  13.8  27.9  12.1
     25.8  29.4  27.1  22.0  11.0  16.0  16.0   3.0   1.0   4.0
      1.0   2.0
532 124.1  33.3  20.6  23.1   7.6  14.7  10.6  11.2  12.0   1.7
     27.2  10.0  11.9   6.0  45.1  14.5  30.3  12.0  20.3   9.8
     21.3  20.8  24.1  20.0  11.0  14.0  14.0   3.0   1.0   4.0
      1.0   2.0
533 133.2  35.1  22.8  26.2   7.3  14.9  11.2  12.1  12.2   1.8
     27.3  10.8  12.0   6.8  48.4  14.6  35.7  12.8  23.7  11.0
     22.8  21.6  26.2  21.0  12.0  15.0  16.0   3.0   1.0   4.0
      1.0   2.0
701 204.0  61.2  26.6  43.9   9.0  30.9  20.9  20.7  27.6   2.8
     78.5  21.1  17.7  14.7  77.0  19.6  62.6  14.8  32.4  16.6
     30.6  40.09999.0  18.0  10.0  15.0  18.0   3.0   1.0   4.0
      2.0   2.0
702 435.0 157.0  85.6 120.5  16.5  71.3  60.7  59.09999.09999.0
    130.4  61.1  42.3  22.2 182.0  47.5 121.0  37.9  60.6  36.2
     55.1  82.4  72.7  16.0  10.09999.09999.0   3.0   1.0   4.0
      2.0   2.0
703  67.2  23.2  14.2  18.9   4.5  11.3   7.0   8.6   8.9    .9
     25.5   5.8   6.6   5.9  28.9   7.0  15.6   8.8   9.8   6.3
     10.0  13.7  14.6  18.0  10.0  15.0  18.0   3.0   1.0   4.0
      1.0   3.0
704 144.2  44.49999.09999.0   7.29999.09999.09999.0  20.4   2.3
     39.49999.0  13.7   8.2  58.4  16.2  45.4  16.4  20.4  12.3
     22.5  27.3  31.3  17.0  10.0  17.09999.0   3.0   1.0   4.0
      2.0   3.0
705 126.0  41.4  23.1  31.3   6.59999.09999.0  12.6  19.4   2.1
     43.59999.0  11.5   6.6  51.4  13.4  32.9  12.0  18.49999.0
   9999.0  30.09999.0  18.0  10.0  15.09999.0   3.0   1.0   4.0
      1.0   3.0
706  67.9  23.6  14.0  19.1   4.4  12.2   7.9   8.2   9.9    .9
     22.9   6.0   6.1   4.3  28.3   8.4  16.4   8.1  10.1   6.0
     10.1  13.9  14.6  17.0  11.0  15.0  18.0   3.0   1.0   4.0
      1.0   3.0
707 350.0 111.4  50.6  85.2  12.6  50.3  38.7  40.7  46.5   4.4
    115.7  38.8  31.2  22.4 139.8  37.2  88.7  31.9  47.9  28.3
     48.9  69.8  64.8  18.0  10.0  17.0  16.0   3.0   1.0   4.0
      1.0   2.0
708 130.8  40.8  23.8  32.9   6.0  23.0  14.7  13.1  18.5   2.1
     43.4  14.6  12.5   7.2  50.8  13.9  36.9  13.8  16.4  10.5
     20.3  23.3  22.8  17.0  10.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
709  68.6  24.2  15.3  18.3   4.39999.09999.0   8.7   9.6   1.1
     23.5   6.1   7.6   2.8  28.9   7.8  15.2   8.6  10.5   6.5
     10.3  12.6  13.5  16.0  10.0  16.0  19.0   3.0   1.0   4.0
      1.0   3.0
710 285.0  82.4  49.9  66.2   8.8  41.4  30.1  36.0  38.0   3.1
     65.0  34.9  21.8  20.1 100.5  30.7  82.1  26.1  38.9  25.5
     35.8  42.0  35.4  18.0  10.0  16.09999.0   3.0   1.0   4.0
      1.0   3.0
711 180.7  52.4  28.9  39.8   8.4  23.8  17.1  21.8  20.9   2.0
     84.7  18.5  15.4  11.7  68.6  19.0  52.5  17.8  32.7  16.3
     26.7  37.8  35.8  19.0  11.0  22.09999.0   3.0   1.0   4.0
      2.0   2.0
712 146.0  48.2  24.8  37.5   7.7  23.7  17.1  15.7  20.9   2.3
     46.7  15.0  15.8   8.4  57.8  15.7  35.0  12.8  21.2  11.0
```

```
     22.3  31.6  29.2  18.0  10.0  16.0  14.0   3.0   1.0   4.0
      1.0   3.0
713 169.6  49.5  29.9  40.0   7.0  28.7  18.8  17.2  23.5   2.4
     53.7  18.5  15.1  11.5  61.1  19.8  44.3  23.3  27.5  14.9
     26.1  31.5  27.0  19.0  10.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
714 111.7  37.0  19.9  24.7   5.99999.09999.0  11.4  14.1   1.5
     32.9  12.3   9.8   6.8  45.5  13.0  32.5  10.9  15.8   9.3
     17.7  24.39999.0  18.0  10.0  15.0  21.0   3.0   1.0   4.0
      1.0   3.0
715 120.7  38.7  22.6  31.7   6.59999.09999.0  12.9  17.7   1.5
     43.4  14.6  12.6   7.0  48.9  14.7  30.4  12.8  15.2  10.7
     18.3  24.0  21.3  17.0  10.09999.09999.0   3.0   1.0   4.0
      1.0   3.0
716 218.3  67.5  36.4  50.8   8.29999.09999.0  22.7  28.7   2.4
     54.9  30.2  15.4  15.0  84.1  25.7  69.8  24.2  34.2  19.7
     33.3  35.9  29.0  20.0  10.0  13.0  17.0   3.0   1.0   4.0
      1.0   3.0
717 370.0 116.9  49.8  81.5  13.8  52.1  41.4  39.4  50.6   5.0
    112.29999.0  30.7  19.0 140.5  35.6 118.1  28.4  55.4  26.5
     49.3  67.8  57.1  18.0  10.0  17.0  17.0   3.0   1.0   4.0
      1.0   2.0
718 120.9  39.8  18.6  27.3   5.59999.09999.0  12.9  17.1   1.7
     42.9  13.3  14.0   7.2  48.9  12.5  36.4  10.7  15.4  10.5
     18.4  23.7  21.4  17.09999.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
719 324.0 109.2  54.0  86.0  14.0  56.2  40.1  42.0  46.8   2.9
    106.8  37.8  29.7  17.7 130.6  35.3  91.5  28.0  46.0  25.7
     47.1  69.4  58.5  17.0   9.09999.09999.0   3.0   1.0   4.0
      1.0   2.0
720 256.1  81.7  33.2  57.6  10.5  42.5  28.8  28.2  36.3   3.6
     68.1  28.2  27.3  15.2  98.9  23.9  65.0  24.6  31.7  19.5
     37.4  37.8  37.5  19.0  10.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
721 237.0  68.8  37.4  53.7  10.2  30.3  21.8  25.3  25.4   4.0
     98.4  23.4  18.3  14.5  87.5  25.1  69.2  22.5  37.1  18.9
     33.99999.09999.0  20.0  10.0  18.0  20.0   3.0   1.0   4.0
      2.0   2.0
722 114.7  37.0  18.7  25.3   6.39999.09999.0  11.9  13.3   1.8
     40.3  12.7  11.5   7.5  46.1  11.1  30.3  10.6  14.2   9.6
     16.2  21.0  18.5  18.0  10.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
723 205.0  66.0  34.5  51.4   9.7  32.8  24.1  22.3  28.8   2.6
     70.6  23.5  20.0  13.6  80.5  21.2  59.2  16.8  32.8  17.8
     28.8  43.8  36.8  18.0  11.0  16.09999.0   3.0   1.0   4.0
      1.0   2.0
724 129.0  37.5  18.5  29.0   7.0  17.1  12.5  12.7  15.1   1.6
     65.0  13.1  13.0   7.1  48.6  14.1  35.3  11.7  22.5  11.7
     20.5  26.1  26.5  20.0   9.0  17.0  19.0   3.0   1.0   4.0
      3.0   2.0
725 128.9  37.6  21.2  30.3   6.7  17.1  12.3  13.2  14.8   2.0
     65.6  13.5  11.1   7.8  49.1  14.9  36.0  12.2  23.2  11.8
     19.5  32.4  28.7  19.0  10.0  17.0  19.0   3.0   1.0   4.0
      3.0   2.0
726 185.0  51.4  26.0  40.4   9.5  25.2  17.6  19.7  22.3   2.6
     64.5  18.3  16.5  11.0  69.9  20.0  57.5  16.2  31.5  14.1
     26.1  44.6  34.3  19.0  10.0  19.0  20.0   3.0   1.0   4.0
      2.0   2.0
727 280.0  78.2  39.9  61.9  12.6  38.7  28.1  27.4  35.1   4.0
     89.6  28.1  24.8  19.0 103.6  30.8  88.3  25.0  44.5  22.1
     39.9  57.0  49.1  20.0  10.0  18.0  21.0   3.0   1.0   4.0
      1.0   2.0
728 126.7  36.5  18.5  29.1   6.5  17.4  11.9  13.5  15.0   2.0
     57.0  13.0  11.7   8.2  46.7  14.5  37.8   9.9  21.0  10.8
     18.5  28.4  24.3  19.0  10.0  16.0  20.0   3.0   1.0   4.0
      4.0   2.0
```

```
729 137.2  44.3  22.3  31.9   5.9  24.0  15.9  14.6  18.0   2.3
     44.7  14.5  10.7   7.3  54.3  14.3  34.0  14.0  19.5  11.9
     20.09999.0  23.0  17.0  10.0  14.0  19.0   3.0   1.0   4.0
      1.0   3.0
730 132.7  43.0  22.6  30.7   6.1  23.2  16.3  13.9  17.1   2.0
     41.4  14.1  14.9   9.0  52.9  11.8  30.8  14.1  16.8  11.2
     20.0  23.4  20.0  18.0  10.0  15.0  20.0   3.0   1.0   4.0
      1.0   3.0
731 270.0  82.3  40.5  62.6  12.4  41.6  30.0  34.6  36.5   4.3
   9999.0  28.8  22.4  15.5 106.3  30.5  83.5  23.9  45.2  23.5
     42.2  58.0  49.0  21.0  10.0  17.0  19.0   3.0   1.0   4.0
      1.0   2.0
732 182.0  53.0  26.4  41.8   7.3  30.2  19.4  19.1  25.2   2.7
     59.4  19.6  16.0  12.6  68.2  20.0  47.7  24.0  29.4  14.6
     30.3  34.8  29.9  19.0  10.0  16.0  18.0   3.0   1.0   4.0
      2.0   3.0
733 114.9  36.6  20.0  29.2   6.2  18.4  13.1  13.3  16.3   1.5
     49.0  11.5   9.6   7.2  45.4  13.4  18.4  12.7  18.5   8.9
     20.09999.09999.0  18.0  10.0  16.0  19.0   3.0   1.0   4.0
      1.0   2.0
734 375.0 118.3  58.5  86.1  14.4  59.7  45.8  43.6  53.8   4.7
     91.4  43.3  30.4  15.8 141.8  38.1 104.5  35.0  48.7  26.4
     54.0  66.2  54.9  18.0  10.0  13.0  19.0   3.0   1.0   4.0
      1.0   2.0
735 158.7  49.6  29.2  40.2   7.6  28.3  19.0  17.9  23.2   2.4
     51.3  15.9  14.9   9.5  62.0  18.5  45.3  18.5  24.8  12.4
     23.3  31.0  29.8  17.0  11.0  14.0  18.0   3.0   1.0   4.0
      1.0   3.0
736 174.0  54.5  18.2  43.1   7.2  30.7  21.2  21.1  26.0   3.2
     49.1  18.9  16.3  10.5  70.7  20.1  47.4  18.3  25.0  14.8
     28.5  30.0  28.5  17.0  10.0  16.0  17.0   3.0   1.0   4.0
      1.0   3.0
737 184.0  60.0  36.3  45.0   7.6  29.6  21.4  20.3  25.1   3.1
     46.8  20.0  18.4  10.8  73.7  23.6  47.5  23.5  25.5  15.5
     27.0  34.0  34.4  17.0  10.0  16.0  17.0   3.0   1.0   4.0
      1.0   3.0
738 183.1  61.0  37.0  44.1   7.7  28.9  20.0  21.7  25.4   2.7
     49.7  19.6  16.8   9.3  74.8  18.8  60.2  16.1  26.2  16.2
     28.7  33.5  30.2  17.0  10.0  14.0  13.0   3.0   1.0   4.0
      1.0   3.0
739 171.0  50.2  28.3  41.7   9.5  23.1  17.3  19.1  22.1   3.3
     74.0  18.5  15.8  11.6  65.1  18.7  46.7  15.4  27.6  14.6
     28.6  37.0  32.7  19.0  11.0  16.0  20.0   3.0   1.0   4.0
      3.0   2.0
740  97.3  27.1  15.8  21.2   6.3  12.7   8.5   9.7  11.4   2.0
     41.8   9.8   8.4   5.8  35.6  11.7  28.9   9.7  18.0   8.0
     16.4  23.5  21.1  21.0  10.0  20.0  21.0   3.0   1.0   4.0
      2.0   2.0
741 105.3  31.8  15.8  24.3   5.9  13.8   9.4  11.0  13.4   1.7
     52.0  10.7   9.5   6.6  40.0  13.7  32.4   9.7  18.1  10.1
     16.0  21.4  24.9  18.0  10.0  17.0  19.0   3.0   1.0   4.0
      3.0   2.0
742 105.6  30.0  18.7  23.8   6.4  14.6   9.3  11.6  12.2   1.6
     42.0  10.5   9.8   6.5  39.1  12.7  32.4   8.9  18.3   8.8
     18.7  20.6  19.3  21.0  10.0  18.0  20.0   3.0   1.0   4.0
      3.0   2.0
743 104.5  29.3  18.0  21.0   6.5  10.3  11.5  11.4  10.6   2.0
     41.3  10.1   9.3   4.9  38.3  12.3  26.7  10.9  18.2   8.7
     18.1  22.2  16.9  18.0  10.0  19.0  21.0   3.0   1.0   4.0
      3.0   2.0
744 220.0  68.1  35.0  54.2   8.9  35.0  26.5  24.5  31.0   4.0
     64.3  23.7  19.5  13.8  84.6  24.6  60.2  23.3  35.2  18.0
     34.4  39.0  32.7  18.0  10.0  15.0  23.0   3.0   1.0   4.0
      2.0   3.0
745 280.0  90.8  46.8  74.7  11.1  50.8  36.0  35.5  43.4   7.5
     81.1  34.7  24.5  21.8 113.3  31.1  72.3  22.3  40.4  23.9
```

```
    43.6  54.0  49.0  19.0  10.0  16.0  21.0   3.0   1.0   4.0
     2.0   3.0
746 198.0  63.5  37.5  49.5   8.5  35.5  24.0  23.2  28.2   2.8
    60.7  23.3  19.0  11.7  77.9  22.1  55.6  19.6  28.5  16.5
    28.6  33.6  31.3  17.0  11.0  15.0  20.0   3.0   1.0   4.0
     2.0   3.0
747 235.0  68.5  34.7  53.8  10.8  31.8  24.4  25.2  29.3   3.8
    72.1  27.3  23.5  16.0  91.4  26.6  62.9  23.0  38.2  20.1
    34.3  46.6  41.8  22.0  10.0  18.0  19.0   3.0   1.0   4.0
     3.0   2.0
748 275.0  80.4  39.5  62.4  12.8  38.9  29.1  32.2  33.3   3.7
    97.9  31.0  28.0  16.9 104.1  27.0  78.7  20.7  40.1  22.4
    47.5  65.2  47.1  19.0  11.0  20.0  21.0   3.0   1.0   4.0
     3.0   2.0
749 103.8  30.1  16.7  22.6   6.7  13.1   9.5  10.4  11.7   1.7
    38.1  10.1  10.4   6.7  39.4  13.0  30.1   9.2  14.7   8.8
    17.0  22.8  21.5  18.0  10.0  19.0  21.0   3.0   1.0   4.0
     3.0   2.0
750 320.0  99.0  47.0  72.9  13.1  43.9  35.6  36.8  39.0   4.0
    98.5  37.3  26.3  20.1 124.1  29.5  94.6  22.8  50.3  20.8
    47.6  68.3  54.2  20.0  11.0  16.0  20.0   3.0   1.0   4.0
     2.0   2.0
751 345.0 117.8  64.3  88.0  13.6  64.5  42.3  40.09999.09999.0
    83.9  42.3  35.6  19.2 140.7  36.7 110.0  31.8  43.5  30.8
    50.6  68.7  62.0  17.0  11.09999.09999.0   3.0   1.0   4.0
     1.0   3.0
752 325.0 108.1  60.3  83.7  12.4  58.3  41.6  41.0  49.9   4.5
    75.9  37.5  33.4  18.0 130.0  29.0  74.5  30.3  38.4  25.9
    45.6  54.09999.0  16.0  10.0  14.0  16.0   3.0   1.0   4.0
     1.0   3.0
753 294.7  94.9  48.3  73.7  11.2  46.8  34.7  35.6  42.4   3.2
    86.5  33.0  27.2  15.0 112.9  31.4  84.7  31.0  42.5  23.0
    42.59999.09999.0  18.0  10.0  16.09999.0   3.0   1.0   4.0
     1.0   1.0
754 350.0 122.0  61.5  89.3  16.6  54.2  44.3  43.4  52.0   7.1
   124.0  39.3  34.4  24.5 143.7  39.9  95.0  29.4  52.1  28.5
    55.7  75.4  61.3  17.0  10.0  17.0  21.0   3.0   1.0   4.0
     1.0   2.0
755 438.0 140.2  62.5  96.4  18.0  66.9  52.4  47.0  62.5   5.6
   134.9  50.6  36.7  19.4 168.9  37.7 109.3  37.5  61.4  29.4
    62.7  79.0  61.9  19.0   9.0  16.0  20.0   3.0   1.0   4.0
     1.0   2.0
756 307.0  92.7  47.4  72.5  12.8  45.8  33.7  33.6  39.9   4.7
   105.9  31.1  25.8  18.3 118.8  31.5  79.0  33.6  49.8  23.0
    46.5  65.7  53.2  19.0  10.0  17.0  20.0   3.0   1.0   4.0
     1.0   2.0
757 372.1 124.1  61.1  90.9  15.2  59.0  47.5  48.8  53.9   7.1
   141.0  48.6  34.5  25.2 153.4  39.0 119.9  36.1  58.4  31.0
    54.8  86.5  72.5  19.0  10.0  17.0  21.0   3.0   1.0   4.0
     1.0   2.0
801 224.3  73.8  31.9  41.5  11.5  33.3  21.4  25.0  30.1   4.5
    37.9  21.8  18.8   8.9  92.9  23.7  60.6  17.7  30.7  14.8
    34.5  41.7  47.3  17.0  11.0  15.0  17.0   3.0   1.0   4.0
     1.0   3.0
802 325.0 104.0  51.4  71.6  13.5  49.3  35.9  38.4  44.0   5.2
    56.9  36.6  28.2  16.6 129.7  34.0  80.4  32.4  39.7  22.3
    45.0  54.8  63.0  16.0  11.09999.09999.0   3.0   1.0   4.0
     1.0   3.0
803 166.5  48.7  23.8  29.6   7.9  24.5  15.8  17.3  17.7   2.0
    32.1  14.8  16.9   6.8  63.0  18.69999.09999.0  23.6  11.9
    25.9  29.4  35.6  18.0  11.0  17.0  17.0   3.0   1.0   4.0
     1.0   3.0
804 132.8  40.2  19.3  23.8   8.0  16.5  11.8  13.2  14.0   2.0
    27.2  11.5  12.0   6.2  51.4  16.0  33.9  14.4  19.5   9.3
    19.6  23.3  26.0  18.0  11.0  16.0  17.0   3.0   1.0   4.0
     1.0   3.0
```

```
805 138.1  41.3  21.0  26.0   7.7  16.8  12.1  13.9  14.0   2.2
     26.7  12.5  12.1   7.2  53.6  14.5  35.7  13.7  19.8  10.1
     20.6  23.3  25.2  18.0  11.0  16.0  16.0   3.0   1.0   4.0
      1.0   3.0
806 348.0 114.2  47.8  68.2  14.7  56.4  36.1  41.3  49.0   7.0
     66.3  36.7  36.2  20.9 146.1  35.1  95.0  25.9  44.2  21.4
     46.1  61.7  51.8  17.0  11.0  16.0  18.0   3.0   1.0   4.0
      1.0   3.0
807 149.2  45.1  24.6  29.5   8.2  18.7  13.6  16.2  16.7   2.7
     31.7  14.1  14.6   7.0  58.9  15.8  33.8  16.2  20.8  10.0
     22.8  24.4  27.9  17.0  11.0  15.0  17.0   3.0   1.0   4.0
      1.0   3.0
808 327.0 106.9  42.9  69.5  11.0  54.1  38.2  37.1  50.6   6.5
     79.9  38.4  30.0  16.2 130.9  32.9  85.8  32.3  42.8  22.6
     40.8  56.89999.0  18.0  10.0  11.0  13.0   3.0   1.0   4.0
      1.0   3.0
809 329.0 105.0  50.6  73.1  10.1  53.2  39.5  37.8  49.1   6.5
     55.1  38.0  35.0  16.3 131.0  32.9  91.8  31.7  41.3  24.3
     51.99999.0  43.8  16.09999.0  11.0  13.0   3.0   1.0   4.0
      1.0   3.0
810 331.0 104.2  45.7  79.7  11.7  53.6  40.9  42.19999.09999.0
     55.8  38.8  31.5  16.8 140.6  30.8  80.7  26.3  42.5  24.3
     45.8  56.3  52.2  16.0  10.09999.09999.0   3.0   1.0   4.0
      1.0   3.0
811 315.0 105.8  45.3  69.0  11.4  52.9  38.5  36.6  46.0   6.4
     69.2  36.8  29.5  20.0 133.0  30.2  79.5  31.7  42.0  21.3
     43.5  55.0  53.4  18.0  10.0  11.09999.0   3.0   1.0   4.0
      2.0   3.0
812 298.0  98.1  43.7  67.5  11.1  47.3  36.8  34.39999.09999.0
     58.2  35.4  28.59999.0 125.4  27.7  75.0  26.0  39.8  20.5
     41.79999.0  51.6  18.0  10.0  11.0  13.0   3.0   1.0   4.0
      2.0   3.0
813  98.5  29.2  16.0  19.4   6.3  12.6   8.6  10.0   9.8   1.4
     22.2   8.6   8.6   4.8  37.5  11.8  24.8  10.2  13.7   6.5
     14.8  17.6  18.2  19.0  10.0  17.09999.0   3.0   1.0   4.0
      1.0   3.0
814 102.9  29.8  16.7  20.2   6.5  12.9   9.6  10.8  11.6   1.3
     21.8   8.4   9.4   5.7  38.7  11.9  26.8  11.5  14.8   7.2
     18.6  19.2  19.9  18.0  11.0  15.0  19.0   3.0   1.0   4.0
      1.0   3.0
815 114.3  34.0  18.8  21.9   6.8  14.7  10.3  11.8  11.9   1.2
     23.6   9.9   9.9   5.8  44.3  13.3  29.7  10.9  16.2   8.0
     17.1  21.1  23.7  18.0  11.0  16.0  18.0   3.0   1.0   4.0
      1.0   3.0
816 310.0 100.2  45.5  65.3  11.4  46.2  36.3  33.0  46.4   5.2
     63.5  35.6  26.7  15.8 124.5  32.0  80.7  28.5  41.8  21.9
     43.8  50.3  55.7  17.0  10.0  10.0  13.0   3.0   1.0   4.0
      1.0   3.0
817 315.0 101.7  51.8  67.3   9.3  46.8  35.7  36.3  42.0   5.0
     52.9  35.2  29.7  15.2 121.9  32.5  88.8  29.0  41.2  23.0
     46.29999.0  42.7  16.0  10.0  11.0  14.0   3.0   1.0   4.0
      1.0   3.0
818 240.0  73.4  33.0  51.0   8.7  35.8  26.7  26.5  34.0   4.4
     44.2  26.7  20.3  11.3  93.6  23.0  64.5  20.6  30.3  14.6
     36.19999.09999.0  17.0  10.0  11.0  14.0   3.0   1.0   4.0
      1.0   3.0
819 160.6  50.6  26.6  31.7   8.4  23.0  15.4  17.5  17.0   2.6
     36.8  15.8  15.0   9.0  64.5  16.9  37.2  16.1  24.9  11.8
     21.6  29.2  31.7  19.0  11.0  15.0  18.0   3.0   1.0   4.0
      1.0   3.0
8209999.0 151.5  60.0 101.6  13.3  70.3  56.4  55.5  69.0   7.0
     76.0  53.9  38.0  25.0 186.09999.09999.09999.09999.09999.0
   9999.0  77.9  76.19999.0  10.0  11.0  13.0   3.0   1.0   4.0
      1.0   3.0
821 204.7  64.29999.09999.0   7.99999.09999.09999.0  30.7   4.1
     41.49999.0  17.5   8.1  79.1  20.0  55.6  22.7  25.8  13.5
```

```
      30.3   31.7   35.7   17.0   10.0   10.0   11.0    3.0    1.0    4.0
       1.0    3.0
 822 145.5   45.0   21.8   30.5    6.99999.09999.0   16.5   19.8    3.3
      31.09999.0   13.7    5.5   57.6   14.1   40.0   13.0   19.3   10.1
      20.3   21.5   22.6   17.0   10.0   11.09999.0    3.0    1.0    4.0
       2.0    3.0
 823 272.7   84.0   38.4   56.0    9.29999.09999.0   31.8   39.2    4.1
      50.7   32.0   26.0   12.6  107.4   28.2   76.1   22.3   37.3   20.1
      39.0   41.1   44.5   18.0    9.0   10.0   12.0    3.0    1.0    4.0
       1.0    3.0
 824 256.7   81.2   38.8   54.9    9.09999.09999.0   31.7   37.0    3.8
      48.5   28.6   28.0   14.4  101.8   25.8   74.3   24.4   35.9   18.4
      31.4   38.8   40.7   18.0   10.0   10.0   12.0    3.0    1.0    4.0
       1.0    3.0
 825 326.0   97.8   47.3   65.2    8.99999.09999.0   37.1   45.5    5.5
      55.4   33.8   30.5   13.3  121.6   31.4   87.8   31.0   42.9   21.9
      43.2   41.4   42.6   17.0   10.0   11.0   13.0    3.0    1.0    4.0
       1.0    3.0
 826 310.2   98.6   40.5   67.6    9.19999.09999.0   35.0   45.2    6.5
      60.8   37.5   26.3   11.6  123.3   31.0   86.8   30.1   42.9   22.1
      43.9   45.2   45.9   17.0   10.0   11.0   13.0    3.0    1.0    4.0
       1.0    3.0
 827 244.0   79.9   39.5   56.2   10.6   37.0   24.1   28.6   30.4    4.8
      46.7   23.7   23.6   11.5   99.3   25.8   60.2   24.0   34.7   17.1
      36.8   43.9   50.6   18.0   11.0   16.0   16.0    3.0    1.0    4.0
       1.0    3.0
 828 270.0   86.6   40.2   57.8   11.5   42.5   30.5   31.6   36.2    3.8
      58.5   28.5   27.9    9.8  111.1   28.0   69.0   24.7   39.5   18.1
      39.9   51.9   56.3   18.0   11.0   16.0   18.0    3.0    1.0    4.0
       1.0    3.0
 829 152.1   48.0   24.1   30.0    8.7   21.1   15.2   18.3   17.6    3.4
      30.6   12.5   14.8    7.0   63.4   18.1   42.3   16.4   22.5   11.1
      23.0   29.6   31.5   19.0   11.0   15.0   17.0    3.0    1.0    4.0
       1.0    3.0
 830 171.1   55.8   24.0   37.2    7.5   26.9   20.6   18.2   22.7    3.5
      40.6   18.0   16.3    8.6   66.8   17.6   50.4   14.8   23.9   11.5
      23.0   29.6   31.4   19.0   10.0   11.0   13.0    3.0    1.0    4.0
       1.0    3.0
 901 308.0   97.3   56.0   75.5    9.7   51.9   41.9   33.5   46.7    5.5
      34.0   35.7   31.5   15.3  123.5   32.9   81.7   35.0   51.6   23.2
      41.4   56.6   63.9   21.0   11.0   20.09999.0    3.0    2.0    4.0
       1.0    2.0
 902 185.0   53.8   32.8   42.0    5.7   29.6   22.4   19.2   26.0    3.9
      19.6   19.8   17.3    9.6   68.7   18.0   42.6   21.4   35.7   13.0
      28.49999.0   31.7   21.0   11.0   22.0   20.0    3.0    2.0    4.0
       1.0    2.0
 903 250.0   73.2   40.2   54.8    7.6   39.1   29.3   24.4   36.1    3.6
      30.5   27.0   24.4   10.9   93.0   26.5   62.3   31.7   44.3   16.5
      36.1   43.2   46.1   22.0   10.0   22.0   19.0    3.0    2.0    4.0
       1.0    2.0
 904 224.0   67.6   36.2   48.2    8.1   33.5   27.6   20.9   31.0    4.2
      23.0   22.2   21.3   10.5   87.6   22.9   51.9   20.7   39.7   15.6
      33.3   42.49999.0   21.0   11.0   20.0   19.0    3.0    2.0    4.0
       1.0    2.0
 905 188.3   54.8   31.6   40.4    6.9   29.3   24.1   19.6   25.8    3.4
    9999.0   19.4   17.6    8.9   70.7   20.9   47.5   25.0   33.3   13.3
      27.1   35.0   35.5   22.0   10.0   22.0   18.0    3.0    1.0    4.0
       1.0    2.0
 906 232.0   68.1   41.8   51.6    7.7   38.2   29.2   23.7   33.4    4.7
      23.6   25.9   22.4   12.4   90.2   25.3   62.8   27.8   41.0   16.2
      33.5   41.6   45.3   22.0   11.0   20.0   19.0    3.0    1.0    4.0
       1.0    2.0
1001 175.5   53.6   29.2   39.9    7.6   24.6   18.3   20.7   23.3    2.9
      62.8   18.3   12.9   10.4   66.3   20.0   47.2   14.8   29.1   13.0
      23.7   33.0   35.7   20.0   10.0   19.0   20.0    3.0    1.0    4.0
       2.0    1.0
```

```
1003 252.5  77.5  45.4  57.6  10.2  40.0  27.0  30.2  35.0   4.0
      78.4  26.6  20.1  13.6  94.5  29.4  65.4  28.8  38.3  18.5
      39.7  51.4  46.5  22.0  10.09999.09999.09999.0   1.0   4.0
       1.0   1.0
1004  88.1  25.0  15.2  18.3   4.6  12.3   7.9   9.0  11.5   1.2
      44.2   8.5   6.4   4.7  31.7   9.2  21.6   9.5  15.3   5.9
      14.0  18.7  18.8  19.0  10.0  20.0  20.0   3.0   1.0   4.0
       1.0   1.0
1005 122.0  33.5  19.8  26.5   5.8  16.0  10.8  11.7  13.7   2.5
      49.6  11.0   9.8   6.0  43.7  14.4  31.7  11.8  21.7   8.4
      20.5  24.9  22.5  20.0  10.0  18.0  20.0   2.0   1.0   4.0
       2.0   1.0
1006 284.5  87.6  43.2  65.5  10.5  45.9  33.5  32.5  43.9   4.8
      96.9  33.5  21.7  21.4 107.6  28.8  70.8  28.3  44.0  20.6
      39.5  61.8  62.0  21.0  10.0  20.0  20.0   3.0   1.0   4.0
       1.0   1.0
1007 258.0  78.7  39.0  62.4  10.7  42.8  28.5  30.79999.09999.0
      78.3  31.4  19.3  15.5  95.5  28.3  68.1  23.0  42.7  19.8
      40.5  48.9  42.3  19.0  10.0  18.0  21.0   2.0   1.0   4.0
       1.0   1.0
1008 198.0  54.1  34.3  44.6   8.0  30.3  18.0  19.6  24.4   3.3
      67.5  19.7  15.0  10.9  67.5  22.0  55.8  17.4  33.7  14.1
      34.0  43.4  36.5  21.0  10.0  18.0  19.0   3.0   1.0   4.0
       1.0   1.0
1009 218.0  64.8  32.1  47.3   8.4  33.3  25.0  25.1  31.5   3.5
      72.7  23.7  16.8  12.9  83.0  23.7  67.1  17.8  33.9  15.3
      34.2  48.9  40.9  19.0   9.0  18.0  20.0   3.0   1.0   4.0
       1.0   1.0
1010 198.0  60.4  33.2  47.0   8.4  32.1  20.0  21.9  26.0   3.5
      65.3  19.9  18.6  12.5  76.1  22.3  61.1  21.5  33.6  14.6
      32.4  45.6  39.7  20.0  10.0  16.0  17.0   3.0   1.0   4.0
       1.0   1.0
1011 242.0  70.4  36.4  56.2   8.9  39.5  27.5  26.4  34.5   4.0
      69.6  25.5  20.3  15.9  90.8  29.2  72.6  15.5  38.5  14.7
      40.89999.09999.0  20.0   9.0  18.0  21.0   3.0   1.0   4.0
       1.0   1.0
1012 250.0  76.6  36.5  51.4   9.5  36.6  28.5  29.8  34.0   4.6
     100.9  29.0  25.5  14.4  96.4  27.5  66.1  24.5  44.5  18.2
      37.2  50.5  47.1  20.0  10.0  13.0  16.0   3.0   1.0   4.0
       1.0   1.0
1013 267.3  83.1  44.1  59.4  10.7  41.0  28.4  30.0  36.4   4.5
      92.6  27.0  25.7  13.6 103.3  22.4  70.5  27.5  42.6  17.8
      37.7  51.8  45.9  19.0  10.0  13.09999.0   3.0   5.0   4.0
       1.0   1.0
1014 149.4  42.6  23.5  34.8   6.5  22.1  15.2  16.0  20.2   2.0
      62.2  15.6  13.2   8.8  53.1  16.7  39.0  18.5  24.9  11.5
      25.09999.0  30.9  19.0  10.0  18.0  20.0   3.0   1.0   4.0
       1.0   1.0
1015 215.0  68.2  33.4  49.6   9.0  35.0  23.3  23.6  31.2   4.2
      67.8  24.9  20.8  13.8  82.9  23.6  56.8  20.7  33.2  16.7
      34.6  46.2  41.6  20.0   9.0  18.0  18.0   3.0   1.0   4.0
       1.0   1.0
1016 280.0  86.8  43.4  69.3  10.5  48.6  32.0  33.8  38.2   6.4
     101.2  31.4  24.9  18.2 108.6  31.2  73.3  24.6  48.0  19.8
      43.7  55.3  44.2  21.0   9.0  18.0  19.0   3.0   1.0   4.0
       1.0   1.0
1017 380.0 116.4  54.0  94.3  13.5  62.3  41.6  43.2  53.5   7.0
     105.3  45.2  36.3  22.8 147.8  41.7 113.5  28.1  56.4  29.0
      59.5  74.5  64.7  19.0  10.0  17.0  18.0   3.0   5.0   4.0
       1.0   1.0
1018 252.0  75.5  42.1  59.4   9.4  40.0  26.7  28.5  34.4   4.7
      81.0  28.8  26.5  14.7  96.4  27.3  65.7  26.1  38.9  21.1
      38.69999.09999.0  19.0  10.0  16.0  17.0   3.0   1.0   4.0
       1.0   1.0
1019 294.0  91.5  43.5  67.8  11.2  50.1  35.6  36.9  45.6   6.0
      86.8  34.3  24.2  19.1 113.5  34.6  93.4  21.4  47.3  20.5
```

```
          47.4  65.8  53.7  19.0  10.0  17.0  19.0   2.0   1.0   4.0
           1.0   1.0
1020     270.0  84.2  37.9  60.2  10.2  42.1  30.4  32.5  38.7   4.9
          77.0  30.6  23.0  18.5 105.2  32.3  76.6  17.3  42.5  18.8
          43.0  64.6  59.3  18.0  10.0  16.0  18.0   2.0   1.0   4.0
           1.0   1.0
1021      97.2  28.0  14.9  20.0   4.9  13.1   9.3  10.2  10.5   1.7
          39.6   8.6   9.2   6.6  35.9  11.9  23.4  11.0  17.2   7.4
          16.5  19.5  17.9  18.0   9.0  22.0  21.0   3.0   1.0   4.0
           1.0   1.0
1022     116.2  32.4  17.2  23.5   5.2  15.5  10.0  12.2  13.9   2.0
          45.9  10.8   9.9   6.3  41.9  13.6  30.8  12.4  21.2   8.6
          20.2  25.1  22.6  20.0  10.0  20.0  20.0   3.0   1.0   4.0
           1.0   1.0
1023     132.7  37.3  20.4  27.7   5.5  18.6  13.4  13.9  16.5   2.5
          55.1  13.1  12.2   6.5  48.2  16.0  38.0  12.2  25.9  10.0
          22.7  26.5  23.2  18.0   9.0  18.0  20.0   3.0   1.0   4.0
           1.0   1.0
1024     108.7  31.7  17.5  22.5   5.0  14.9  10.5  11.4  13.5   1.7
          43.5  10.0   9.5   6.6  40.0  13.2  27.6  11.7  19.9   8.5
          19.5  21.5  20.2  19.0  10.0  17.0  19.0   3.0   1.0   4.0
           1.0   1.0
1025      83.7  23.8  14.9  17.8   4.4  11.7   7.9   9.2   8.9   1.5
          35.5   8.3  17.2   5.1  30.7   9.5  23.4   9.2  15.0   6.2
          13.7  16.2  16.4  19.0  10.0  16.0  20.0   3.0   1.0   4.0
           1.0   1.0
1026     100.7  27.5  15.3  20.3   4.6  13.6   8.2  10.2  10.2   1.8
          40.2   8.7   7.5   5.5  35.9  11.5  29.2   9.9  18.5   7.4
          18.9  24.5  21.0  20.0   9.0  18.0  21.0   3.0   1.0   4.0
           1.0   1.0
1027     117.7  34.0  19.3  24.3   5.3  15.5  11.4  12.6  13.9   2.3
          46.4  11.1  11.7   8.4  44.8  13.5  33.8  11.1  21.2   8.9
          18.2  26.9  25.4  19.0  10.0  18.0  20.0   3.0   1.0   4.0
           1.0   1.0
1028     325.0 101.4  52.4  69.3  12.8  51.0  38.5  39.9  45.6   5.3
          92.1  35.8  27.0  23.8 123.9  35.8  93.4  25.0  52.0  23.7
          54.29999.0  59.1  19.0  10.09999.09999.0   3.0   1.0   4.0
           1.0   1.0
1029     297.0  91.6  45.5  65.0  10.6  47.1  33.5  35.3  41.8   4.5
          82.8  35.7  29.2  20.6 115.7  35.5  87.0  24.9  47.7  20.5
          44.2  62.0  52.1  19.0  10.0  17.09999.0   3.0   1.0   4.0
           1.0   1.0
1030     117.6  32.7  19.2  23.7   5.5  15.4  11.8  12.5  14.9   1.9
          48.0  11.6   9.6   6.5  42.4  14.4  34.9   9.8  21.0   8.9
          19.4  25.5  23.0  20.0  10.0  19.0  21.0   3.0   1.0   4.0
           1.0   1.0
1031     104.4  28.2  17.3  21.2   4.5  13.3  10.1  10.5  11.2   1.7
          38.4  10.0   7.3   6.1  36.8  11.9  30.2  10.6  18.1   7.6
          18.6  23.5  22.1  20.0  10.0  18.0  21.0   3.0   1.0   4.0
           1.0   1.0
1032     113.4  32.9  18.2  24.3   5.2  15.7  11.6  11.7  14.4   1.8
          45.2  11.6  10.2   6.6  41.6  15.5  31.1  11.2  22.9   8.8
          17.5  25.2  23.6  22.0  10.0  18.0  20.0   3.0   1.0   4.0
           1.0   1.0
1033     115.0  32.2  18.3  23.3   5.4  15.2  11.4  12.3  13.8   2.3
          47.5  10.5   8.6   6.9  42.7  14.4  30.9  12.5  21.5   8.6
          19.1  25.4  24.1  20.0  10.0  18.0  20.0   3.0   1.0   4.0
           1.0   1.0
1101     252.8  79.9  37.8  55.1  12.5  38.6  22.9  30.1  31.6   4.9
          56.7  27.8  20.9  16.9  97.8  25.7  76.0  20.5  30.2  18.6
          38.8  49.7  42.6  17.0  10.0  19.0  20.0   1.0   1.0   4.0
           4.09999.0
1102     380.0 121.0  70.4  93.1  15.6  50.0  39.1  50.0  47.6   7.8
          88.0  41.6  29.3  27.3 146.7  45.7 123.4  22.7  53.2  30.5
          54.4  70.2  64.3  17.0  10.09999.09999.0   1.0   1.0   4.0
           1.0   3.0
```

```
1103 274.6  80.6  44.5  61.0  11.6  38.1  24.2  28.7  31.2   3.4
      65.8  28.5  21.1  17.6 101.5  28.3  74.9  22.2  35.6  20.7
      41.9  51.7  45.7  17.0  10.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
1104 143.8  43.5  23.1  31.3   8.19999.0  11.2  15.29999.09999.0
      37.8  15.5  13.5   9.7  56.1  17.1  39.4  13.7  18.9  10.1
      21.6  31.6  28.2  17.0  10.0  20.09999.0   1.0   5.0   4.0
       3.0   3.0
1105  87.8  24.6  12.2  16.6   5.8  10.0   6.6   8.8   7.6    .9
      34.6   7.5   8.7   4.9  32.4  10.5  25.0   8.3  10.8   7.6
      14.3  19.7  17.7  17.0  10.0  19.0  17.0   1.0   1.0   4.0
       1.0   3.0
1106  76.6  22.6  13.7  14.6   5.4   8.6   5.7   8.2   7.1    .8
      27.9   7.2   7.2   4.6  29.5  10.2  21.4   6.0  11.9   6.2
      12.0  15.9  14.3  17.0  11.0  21.0  19.0   1.0   1.0   4.0
       1.0   3.0
1107  82.4  23.6  14.9  16.8   5.8   9.9   6.3   7.9   8.1    .9
      30.9   7.5   7.6   4.8  30.9  10.1  24.6   8.3  12.6   7.6
      13.8  19.3  19.4  19.0  11.0  18.0  17.0   1.0   1.0   4.0
       1.0   3.0
1108  87.6  24.9  13.0  16.7   5.6   9.2   6.6   9.0   8.3    .9
      31.9   7.8   7.9   5.6  32.4  10.8  24.7   7.6  12.9   7.0
      15.5  20.5  20.5  17.0  10.0  18.0  18.0   1.0   1.0   4.0
       1.0   3.0
1109 117.4  34.4  16.8  23.6   7.0  13.89999.0  12.79999.09999.0
      36.5  11.0  11.6   6.9  45.5  12.7  30.9   9.8  17.1   7.7
      17.8  22.0  22.0  17.09999.0  20.09999.0   1.0   1.0   4.0
       1.0   3.0
1110 358.0 109.8  52.1  78.0  15.99999.09999.0  39.1  38.2   5.9
      83.9  43.9  26.4  21.1 132.8  37.0  98.9  32.0  44.1  27.8
      48.9  58.2  55.8  17.0  11.0  19.0  18.0   1.0   1.0   4.0
       2.0   3.0
1111 376.0 116.5  60.6  91.6  15.29999.09999.0  45.8  46.7   7.5
      74.7  44.0  31.6  23.4 147.2  36.3  98.3  21.5  39.7  26.6
      51.4  70.5  53.2  15.09999.0  17.0  19.0   1.0   1.0   8.0
       1.0   3.0
1112 258.0  86.6  40.2  62.8  11.49999.09999.0  31.5  32.0   4.7
      55.59999.0  20.9  15.5 102.8  25.9  67.2  23.9  32.9  16.6
      36.1  44.5  43.9  17.0  10.0  19.0  18.0   1.0   1.0   4.0
       2.0   3.0
1113 171.0  48.6  29.3  36.3   8.59999.09999.0  17.8  18.5   3.0
      47.89999.0  13.9  10.4  62.8  18.5  44.7  18.2  24.2  14.7
      26.8  36.7  31.2  18.0  10.0  21.09999.0   1.0   1.0   4.0
       1.0   3.0
1114 113.2  31.8  19.3  23.8   6.59999.09999.0  11.6  10.6   1.9
      37.1  10.7  10.4   8.3  42.2  13.6  30.1  12.3  16.4   9.4
      18.0  23.4  23.7  18.0  11.0  17.0  19.0   1.0   1.0   4.0
       2.0   3.0
1115 291.5  88.4  43.2  63.0  12.6  46.2  26.5  33.4  31.0   3.7
      88.5  32.6  25.9  17.4 112.2  30.5  77.4  24.6  36.7  22.4
      42.1  53.0  48.7  19.0  11.0  19.0  19.0   1.0   1.0   4.0
       1.0   3.0
1116 179.2  49.7  29.0  38.9  10.2  24.5  14.3  18.8  18.3   3.0
      45.7  17.7  18.0  12.8  65.3  20.9  54.9  14.0  26.0  14.6
      25.9  33.1  39.1  18.0  11.0  19.0  19.0   1.0   1.0   4.0
       1.0   3.0
1117 323.0  95.8  51.8  68.8  12.59999.09999.0  36.4  35.2   4.4
      68.8  32.8  26.8  25.0 120.7  34.3  88.5  24.1  43.5  22.8
      47.8  53.5  56.9  17.0  10.0  20.0  18.0   1.0   1.0   4.0
       1.0   3.0
1118 193.1  57.3  26.6  37.2  10.49999.09999.0  20.2  20.0   3.0
      48.8  19.4  18.4  15.0  75.2  22.2  60.3  14.0  25.6  15.2
      29.3  35.2  34.3  18.0  10.0  21.0  20.0   1.0   1.0   4.0
       1.0   3.0
1119 340.0 106.9  52.1  73.1  14.89999.09999.0  36.8  36.0   4.5
     104.4  35.9  33.0  16.9 130.0  34.9  98.9  29.0  41.8  29.4
```

```
      47.4  57.3  54.7  17.0  10.0  18.0  19.0   1.0   1.0   4.0
       1.0   3.0
1120 236.8  78.6  43.8  52.4  11.29999.09999.0  26.6  31.4   3.5
      61.4  27.6  17.2  14.5  91.7  24.3  67.0  17.1  32.3  17.0
      31.1  41.2  37.8  18.0  10.0  19.0  20.0   1.0   1.0   4.0
       4.0   3.0
1121 176.5  55.0  30.5  39.0   8.39999.09999.0  20.3  19.9   2.8
      45.6  20.0  13.4  10.8  68.9  19.7  48.5  15.7  23.2  13.0
      26.5  37.0  32.8  16.0  10.0  19.0  20.0   1.0   1.0   4.0
       2.0   3.0
1122 272.5  83.4  46.8  61.9  10.99999.09999.0  29.2  29.9   3.5
      53.8  30.9  19.5  14.9  98.4  27.2  80.6  21.3  30.3  20.1
      41.9  41.3  42.9  17.0  11.0  21.0  20.0   1.0   1.0   4.0
       2.0   3.0
1123 196.8  55.8  30.5  43.4   9.59999.09999.0  22.9  20.8   4.0
      50.2  21.0  18.3  13.8  75.0  22.7  62.9  16.5  25.5  14.8
      33.0  37.1  37.3  18.0  10.0  19.0  20.0   1.0   1.0   4.0
       2.0   3.0
1124 328.5  97.1  52.5  71.2  13.69999.09999.0  36.6  35.9   4.9
      77.8  37.6  27.3  22.2 122.4  34.7  89.7  24.3  43.9  24.3
      48.7  62.1  47.5  17.0  10.0  19.0  16.0   1.0   1.0   4.0
       1.0   3.0
1125 190.5  54.6  29.8  38.3   9.99999.09999.0  19.3  19.0   2.2
      52.6  17.5  17.8  11.6  70.7  21.5  53.3  16.5  28.3  16.6
      29.3  39.1  40.2  17.0  11.0  20.0  19.0   1.0   1.0   4.0
       1.0   3.0
1126 276.4  85.1  43.3  58.7  12.89999.09999.0  31.9  29.0   4.1
      80.8  31.4  26.6  20.0 110.6  30.0  73.5  27.0  39.0  21.4
      37.79999.09999.0  18.0  10.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
1127 178.4  53.0  25.2  35.5   9.3  24.4  14.5  19.1  16.8   3.1
      43.7  16.0  15.6  12.1  68.2  19.3  54.0  12.7  25.9  14.1
      27.4  34.09999.0  17.0  10.0  19.0  21.0   1.0   1.0   4.0
       1.0   3.0
1128 198.5  58.1  34.1  57.3   9.89999.09999.0  22.7  20.59999.0
      54.2  22.2  18.2  13.8  77.0  22.0  57.7  16.4  27.9  15.1
      33.0  38.4  38.5  18.0  11.0  19.0  20.0   1.0   1.0   4.0
       2.0   3.0
1129 206.9  57.1  37.3  45.3   9.79999.09999.0  21.89999.0   4.9
      56.3  20.6  17.0  13.3  77.0  18.7  58.9  18.3  29.2  16.6
      30.8  37.9  37.0  19.0  11.0  19.0  16.0   1.0   1.0   4.0
       2.0   3.0
1130  93.0  25.3  15.5  18.2   6.8  10.0   6.6   9.69999.09999.0
      28.2   7.8   8.3   5.6  34.4  11.7  24.5  10.3  14.3   7.2
      14.7  18.8  18.4  18.0  11.0  20.09999.0   1.0   1.0   4.0
       1.0   3.0
1131 293.0  94.9  48.5  66.5  11.5  40.5  29.1  35.09999.09999.0
      71.5  34.9  23.6  17.1 117.5  32.0  84.8  21.4  37.7  21.2
      42.49999.0  46.8  19.0  10.0  19.09999.0   1.0   1.0   4.0
       2.0   3.0
1132  84.5  22.0  15.6  16.8   5.2  10.1   5.7   9.1   8.1   1.1
      28.9   7.9   7.8   4.7  30.5  10.0  25.0   8.8  12.0   6.8
      12.6  16.1  15.5  18.0  11.0  19.0  17.0   1.0   1.0   4.0
       1.0   3.0
1133  74.2  20.5  13.8  15.2   5.0   8.0   5.2   7.4   6.8   1.3
      28.4   6.3   6.6   4.0  27.1   9.6  19.8   7.8  12.1   5.8
      12.9  17.3  14.7  17.0  11.0  19.0  18.0   1.0   1.0   4.0
       1.0   3.0
1134  96.0  26.3  16.7  19.6   6.29999.0   6.4   9.8   8.6   1.3
      28.6   8.0   9.6   5.7  35.2  11.3  24.7   9.3  13.7   7.7
      15.9  22.0  19.4  17.0  11.0  18.09999.0   1.0   1.0   4.0
       1.0   3.0
1135 100.1  27.2  17.5  20.1   6.1  11.5   7.0   9.0   9.2   1.4
      32.3   8.7   8.3   6.4  35.4  12.1  24.2  10.0  15.0   7.5
      16.5  23.0  21.3  17.0  10.0  20.0  19.0   1.0   1.0   4.0
       1.0   3.0
```

```
1136  88.2  25.2  15.2  18.1   5.8  10.7   6.3   9.3   9.3   1.5
      32.3   8.2   7.8   6.4  32.5  10.6  25.0   8.6  13.8   7.3
      15.3  20.0  20.7  18.0  10.0  20.0  17.0   1.0   1.0   4.0
       1.0   3.0
1137 118.1  32.9  20.1  25.0   6.9  14.0   9.4  11.9  12.1   2.2
      38.2  11.0   9.8   8.4  43.4  15.1  30.7  11.5  18.2   9.9
      19.7  27.0  24.1  18.0  11.0  19.0  18.0   1.0   1.0   4.0
       1.0   3.0
1138  99.3  28.3  17.6  21.3   5.8  12.1   7.7  10.7   9.2   1.5
      32.5   9.4   9.2   7.4  37.1  11.7  27.3   8.2  16.0   8.4
      17.0  21.6  18.9  17.0  11.0  20.0  18.0   1.0   1.0   4.0
       1.0   3.0
1139 336.0 109.7  51.6  71.8  13.7  47.6  34.0  39.9  38.6   5.9
      84.1  38.8  29.3  21.9 137.2  36.8  94.6  23.8  46.8  22.5
      47.6  59.6  60.8  18.0  10.0  19.0  19.0   1.0   1.0   4.0
       2.0   3.0
1140 285.0  91.4  42.6  57.4  12.2  35.2  27.2  32.3  31.6   4.5
      63.5  30.9  23.9  12.7 111.9  29.3  74.5  25.7  33.1  19.4
      41.29999.09999.0  17.0  11.0  21.0  21.0   1.0   5.0   4.0
       2.0   2.0
1141 292.0  87.6  43.4  61.2  11.6  38.8  27.8  34.59999.09999.0
      80.1  32.6  27.1  18.5 112.0  31.2  82.1  22.5  40.8  20.5
      41.8  61.9  56.0  18.0  10.0  21.0  22.0   1.0   1.0   4.0
       2.0   3.0
1142 305.0  97.9  44.2  63.8  13.2  42.6  30.3  37.69999.09999.0
      77.9  34.9  24.5  19.4 121.0  32.5  87.9  20.1  34.4  20.5
      44.3  55.7  53.7  17.0  10.0  19.09999.0   1.0   1.0   4.0
       2.0   3.0
1143 305.0  97.5  45.3  66.7  13.2  44.9  30.7  36.49999.09999.0
      71.8  33.9  25.7  20.7 122.9  29.9  84.9  25.8  38.7  20.7
      44.0  55.1  47.8  18.0  10.0  19.09999.0   1.0   1.0   4.0
       2.0   3.0
1144 327.0 103.5  51.2  68.9  12.3  48.8  32.4  39.79999.09999.0
      83.0  35.7  28.4  20.3 130.9  35.8  96.7  21.7  44.0  23.5
      43.6  60.9  55.1  18.0  10.0  20.09999.0   1.0   1.0   4.0
       2.0   3.0
1145 236.0  70.5  37.5  49.7  10.5  27.4  19.0  27.4  25.3   5.7
      76.0  24.2  17.0  13.1  88.2  26.6  65.1  22.6  33.4  18.2
      32.9  48.5  49.5  18.0  10.0  19.0  18.0   1.0   1.0   4.0
       2.0   3.0
1146 310.0 101.0  54.1  74.2  15.8  44.8  30.4  39.49999.09999.0
      82.6  39.4  31.0  19.2 123.9  35.3  86.9  27.9  41.3  25.7
      40.2  62.2  55.8  17.0  11.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
1147  82.7  23.5  13.8  16.3   6.0   9.5   6.2   8.99999.09999.0
      24.3   6.7   8.9   6.2  31.3  10.6  25.3   6.5  12.8   7.2
      13.0  19.1  15.7  17.0  10.0  18.09999.0   1.0   1.0   4.0
       1.0   3.0
1148 297.0  89.4  43.9  62.5  11.4  41.7  27.8  34.9  33.5   5.5
      68.7  33.0  27.4  17.0 113.0  30.9  82.3  25.3  42.4  21.2
      46.5  59.1  50.2  17.0  10.0  21.0  20.0   1.0   1.0   4.0
       1.0   3.0
1149 184.0  49.9  26.5  37.0   9.89999.09999.0  18.3  18.9   3.1
      46.2  17.1  15.3  13.8  62.6  21.8  55.3  13.9  25.9  14.8
      28.9  33.5  39.6  17.0  10.0  17.09999.0   1.0   1.0   4.0
       1.0   3.0
1150  77.8  22.0  12.1  15.0   5.39999.09999.0   6.7   7.1    .9
      24.2   6.2   6.0   4.6  28.4   9.1  19.4   7.4   9.6   6.5
      13.8  15.7  15.7  18.0  10.0  18.0  19.0   1.0   1.0   4.0
       1.0   3.0
1151 280.0  83.5  50.0  65.0  12.0  37.3  24.7  33.79999.09999.0
      64.1  28.4  23.7  19.3 111.2  31.2  68.6  21.8  36.7  21.9
      40.8  60.39999.0  18.0  10.0  20.0  23.0   1.0   1.0   4.0
       2.0   3.0
1152 107.2  28.6  20.7  22.2   6.0  10.9   7.8  10.7   9.5   1.2
      36.4  10.1  10.0   6.7  38.0  11.5  33.4   9.0  16.4   9.2
```

```
     17.6  18.9  17.8  19.0  10.0  20.0  17.0   1.0   1.0   4.0
      1.0   3.0
1153 340.0 107.0  55.1  71.6  13.3  42.6  30.0  38.6  34.9   3.7
   9999.0  38.0  26.8  16.5 135.8  35.0  89.5  24.1  46.4  26.8
     50.9  60.59999.0  17.0  10.0  18.09999.0   1.0   1.0   4.0
      1.0   3.0
1154 325.0 100.7  59.6  76.8  12.3  45.9  32.9  41.39999.09999.0
     77.2  41.5  31.7  21.0 126.6  37.2  97.2  32.1  44.8  25.7
     47.3  61.2  52.4  18.09999.0  20.09999.0   1.0   1.0   4.0
      1.0   3.0
1155 184.0  53.0  30.5  37.0  11.6  20.8  14.3  19.2  17.6   2.6
     67.4  18.1  16.3  13.4  67.3  21.1  47.0  15.7  26.0  13.3
     28.7  43.0  39.6  19.0  11.0  21.0  20.0   1.0   1.0   4.0
      1.0   3.0
1156 202.2  60.5  30.4  38.7   9.49999.09999.0  21.3  23.3   2.9
     61.3  18.2  16.8  10.4  76.4  21.3  53.6  18.2  30.2  14.9
     29.5  37.5  42.5  18.0  11.0  19.0  20.0   1.0   1.0   3.0
      1.0   3.0
1157 176.5  51.0  23.6  34.6   9.29999.09999.0  18.9  17.1   3.1
     45.5  16.8  15.6  11.3  66.5  19.6  53.5  11.9  22.3  13.9
     27.5  37.6  39.7  16.0  10.0  20.0  18.0   1.0   1.0   4.0
      1.0   3.0
1158  91.4  25.8  14.5  16.9   5.2  13.0   8.5   8.9   8.3   1.6
     27.8   7.8   8.2   5.8  34.0  10.6  24.7   6.9  12.5   7.5
     16.19999.0  19.0  16.0  11.0  18.0  19.0   1.0   1.0   4.0
      1.0   3.0
1159 181.0  53.1  29.1  36.8  11.99999.09999.0  19.6  18.7   2.7
     67.8  18.1  15.8  12.2  70.9  20.5  48.0  15.3  25.9  12.8
     28.2  43.2  40.6  17.0  11.0  21.0  19.0   1.0   1.0   4.0
      1.0   3.0
1160  47.8  13.5  10.4   9.7   3.69999.09999.0   5.19999.09999.0
     11.9   4.3   4.5   3.1  18.2   5.8  10.4   5.3   5.9   4.0
      8.7   9.9   9.1  18.0  10.0  19.0  21.0   1.0   1.0   4.0
      2.0   3.0
1161 216.3  67.1  40.2  46.5   9.19999.09999.0  24.8  22.7   2.6
     57.1  23.3  18.7  11.7  82.6  21.8  59.8  19.3  28.6  16.8
     35.2  34.4  34.5  17.0  10.0  19.0  18.0   1.0   1.0   4.0
      2.0   3.0
1162 223.0  68.6  33.7  48.5  11.1  28.6  19.0  26.5  23.1   5.0
     66.2  21.8  19.0  13.0  88.7  24.7  55.4  21.6  30.6  17.4
     36.6  40.5  39.9  20.0  10.0  20.0  21.0   1.0   1.0   4.0
      2.0   3.0
1163 220.0  69.5  37.2  46.0  12.7  26.6  16.8  25.2  21.1   4.0
     51.4  23.2  19.3  12.2  87.6  22.8  65.6  13.1  30.4  16.9
     34.19999.0  42.2  18.0  10.0  18.0  15.0   1.0   5.0   3.0
      4.0   3.0
1164  99.5  26.6  15.4  18.4   6.7  10.6   7.4   9.5   8.6   1.5
     38.9   8.3   8.8   6.5  37.2  12.0  27.3   9.4  16.0   7.7
     16.5  22.0  21.9  17.0  10.0  20.0  15.0   1.0   1.0   4.0
      1.0   3.0
1165 333.0 102.09999.0  68.6  17.1  46.7  32.9  35.7  42.3   6.3
     57.0  34.2  30.6  14.8 128.7  33.2 101.5  17.3  42.4  19.5
     48.6  61.0  55.5  17.0  11.0  22.0  19.0   1.0   1.0   4.0
      1.0   2.0
1166 260.8  82.7  44.4  58.8  14.2  36.2  23.7  30.5  30.2   4.1
     53.2  27.8  23.9  16.3 102.5  28.5  73.8  18.3  38.5  19.9
     37.8  45.1  45.7  18.0  10.0  21.0  20.0   1.0   1.0   4.0
      1.0   2.0
1167 209.3  60.9  30.0  39.0  11.0  24.2  14.6  22.0  19.1   3.6
     58.5  19.6  16.3  13.0  78.3  22.2  54.9  14.5  32.2  16.8
     33.8  51.4  51.1  21.0  10.0  21.0  17.0   1.0   5.0   4.0
      3.0   2.0
1168 274.0  87.6  42.3  62.7  11.3  39.2  26.3  32.1  30.6   4.2
     66.6  31.8  21.6  16.6 107.2  27.8  77.2  18.4  33.5  18.0
     40.5  48.0  43.6  17.0  10.0  18.0  18.0   1.0   1.0   4.0
      2.0   3.0
```

1169	288.0	92.2	47.3	60.8	12.8	43.4	29.3	34.2	35.6	5.3
	69.6	33.4	27.1	19.8	119.8	30.4	74.1	25.5	36.3	22.2
	42.3	52.7	58.2	19.0	10.0	20.0	18.0	1.0	1.0	4.0
	2.0	3.0								
1170	320.0	104.2	45.7	66.9	13.4	44.2	32.0	36.59999.09999.0		
	84.6	39.9	26.2	20.6	128.7	33.6	95.0	21.8	40.7	21.6
	47.5	56.79999.0		17.0	10.0	20.0	19.0	1.0	1.0	4.0
	2.0	3.0								
1171	228.0	65.1	34.2	43.7	12.1	26.6	17.5	24.0	21.8	4.0
	56.5	20.6	19.1	13.5	84.3	26.1	66.6	17.2	37.6	18.0
	37.0	53.7	53.8	20.0	10.0	18.0	17.0	1.0	1.0	4.0
	4.0	2.0								
1172	157.4	46.8	25.5	32.2	10.0	19.7	12.2	17.3	16.5	3.6
	45.9	15.0	13.3	11.0	60.4	19.2	45.8	12.0	24.8	13.1
	25.5	42.1	39.0	19.0	10.0	18.0	16.0	1.0	1.0	4.0
	4.0	2.0								
1173	98.6	28.2	18.7	20.8	6.5	11.5	7.6	9.9	9.8	1.4
	30.2	8.6	9.2	5.3	37.2	11.8	25.5	8.6	14.4	7.2
	16.2	25.5	25.6	19.0	10.0	19.0	19.0	1.0	1.0	4.0
	4.0	2.0								
1174	280.0	80.5	42.9	56.6	14.3	39.0	22.5	27.0	29.7	6.7
	66.5	30.6	23.3	15.3	103.1	32.6	87.7	17.8	48.3	23.4
	47.89999.0		56.3	19.0	10.0	18.0	16.0	1.0	1.0	4.0
	4.0	2.0								
1175	228.0	67.9	37.2	45.7	11.9	26.8	19.0	26.0	24.4	4.2
	62.2	23.2	18.7	14.4	86.4	23.5	63.1	18.7	31.3	16.0
	36.8	41.5	39.1	19.0	10.0	19.0	18.0	1.0	1.0	4.0
	2.0	3.0								
1176	156.0	45.2	27.0	22.6	8.2	20.1	12.6	16.6	16.4	3.0
	45.1	16.2	14.9	9.9	59.7	16.7	44.1	12.9	20.7	11.8
	25.5	33.1	29.9	18.0	11.0	20.0	19.0	1.0	1.0	4.0
	2.0	3.0								
1177	85.7	23.8	16.1	18.2	6.0	8.5	5.3	8.6	7.0	1.1
	28.3	7.0	7.5	6.0	30.8	11.2	22.0	9.6	11.3	6.4
	13.2	19.6	17.2	19.0	11.0	17.0	19.0	1.0	1.0	4.0
	1.0	3.0								
1178	176.0	51.9	28.2	35.9	7.7	24.2	15.5	21.0	17.6	3.0
	46.4	18.0	16.7	11.8	69.1	20.5	54.7	13.3	25.4	13.1
	28.0	36.09999.0		18.0	10.0	19.0	19.0	1.0	1.0	4.0
	2.0	3.0								
1179	260.0	82.3	39.6	56.1	11.9	35.7	23.3	30.5	28.7	4.8
	65.6	27.7	20.0	14.9	100.9	28.5	76.0	23.5	33.2	19.6
	39.7	49.6	44.9	18.0	11.0	21.0	20.0	1.0	1.0	4.0
	2.0	3.0								
1180	137.0	38.4	20.5	27.1	9.1	16.2	9.6	14.0	13.0	2.5
	38.4	13.0	12.6	9.6	52.0	17.0	38.9	8.6	22.9	10.8
	20.7	33.6	33.6	20.0	10.0	18.0	16.0	1.0	5.0	4.0
	2.0	2.0								
1181	194.5	54.1	29.7	40.7	9.99999.09999.0			17.5	15.0	2.6
	60.2	18.9	14.9	13.5	72.2	20.5	51.2	16.4	26.9	15.4
	29.9	38.0	40.0	17.0	11.0	20.09999.0		1.0	5.0	4.0
	4.0	3.0								
1182	253.0	76.8	39.9	50.5	14.1	30.8	21.5	30.0	25.5	4.4
	63.3	27.3	21.5	13.7	98.5	31.0	79.7	19.0	42.0	20.6
	39.5	56.0	58.0	20.0	10.0	18.0	15.0	1.0	5.0	4.0
	4.0	2.0								
1183	208.0	70.7	35.1	46.6	11.8	28.2	19.5	24.6	25.2	3.8
	60.3	22.8	18.4	13.0	87.5	24.6	59.6	16.9	26.8	16.5
	33.69999.09999.0			17.0	11.0	20.0	22.0	1.0	1.0	4.0
	2.0	2.0								
1184	268.0	81.7	41.4	58.5	13.9	31.8	23.0	31.8	26.3	4.0
	68.0	28.6	22.8	17.8	105.1	31.0	69.0	19.2	43.9	22.6
	42.39999.0		59.1	19.0	10.0	17.0	17.0	1.0	5.0	4.0
	2.0	2.0								
1185	81.8	24.1	15.4	17.1	5.6	9.4	5.8	9.0	7.0	1.2
	28.5	7.8	7.4	4.7	31.4	9.5	20.2	10.5	13.6	7.0

```
          12.9   20.3   18.5   18.0   10.0   22.0   19.0    1.0    1.0    4.0
           1.0    2.0
    1186 166.0   49.6   28.1   35.1    9.2   19.3   12.5   17.3   18.1    2.8
          44.0   15.9   15.5   11.7   65.0   18.3   47.2   14.7   23.3   14.4
          26.9   35.3   33.9   18.0   10.0   20.0   20.0    1.0    1.0    4.0
           4.0    2.0
    1187  86.4   22.8   14.9   17.0    5.19999.09999.0    9.1    7.3    1.1
          27.2    7.2    7.4    4.9   30.3    9.8   26.6    8.2   13.1    7.3
          15.8   15.49999.0   19.0   10.0   20.0   18.0    1.0    1.0    4.0
           1.0    3.0
    1188  93.5   25.1   16.0   19.8    6.2   10.0    6.7   10.1    7.7    1.0
          27.9    8.4    8.0    6.5   33.7   11.5   25.2    6.7   13.09999.0
        9999.0   23.1   21.3   17.0   11.0   17.09999.0    1.0    1.0    4.0
           1.0    3.0
    1189 186.0   57.1   30.4   39.1   10.09999.09999.0   21.3   19.5    2.8
          52.6   19.4   15.4   14.1   74.7   23.3   59.2   15.9   28.1   14.9
          29.7   35.3   34.8   18.0   11.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    1190 270.3   80.99999.09999.0   11.89999.09999.09999.0   30.2    4.7
          62.69999.0   21.5   15.6  101.1   28.5   81.8   28.2   32.5   20.4
          39.6   50.2   41.8   15.0   10.0   19.0   20.0    1.0    1.0    4.0
           1.0    3.0
    1191  88.2   24.6   15.2   18.0    5.6   10.0    6.5    8.5    8.8    1.6
          30.8    8.0    7.9    6.1   32.2   11.1   24.6    9.6   13.6    7.0
          13.7   20.8   20.1   18.0   10.0   20.0   17.0    1.0    1.0    4.0
           1.0    3.0
    1192  99.3   28.5   18.1   20.9    5.8   12.0    8.2   10.9   10.1    1.9
          31.7    9.0    8.9    6.9   37.0   11.7   28.0   10.5   14.5    8.0
          16.1   21.1   18.6   18.0   11.0   19.0   18.0    1.0    1.0    4.0
           1.0    3.0
    1193  79.5   20.7   14.4   16.9    5.0    8.8    6.0    7.6    8.0    1.5
          24.9    7.0    7.1    4.5   27.9    9.0   24.4    7.2   10.9    6.2
          13.4   13.6   13.3   18.0   10.0   20.0   16.0    1.0    1.0    4.0
           1.0    3.0
    1194  83.3   23.7   13.9   17.1    5.7   10.59999.0    9.09999.09999.0
          27.0    7.4    7.4    4.9   32.0   11.1   22.1    8.5   12.6    6.9
          14.7   20.0   18.8   16.09999.0   16.09999.0    1.0    1.0    4.0
           1.0    3.0
    1198 338.0  100.8   49.6   70.0   13.5   47.6   33.2   39.79999.09999.0
          78.9   37.5   27.6   21.0  128.6   37.4   97.1   22.49999.0   21.6
          49.1   63.5   55.7   18.0   10.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    1199 400.0  129.5   64.6   87.6   14.0   64.5   44.8   49.09999.09999.0
          91.2   44.4   27.7   19.4  157.0   41.1  117.9   28.4   46.3   25.1
          59.4   61.0   62.2   18.0   10.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    4101 292.0   92.1   41.9   62.9   12.0   37.5   27.2   35.8   34.0    5.2
          72.9   34.7   26.8   17.9  116.6   31.2   85.5   21.99999.0   21.3
          44.6   60.2   51.7   18.0   11.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    4102 288.0   90.6   43.6   62.0   13.6   41.6   28.8   34.09999.09999.0
          74.3   32.5   24.6   19.9  116.1   32.4   80.0   21.6   37.1   19.6
          43.4   55.1   54.8   18.0   10.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    4103 292.0   92.9   46.4   62.7   12.8   42.4   27.9   34.9   35.0    5.4
          73.9   32.3   24.4   17.6  116.1   31.0   80.5   20.0   39.1   22.5
          47.3   52.1   47.1   18.0   10.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
    4104 236.0   75.3   31.2   49.9   12.69999.09999.0   29.3   28.3    3.9
          65.1   25.5   19.8   14.6   95.7   26.4   70.1   16.8   27.2   16.9
          34.8   43.8   42.9   18.0   10.0   22.09999.0    1.0    1.0    4.0
           1.0    3.0
    4105 268.5   78.1   42.6   57.4   12.09999.09999.0   30.0   28.6    4.1
          66.0   29.3   21.9   17.9  100.6   30.6   68.0   20.9   34.3   20.9
          38.29999.09999.0   18.0   11.0   19.09999.0    1.0    1.0    4.0
           1.0    3.0
```

```
4106 178.0  51.2  28.1  35.0   8.2  22.3  14.8  20.6  17.5   3.1
      46.8  17.5  15.3  11.2  67.5  19.6  47.1  12.7  24.9  12.7
      28.59999.0  29.5  18.0  10.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4107 166.0  46.7  23.5  33.9   8.3  20.5  12.9  17.1  17.6   2.6
      45.5  15.2  13.7  10.9  61.5  18.8  49.9  12.6  22.6  12.1
      27.6  32.29999.0  18.0  10.0  18.09999.0   1.0   1.0   4.0
       1.0   3.0
4108 170.0  51.0  27.5  36.4   7.5  21.2  13.7  19.9  17.9   3.0
      45.6  17.4  14.8  10.6  65.4  18.6  44.7  15.3  22.7  13.2
      23.6  33.2  29.9  19.0  10.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4109 163.0  46.8  24.0  33.6   8.7  20.5  13.7  17.7  16.3   2.6
      43.0  16.6  14.6   9.0  62.0  17.6  46.7  12.8  21.8  12.2
      25.2  33.4  30.7  19.0  10.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4110 176.0  52.0  25.9  35.9  10.1  22.8  15.6  19.8  17.2   2.1
      44.4  18.5  15.6  11.7  67.8  18.5  46.5  13.5  24.3  13.0
      27.4  34.0  33.2  17.0  10.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
4111 155.0  45.6  27.2  31.8   7.6  21.0  13.0  16.9  14.6   2.5
      42.7  15.0  13.8   9.4  59.5  16.9  41.0  12.2  21.5  11.3
      23.5  36.7  30.5  18.0  10.0  20.09999.0   1.0   1.0   4.0
       1.0   3.0
4112 139.4  39.1  21.2  27.3   7.2  17.4  10.7  14.8  13.2   2.2
      38.5  13.8  12.5   8.4  52.7  15.3  38.8   9.6  18.0   9.8
      24.5  27.89999.0  17.0  11.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4113 244.0  74.2  38.5  52.7  11.1  34.1  23.6  28.5  28.2   3.8
      64.1  26.6  23.0  15.7  96.9  22.8  69.3  16.8  30.1  16.6
      36.9  45.0  41.5  17.0  10.0  20.09999.0   1.0   1.0   4.0
       1.0   3.0
4114 295.0  96.1  42.3  63.8  13.8  39.6  28.6  36.29999.09999.0
      63.2  36.3  23.2  18.5 119.1  36.0  83.7  20.6  40.1  20.5
      44.6  59.2  57.2  17.0  10.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
4115 301.0  96.0  45.5  60.3  13.3  41.0  28.8  35.5  39.7   5.4
      70.9  34.0  25.1  19.6 121.8  30.6  83.7  22.0  38.4  20.6
      46.6  57.8  56.2  18.0  10.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
4116 278.0  88.1  45.9  57.7  12.9  40.0  27.4  31.59999.09999.0
      71.1  32.0  24.7  18.4 111.0  28.9  83.7  18.9  33.2  19.9
      42.6  55.3  50.6  17.0  10.0  20.09999.0   1.0   1.0   4.0
       1.0   3.0
4117 168.9  48.9  25.7  34.1   9.3  21.5  14.4  18.8  18.0   3.6
    9999.0  17.7  18.6  10.1  64.3  21.3  49.2  13.5  25.9  13.1
      26.0  34.29999.0  18.0  11.0  19.0  20.0   1.0   1.0   4.0
       1.0   3.0
4118 162.2  46.6  25.5  33.0   8.6  21.4  13.4  18.0  16.6   2.6
      43.0  16.1  17.2   9.5  63.4  19.2  48.0  13.2  22.1  12.1
      23.1  32.1  30.1  19.0  11.0  19.0  19.0   1.0   1.0   4.0
       1.0   3.0
4119 147.9  43.5  23.7  29.2   8.5  18.0  12.6  16.9  15.7   2.7
    9999.0  15.2  13.6   8.8  57.3  17.3  46.2  11.7  20.2  11.6
      22.6  30.0  28.9  18.0  11.0  19.0  17.0   1.0   1.0   4.0
       1.0   3.0
4120 159.0  45.0  28.3  31.6   7.7  18.2  14.0  17.9  15.4   2.7
      55.8  14.3  15.5   9.3  59.8  18.5  46.0  15.7  24.0  13.7
      27.3  30.7  26.8  16.0   9.0  20.0  21.0   1.0   1.0   4.0
       1.0   3.0
4121 148.0  44.6  25.9  32.0   8.4  19.4  13.5  17.5  18.2   2.7
      60.2  15.7  14.0   9.7  58.8  19.1  39.7  14.0  21.8  13.1
      21.5  29.8  27.5  17.0  10.0  20.0  23.0   1.0   1.0   4.0
       1.0   3.0
4122 139.5  39.9  26.1  28.2   7.2  17.0  11.8  16.5  13.6   2.1
      51.4  13.0  13.0   7.7  53.6  17.5  44.0  14.3  20.1  11.8
```

```
      24.2  18.5  24.5  18.0  10.0  20.0  20.0   1.0   1.0   4.0
       1.0   3.0
4123 250.0  82.3  44.1  59.6  11.7  38.9  25.6  31.3  29.2   5.3
      72.5  27.5  23.0  15.0 102.5  27.9  74.6  21.8  32.2  21.4
      38.2  47.8  40.5  18.0  11.0  18.0  20.0   1.0   1.0   4.0
       1.0   3.0
4124 133.8  39.3  22.8  27.3   8.1  16.7  12.6  15.5  14.6   2.8
      49.6  11.8  11.8   7.8  50.2  17.2  36.5  12.5  18.9  10.1
      22.5  33.1  30.3  17.0  11.0  18.0  18.0   1.0   1.0   4.0
       1.0   3.0
4125 143.5  41.8  23.1  30.0   8.5  18.3  12.2  15.5  15.7   3.4
      51.4  14.1  14.2  10.5  54.8  17.4  39.7  13.3  19.6  10.9
      24.2  31.8  28.5  18.0  11.0  20.0  19.0   1.0   1.0   4.0
       1.0   3.0
4126 193.0  55.5  31.4  41.6   9.7  22.7  16.9  22.7  19.0   3.3
      53.2  18.3  19.8  12.7  74.3  23.2  50.5  17.2  26.5  15.5
      29.8  35.4  35.3  18.0  10.0  19.0  20.0   1.0   1.0   4.0
       1.0   3.0
4127 300.0  96.3  51.3  71.4  14.1  42.4  27.2  35.1  33.3   5.4
      67.3  31.5  30.4  16.4 119.8  32.0  70.0  32.5  41.5  22.4
      45.9  56.8  51.8  18.0  10.0  21.0  19.0   1.0   1.0   4.0
       2.0   3.0
4128 225.0  71.4  38.1  53.0  11.8  31.1  21.1  26.4  26.9   4.1
      65.6  24.8  18.7  15.3  89.3  25.8  62.0  22.9  29.5  12.2
      37.9  47.0  44.3  18.0  10.0  22.0  20.0   1.0   1.0   4.0
       2.0   3.0
4129 243.0  76.8  36.7  58.6  12.0  36.3  25.0  31.0  31.8   4.2
      71.9  29.8  24.6  14.9  98.0  26.1  71.0  20.0  32.3  19.2
      37.8  50.8  44.1  18.0  10.0  20.0  19.0   1.0   1.0   4.0
       1.0   3.0
4130 144.3  40.9  22.9  27.9   8.6  17.9  12.5  15.4  13.3   2.5
      50.2  13.8  13.6   8.3  54.5  20.2  43.0  12.5  20.5  10.7
      25.1  33.6  31.3  19.0  11.0  19.0  20.0   1.0   1.0   4.0
       1.0   3.0
4131 183.5  53.7  28.6  37.0   9.8  22.5  15.4  21.4  20.0   3.6
      60.9  18.4  18.0  13.0  72.1  22.9  48.1  17.4  29.2  13.2
      31.2  42.6  36.8  18.0  10.0  19.0  19.0   1.0   1.0   4.0
       1.0   3.0
4132  90.7  25.1  15.3  17.2   5.8  10.0   7.0   9.0   7.8   2.0
      29.8   7.8   8.6   7.3  33.7  11.6  26.0   9.3  14.1   8.0
      15.6  19.6  18.6  18.0  10.0  21.0  19.0   1.0   1.0   4.0
       1.0   3.0
4133  93.0  24.1  15.1  18.7   5.8  11.0   7.4   8.0   8.8   1.8
      29.3   7.8   8.5   5.7  33.8  11.3  27.6  10.0  14.1   8.0
      15.4  18.5  19.6  17.0  11.0  20.0  18.0   1.0   1.0   4.0
       1.0   3.0
4134 205.0  68.0  36.4  50.5  11.3  29.3  17.9  27.4  21.2   3.6
      57.7  22.6  15.5  14.4  82.8  23.0  54.6  29.0  19.0  15.5
      31.6  43.69999.0  19.0  11.0  22.0  20.0   1.0   1.0   4.0
       1.0   2.0
4135 166.2  49.4  27.7  37.2   9.7  21.3  14.3  19.4  17.5   2.7
      47.4  15.8  13.9  10.5  65.9  21.0  38.2  19.2  23.5  12.7
      27.59999.09999.0  18.0  11.0  23.0  18.0   1.0   1.0   2.0
       1.0   2.0
4136 360.0  92.4  50.7  73.8  15.1  45.6  31.3  43.69999.09999.0
      90.6  36.39999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.09999.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4137 360.0 114.5  51.2  79.8  15.8  47.7  34.7  43.29999.09999.0
      97.0  45.29999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.09999.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4138 370.0 112.0  52.7  80.1  15.5  48.7  34.0  44.99999.09999.0
      98.4  41.59999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.0  12.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
```

```
4139 300.0  95.3  49.9  70.1  15.0  38.9  27.6  38.79999.09999.0
      85.0  32.3  26.6  21.1 120.79999.09999.09999.09999.09999.0
    9999.0  48.69999.09999.0  11.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
41409999.0 106.5  53.4  76.6  13.8  46.8  31.8  43.99999.09999.0
      71.7  37.19999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.0  11.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
41419999.0  88.2  41.2  67.1  12.0  38.7  25.1  33.5  30.5   5.1
    9999.09999.09999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.09999.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
41429999.0 170.59999.09999.0  17.8  88.0  52.3  64.7  67.9   9.4
     109.7  73.29999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.09999.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4143  46.5  13.0   9.8   9.9   3.69999.09999.0   4.49999.09999.0
      12.8   3.8   4.2   3.3  17.5   5.6   8.5   4.9   6.7   3.7
       8.9   9.9   9.1  18.09999.0  21.09999.0   1.0   1.0   4.0
       1.0   3.0
4144 165.0  46.89999.09999.0   8.29999.09999.09999.0  16.1   2.3
      40.09999.0  12.3   9.5  58.7  16.8  45.1  14.3  21.5  11.6
      28.1  35.9  27.5  18.0  11.0  20.0  20.0   1.0   1.0   4.0
       1.0   3.0
4145 173.0  50.79999.09999.0   8.69999.09999.09999.0  18.3   2.8
      38.79999.0  14.2  10.7  64.0  17.4  47.2   7.2  22.7  12.3
      27.9  34.59999.0  17.0  10.0  20.0  18.0   1.0   1.0   4.0
       1.0   3.0
4146  83.1  24.6  14.0  16.9   5.4  10.09999.0   8.99999.09999.0
      27.9   7.8   7.7   5.6  32.3   9.7  21.9   7.5  12.5   6.3
      13.2  16.59999.0  18.09999.0  21.09999.0   1.0   1.0   4.0
       1.0   3.0
4147  80.0  23.4  12.9  16.1   5.2   8.99999.0   8.39999.09999.0
      26.8   7.0   6.7   4.7  30.4   9.1  21.6   7.4  12.5   6.2
      12.8  17.09999.0  17.09999.0  19.09999.0   1.0   1.0   4.0
       1.0   3.0
4148 101.1  29.9  16.7  21.0   6.5  12.19999.0  11.09999.09999.0
      36.2   9.5   9.3   6.4  39.4  11.4  23.1   9.4  13.7   7.1
      16.4  19.6  19.8  17.0  21.09999.09999.0   1.0   1.0   4.0
       1.0   3.0
4149 265.0  80.6  45.7  60.3  11.4  34.5  24.9  30.0  30.6   4.7
      59.0  27.2  21.5  16.8 102.5  33.8  82.0  21.5  40.0  22.9
      41.09999.09999.0  19.0  11.0  19.0  18.0   1.0   1.0   4.0
       3.0   2.0
1201 140.5  38.1  22.1  27.4   7.5  16.4  10.7  14.7  12.7   1.8
      59.3  13.0  13.4   9.3  53.3  16.9  39.1  11.2  18.7  10.7
      22.5  35.6  32.0  17.0  10.0  17.0  18.0   1.0   1.0   9.0
       1.0   3.0
1202 255.0  80.8  39.7  53.7  12.6  31.7  21.7  29.0  23.2   3.6
      84.0  28.5  24.7  15.5 105.0  26.1  73.7  19.0  36.5  18.4
      36.7  50.8  47.0  18.0  10.0  18.0  18.0   1.0   1.0   9.0
       1.0   3.0
1203 121.8  34.2  21.1  24.7   8.7  12.9   8.2  12.6  11.3   1.7
      50.6  10.8  11.5   7.4  47.4  13.4  36.9   9.9  18.2   9.5
      21.2  29.8  31.2  18.0  11.0  20.0  18.0   1.0   1.0   9.0
       1.0   2.0
1204 152.0  43.9  23.3  30.0  10.0  15.7  10.8  16.3  12.2   2.1
      56.0  13.8  15.2   9.6  58.7  16.3  44.7  13.8  20.9  12.4
      25.9  42.1  36.1  18.0  11.0  18.0  17.0   1.0   1.0   9.0
       1.0   2.0
1205 169.8  51.4  27.8  34.7  11.4  20.0  13.3  16.9  16.7   2.5
      70.6  15.4  16.5   9.6  66.6  20.8  49.7  12.1  26.2  12.5
      21.39999.0  18.3  18.0   9.0  19.0  17.0   1.0   1.0   4.0
       1.0   3.0
1206 144.3  39.6  22.7  28.1   8.4  16.1  10.4  14.3  13.3   1.8
    9999.0  12.4  13.8   7.2  53.8  16.6  42.8  10.7  20.5  10.1
```

```
        27.0  35.8  34.0  18.0  10.0  19.0  17.0   1.0   1.0   4.0
         1.0   3.0
   1207 164.7  51.1  26.5  35.6  11.2  21.3  13.4  16.6  16.8   2.1
      9999.0  16.4  15.1   9.5  64.9  18.8  38.9  12.7  20.6  12.1
        26.5  42.7  41.1  17.0  10.0  18.0  19.0   1.0   1.0   4.0
         1.0   3.0
   1208 183.0  52.4  27.7  35.5  12.1  20.0  13.7  17.9  17.8   1.9
        71.7  16.7  17.1  11.6  70.6  19.8  56.3  11.6  27.0  14.0
        31.6  48.5  41.5  18.0  11.0  18.0  17.0   1.0   1.0   4.0
         1.0   2.0
   1209 108.0  28.6  18.3  20.7   7.2  11.6   8.0   9.5  10.4   1.6
        42.4   8.9  10.5   7.1  39.4  13.3  31.7   8.4  15.7   8.0
        19.5  25.7  24.9  18.0  10.0  19.0  18.0   1.0   1.0   4.0
         2.0   3.0
   1210 177.1  49.09999.0  35.0  10.2  20.0  11.0  10.7  13.6   1.8
        62.3  17.2  16.7  10.6  65.8  17.8  51.6  13.3  24.1  13.6
        27.0  34.9  38.3  18.0  10.0  15.0  15.0   1.0   1.0   4.0
         2.0   3.0
   1211 200.5  54.9  29.9  37.9  11.1  24.5  13.9  21.5  18.9   2.2
        72.1  18.0  17.4   8.4  74.7  22.4  57.0  10.6  29.6  15.0
        33.6  38.5  42.9  17.0  10.0  17.0  19.0   1.0   1.0   3.0
         1.0   3.0
   1212  84.1  23.0  14.9  18.2   7.0   9.3   6.3   6.8   7.0   0.9
        31.5   6.9   7.5   5.3  30.9  10.8  19.6   7.3  12.3   5.9
        13.8  18.4  18.2  18.0  11.0  19.0  17.0   1.0   1.0   4.0
         1.0   3.0
   1213  61.0  16.8  10.8  12.8   5.3   6.7   4.3   5.6   5.6   0.6
        24.9   4.9   5.2   3.9  22.6   7.5  15.6   5.5   8.6   4.3
        11.8  14.8  14.2  17.0  10.0  20.0  17.0   1.0   1.0   4.0
         1.0   3.0
   1214  77.9  21.3  13.5  15.3   6.1   9.3   6.2   6.2   7.5   0.9
        30.5   6.6   7.4   5.4  29.6   9.3  19.8   6.9  11.0   5.9
        13.2  19.3  19.6  17.0  12.0  19.0  17.0   1.0   1.0   4.0
         2.0   3.0
   1215 111.0  29.8  18.1  21.4   7.99999.09999.0  10.0  10.5   1.1
        48.6   9.4  10.4   6.6  41.3  12.6  28.7  10.9  15.8   8.5
        18.9  26.1  23.1  18.0  10.0  18.09999.0   1.0   1.0   4.0
         2.0   3.0
   1216 119.1  33.4  19.3  23.1   8.29999.09999.0  11.4  10.9    .9
        43.1   9.8  10.5   5.7  44.9  13.3  34.8   9.4  15.4   8.7
        20.7  27.6  24.8  16.0  10.0  18.09999.0   1.0   1.0   9.0
         2.0   3.0
   1217 127.1  34.8  20.6  24.3   8.09999.09999.0  11.6  11.9   1.4
        60.1  11.1  11.6   8.3  47.4  13.7  31.5  11.4  18.5   9.8
        22.4  29.1  28.8  17.09999.0  18.09999.0   1.0   1.09999.0
         2.0   3.0
   1218  58.4  16.7  11.5  12.3   4.69999.09999.0   5.3   5.0    .3
        23.5   5.5   5.4   3.3  22.8   7.2  14.6   5.4   8.3   3.6
         9.6  13.2  13.7  17.0  10.0  18.09999.0   1.0   1.09999.0
         2.0   3.0
   1219 138.7  36.4  21.2  25.5   8.79999.09999.0  13.6  13.1   1.1
        59.1  11.9  12.1   8.9  51.3  15.4  39.9  11.3  18.3  10.4
        24.1  30.4  28.6  17.0  10.0  18.09999.0   1.0   1.09999.0
         2.0   3.0
   1220 161.3  44.2  24.3  29.8   9.69999.09999.0  16.3  15.8   1.4
        58.1  15.5  14.7  10.2  60.2  18.4  44.5  10.6  20.4  11.3
        27.4  33.1  30.2  17.0  10.0  20.09999.0   1.0   1.0   4.0
         2.0   3.0
   1221 113.5  30.0  18.0  21.0   7.69999.09999.0  10.7   9.8    .9
        52.9   9.8   9.4   7.5  41.8  12.6  33.8   7.8  16.2   8.7
        19.2  26.9  25.7  16.09999.0  18.09999.0   1.0   1.09999.0
         2.0   3.0
   1222  65.7  18.3  12.4  12.9   5.39999.09999.0   5.7   5.8    .6
        29.8   5.4   5.5   3.6  24.4   7.8  17.9   5.9   9.0   4.2
        11.8  16.5  16.2  17.09999.0  18.09999.0   1.0   1.09999.0
         2.0   3.0
```

1223	137.2	37.99999.09999.0			8.9	17.6	8.5	7.8	13.6	1.7
	48.3	12.0	11.7	6.5	49.5	15.9	36.8	9.6	18.2	10.0
	22.6	32.6	30.7	17.0	10.0	17.0	17.0	1.0	1.0	4.0
	2.0	3.0								
1224	208.8	62.2	32.5	45.7	11.3	26.8	16.2	23.6	20.1	3.4
	73.8	21.6	18.9	14.7	80.4	25.0	56.2	15.0	28.5	16.7
	33.4	49.1	46.1	17.0	10.09999.09999.0			1.0	1.0	9.0
	2.0	3.0								
1225	94.9	26.1	14.2	18.5	7.1	9.7	6.9	8.7	7.2	1.4
	38.2	8.3	8.8	6.3	35.6	11.6	23.6	8.4	14.2	7.4
	16.2	21.2	21.2	18.0	11.0	16.0	14.0	1.0	1.0	4.0
	1.0	3.0								
1226	101.8	28.3	18.9	21.6	7.09999.09999.0			9.1	8.0	1.3
	40.0	9.5	10.0	7.0	38.3	11.7	23.2	8.1	14.4	7.5
	17.4	24.8	24.7	18.0	9.0	18.0	19.0	1.0	1.0	4.0
	1.0	3.0								
1227	180.7	53.9	26.5	37.5	10.8	21.0	14.5	19.4	18.0	2.3
	86.8	17.1	14.8	11.7	68.6	19.6	47.1	14.0	24.1	13.6
	29.6	42.9	39.1	17.0	10.0	17.0	19.0	1.0	1.0	4.0
	1.0	3.0								
1228	97.0	27.2	18.3	20.4	7.0	8.8	7.1	8.7	8.4	2.0
	35.5	8.4	8.6	6.8	36.3	11.7	24.1	7.6	14.7	7.7
	15.3	22.6	23.0	18.0	11.0	18.0	19.0	1.0	1.0	4.0
	1.0	3.0								
1229	67.5	18.9	11.9	13.6	5.5	7.5	4.8	6.3	5.7	.7
	26.6	5.8	5.9	4.4	24.8	7.8	16.4	6.8	9.3	5.1
	11.5	17.6	16.1	17.0	10.0	17.0	18.0	1.0	1.0	4.0
	2.0	3.0								
1230	67.1	18.7	11.9	13.7	5.7	8.7	4.9	6.6	5.8	.9
	26.9	5.7	5.9	4.0	25.3	7.6	18.9	5.8	10.1	4.8
	10.7	16.6	17.7	18.0	10.0	18.0	18.0	1.0	1.0	4.0
	2.0	3.0								
1231	60.2	17.8	11.3	13.0	5.3	8.0	4.9	5.9	6.6	1.3
	28.4	5.4	5.7	3.9	24.0	8.3	16.5	4.4	8.5	5.3
	10.2	15.8	16.5	17.0	11.0	19.0	19.0	1.0	1.0	4.0
	2.0	3.0								
1232	117.9	32.3	21.6	24.7	7.9	13.0	7.6	10.7	11.5	1.6
	47.5	11.1	9.9	7.4	43.3	13.8	26.3	10.7	16.9	9.3
	19.6	28.5	27.4	17.0	10.0	17.0	17.0	1.0	1.0	4.0
	2.0	3.0								
1233	132.1	37.0	22.6	26.5	9.3	13.8	18.1	11.9	12.1	1.5
	52.6	12.6	11.3	9.6	50.6	15.4	36.8	10.0	18.4	10.2
	19.9	35.9	34.5	19.0	11.0	17.09999.0		1.0	1.0	4.0
	1.0	3.0								
1234	157.3	46.8	24.9	31.6	11.0	17.5	13.7	17.0	14.2	1.8
	64.7	15.7	13.8	10.2	61.8	19.4	46.0	12.5	21.6	12.0
	26.2	39.89999.0		17.0	11.0	19.0	19.0	1.0	1.0	9.0
	1.0	3.0								
1235	240.0	69.4	36.5	49.8	13.2	26.6	17.8	26.2	23.2	4.0
	84.6	24.0	19.5	14.6	89.4	27.1	66.7	16.8	32.8	17.5
	37.89999.09999.0			18.0	10.0	20.0	19.0	1.0	1.0	9.0
	1.0	3.0								
1236	171.7	49.2	26.4	34.2	11.2	18.2	12.6	17.2	15.1	2.2
	72.7	16.5	15.5	12.7	66.7	20.7	47.9	11.3	23.1	12.5
	27.7	45.0	42.3	18.0	10.0	17.09999.0		1.0	1.0	9.0
	1.0	3.0								
1237	224.3	68.4	35.7	46.9	12.3	25.59999.0		25.19999.09999.0		
	76.6	23.6	18.6	13.9	87.9	26.0	61.9	11.6	27.9	16.2
	35.2	51.7	45.8	16.09999.0		18.09999.0		1.0	1.0	4.0
	1.0	3.0								
1238	156.3	46.2	25.5	31.5	10.3	17.3	11.5	16.0	14.5	2.1
	60.5	15.4	14.0	10.6	59.7	17.3	49.3	10.5	20.8	12.2
	27.7	39.6	36.1	16.0	11.0	20.0	19.0	1.0	1.0	4.0
	1.0	2.0								
1239	82.7	23.0	14.1	16.0	6.3	9.2	6.1	8.1	7.6	0.8
	33.0	7.0	7.8	5.7	31.6	10.8	21.0	6.1	12.5	6.5

	15.0	21.8	21.0	17.0	10.0	9999.0	9999.0	1.0	1.0	4.0
	2.0	3.0								
1240	75.4	21.3	12.5	15.2	6.5	8.4	5.6	7.7	5.9	1.4
	33.4	6.8	8.1	4.3	29.7	10.2	18.6	7.0	12.4	5.8
	13.6	19.0	9999.0	18.0	10.0	9999.0	17.0	1.0	1.0	4.0
	2.0	3.0								
1241	129.1	35.6	20.8	25.1	8.7	14.0	8.5	12.3	11.1	1.8
	60.9	11.2	12.0	8.5	50.5	16.0	38.7	10.4	18.3	9.0
	21.3	32.8	29.2	18.0	10.0	16.0	18.0	1.0	1.0	4.0
	1.0	3.0								
1242	182.0	56.2	26.7	37.4	10.5	21.8	15.6	19.7	19.1	2.3
	80.6	18.7	16.4	10.0	73.0	20.6	51.5	14.2	23.7	12.8
	32.0	42.0	9999.0	18.0	10.0	19.0	20.0	1.0	1.0	4.0
	1.0	3.0								
1243	136.9	40.8	22.4	28.6	9.6	13.5	10.4	13.8	13.0	1.9
	57.3	13.1	11.3	9.1	53.0	16.0	38.1	10.8	20.9	9.4
	22.7	33.3	31.9	17.0	10.0	15.0	17.0	1.0	1.0	4.0
	1.0	3.0								
1244	183.9	51.1	28.6	36.6	9.2	16.9	12.2	18.4	17.5	2.4
	68.3	18.7	18.1	9.8	70.0	20.0	55.5	13.7	24.6	15.0
	30.5	45.2	43.9	17.0	10.0	20.0	17.0	1.0	1.0	9.0
	1.0	2.0								
1245	204.5	59.9	35.3	41.2	12.7	20.3	14.3	21.7	19.6	2.3
	73.7	20.3	18.9	12.3	79.5	22.9	61.8	15.6	29.3	16.8
	34.2	56.8	50.0	18.0	10.0	20.0	19.0	1.0	1.0	9.0
	1.0	2.0								
1246	154.2	43.6	23.8	30.5	9.1	14.7	11.8	14.1	13.8	2.0
	63.5	14.4	13.8	10.0	57.8	18.3	41.8	8.4	22.2	12.0
	29.2	36.9	35.6	18.0	11.0	20.0	17.0	1.0	1.0	9.0
	1.0	2.0								
1247	238.0	65.4	34.3	44.7	12.6	23.3	16.7	22.0	18.5	2.3
	81.7	21.7	20.9	12.7	86.0	24.9	67.1	15.1	35.0	18.1
	41.2	52.0	50.9	20.0	10.0	19.0	18.0	1.0	1.0	9.0
	1.0	2.0								
1248	165.2	44.2	27.0	30.9	10.6	15.4	11.9	15.6	13.6	1.9
	61.0	15.4	14.9	11.4	63.0	18.9	50.4	9.8	24.3	13.6
	27.0	42.8	38.0	17.0	10.0	19.0	18.0	1.0	1.0	9.0
	1.0	2.0								
1249	230.0	65.6	35.4	44.7	13.3	23.4	16.0	21.6	22.3	2.1
	84.1	22.1	21.4	13.5	86.8	27.5	66.4	17.4	33.7	18.5
	38.3	60.5	51.2	17.0	10.0	20.0	19.0	1.0	1.0	9.0
	1.0	2.0								
1250	182.0	50.7	27.3	33.3	9.6	16.8	12.1	17.4	14.9	2.1
	68.8	17.3	14.9	9.8	66.7	20.2	48.2	15.2	27.4	14.0
	30.2	42.0	41.0	18.0	10.0	20.0	19.0	1.0	1.0	9.0
	1.0	2.0								
1251	122.1	33.8	19.1	22.3	8.4	11.1	8.8	11.7	9.5	1.3
	44.3	10.9	11.1	6.4	45.6	13.0	35.0	10.1	20.3	10.0
	21.3	30.4	29.3	20.0	10.0	20.0	17.0	1.0	1.0	9.0
	1.0	2.0								
1252	280.0	81.1	38.2	56.9	13.8	30.1	20.2	27.9	29.5	2.7
	93.3	26.1	25.3	17.7	106.4	32.8	78.7	18.2	37.6	21.3
	49.0	62.0	61.4	17.0	10.0	18.0	18.0	1.0	1.0	9.0
	1.0	2.0								
1253	218.0	63.7	35.4	46.6	12.4	23.6	15.4	24.1	19.2	2.8
	85.2	21.5	18.6	12.2	84.9	24.8	57.5	15.2	31.8	19.6
	34.5	49.7	48.3	18.0	10.0	19.0	18.0	1.0	1.0	9.0
	1.0	2.0								
1401	117.0	31.5	20.3	22.6	7.5	12.1	8.3	12.1	9.6	2.1
	30.5	9.9	9.9	8.2	42.2	12.4	32.4	11.0	19.9	9.5
	19.7	25.6	24.1	19.0	10.0	16.0	14.0	1.0	5.0	3.0
	2.0	3.0								
1402	112.1	30.0	19.1	21.8	7.1	11.9	8.0	11.4	9999.0	9999.0
	31.3	9.0	10.4	7.3	40.3	12.6	18.5	8.9	31.8	8.5
	20.3	29.1	30.6	20.0	10.0	18.0	16.0	1.0	5.0	3.0
	2.0	3.0								

```
1403 115.8  30.3  17.6  20.4   8.0  10.5   8.6  11.4   8.9   2.2
      31.4   8.5   9.5   7.6  41.0  13.0  31.8  10.9  20.5   9.3
      18.6  25.29999.0  20.0   9.0  19.0  14.0   1.0   5.0   3.0
       2.0   3.0
1404 105.3  27.8  17.1  19.2   7.4  12.0   5.5   9.6   9.4   1.6
      29.9   7.5   9.7   5.6  37.4  12.1  32.0   8.7  16.7   7.7
      18.4  20.0  22.4  18.0  11.0  19.0  16.0   1.0   5.0   3.0
       4.0   3.0
1405  89.8  22.9  14.6  16.7   6.3   8.5   5.4   8.9   7.0   1.5
      25.8   7.0   7.6   5.5  31.8  10.1  25.0   7.9  15.1   7.1
      14.9  18.7  19.9  20.0  11.0  20.0  14.0   1.0   5.0   3.0
       4.0   3.0
1406 126.9  32.8  20.5  24.1   6.6  14.3   8.2  13.5  11.4   2.2
    9999.0   9.89999.09999.0  45.1  13.9  35.0  13.3  23.9  10.1
      20.9  28.7  30.7  21.0  11.0  19.0  14.0   1.0   5.0   3.0
       3.0   3.0
1407 101.0  26.2  15.6  17.5   7.0  10.3   6.4  10.0  18.4   2.0
      28.5   7.3  10.0   5.0  35.6  11.2  30.5   9.1  18.7   7.2
      20.4  20.8  23.0  19.0   9.0  18.0  15.0   1.0   5.0   3.0
       3.0   3.0
1408  94.5  24.6  14.7  17.1   6.9  10.0   6.6   9.1   7.6   2.0
      26.2   6.7   8.5   4.6  34.2  10.7  28.0   7.3  16.3   7.7
      16.1  19.4  20.1  18.0   9.0  19.0  15.0   1.0   5.0   3.0
       3.0   3.0
1409  80.1  23.5  14.3  16.5   5.2  10.2   6.2   8.3   7.4   1.5
      31.4   6.5   7.3   4.7  30.7   9.8  20.2   8.3  13.5   6.0
      13.5  17.6  17.5  17.0  10.0  19.0  18.0   1.0   5.0   3.0
       3.0   3.0
1410 226.0  66.0  40.2  45.5  12.8  26.5  16.5  25.4  20.0   4.2
      52.6  19.4  18.6  12.8  85.7  26.8  62.6  19.5  39.8  18.1
      35.9  44.8  49.1  18.0   8.0  15.0  15.0   1.0   5.0   3.0
       3.0   3.0
1411 121.2  33.3  19.6  22.0   7.8  13.3   8.2  12.0  11.2   2.2
      33.0   8.7  11.5   6.5  45.5  14.6  32.8  12.3  21.2   9.5
      19.1  26.8  29.2  18.0  10.0  18.0  16.0   1.0   5.0   3.0
       3.0   3.0
1412  56.4  15.2   9.5  10.8   4.1   7.8   4.1   5.2   5.1   1.4
      18.5   4.0   4.8   3.2  20.3   6.7  14.5   6.5  10.9   4.0
      10.4  11.0  11.6  22.0   9.0  19.0  17.0   1.0   5.0   3.0
       4.0   3.0
1413 144.6  41.0  22.5  27.5   8.1  15.1  10.4  16.2  10.9   2.7
      44.4  11.5  13.8   9.9  54.5  18.1  39.6  11.1  24.0  12.5
      25.6  32.1  33.0  19.0  10.0  20.0  17.0   1.0   5.0   3.0
       3.0   3.0
1501  88.2  24.9  16.2  17.3   5.6   7.5   4.5   9.5   6.0   1.3
      13.9   7.2   8.3   4.2  33.0   9.7  22.8   8.0  16.5   7.5
      14.6  20.2  20.0  21.0  11.0  36.0  37.0   1.0   4.0   1.0
       4.0   3.0
1502 204.2  67.3  30.7  35.2  11.4  18.5  10.5  26.3  13.3   1.9
      22.2  19.7  15.4  10.0  82.7  20.2  59.0  11.7  37.7  16.3
      29.2  50.0  48.5  22.0   9.0  33.0  33.0   1.0   4.0   1.0
       2.0   2.0
1503 187.0  59.7  34.0  39.5  10.6  22.6  10.9  24.7  13.4   2.6
      25.8  16.8  15.9   9.3  77.2  21.5  58.0  12.1  31.9  15.2
      29.8  47.0  43.5  22.0  10.0  33.0  32.0   1.0   4.0   1.0
       3.0   3.0
1504 228.0  72.8  40.6  48.8  12.6  21.8  13.7  30.8  18.0   1.5
      27.8  22.2  18.4  13.9  92.4  23.7  63.9  14.5  45.2  17.9
      31.8  48.9  53.6  23.0  10.0  33.0  33.0   1.0   4.0   1.0
       3.0   2.0
1505 135.8  43.0  22.8  29.1   8.7  15.5   8.0  17.7   9.6   1.3
      18.3  12.5  10.8   8.2  54.8  14.7  41.0   6.9  26.6  10.6
      20.7  31.6  33.6  22.0   9.0  34.0  33.0   1.0   4.0   1.0
       4.0   2.0
1506 237.0  77.9  35.5  44.2  13.5  24.6  13.6  32.6  15.8   2.2
      22.5  21.0  22.5  10.9  99.9  26.8  65.7  14.1  43.0  16.9
```

```
      35.7   51.09999.0   22.0   10.0   35.0   33.0    1.0    4.0    1.0
       2.0    2.0
1507 130.2   38.0   20.3   26.1    7.8   12.7    7.7   15.2    9.0    1.3
      18.6   10.5   11.9    6.6   52.0   14.4   38.8    9.0   24.8    9.5
      21.3   33.4   33.3   23.0   10.0   37.0   37.0    1.0    4.0    1.0
       4.0    2.0
1508 115.0   33.5   18.8   21.5    7.2   11.0    6.4   13.2    7.7    1.8
      17.4    9.1   10.0    6.1   45.1   12.3   32.3    6.5   21.2    8.1
      19.7   27.7   32.1   21.0    9.0   34.0   34.0    1.0    4.0    1.0
       4.0    2.0
1509 193.0   68.0   29.4   40.3   11.6   22.2   13.0   25.7   14.6    2.0
      24.0   15.5   14.7    9.4   82.6   18.8   64.5   10.2   31.0   13.5
      30.09999.09999.0   22.0   10.0   36.0   34.0    1.0    4.0    1.0
       4.0    2.0
1510 135.0   42.3   22.2   27.0    8.5   13.6    7.9   16.5   11.5    1.6
      20.7   12.7   12.1    7.1   53.5   15.7   40.7    9.5   25.1    9.7
      22.8   33.2   33.6   22.0    8.0   28.0   30.0    1.0    4.0    1.0
       4.0    2.0
1511  88.1   24.4   14.9   16.8    5.8    8.1    4.6    9.9    6.4     .8
      13.2    7.2   12.2    5.0   32.1   10.0   24.4    8.3   17.5    6.6
      15.5   16.9   18.8   22.0   10.0   35.0   34.0    1.0    4.0    1.0
       4.0    3.0
1512 304.0   97.7   53.5   66.5   13.8   33.2   18.0   42.4   20.2    3.0
      33.4   27.5   27.4   11.8  124.0   35.0   85.3   18.8   51.7   25.3
      46.9   70.0   71.2   20.0   10.0   32.0   36.0    1.0    4.0    1.0
       4.0    3.0
1601 244.0   63.2   38.6   47.9   10.79999.0    9.8   19.9   11.7    3.4
      57.5   19.1   30.7   15.0   94.5   31.5   56.1   29.2   35.8   15.9
      41.6   62.8   50.9   19.0   11.0   16.0   10.0    1.0    5.0    3.0
       1.0    2.0
1602 185.0   58.5   32.2   38.9    8.2   17.6    9.8   16.2   11.2    3.0
      59.6   18.4   18.7   10.4   77.0   22.5   37.9   26.0   28.8   12.6
      34.1   35.1   37.6   18.0   10.0   13.0   11.0    1.0    5.0    3.0
       2.0    2.0
1603 172.4   52.9   35.3   33.0    7.4   14.3    7.8   15.1    9.5    2.5
      46.9   15.9   19.0    9.4   70.5   21.5   29.8   26.8   29.0   12.0
      29.0   35.4   34.0   19.0   10.0   13.0   14.0    1.0    5.0    3.0
       2.0    2.0
1604 365.0  106.0   50.9   65.8   13.0   31.0   16.7   33.5   20.2    4.6
      60.6   35.1   31.2   22.1  146.9   46.7   77.5   52.3   49.4   22.5
      65.1   85.49999.0   19.0   10.0   13.0   12.0    1.0    5.0    3.0
       1.0    2.0
1605 206.0   54.0   34.4   38.5    7.1   15.4    9.7   18.1    9.8    3.4
      46.5   16.0   24.0   12.4   82.7   26.5   36.0   31.0   31.7   15.5
      33.6   44.2   44.1   18.0   10.0   13.0   13.0    1.0    5.0    3.0
       1.0    2.0
16069999.0   84.7   41.2   54.2   11.1   23.6   13.2   30.1   14.6    3.8
      74.3   26.19999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.0   11.0   12.0   13.0    1.0    5.0    3.0
       1.0    3.0
16079999.0  108.9   51.4   70.6   13.6   33.7   17.6   36.9   21.5    4.1
      85.2   35.79999.09999.09999.09999.09999.09999.09999.09999.0
    9999.09999.09999.09999.0   10.09999.09999.09999.0    5.0    3.0
       1.0    3.0
1608 370.0  102.1   59.3   71.8   13.7   29.6   17.3   36.3   18.7    4.7
      75.2   34.3   45.7   18.7  151.4   44.1   76.6   49.0   49.8   30.0
      55.6   78.0   79.7   18.0   10.09999.09999.09999.0    5.0    3.0
       1.0    3.0
1609 241.0   63.7   41.6   49.1    8.9   17.0    9.7   20.4   13.0    3.5
      52.8   19.6   31.8   13.6   95.1   31.1   43.9   36.5   37.7   17.1
      41.2   57.7   51.3   18.0   10.0   15.0   12.0    1.0    5.0    3.0
       1.0    2.0
1610 172.0   43.6   27.1   32.3    6.6   13.4    6.7   14.2    9.2    2.1
      39.5   12.7   17.7   10.4   64.1   19.6   33.3   26.5   25.6   12.1
      29.1   39.1   32.3   17.0   11.0   13.0   13.0    1.0    5.0    3.0
       1.0    2.0
```

1611	146.7	42.2	27.3	32.0	6.6	12.9	7.0	14.3	9.3	1.7
	44.7	12.4	17.0	8.7	60.5	18.6	30.5	22.0	22.0	10.9
	25.2	36.8	33.7	19.0	10.0	14.0	16.0	1.0	5.0	3.0
	4.0	2.0								
1612	166.7	47.6	30.0	33.8	7.2	13.0	6.6	16.1	9.4	2.0
	55.9	12.1	17.3	10.0	67.7	22.5	37.0	25.0	22.6	12.7
	30.8	37.3	34.6	18.0	10.0	13.0	13.0	1.0	5.0	3.0
	4.0	2.0								
1613	208.0	59.4	33.3	40.7	8.5	17.9	10.3	19.9	12.4	3.3
	55.9	17.1	21.5	10.6	83.3	29.6	45.5	29.7	32.5	14.5
	38.4	43.59999.0		19.0	10.0	11.0	14.0	1.0	5.0	3.0
	4.0	2.0								
1614	315.0	82.0	54.3	63.4	10.4	21.8	12.5	25.6	15.2	4.1
	60.6	24.9	36.3	19.0	125.5	42.4	59.8	40.5	44.8	23.8
	58.39999.09999.0			18.0	10.0	12.0	15.0	1.0	5.0	3.0
	1.0	2.0								
1615	169.0	37.6	21.0	29.0	6.2	10.8	6.9	13.1	7.5	2.3
	39.8	11.7	16.1	14.0	58.4	22.3	37.7	21.7	26.1	11.2
	25.39999.09999.0			19.0	10.0	14.0	14.0	1.0	5.0	3.0
	1.0	2.0								
1616	103.0	28.5	18.8	19.9	4.0	8.4	5.1	9.0	6.5	1.7
	26.1	7.9	12.1	6.2	41.6	12.9	16.6	16.1	19.7	6.9
	17.0	23.9	23.0	19.0	10.0	13.0	15.0	1.0	5.0	3.0
	4.0	2.0								
1617	105.0	28.0	18.2	19.5	4.6	7.7	4.9	8.7	6.5	1.6
	28.2	8.2	11.2	5.7	41.4	12.4	22.0	16.1	17.0	7.6
	19.2	23.5	20.2	17.0	10.0	16.0	14.0	1.0	5.0	3.0
	3.0	2.0								
1701	212.0	55.6	37.9	40.5	7.2	16.6	10.4	17.7	14.2	2.8
	49.7	15.5	24.5	12.5	81.6	24.2	38.6	30.6	29.3	14.5
	40.3	51.1	34.3	16.0	11.0	15.0	15.0	1.0	5.0	4.0
	1.0	2.0								
1702	338.0	98.2	63.0	65.4	10.0	32.4	19.4	33.8	23.5	5.1
	56.3	26.6	42.5	20.7	141.3	37.2	67.5	50.8	45.5	24.2
	62.9	61.6	46.3	17.0	11.0	18.0	19.0	1.0	5.0	4.0
	1.0	2.0								
1703	156.5	44.4	26.0	31.4	6.9	13.6	8.1	14.6	11.5	2.3
	9999.0	11.6	21.0	14.3	65.3	19.3	24.9	25.6	21.6	11.6
	25.0	32.49999.0		17.0	11.0	16.0	19.0	1.0	1.0	4.0
	1.0	2.0								
1704	320.0	93.2	56.7	68.0	9.8	28.9	17.9	33.3	21.7	4.7
	58.7	25.8	41.5	36.7	132.8	39.7	55.6	54.2	48.0	24.0
	55.9	69.6	50.4	18.0	9.0	17.0	18.0	1.0	5.0	4.0
	1.0	2.0								
1705	237.0	64.7	40.2	43.2	8.5	21.8	12.6	22.8	17.2	3.5
	45.7	16.2	28.5	21.1	93.7	26.5	38.6	38.7	31.9	12.0
	42.3	49.99999.0		17.0	10.0	17.0	19.0	1.0	5.0	4.0
	1.0	2.0								
1706	225.0	62.7	37.2	44.0	8.5	22.4	13.9	22.1	16.6	3.3
	46.5	16.7	29.2	19.5	92.0	28.2	41.3	39.5	35.0	16.5
	40.5	41.39999.0		17.0	9.0	16.0	19.0	1.0	5.0	4.0
	1.0	2.0								
1707	99.0	27.3	16.0	16.9	4.6	9.4	6.0	9.4	6.9	1.3
	25.1	6.5	12.3	8.8	38.7	12.5	15.6	18.5	15.3	6.7
	18.9	20.6	16.3	18.0	10.0	19.0	20.0	1.0	5.0	4.0
	1.0	2.0								
1708	84.9	23.6	14.4	17.0	3.0	9.3	6.0	8.2	7.4	1.2
	19.5	6.6	10.2	8.5	33.3	10.5	10.7	17.7	14.7	6.0
	15.5	18.99999.0		18.0	10.0	17.0	19.0	1.0	5.0	4.0
	1.0	2.0								
1709	50.3	14.1	9.7	10.8	2.6	5.4	4.0	4.8	5.0	0.7
	13.0	4.3	6.9	4.6	20.5	6.6	7.1	10.0	7.8	3.5
	8.6	10.5	8.7	17.0	9.0	15.0	15.0	1.0	5.0	4.0
	1.0	2.0								
1710	50.1	14.4	9.4	11.0	2.7	5.1	3.8	5.0	4.9	0.7
	12.6	4.4	7.5	5.8	20.8	6.2	6.2	9.8	7.9	3.6

```
         8.6  10.0   8.7  16.0   9.0  16.0  15.0   1.0   5.0   4.0
         1.0   2.0
1711   117.6  31.0  18.8  21.6   4.7  12.3   6.5  11.5   9.7   1.9
        30.2   7.8  13.6   8.6  45.4  15.1  18.1  21.0  18.0   8.0
        21.5  23.19999.0  16.0  11.0  17.0  18.0   1.0   5.0   4.0
         1.0   2.0
1712   154.8  41.0  24.0  30.1   5.9  14.2   8.7  14.0  11.8   2.3
        42.8  10.9  19.2  13.5  60.7  17.5  24.7  28.1  21.0  10.4
        31.4  37.0  24.2  18.0  11.0  16.0  18.0   1.0   5.0   4.0
         1.0   2.0
1713   121.6  33.4  20.0  22.0   5.2  11.9   6.0  11.5   9.3   2.0
        28.2   8.7  15.0   9.4  47.2  14.4  22.0  20.5  20.2   9.6
        22.9  29.4  20.1  18.0  10.09999.0  18.0   1.0   1.0   4.0
         1.0   2.0
1714    64.0  17.6  10.8  12.8   2.8   7.5   4.4   6.1   6.2   1.1
        17.0   3.2   7.2   4.1  24.9   8.0   9.5  14.2  10.5   4.0
        13.4  12.9   9.8  19.0  10.0  16.0  17.0   1.0   1.0   4.0
         1.0   2.0
1715   160.0  44.6  27.4  30.4   6.3  15.0   8.8  15.1  10.3   2.8
        38.6  11.6  18.0  10.5  62.0  19.4  28.9  27.6  23.7  12.4
        29.3  30.1  23.0  17.0  11.0  17.0  18.0   1.0   1.0   4.0
         1.0   2.0
1801   127.3  31.49999.0  23.0   4.8   7.9   6.4   8.6   5.2   1.7
        19.8   8.4  15.1   8.3  48.5  16.2  30.0  18.2  20.4   8.3
        25.5  29.1  26.6  17.0  10.0  15.0  20.09999.0   4.0   1.0
         1.0   2.0
1802   305.0  88.1  44.1  59.6   8.6  26.2  21.0  37.3  17.3   5.1
        46.7  22.1  32.7  15.8 124.3  36.7  81.2  43.9  44.0  22.3
        52.1  53.7  58.0  17.0  10.0  18.0  21.0   1.0   4.0   1.0
         1.0   2.0
1803    79.6  21.5  10.8  13.2   3.6   7.5   5.3   8.09999.09999.0
        16.3   3.9   8.2   5.7  29.3  10.9  15.3  13.8  13.0   4.9
        15.7  14.1  15.3  19.0  10.0  17.0  18.0   1.0   4.0   1.0
         1.0   2.0
1804   340.0  87.7  59.3  68.4   9.8  20.5  19.5  30.9  16.4   5.6
        40.2  26.6  44.6  22.8 140.6  43.9  60.3  57.4  53.8  24.8
        55.7  72.0  73.9  19.0  10.0  16.0  19.0   1.0   4.0   1.0
         1.0   2.0
1805   308.0  79.1  52.8  59.2   9.7  12.9  14.2  26.2   9.1   4.2
        34.4  22.6  39.6  21.0 127.1  39.9  52.3  57.5  50.0  22.6
        47.09999.09999.0  19.0  10.0  14.0  16.0   1.0   4.0   1.0
         1.0   2.0
1806   330.0  96.3  55.0  61.4   8.4  25.0  21.9  42.6  18.9   5.7
        58.1  23.6  30.9  14.9 133.6  39.0  64.2  59.5  48.0  23.5
        55.69999.0  60.1  18.0  11.0  16.0  19.0   1.0   4.0   1.0
         1.0   2.0
1807   160.6  43.2  27.4  29.5   6.0  11.0  11.9  16.4   8.8   2.1
        25.9  10.2  16.7  14.0  62.8  19.3  25.7  31.0  25.2  10.2
        27.6  32.1  29.6  19.0  11.0  18.0  20.0   1.0   4.0   1.0
         1.0   2.0
1901   355.0 113.8  65.4  80.8  11.7  62.8  43.6  43.0  53.9   8.1
        81.6  32.3  28.5  19.2 136.3  35.6 116.0  28.9  71.6  28.3
        44.4  57.7  60.4  27.0  11.0  20.0  23.0   3.0   1.0   4.0
         1.0   2.0
1902   139.2  41.6  16.7  27.6   5.9  24.5  16.5  15.5  20.2   2.6
      9999.0  10.9  11.6   5.7  51.4  14.9  43.5  10.8  29.1  10.9
        19.0  23.5  24.1  25.0  10.0  23.0  23.0   3.0   1.0   4.0
         1.0   2.0
1903   153.5  46.0  20.2  27.6   6.9  24.3  19.5  17.1  21.8   3.5
        50.4  13.7  12.9   7.0  57.8  14.3  43.7  14.3  29.3  12.8
        22.0  26.5  28.6  24.0  10.0  21.0  22.0   3.0   1.0   4.0
         1.0   2.0
1904   210.1  62.2  38.4  44.6   7.6  35.8  24.9  25.2  32.9   4.1
        62.8  18.6  20.1   9.4  78.7  19.7  57.2  20.8  44.9  16.2
        28.9  34.1  36.3  27.0  10.0  24.0  24.0   3.0   1.0   4.0
         1.0   2.0
```

```
1905 177.7  52.8  22.7  30.6   7.3  24.5  20.6  21.1  25.5   3.8
     9999.0  14.6  15.8   7.8  65.8  17.5  47.1  15.8  37.0  14.4
      24.2  33.8  32.2  25.0  10.0  24.0  25.0   3.0   1.0   4.0
       1.0   2.0
1906 209.5  64.9  26.2  40.6   8.1  31.9  24.9  24.0  32.5   4.6
      59.1  18.9  18.4   9.7  80.5  22.5  62.2  24.7  45.3  17.4
      28.0  33.6  43.3  26.0  10.0  24.0  24.0   3.0   1.0   4.0
       1.0   2.0
1907 206.0  64.4  31.0  43.5   8.5  32.0  25.7  23.6  33.5   5.1
      71.3  16.9  18.7   8.2  78.9  21.8  65.9  16.6  45.5  15.8
      28.1  38.59999.0  24.0  10.0  19.0  21.0   3.0   1.0   4.0
       1.0   2.0
1908 303.0 101.3  38.3  61.0  10.7  51.6  41.8  39.4  54.1   8.5
      82.5  31.4  26.6  13.9 122.8  29.6  93.5  22.3  60.2  22.6
      36.8  56.4  57.5  25.0  10.0  18.0  22.0   3.0   1.0   4.0
       1.0   2.0
1909 148.3  43.8  20.8  30.0   5.5  23.5  16.4  16.7  22.1   2.7
      52.0  11.4  12.6   7.2  55.7  14.6  44.7  12.3  30.7  12.3
      22.0  25.5  28.3  25.0  10.0  22.0  22.0   3.0   1.0   4.0
       1.0   2.0
1910 200.8  59.8  23.9  40.3   7.6  32.2  24.6  22.1  32.0   4.3
      65.6  17.5  15.5  10.1  77.5  21.6  53.5  20.7  42.4  15.8
      26.6  34.5  39.3  26.0  10.0  20.0  23.0   3.0   1.0   4.0
       1.0   2.0
1911 425.0 142.3  52.2  82.9  11.8  64.1  56.7  57.6  70.5  10.5
     107.6  42.5  35.5  22.7 170.3  41.0 111.7  36.4  84.9  31.7
      60.5  70.4  65.6  26.0  10.09999.09999.09999.0   1.0   4.0
       1.0   2.0
1912 120.4  35.0  15.6  22.8   4.8  15.5  12.7  13.8  17.5   2.6
      41.0   9.6  10.6   6.9  45.0  13.1  31.1  13.3  25.6   8.7
      19.59999.0  24.5  25.0  10.0  23.0  24.0   3.0   1.0   4.0
       1.0   2.0
1913 162.7  52.6  23.2  32.0  16.5  24.8  20.2  19.6  26.5   4.3
      62.5  14.3  13.9   9.6  63.2  17.1  53.0  13.0  32.3  11.8
      26.0  33.29999.0  26.0  10.0  22.0  22.0   3.0   1.0   4.0
       1.0   2.0
1914 160.0  48.5  20.4  34.6   6.3  24.5  18.3  18.7  25.4   4.2
     9999.0  13.1  13.9   7.9  60.8  16.5  54.7  12.5  32.1  12.4
      24.4  39.2  32.7  27.0  11.0  22.0  20.0   3.0   1.0   4.0
       1.0   2.0
1915 160.7  48.9  23.7  29.4   5.8  22.4  19.6  18.7  23.3   4.0
      60.8  13.7  14.7   8.0  62.8  18.0  49.3  13.7  32.0  13.3
      23.59999.09999.0  21.0  10.0  22.0  23.0   3.0   1.0   4.0
       2.0   2.0
2001 166.0  55.0  26.5  31.4   6.1  25.0  19.5  21.9  21.6   4.0
      34.0  11.7  15.7   7.7  69.8  17.5  37.2  21.5  31.2  10.7
      24.6  22.3  29.7  21.0  11.0  15.0  14.0   3.0   1.0   4.0
       1.0   2.0
2002 380.0 128.7  56.8  76.4  11.0  57.9  45.5  50.3  52.3  12.8
      65.0  34.2  33.0  19.1 158.1  39.0  86.9  60.8  68.5  26.8
      49.6  60.9  75.4  22.0  11.0  15.0  16.0   3.0   1.0   4.0
       1.0   2.0
2003 254.5  76.1  28.7  44.6   8.0  33.5  25.2  28.7  31.7   6.5
      42.8  20.2  23.0  13.0 101.4  22.7  58.2  36.3  36.0  14.9
      35.9  40.5  44.9  22.0  12.0  16.09999.0   3.0   1.0   4.0
       1.0   2.0
2004 485.0 162.5  74.2 103.1  12.4  67.7  51.6  62.7  60.1  11.2
     108.9  39.0  45.8  19.1 203.0  52.0 123.5  73.3  85.5  32.8
      68.0  82.69999.0  21.0  11.0  15.09999.0   3.0   1.0   4.0
       1.0   2.0
2005 500.0 169.8  65.4  92.7  11.0  71.6  57.3  63.9  66.9  13.3
     137.9  40.4  42.6  24.9 208.7  52.1 125.0  51.4  86.2  29.0
      67.1  71.3  85.7  22.0  11.0  16.0  16.0   3.0   1.0   4.0
       1.0   2.0
2006 143.1  45.1  18.6  25.5   5.4  20.4  14.5  17.8  18.2   3.5
      28.0  10.4  13.4   7.6  56.8  14.9  34.1  21.8  26.1   9.2
```

```
      19.9  19.0  21.5  23.0  12.0  17.0  15.0   3.0   1.0   4.0
       1.0   2.0
2007 183.0  58.2  24.8  30.3   6.2  24.3  18.5  22.0  23.7   4.3
      35.0  13.5  16.6   7.5  74.1  19.3  42.9  23.1  29.2  11.7
      26.3  31.1  39.4  20.0  11.0  15.0  15.0   3.0   1.0   4.0
       1.0   2.0
2101 160.7  43.8  25.2  29.5   8.09999.09999.0  14.79999.09999.0
      26.4  15.9  17.0   6.4  60.0  15.8  30.9  15.7  30.4  12.7
      29.7  31.2  33.5  21.0  10.0  29.09999.0   1.0   4.0   1.0
       1.0   2.0
2102 123.7  34.6  20.1  23.9   5.89999.09999.0  11.99999.09999.0
      24.8  11.0  13.4   5.7  47.7  15.5  23.3  10.4  22.4  10.0
      23.7  22.3  25.3  20.09999.0  33.09999.0   1.0   4.0   1.0
       1.0   2.0
2103  74.7  20.0  11.3  13.6   4.79999.09999.0   7.19999.09999.0
      13.0   6.6   8.6   3.7  29.2   8.8  20.4   5.4  14.1   5.9
      15.1  15.6  18.59999.09999.0  32.09999.0   1.0   4.0   1.0
       1.0   2.0
2104 162.1  50.7  31.5  33.0   9.3  17.0  11.5  15.1  13.4   1.0
      23.2  16.1  19.6   5.2  66.5  19.8  34.8  13.4  28.5  11.9
      28.5  29.7  36.9  20.0  10.09999.09999.0   1.0   4.0   1.0
       1.0   2.0
2105 111.5  31.1  17.2  21.8   5.9  12.0   7.7  10.29999.09999.0
      20.5   9.7  12.8   5.6  43.5  12.0  23.3  12.6  23.2   9.6
      19.8  23.0  28.2  20.0  10.09999.09999.0   1.0   4.0   1.0
       1.0   2.0
2106 165.8  48.1  27.2  30.3   9.09999.09999.0  15.69999.09999.0
      23.6  16.6  18.4   7.1  64.7  18.4  37.3  14.5  29.9  12.6
      31.2  31.9  36.8  20.0  10.09999.09999.0   1.0   4.0   1.0
       1.0   2.0
2107 191.7  51.5  24.8  34.9   9.1  23.7  15.2  16.3  15.3   1.1
      27.3  17.4  19.7   9.5  68.8  21.9  42.2  21.2  39.9  15.7
      33.0  38.6  45.2  22.0  11.0  43.0  40.0   1.0   4.0   1.0
       1.0   2.0
2108 200.0  55.4  29.4  35.9   8.8  23.7  15.1  18.7  17.2   1.0
      34.6  17.6  21.7   8.8  76.0  20.8  39.6  24.6  45.0  17.4
      32.5  40.8  49.2  24.0  11.0  41.0  41.0   1.0   4.0   1.0
       1.0   2.0
2109 164.0  46.5  23.4  31.5   8.6  18.2  12.7  16.8  14.5    .8
      30.0  15.5  18.8  11.1  64.8  18.5  36.6  15.5  32.7  12.7
      29.1  35.5  37.8  22.0  10.0  39.0  39.0   1.0   4.0   1.0
       1.0   2.0
2110 174.1  50.4  23.3  33.6   8.2  19.5  12.9  16.9  13.5    .9
      31.3  17.3  19.8  11.5  68.1  17.8  47.7  14.2  32.8  12.6
      30.2  36.9  43.0  21.0  10.0  40.0  33.0   1.0   4.0   1.0
       1.0   2.0
2111 171.0  45.4  25.9  30.6   9.0  18.5  12.4  15.8  15.2   1.0
      25.8  15.9  19.5  10.3  64.1  18.3  43.8  17.6  30.9  12.0
      27.3  35.0  36.2  22.0  11.0  40.0  37.0   1.0   4.0   1.0
       1.0   2.0
2112 134.0  36.5  20.0  26.2   7.2  15.2  10.3  12.0  12.8   1.1
      25.2  11.9  15.9   9.2  52.2  16.1  33.8   9.6  23.5  10.6
      24.1  32.6  36.7  20.0  10.0  38.0  37.0   1.0   4.0   1.0
       1.0   2.0
2113 166.4  49.0  22.5  30.6   8.5  17.3  12.5  16.6  15.8    .9
      30.1  15.7  17.1  10.8  64.5  18.3  36.7  19.7  33.5  12.1
      28.1  34.8  35.7  22.0  11.0  40.0  37.0   1.0   4.0   1.0
       1.0   2.0
2114  74.8  21.7  14.8  15.0   4.5   8.6   5.4   7.2   6.6   1.1
      15.4   6.5   7.5   4.9  29.7   9.2  13.5   9.4  16.5   6.6
      14.19999.0  18.4  19.0  10.0  41.0  43.0   1.0   4.0   1.0
       1.0   2.0
2115  82.7  23.5  16.3  15.2   5.1   8.1   6.3   7.9   8.1   1.1
      17.8   6.7   9.4   4.3  32.2  10.1  17.9   8.2  17.6   6.8
      14.0  18.5  21.9  22.0  10.0  43.0  42.0   1.0   4.0   1.0
       1.0   2.0
```

```
2116 253.0   70.0   28.5   47.2   12.5   27.0   18.9   25.2   21.7     .7
      37.0   21.9   30.0    6.5   99.5   28.0   64.1   25.7   54.3   20.0
      40.9   53.5   64.6   23.0   11.0   45.0   44.0    1.0    4.0    1.0
       1.0    2.0
2117 162.0   50.5   31.9   31.7   19.1   16.7   12.0   16.4   15.2    1.0
      24.8   15.6   20.8    5.5   66.9   19.5   32.8   15.6   29.9   11.4
      28.5   29.5   37.0   22.0   10.09999.0   37.0    1.0    4.0    1.0
       1.0    2.0
2118 220.0   62.3   31.4   39.0   10.3   23.7   14.8   22.0   17.2    1.8
      37.3   20.5   24.2   12.8   84.5   25.5   61.4   21.1   44.9   17.6
      39.7   48.0   48.4   23.0   10.0   41.0   40.0    1.0    4.0    1.0
       1.0    2.0
2119 214.0   62.6   32.4   41.8   11.0   22.9   16.3   21.1   15.6    1.4
      35.5   19.8   25.0   11.3   84.5   27.3   61.0   21.5   46.2   19.3
      33.9   48.0   51.2   23.0   10.0   44.0   44.0    1.0    4.0    1.0
       1.0    2.0
2120 225.0   61.7   32.4   42.3   11.2   23.7   15.9   22.0   17.5    1.5
    9999.0   19.3   26.3   12.0   86.6   25.6   59.1   23.4   48.6   19.8
      37.5   49.4   53.9   23.0   10.0   41.0   42.0    1.0    4.0    1.0
       1.0    2.0
2201 144.8   39.8   18.2   22.5    4.8   19.9   15.6   18.3   17.6    1.4
      73.8   10.2   17.0    5.2   52.9   14.1   43.7   15.7   38.3   10.9
      23.8   23.0   31.0   32.0    9.0   48.0   41.0    1.0    5.0    3.0
       1.0    2.0
2202 111.9   28.7   12.7   18.5    3.3   14.7   12.4   12.7   15.0    0.4
    9999.0    7.4   11.0    3.8   38.8   11.7   33.6   12.0   32.7    8.3
      18.4   17.7   24.4   33.0    9.0   50.0   42.0    1.0    5.0    3.0
       1.0    2.0
2203 149.8   39.2   19.8   24.8    4.9   22.3   16.6   19.0   18.6    1.5
    9999.0    9.0   15.5    4.9   50.9   15.7   44.8   11.5   37.1   11.1
      24.99999.0   29.1   32.0   10.0   45.0   40.0    1.0    5.0    3.0
       1.0    2.0
2204 103.2   30.4   14.8   19.1    2.6   18.9   12.9   15.7   15.2    0.8
      58.4    5.6   11.0    3.6   38.8   10.8   28.5    7.9   28.4    7.5
      16.7   18.1   21.0   30.0   10.0   48.0   44.0    1.0    5.0    2.0
       1.0    2.0
2205  84.4   24.1   11.0   14.9    1.9   13.7   10.8   12.5   12.7    0.6
      43.7    5.1    8.8    3.1   31.5    8.5   21.8    8.3   22.5    5.7
      14.0   13.0   15.1   29.0   10.0   51.0   45.0    1.0    5.0    2.0
       1.0    2.0
2301 351.0  114.0   45.4   73.1    6.8   50.5   35.8   31.7   44.1    2.1
      36.9   29.4   32.8   11.5  130.4   36.1  100.9   31.4   52.8   22.2
      50.8   53.2   58.9   20.0   10.0   12.0   10.0    3.0    2.0    4.0
       3.0    3.0
2302 187.8   59.4   21.8   39.7    3.3   26.5   20.6   18.8   23.9    1.9
      30.9   15.4   18.9    4.9   69.2   22.3   47.1   19.8   32.0   11.6
      27.3   30.89999.0   20.0   10.0   12.0   13.0    3.0    2.0    4.0
       4.0    2.0
2303 282.0   84.1   33.0   54.6    5.0   38.5   26.6   24.1   34.5    1.9
      33.0   22.2   29.2    8.2   99.7   33.5   71.0   31.2   47.6   17.6
      42.2   42.9   51.6   23.0   10.0   11.0   11.0    3.0    2.0    4.0
       4.0    2.0
2304 275.0   83.5   29.2   51.7    5.7   35.7   26.6   23.4   30.5    2.1
      30.6   23.2   30.8   12.6   98.4   33.5   77.5   29.2   46.0   19.5
      36.7   41.3   43.0   19.0   10.0   11.0   12.0    3.0    2.0    4.0
       4.0    2.0
2401 137.0   40.7   23.3   28.3    8.2   17.0   11.9   15.1   15.5    2.3
      29.4   14.3   13.9    9.5   52.3   15.8   42.5    6.5   18.2   10.2
      21.5   26.9   28.5   15.0   11.0   13.09999.0    3.0    1.0    5.0
       4.09999.0
2402 413.0  122.1   63.0   80.6   17.9   51.2   36.2   52.1   41.5    6.7
      61.5   46.0   50.0   24.4  162.6   46.2  132.0   13.2   48.6   27.2
      58.2   79.9   76.2   16.0   11.0   14.0   13.0    3.0    1.0    5.0
       4.0    3.0
2403 395.0  124.2   58.6   74.6   17.7   50.8   38.2   53.2   40.8    5.3
      65.8   45.7   45.2   22.8  160.9   45.0  126.4   10.8   47.5   28.6
```

```
      59.3  71.09999.0  16.0  11.0  12.0  12.0   3.0   1.0   5.0
       4.0   3.0
2404 501.0 144.6  60.0  84.3  19.9  54.6  43.7  63.6  49.8   9.5
      69.5  53.6  58.5  34.0 188.5  53.5 160.4  16.3  61.5  31.1
      67.8  86.99999.0  15.0  11.0  12.0  12.0   3.0   1.0   5.0
       4.0   3.0
2405 455.0 136.8  61.8  84.8  19.8  55.5  37.2  55.5  44.8   5.7
      70.9  49.8  53.2  27.2 180.9  52.5 144.3  16.2  57.0  31.1
      62.89999.09999.0  16.0  11.09999.09999.09999.0   1.0   5.0
       4.0   3.0
2406 380.0 119.8  65.4  71.6  17.4  45.1  35.8  45.8  40.3   5.7
      62.1  41.4  54.7  24.6 153.2  39.7 134.8  14.9  45.5  23.8
      53.0  67.4  79.1  17.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2407 390.0 112.6  61.3  75.0  18.8  47.7  33.2  43.49999.09999.0
      67.8  38.9  48.7  22.6 145.4  39.0 133.2  15.8  46.7  24.1
      55.8  68.8  74.99999.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2408 388.0 107.7  57.9  70.1  17.7  43.2  31.0  40.8  33.3   5.2
      70.1  39.0  47.2  20.9 141.2  40.1 137.5  14.2  50.4  24.2
      51.9  67.2  68.9  17.0  11.0  15.0  13.0   3.0   1.0   5.0
       4.0   3.0
2409 137.5  40.4  23.9  27.8   8.7  18.0  12.3  16.1  16.0   2.6
      32.9  14.8  16.1   9.5  53.7  16.1  41.4   6.5  16.4  10.2
      20.8  28.1  29.6  17.0  11.0  12.0  12.0   3.0   1.0   5.0
       4.0   3.0
2410 127.8  37.8  22.5  26.6   8.9  16.2  11.2  16.1  12.0   1.6
      28.2  13.09999.09999.0  52.4  16.7  36.2   6.2  16.7   9.8
      18.6  25.99999.0  16.0  11.0  12.0  12.0   3.0   1.0   5.0
       4.0   3.0
2411 142.4  42.7  22.9  28.8   9.6  17.7  12.1  17.1  15.7   2.3
      28.5  14.9  16.7   8.3  55.5  17.3  41.6   6.5  17.3  10.1
      20.6  27.99999.0  16.0  11.0  14.0  12.0   3.0   1.0   5.0
       4.0   3.0
2412 173.0  50.2  30.8  36.5  10.5  24.0  13.6  20.7  18.8   2.9
      35.8  19.4  18.7  10.0  67.3  19.4  55.5   8.5  22.6  13.7
      25.6  33.2  36.3  16.0  10.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2413 114.5  32.4  18.2  21.4   7.5  14.4  10.4  12.3  13.2   1.9
      29.3  12.1  12.4   6.4  43.0  13.5  32.9   6.4  14.4   8.6
      17.9  17.39999.0  15.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   3.0
2414 259.0  79.1  40.0  52.2  14.29999.09999.0  32.8  26.2   3.6
      48.6  24.6  27.7  18.2 102.8  30.3  84.3   7.2  29.0  20.2
      38.3  49.1  55.3  16.0  11.0  14.0  13.0   3.0   1.0   5.0
       4.0   3.0
2415 113.0  31.8  19.8  22.5   7.1  14.5   9.9  12.6  11.2   2.0
      21.0  12.0  12.6   7.0  42.6  14.0  35.7   6.3  15.3   8.5
      16.0  19.99999.0  16.0  11.0  15.0  14.0   3.0   1.0   5.0
       4.0   3.0
2416 213.0  64.9  35.1  42.9  13.0  28.0  19.4  27.0  22.3   4.6
      45.0  25.1  23.5  14.5  85.0  28.0  69.0   8.8  27.6  17.0
      29.0  43.1  46.1  15.0  10.0  13.0  12.0   2.0   1.0   5.0
       4.0   2.0
2417 118.8  33.5  21.0  23.5   6.9  14.9  10.3  12.69999.09999.0
      28.2  12.0  13.3   6.8  44.7  14.8  33.1   7.9  15.5   8.4
      17.9  23.69999.0  15.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2418 149.8  42.5  26.3  31.3   9.8  19.5  13.3  17.69999.09999.0
      29.7  15.4  17.3   7.9  58.4  18.7  44.8  17.0  18.8  10.5
      24.8  29.8  32.5  16.0  11.0  14.0  12.0   2.0   1.0   5.0
       4.0   3.0
2419  96.7  21.1  18.8  18.7   6.4  12.4   8.4  10.4  10.5   1.5
      22.4  10.0  11.1   5.2  36.5  11.5  30.6   5.5  12.3   7.9
      15.9  17.1  18.0  16.09999.0  14.0  14.0   3.0   1.0   5.0
       4.0   3.0
```

```
2420 739.0 222.0  84.7 131.6  25.49999.09999.0  92.79999.09999.0
      94.7  75.7  84.8  39.1 284.0  76.7 216.1  28.0  93.8  87.1
      44.2 110.3 108.1  15.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   2.0
2421 345.0 108.0  51.9  67.2  17.2  48.1  33.1  47.4  37.4   7.7
      59.2  38.7  41.4  21.2 138.0  42.2 118.1  12.5  40.8  24.0
      51.3  69.59999.0  15.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2422 570.0 170.2  78.1 102.5  24.2  67.0  50.49999.0  56.0  10.5
      70.0  60.1  66.9  34.3 230.0  67.1 162.5  23.7  73.0  35.1
      74.89999.09999.0  16.0  10.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2423 246.4  68.7  39.7  47.4  12.5  28.1  20.7  27.8  24.7   4.0
      37.7  24.6  24.0  15.4  92.0  26.8  77.0   9.0  32.6  18.4
      34.3  45.89999.0  17.0  10.09999.0  13.0   2.0   1.0   5.0
       4.0   5.0
2424 650.0 178.0  87.0 105.0  18.0  65.0  56.0  86.0  60.0  11.0
      70.0  79.0  66.0  53.0 242.0  52.0 245.0  20.0  53.0  41.0
      99.0 109.09999.09999.0  11.09999.09999.09999.0   1.0   5.0
       4.0   5.0
2425 740.0 206.0 111.0 129.0  25.0  84.0  66.0  92.0  71.0  12.0
      67.0  94.0  78.0  56.0 275.0  72.0 270.0  22.0  65.0  50.0
      92.0 116.0 108.09999.0  11.09999.09999.09999.0   1.0   5.0
       4.0   5.0
2426 112.6  30.1  17.8  21.7   7.0  14.0   8.8  10.9  11.4   1.5
      25.6  11.2  11.6   7.8  41.3  13.1  32.3   6.0  14.6   8.5
      17.3  20.6  20.9  17.0  11.0  14.09999.0   2.0   1.0   5.0
       4.0   4.0
2427 116.9  32.7  20.5  23.7   7.6  14.7   9.9  12.6  11.9   1.5
      24.7  11.9  12.9   7.1  45.0  13.3  34.5   6.4  15.8   9.2
      15.6  22.7  22.6  16.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   4.0
2428 128.7  37.2  20.6  24.9   7.7  17.1  10.8  14.5  14.0   1.8
      27.0  12.6  14.1   7.8  49.2  15.3  37.5   6.1  16.7   9.4
      19.9  24.6  24.8  16.0  12.0  13.09999.0   2.0   1.0   5.0
       4.0   4.0
2429 293.0  83.0  42.7  56.4  14.9  34.8  23.9  33.2  28.1   4.4
      46.9  28.8  32.9  16.7 109.1  34.1  90.9   9.7  33.5  17.9
      40.6  49.7  56.1  16.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2430 269.4  83.1  44.6  54.6  13.4  34.6  25.8  35.3  28.3   4.5
      45.0  27.8  28.8  17.3 106.7  30.5  77.0  11.2  31.7  19.5
      36.1  54.8  55.8  16.0  12.09999.09999.0   3.0   1.0   5.0
       4.0   5.0
2431 370.0 111.6  55.8  70.3  16.8  42.2  35.1  48.6  36.1  16.5
      56.1  40.7  39.7  28.5 147.2  40.5 125.2  15.2  44.6  23.6
      57.0  73.69999.0  17.0  12.0  12.0  13.0   3.0   1.0   5.0
       4.0   4.0
2432 162.5  48.2  27.8  32.3  10.0  21.5  14.5  19.1  18.9   2.7
      32.0  18.3  19.3   9.3  63.6  22.0  48.8   6.1  20.6  11.8
      24.6  33.6  40.6  17.0  12.0  13.0  12.0   2.0   1.0   5.0
       4.0   3.0
2433 146.0  42.7  25.7  29.5   9.7  19.8  14.1  19.5  16.4   2.9
      31.5  16.9  18.0   9.6  57.9  18.3  42.7   7.9  17.4  11.3
      23.4  33.0  35.3  16.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2434 155.5  46.6  27.7  31.0  10.4  21.7  15.0  17.7  19.2   2.5
      33.7  18.1  19.0   9.5  62.3  20.1  50.2   9.7  18.9  12.2
      22.6  33.1  35.8  15.0  12.0  14.0  12.0   3.0   1.0   5.0
       4.0   3.0
2435 152.0  45.6  25.3  30.1   9.5  20.2  13.6  18.5  16.9   3.1
      33.7  17.6  20.2   9.1  59.2  20.3  47.3   8.3  20.6  11.6
      23.1  31.6  31.0  16.0  11.0  12.0  11.0   3.0   1.0   5.0
       4.0   3.0
2436 173.0  47.6  28.0  31.5   9.6  20.2  15.1  18.1  16.6   3.0
      39.4  17.5  20.4  11.6  65.0  20.4  55.3   7.8  24.2  13.2
```

```
      28.2  32.8  39.3  16.0  12.0  13.0  14.0   3.0   1.0   5.0
       4.0   4.0
2437 400.0 105.0  65.0  70.0  16.0  40.0  33.0  48.0  36.0   5.5
    9999.0  46.0  42.0  29.0 142.0  37.0 155.0  11.0  36.0  28.0
      59.0  62.09999.09999.09999.09999.09999.0   3.0   1.0   5.0
       4.0   4.0
2438 376.5 100.7  47.8  60.1  14.89999.09999.0  41.2  33.8   4.9
      60.3  37.3  46.5  20.9 131.5  36.0 131.0   7.7  42.2  22.8
      52.2  66.8  68.3  16.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   3.0
2439 290.0  88.4  41.1  53.9  16.2  36.2  26.7  36.3  29.3   4.7
      44.0  30.9  28.0  17.7 112.0  31.7  91.5   8.8  31.0  19.3
      47.4  53.5  55.8  15.0  12.0  13.0  12.0   3.0   1.0   5.0
       4.0   5.0
2440 270.0  82.1  43.0  53.7  14.2  33.2  24.5  34.8  29.0   6.3
      43.5  29.8  30.0  17.0 107.7  31.7  85.3  11.7  34.5  19.2
      38.4  54.5  57.0  16.0  10.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2441 300.0  93.5  47.7  59.5  15.1  34.5  27.5  40.6  31.6   6.6
      48.2  34.7  36.4  18.7 123.0  48.8  91.9  13.9  32.6  21.2
      37.4  62.79999.0  17.0  10.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2442 245.0  75.1  36.5  48.9  13.5  29.2  21.9  30.6  24.8   5.4
      44.5  24.9  28.9  15.0  97.8  29.2  77.0  10.4  26.5  18.6
      36.5  48.69999.0  15.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2443 340.0 105.8  52.7  68.6  16.6  45.0  31.6  47.0  38.4   6.2
      54.6  32.5  41.5  18.7 139.6  40.0 110.1  12.4  36.5  23.5
      50.5  68.4  67.7  15.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2444 137.8  41.7  21.9  27.9   8.8  18.9  16.9  16.9  15.3   2.5
      32.7  12.9  16.9   8.4  53.8  17.0  40.1   7.7  19.5  11.0
      19.8  28.6  30.1  16.0  12.0  15.0  12.0   3.0   1.0   5.0
       4.0   3.0
2445 137.8  41.7  24.2  29.1   9.1  17.3  11.5  16.9  13.1   2.6
      30.8  14.7  16.0   9.3  52.8  17.2  39.3   8.3  17.4  11.0
      22.2  29.0  30.1  17.0  11.0  15.0  13.0   2.0   1.0   5.0
       4.0   3.0
2446 147.0  41.2  24.8  26.4   9.4  18.4  11.7  17.0  14.5   2.4
      31.0  14.5  16.1   8.5  54.3  19.3  45.3   7.0  19.2  11.3
      22.7  30.0  32.0  17.0  11.0  15.0  13.0   2.0   1.0   5.0
       4.0   3.0
2447 152.6  45.4  26.9  32.8   9.4  20.0  14.5  18.1  19.2   2.4
      31.1  18.0  17.5   9.1  60.0  19.0  46.0   7.1  18.6  11.8
      23.5  30.1  34.0  16.0  11.0  14.0  12.0   2.0   1.0   5.0
       4.0   3.0
2448 196.0  56.4  30.1  39.8   9.4  25.1  17.4  24.09999.09999.0
      38.8  21.3  20.9  12.5  74.7  23.1  61.1  12.2  24.3  14.3
      31.2  39.8  43.7  16.0  11.0  15.0  14.0   3.0   1.0   5.0
       4.0   5.0
2449 188.5  49.0  31.8  39.9  10.6  24.0  17.2  22.09999.09999.0
      36.0  20.3  20.8  11.2  73.0  24.0  61.2   8.6  24.4  14.6
      27.4  38.6  43.0  16.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   5.0
2450 197.8  54.0  28.6  38.1  11.1  22.5  16.9  22.1  20.8   3.2
      39.7  19.1  20.5  10.5  75.9  22.9  58.7   9.0  23.0  13.8
      29.4  37.8  41.2  16.0  11.0  14.09999.0   3.0   1.0   5.0
       4.0   5.0
2451 150.7  44.0  27.0  30.0   8.9  14.4  13.5  16.99999.09999.0
      30.8  15.8  17.6   8.4  59.4  19.1  52.7   7.5  20.1  11.9
      25.0  30.9  33.0  17.0  10.0  14.0  13.0   3.0   1.0   5.0
       4.0   5.0
2452 470.0 149.1  69.0  89.9  21.0  58.8  43.4  62.8  50.7   7.6
      71.0  50.7  50.7  31.0 190.0  52.0 159.0  15.8  54.6  31.4
      59.9  91.79999.0  17.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   4.0
```

```
2453 119.5   34.1   20.9   21.6    8.3   13.7    9.9   12.5   11.6    1.9
      25.5   12.2   12.2    7.0   44.1   15.5   39.9    5.4   15.6    8.0
      20.2   22.6   25.3   17.0   12.0   14.0   12.0    3.0    1.0    5.0
       4.0    5.0
2454 337.0   93.5   56.2   69.3   14.09999.09999.0   38.7   33.9    6.1
      57.9   35.5   33.4   13.1  118.8   34.5  102.3   16.0   43.0   22.7
      45.9   60.3   61.3   16.0   10.0   13.0   13.0    3.0    1.0    5.0
       4.0    3.0
2455 131.6   38.1   20.5   24.9    8.39999.09999.0   15.0   13.7    2.0
      23.9   14.2   14.5    7.7   49.8   15.5   41.4    7.1   15.9   10.7
      19.9   25.7   27.7   16.0   11.0   13.0   11.0    3.0    1.0    5.0
       4.0    3.0
2456 395.3  102.7   53.6   68.0   16.59999.09999.0   40.3   34.7    4.2
      73.0   38.9   52.7   24.8  138.2   44.1  149.5    8.8   50.7   25.2
      55.69999.09999.0    16.0   10.0   14.0   14.0    3.0    1.0    5.0
       4.0    3.0
2457 132.2   37.8   18.8   26.7    8.29999.09999.0   15.6   14.8    2.0
      33.7   14.4   13.9    7.9   50.3   15.8   45.3    6.3   17.4   11.0
      18.3   28.5   28.09999.0    11.0   14.0   11.0    3.0    1.0    5.0
       4.0    2.0
2458 124.8   34.6   21.3   23.2    7.19999.09999.0   13.4   13.2    1.8
      23.4   12.0   13.4    7.0   46.1   14.8   37.9    6.2   15.3    9.9
      20.7   25.2   25.1   15.0   11.0   12.09999.0     3.0    1.0    5.0
       4.0    3.0
2459  98.4   28.1   18.1   19.8    6.79999.09999.0   11.4   11.8    1.9
      25.5   10.9   11.2    6.5   37.2   12.9   29.5    4.7   14.2    7.7
      16.1   19.8   22.2   16.0   11.0   13.0   14.0    3.0    1.0    5.0
       4.0    3.0
2501 306.1   88.6   55.9   60.6   14.5   40.4   27.7   37.1   32.6    4.9
      62.7   34.5   34.5   19.6  117.7   29.5   98.7   12.3   42.8   20.4
      41.6   61.9   59.4   18.0   12.09999.09999.0    3.0    1.0    5.0
       4.0    5.0
2502 330.0   96.5   53.2   66.9   14.7   42.6   31.5   38.3   37.7    6.3
      61.6   36.8   35.0   17.1  125.0   34.8  113.9   11.2   44.2   22.0
      43.4   64.0   73.4   19.0   11.0   13.09999.0     2.0    1.0    5.0
       4.0    5.0
2503 186.4   52.1   31.1   37.7   11.7   15.6   22.5   21.0   17.9    2.6
      41.6   19.1   21.4   11.6   68.5   20.9   63.9    7.2   22.4   13.4
      26.19999.09999.0    17.0   11.0   14.0   13.0    2.0    1.0    5.0
       4.0    4.0
2504 170.5   48.0   29.3   33.6    8.8   20.8   14.9   18.7   19.6    2.5
      41.2   18.5   20.3   10.0   64.4   19.0   54.8    8.6   23.4   12.6
      22.6   34.0   34.0   17.0   11.0   11.09999.0     3.0    1.0    5.0
       4.0    4.0
2505 102.8   27.7   17.6   20.3    6.8   11.8    8.2   10.09999.09999.0
      26.1   10.0   10.8    6.1   37.6   11.0   34.7    4.8   14.6    7.7
      13.4   18.7   18.5   18.0   11.09999.09999.0    3.0    1.0    5.0
       4.0    4.0
2506  98.7   26.8   19.2   19.2    5.7   12.4    8.0   10.0   10.6    2.0
      24.7   10.5   10.5    6.6   36.5   10.9   30.6    4.4   13.2    7.8
      16.7   18.8   18.9   17.0   11.0   14.09999.0     2.0    1.0    5.0
       4.0    4.0
2507 109.0   30.3   17.3   21.7    7.3   12.8    9.5   12.2   12.5    2.2
      26.5   10.99999.09999.0    40.5   12.7   35.4    5.5   14.2    8.6
      17.5   20.2   21.7   17.0   11.0   13.0   13.0    3.0    1.0    5.0
       4.0    3.0
2508  87.6   23.5   15.0   16.5    5.0   10.6    6.7    8.69999.09999.0
      21.5    8.9    8.9    5.2   30.7    9.5   30.2    4.2   12.9    5.7
      12.1   16.39999.0    18.0   11.0   14.09999.0     2.0    1.0    5.0
       4.0    4.0
2509 302.0   90.0   47.0   60.5   15.6   33.4   27.5   35.5   33.4    4.1
      53.0   33.7   31.3   13.0  112.9   32.3  103.4   13.9   37.8   20.5
      43.89999.09999.0    17.0   11.0   13.09999.0     3.0    1.0    5.0
       4.0    3.0
2510 344.0  107.0   57.8   75.2   15.2   47.5   33.5   44.9   40.2    4.9
      60.6   41.6   33.2   19.7  133.0   37.6  108.6   16.1   45.0   23.8
```

```
      48.8   62.9   61.9   17.0   11.0   13.09999.0    3.0    1.0    5.0
       4.0    3.0
2511 225.0   60.4   35.0   45.3   11.7   26.0   19.7   26.0   25.5    3.0
      44.0   23.7   24.5   12.1   80.0   24.5   76.9   10.0   30.4   16.8
      32.09999.09999.0   18.0   11.0   13.0   12.0    3.0    1.0    5.0
       4.0    3.0
2512 147.8   41.9   24.1   29.0    8.8   20.5   12.0   16.9   17.3    2.0
      36.5   16.7   14.7    7.1   54.9   17.5   51.9    7.3   21.1   11.9
      18.0   26.89999.0   19.0   11.0   13.0   12.0    3.0    1.0    5.0
       4.0    3.0
2513 162.8   43.8   26.9   30.8    8.7   20.1   13.4   17.5   16.6    2.3
      37.3   16.7   16.7    6.8   58.0   17.2   56.4    7.3   23.6   12.3
      22.3   31.7   34.3   19.0   11.0   16.0   13.0    3.0    1.0    5.0
       4.0    3.0
2514 242.0   80.1   43.0   55.6   13.99999.09999.0   32.0   33.0    4.2
      49.6   32.7   27.4    9.2  100.4   27.3   72.3   11.0   35.7   17.5
      35.1   46.4   45.2   19.0   11.0   14.0   14.0    2.0    1.0    5.0
       4.0    2.0
2515 476.0  129.3   69.0   84.2   18.8   59.0   36.1   51.7   43.0    6.8
      83.6   55.6   46.9   29.1  169.8   46.9  155.0   15.6   60.3   28.6
      63.5   84.1   87.5   18.0   11.0   15.0   14.0    3.0    1.0    5.0
       4.0    3.0
2516 310.0   88.9   47.1   61.6   15.0   41.8   28.9   35.1   35.2    4.9
      55.4   36.4   36.7   11.8  114.5   35.9  103.6   14.9   41.0   19.8
      43.8   56.09999.0   19.0   11.09999.09999.0    3.0    1.0    5.0
       4.0    3.0
2517 353.0   98.3   54.6   67.9   16.7   46.3   33.8   39.6   39.1    5.6
      63.4   40.0   38.5   18.6  128.8   40.8  122.4   13.6   47.8   23.4
      45.5   61.99999.0   18.0   11.0   14.0   13.0    3.0    1.0    5.0
       4.0    3.0
2518 215.5   67.8   33.2   44.9   11.6   30.5   19.5   24.9   29.9    3.9
      44.4   27.0   23.0    9.6   83.6   21.5   71.2    8.5   28.6   15.5
      33.29999.0   44.7   19.0   11.0   13.0   10.0    3.0    1.0    5.0
       4.0    2.0
2519 444.5  125.2   58.9   74.4   20.29999.09999.0   47.1   42.2    5.9
      71.1   45.5   57.6   24.1  159.7   43.2  151.8   12.8   55.5   26.5
      59.7   74.8   81.5   17.0   11.0   15.0   13.0    3.0    1.0    5.0
       4.0    3.0
2520 192.0   52.7   30.4   38.7   11.2   26.5   18.3   20.6   22.4    3.1
      47.0   20.6   21.7    8.5   69.6   21.8   67.5   10.2   27.5   13.6
      30.5   35.6   38.4   17.0   10.0   14.0   13.0    3.0    1.0    5.0
       4.0    3.0
2521 110.5   30.6   18.4   21.1    6.5   14.9   10.1   12.6   11.7    2.3
      30.1   11.1   13.0    6.5   41.0   12.6   37.1    5.4   16.2    7.6
      15.5   23.5   23.5   18.0   11.0   14.0   14.0    3.0    1.0    5.0
       4.0    3.0
2522 124.0   33.2   20.1   25.1    7.4   17.5    8.8   13.1   12.9    1.7
      28.2   12.4   13.3    6.1   45.2   14.2   39.0    6.0   16.3    9.4
      17.2   23.2   26.9   17.0   11.0   13.0   15.0    3.0    1.0    5.0
       4.0    3.0
2523 120.2   33.3   20.2   23.5    6.5   15.5   11.1   12.9   14.8    2.0
      32.7   12.0    6.0   13.2   43.8   15.0   37.8    6.0   14.9    9.9
      16.8   24.6   25.3   18.0   11.0   14.0   13.0    3.0    1.0    5.0
       4.0    3.0
2524 229.1   62.5   33.0   42.3   12.19999.09999.0   23.3   23.0    3.9
      46.0   23.1   25.6   14.4   84.6   24.6   74.8    9.4   29.7   15.3
      33.6   45.7   49.5   18.0   11.0   15.0   12.0    3.0    1.0    5.0
       4.0    3.0
2525 227.3   62.4   34.2   42.7   12.29999.09999.0   25.0   23.1    3.0
      43.9   24.7   29.9    9.3   82.1   25.6   79.6    8.9   31.7   17.6
      29.4   44.8   47.9   18.0   12.0   15.09999.0    3.0    1.0    5.0
       4.0    3.0
2526 233.0   63.6   34.1   43.6   11.7   27.7   19.8   26.99999.09999.0
      51.7   24.4   23.1   12.2   82.0   25.4   72.2   10.7   29.3   16.2
      33.7   46.1   46.7   18.0   11.09999.09999.0    3.0    1.0    5.0
       4.0    3.0
```

```
2527 227.0  58.6  31.8  44.5  11.1  26.8  19.0  24.99999.09999.0
      43.4  22.4  24.2  10.7  83.8  25.4  80.0   8.4  28.7  16.5
      31.69999.09999.0  18.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2528 226.0  59.5  38.6  46.1  11.5  27.5  18.8  22.9  23.8   3.5
      42.7  23.6  23.5  10.0  79.8  23.9  76.8   9.0  28.8  16.4
      33.4  42.49999.0  18.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2529 125.4  34.7  21.1  24.2   8.5  14.8  10.6  13.3  11.9   1.5
      32.0  12.6  13.5   6.3  46.0  15.2  42.3   6.3  15.9   9.5
      18.2  25.6  25.6  18.0  11.0  14.0  12.0   3.0   1.0   5.0
       4.0   3.0
2530 234.0  68.4  36.0  44.7  11.3  26.5  20.8  27.2  25.4   3.7
      50.8  24.4  25.1  10.4  86.8  26.7  85.5   8.8  31.7  16.4
      36.0  45.3  47.3  18.0  11.0  14.09999.0   3.0   1.0   5.0
       4.0   3.0
2531 251.5  68.2  39.6  45.4  13.69999.09999.0  25.4  23.8   4.3
      47.0  25.9  27.7  14.0  89.1  27.2  81.7  11.2  32.5  17.2
      34.6  45.2  49.9  18.0  12.0  14.0  15.0   3.0   1.0   5.0
       4.0   3.0
2532 338.0  99.3  66.7  69.0  16.0  44.5  30.7  41.2  38.6   5.6
      62.5  36.5  42.0  15.4 137.2  38.5 120.3  12.2  43.5  23.6
      39.2  63.29999.0  19.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   3.0
2533 200.0  63.5  31.7  44.0  14.0  26.5  18.3  22.7  24.2   3.3
      42.4  24.69999.09999.0  79.7  19.6  65.1   6.6  24.3  12.7
      26.1  37.9  39.0  18.0  11.0  15.09999.0   2.0   1.0   5.0
       4.0   4.0
2534 282.0  79.3  47.2  55.9  14.0  33.0  23.4  32.5  29.0   4.0
      53.4  30.8  27.6  13.7 101.0  34.8  97.9  12.9  34.4  18.9
      38.39999.09999.0  18.0  11.0  13.09999.0   3.0   1.0   5.0
       4.0   3.0
2535 340.0  95.6  58.5  67.7  16.7  46.5  30.7  40.5  38.7   5.7
      60.7  36.7  39.6  13.9 125.7  36.2 114.1  13.3  43.6  24.3
      50.6  60.09999.0  18.0  11.0  13.09999.0   3.0   1.0   5.0
       4.0   3.0
2536 325.0  87.8  56.7  65.5  16.6  39.6  27.9  36.0  33.9   5.5
      60.9  33.6  36.1  10.8 117.6  32.7 114.6  12.1  47.1  22.9
      43.3  63.0  63.6  19.0  11.0  14.09999.0   3.0   1.0   5.0
       4.0   3.0
2537 318.0  89.1  56.9  63.5  17.6  39.7  27.3  36.1  31.5   5.1
      62.4  32.6  34.8  15.6 114.0  33.5 108.9  14.3  41.9  23.0
      46.0  54.0  54.2  18.0  11.0  13.09999.0   3.0   1.0   5.0
       4.0   3.0
2538 318.0  90.5  57.5  64.0  14.6  43.7  28.7  38.8  34.9   6.4
      66.4  33.4  35.4  13.1 116.5  34.0 117.9  14.0  39.8  22.8
      42.0  60.0  61.1  18.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2539 128.0  34.6  20.1  24.4   7.7  14.5  10.7  13.8  14.5   1.5
      31.8  12.5  13.8   5.5  46.1  14.3  38.1   7.0  17.2   9.3
      18.5  25.6  26.1  19.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2540 213.0  58.4  32.0  41.6  11.1  27.5  19.4  23.6  24.1   3.0
      42.3  23.0  22.7  10.0  76.4  23.0  77.6   8.0  28.5  16.0
      28.4  40.59999.0  18.0  11.0  13.0  11.0   3.0   1.0   5.0
       4.0   3.0
2541 222.3  60.7  37.7  46.1  12.4  27.2  19.0  25.3  21.6   3.7
      42.9  23.4  24.7  11.1  78.7  23.5  77.0  11.4  27.2  16.8
      29.9  45.99999.0  18.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2542 221.7  61.2  35.6  46.0  13.09999.09999.0  24.7  23.1   4.4
      42.7  23.9  25.5  11.3  80.5  25.6  73.5   9.7  30.3  15.2
      33.1  42.1  45.4  18.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2543 128.2  36.0  21.4  25.8   7.6  14.8  10.4  13.0  12.7   2.0
      30.1  13.2  16.7   8.6  48.6  14.6  39.5   6.8  15.0   9.1
```

```
      18.8  25.3  26.1  18.0  11.0  14.09999.0   3.0   1.0   5.0
       4.0   5.0
2544 240.0  63.0  40.0  46.0  13.0  23.0  19.0  27.0  22.0   4.0
    9999.0  27.0  26.0  16.0  87.0  25.0  93.0   7.0  24.0  16.0
      31.0  42.09999.09999.09999.09999.09999.0   3.0   1.0   5.0
       4.0   4.0
2545 485.5 128.5  61.8  78.0  19.19999.09999.0  47.1  39.9   6.3
      76.3  48.9  60.6  29.8 169.3  49.5 171.3  14.8  63.5  27.5
      65.3  80.7  85.0  18.0  11.0  14.0  13.0   3.0   1.0   5.0
       4.0   3.0
2546 191.9  52.5  33.6  37.4  11.9  22.6  15.4  19.79999.09999.0
      39.6  19.2  20.0  12.5  70.6  22.0  61.8   9.8  25.6  14.7
      27.8  41.59999.0  18.0  11.0  14.09999.0   3.0   1.0   5.0
       4.0   5.0
2547 255.0  80.9  46.9  58.0  13.7  39.0  29.0  33.4  33.7   4.7
      55.9  33.7  28.5  10.4 100.8  28.2  83.5  10.4  37.4  17.8
      36.2  55.0  54.8  17.0  11.0  14.0  13.0   2.0   1.0   5.0
       4.0   3.0
2548 240.0  77.7  40.3  55.7  14.8  36.6  25.8  30.5  34.0   4.0
      47.5  33.4  27.0  10.7  99.5  27.9  84.1   9.5  28.8  17.0
      37.6  49.1  49.5  18.0  11.0  12.0  13.0   3.0   1.0   5.0
       4.0   3.0
2549 325.0  95.3  51.4  64.0  16.3  43.4  31.9  39.0  37.5   6.6
      61.5  40.2  37.0  12.2 122.3  37.6 111.2  14.4  41.9  22.9
      44.6  63.4  66.1  19.0  11.09999.09999.0   3.0   1.0   5.0
       4.6   5.0
2550 270.0  76.5  45.1  53.2  13.4  35.7  23.1  32.8  30.7   5.2
      49.1  28.1  31.7  11.1 100.1  31.5  90.1  13.9  34.5  17.9
      38.2  54.19999.0  17.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   5.0
2551 390.0 110.9  70.8  81.6  17.39999.09999.0  44.89999.09999.0
      70.6  48.7  44.6  18.7 144.2  46.8 145.2  14.4  47.6  24.7
      56.2  79.0  84.6  17.0  12.09999.09999.0   3.0   1.0   5.0
       4.0   5.0
2552 290.0  83.7  46.8  59.2  15.5  40.7  27.5  34.8  33.6   6.3
      58.4  32.6  29.3  14.0 108.8  32.3  99.8  13.1  36.4  19.8
      40.9  60.9  65.0  17.0  11.0  12.0  11.0   3.0   1.0   5.0
       4.0   5.0
2553 433.0 123.1  72.7  85.1  19.1  51.1  36.0  51.0  41.4   6.2
      69.0  45.3  47.5  29.1 160.2  44.0 154.2  15.0  49.4  17.9
      86.1  80.4  86.0  18.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2554 435.0 131.0  68.5  77.2  19.8  49.5  35.9  47.5  39.9   5.5
      77.0  47.8  54.7  27.8 166.5  47.0 165.5  18.3  53.0  26.4
      57.4  76.0  78.5  19.0  11.09999.09999.0   3.0   1.0   5.0
       4.0   3.0
2555 124.7  36.2  19.9  23.6   8.0  15.1  11.4  14.4  12.2   2.5
      27.4  13.2  14.5   7.0  48.0  16.8  36.0   6.8  14.0   9.8
      20.6  26.0  29.5  17.0  10.0  16.0  14.0   2.0   1.0   5.0
       4.0   3.0
2556 188.3  52.0  30.1  37.1   9.6  23.3  16.5  21.0  23.5   3.0
      38.8  19.5  23.5  11.1  69.2  21.1  64.7   7.7  24.3  12.4
      28.1  38.1  42.1  17.0  11.0  16.0  13.0   3.0   1.0   5.0
       4.0   5.0
2557 208.6  58.0  36.8  39.0  11.8  24.0  18.1  22.7  18.4   3.8
      46.5  23.0  21.2   9.4  77.8  23.4  72.4  11.7  26.9  15.2
      29.2  42.0  45.0  17.0  11.0  16.0  14.0   3.0   1.0   5.0
       4.0   5.0
2558 186.2  52.5  29.0  34.7  10.5  21.5  14.6  19.8  18.5   3.0
      38.7  20.1  20.6  10.4  70.6  20.5  68.3   8.6  24.7  14.5
      25.4  37.69999.0  18.0  10.09999.09999.0   3.0   1.0   5.0
       4.0   5.0
2559 220.0  60.5  42.4  43.4  11.7  28.2  19.8  24.2  23.1   3.6
      47.5  23.6  27.1  10.7  81.4  26.9  76.2   9.2  29.0  16.4
      31.2  44.8  50.7  17.0  10.0  16.0  14.0   3.0   1.0   5.0
       4.0   5.0
```

```
2560 225.0  64.1  39.1  46.1  11.5  27.4  18.5  25.0  22.4   3.6
      45.6  23.2  25.8  11.2  84.0  26.3  79.5   9.6  30.0  16.5
      32.3  43.79999.0  17.0  11.0  14.0  13.0   3.0   1.0   5.0
      4.0   5.0
2561 228.0  62.1  37.4  43.9  11.7  29.8  20.4  24.0  23.7   4.7
      41.7  23.3  23.8  11.1  83.5  25.5  79.3   9.4  31.3  17.2
      34.3  44.8  47.0  17.0  11.0  15.0  14.0   3.0   1.0   5.0
      4.0   5.0
2562 290.0  82.1  47.4  55.8  14.4  37.6  26.5  34.09999.09999.0
      56.4  31.2  36.5  14.2 112.2  31.6 102.7  10.5  38.2  20.8
      37.9  61.3  55.1  18.0  11.09999.09999.0   3.0   1.0   5.0
      4.0   5.0
2563 177.0  50.4  29.9  34.9  10.7  20.0  14.9  21.5  18.4   3.8
      39.4  17.0  18.4  10.4  66.5  21.6  64.5   8.7  24.4  13.5
      25.59999.09999.0  18.0  11.0  13.0  15.0   3.0   1.0   5.0
      4.0   4.0
2564 255.0  74.0  41.4  50.7  14.7  34.6  24.2  30.0  28.5   6.1
      48.6  25.8  28.6  13.1 100.3  30.6  83.4  11.7  35.2  18.1
      37.09999.09999.0  19.0  10.0  15.0  14.0   3.0   1.0   5.0
      4.0   4.0
2565 225.0  66.2  36.9  43.5  13.0  29.1  21.5  28.3  23.9   3.4
      49.0  23.3  25.3  12.5  85.2  23.8  72.0   9.6  30.4  15.6
      31.49999.09999.0  19.0  11.0  16.0  15.0   3.0   1.0   5.0
      4.0   4.0
2566 460.7 129.0  59.7  79.4  19.89999.09999.0  48.0  42.5   6.2
      81.4  48.1  56.3  25.5 165.4  46.1 155.0  12.6  56.6  28.4
      65.7  78.8  87.8  17.0  11.0  14.0  13.0   3.0   1.0   5.0
      4.0   3.0
2567 357.7  98.9  50.4  66.5  15.99999.09999.0  38.7  30.2   4.2
      62.4  37.1  44.9  16.8 122.1  40.1 125.0  10.2  47.3  22.2
      50.4  64.49999.0  18.0  10.0  13.0  13.0   3.0   1.0   5.0
      4.0   3.0
2568 427.6 116.8  59.6  70.5  16.59999.09999.0  48.2  37.1   6.2
      76.8  41.8  55.2  27.8 154.2  42.7 142.8  14.8  53.3  23.2
      59.49999.09999.0  18.0  11.0  14.0  13.0   3.0   1.0   5.0
      4.0   3.0
2569 185.9  62.2  35.3  40.3  14.59999.0  19.3  22.4  25.7   5.1
      42.8  15.0  19.5  18.7  77.2  21.4  56.1   7.3  22.6  13.0
      24.9  18.4  40.7  17.0  11.0  14.09999.0   3.0   1.0   5.0
      4.09999.0
2570  71.9  20.0  11.4  13.9   4.8   8.6   5.6   7.49999.09999.0
      22.5   7.0   7.1   4.1  25.9   8.0  21.6   3.6   9.4   5.5
      10.3  13.4  13.1  18.0  11.0  14.09999.0   3.0   1.0   5.0
      4.09999.0
2571  65.4  17.4  10.2  12.1   4.4   7.4   4.8   7.09999.09999.0
      17.7   6.0   6.4   3.5  23.3   7.0  19.5   4.0  10.0   4.9
       9.4  13.09999.0  18.0  10.09999.09999.0   3.0   1.0   5.0
      4.09999.0
2572 222.2  73.0  39.3  47.8  11.89999.09999.0  30.1  27.5   2.7
      50.6  28.8  31.7  12.4  91.6  26.4  70.2  11.2  29.4  17.8
      28.1  43.9  45.7  17.0  11.0  13.0  14.0   3.0   1.0   5.0
      4.0   2.0
2573 427.0 114.7  56.3  68.4  18.99999.09999.0  46.1  40.2   5.7
      68.7  42.8  53.1  28.4 152.8  42.5 156.5  13.7  54.1  26.7
      62.5  69.2  76.9  17.0  11.0  13.0  14.0   3.0   1.0   5.0
      4.0   3.0
2574 288.8  76.7  38.1  47.7  13.19999.09999.0  31.3  26.3   3.6
      52.7  26.6  37.0  14.9 102.1  30.3  99.9   8.8  34.6  18.0
      41.1  47.09999.0  18.0  11.0  14.0  13.0   3.0   1.0   5.0
      4.0   3.0
2575 110.1  30.0  18.6  21.8   6.99999.09999.0  11.7  11.8   1.9
      31.1  11.1  11.7   5.6  40.1  12.3  36.6   6.3  15.6   8.8
      16.9  21.6  22.0  19.0  11.0  13.0  15.0   3.0   1.0   5.0
      4.0   3.0
2576 127.9  35.1  21.4  25.0   8.39999.09999.0  13.0  12.3   1.7
      24.4  13.3  15.1   7.1  47.7  14.9  36.5   6.4  16.8   9.7
```

```
      20.1  24.6  26.7  17.0  11.0  13.0  12.0   3.0   1.0   5.0
       4.0   3.0
2577 114.8  29.3  19.9  22.5   7.69999.09999.0  11.7  12.1   2.0
      29.9  10.8  12.1   4.9  40.8  13.6  36.3   6.3  16.5   9.0
      15.8  23.4  24.6  18.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   3.0
2578 185.8  55.1  37.0  41.8  10.6  25.5  17.2  22.49999.09999.0
      45.3  18.5   8.9   8.9  71.2  22.1  60.2   7.9  26.2  13.7
      23.4  36.5  32.4  17.0  11.0  13.0  13.0   3.0   1.0   5.0
       4.0   2.0
2579 136.8  38.6  24.9  27.5   8.5  17.9  12.1  15.19999.09999.0
      34.1  14.9  14.8   7.3  50.8  16.6  42.0   7.6  17.6  10.0
      20.1  25.5  25.0  17.09999.0  14.09999.0   3.0   1.0   5.0
       4.0   2.0
2580 123.5  33.8  22.7  26.0   8.1  15.7  11.9  12.59999.09999.0
      31.8  12.3  17.0   6.9  47.1  14.6  38.6   7.2  17.0   9.6
      19.3  26.09999.0  17.0  11.0  12.0  12.0   3.0   1.0   5.0
       4.0   2.0
2581 139.4  38.2  23.4  26.4   7.7  16.4  12.0  15.09999.09999.0
      36.5  13.8  16.8   8.5  50.5  16.6  44.4   7.1  20.5   9.7
      19.0  28.2  31.9  17.09999.0  13.09999.0   3.0   1.0   5.0
       4.0   2.0
2601 140.7  41.8  20.1  25.3   7.5  10.3   7.4  17.9   8.7   1.5
      33.6  11.1  14.6   7.4  57.5  13.7  43.0   6.0  20.0  11.8
      19.0  24.3  27.9  17.0  11.0  10.09999.0   3.0   3.0   7.0
       4.0   4.0
2602 158.0  49.0  21.7  32.1   7.6  17.0   9.5  19.2  12.6   1.8
      40.2  17.6  15.6   7.7  65.8  15.1  43.4   8.8  22.2  16.7
      23.8  28.2  31.0  18.0  11.0  12.0  11.0   3.0   3.0   7.0
       4.0   3.0
2603 193.6  60.1  27.2  39.1  10.6  20.3  12.0  25.5  12.9   2.5
      48.1  14.9  20.4   9.4  81.4  20.6  52.6   9.1  27.3  16.5
      26.7  40.2  43.3  20.0  11.0  11.0  11.0   3.0   3.0   7.0
       4.0   4.0
2604 260.0  87.4  37.4  49.6  13.79999.0  17.0  36.4  20.9   4.3
      56.8  20.8  26.5  11.7 116.0  26.5  73.3  15.0  33.9  20.1
      34.1  51.6  54.3  19.0  11.0  10.0  11.0   2.0   3.0   7.0
       4.0   4.0
2605 149.6  47.0  22.0  29.0   8.7  14.3   8.1  19.5   8.7   1.6
      35.4  11.2  15.5   7.1  61.6  17.8  45.5   7.6  24.0  11.2
      21.6  28.89999.0  19.0  11.0  10.0  10.0   3.0   3.0   7.0
       4.0   4.0
2606 153.1  47.0  22.0  28.3   7.9  15.9   9.6  20.5  12.4   2.2
      38.0  12.2  15.6   8.4  64.0  15.8  43.0   8.5  21.7  12.5
      21.1  30.1  31.4  19.0  11.09999.09999.09999.0   3.0   7.0
       4.0   4.0
2607 205.0  66.5  34.8  40.0  10.69999.0  13.1  28.8  15.3   3.0
      48.2  14.5  21.6  10.8  88.7  21.6  56.8  10.8  27.0  15.8
      28.5  42.49999.0  19.0  11.09999.0   9.09999.0   3.0   7.0
       4.0   4.0
2608 367.6 121.2  55.5  69.0  17.09999.09999.0  52.5  26.1   3.6
      67.0  38.2  37.9  20.9 159.7  34.0 106.1  23.1  50.7  29.6
      50.7  71.3  81.0  18.0  11.0  10.09999.0   3.0   3.0   7.0
       4.0   4.0
2609  48.8  14.5   7.7  10.0   2.5   5.8   4.0   5.4   4.6   0.6
      15.5   4.5   5.0   2.9  19.7   5.5  11.1   4.1   8.4   5.0
       9.2   7.8   7.2  19.0  10.0  11.0  12.0   3.0   3.0   7.0
       4.0   3.0
2610 118.0  31.89999.09999.0   6.69999.0   5.1  12.5   8.4   1.7
      25.6   6.1   9.8   7.2  43.8  12.4  34.7  10.0  18.1   9.9
      17.7  20.7  25.2  19.0  11.09999.09999.0   3.0   3.0   6.0
       4.0   3.0
2611  70.8  20.8  12.8  14.1   3.7   6.5   3.7   8.4   5.4    .8
      23.9   5.5   7.1   3.6  29.3   7.8  17.7   6.6  10.5   6.3
      11.7  12.0  12.9  21.0  11.0  12.0  11.0   3.0   3.0   7.0
       4.0   3.0
```

```
2612 191.0  60.09999.0  36.0   8.6  20.0  11.5  16.5  16.0   1.9
      49.7  15.0  18.7   7.7  79.4  17.8  53.4   8.5  25.0  17.2
      30.4  37.6  39.2  18.0  11.0  13.0  12.0   3.0   3.0   7.0
       4.0   3.0
2613 330.0 110.2  52.9  68.7  14.6  36.7  25.7  43.5  23.8   4.5
      78.4  30.0  35.8  15.2 145.9  34.3 106.3  18.6  49.2  32.0
      49.8  67.59999.0  17.0  10.0  11.0  11.0   3.0   3.0   6.0
       4.0   3.0
2614 109.0  34.0  19.0  20.8   5.1  10.9   7.0  13.49999.09999.0
      30.7   7.4  11.2   5.6  45.7  11.1  33.0   6.5  17.7   9.7
      17.4  19.1  20.4  19.0  11.0  12.0  12.0   3.0   3.0   7.0
       4.0   3.0
2615 355.0 109.1  57.5  69.1  15.5  35.4  23.0  45.7  25.1   5.2
      73.5  34.7  33.0  20.5 143.2  37.7 122.4  19.3  46.4  28.0
      54.39999.0  66.5  18.0  10.0  12.0  12.0   3.0   3.0   6.0
       4.0   3.0
2616 177.6  56.5  25.7  34.5   9.7  17.5  10.9  24.2  11.6   2.6
      47.8  14.4  18.2  10.3  75.9  20.4  53.8  11.0  24.0  14.3
      24.6  36.09999.0  18.0  11.0  10.0  12.0   3.0   3.0   6.0
       4.0   4.0
2617 155.6  45.6  23.9  29.4   8.0  13.3   7.4  19.4   9.0   2.2
      44.2  11.1  14.4   9.4  63.0  16.9  45.0  10.0  21.4  12.7
      25.8  33.6  35.0  18.0  11.0  14.0  12.0   3.0   3.0   6.0
       4.0   2.0
2618 147.2  43.3  26.0  29.0   8.1  11.8   7.4  17.0   9.0   2.2
      37.3  10.1  15.8   7.3  57.6  17.7  45.1   9.2  23.0  11.8
      23.89999.09999.0  18.0  11.0  11.0  12.0   3.0   3.0   6.0
       4.0   2.0
2619 154.4  47.5  23.4  29.0   8.4  12.1   7.9  19.5  10.7   2.3
      42.8  12.3  13.2   7.5  62.6  16.2  41.2   9.0  20.4  12.1
      23.99999.09999.0  15.0  11.0  11.0  11.0   2.0   3.0   6.0
       3.0   2.0
2620 133.0  43.7  21.7  27.4   7.1  12.8   8.8  17.5  11.1   1.5
      38.8  10.0  15.4   6.4  58.5  14.2  32.1   8.1  18.0  13.5
      21.4  27.0  27.3  14.0  11.0  12.0  12.0   3.0   3.0   7.0
       4.0   2.0
2621 125.2  39.4  18.7  26.9   6.6  11.6   7.5  16.0  10.1   1.5
      35.3   9.5  13.3   7.4  53.5  14.4  37.4   5.5  17.8  12.2
      19.3  23.9  24.6  17.0  11.0  13.0  12.0   3.0   3.0   7.0
       4.0   2.0
2622 177.5  53.0  24.7  32.0   8.1  15.8  10.4  24.1  11.2   2.3
      37.5  12.7  18.7   9.8  73.8  18.9  49.6  10.5  22.2  14.9
      25.1  35.2  35.4  18.0  11.0  11.09999.0   3.0   3.0   7.0
       4.0   5.0
2623 199.0  66.4  30.1  40.6   9.6  19.4  13.5  26.1  15.6   3.0
      49.6  15.2  21.3   8.3  88.1  21.4  54.8  12.9  31.5  19.2
      30.2  36.9  39.2  17.0  10.0  12.0  11.0   3.0   3.0   6.0
       4.0   2.0
2624 298.0 104.0  54.3  66.3  13.8  33.8  21.6  45.8  27.6   3.4
      67.5  27.6  35.8  14.2 136.0  31.7  84.0  16.2  44.4  29.7
      39.79999.09999.0  18.0  11.0  12.0  12.0   3.0   3.0   6.0
       4.0   2.0
2625 200.0  65.3  33.8  41.8  10.5  15.9  12.0  29.7  13.2   2.8
      45.0  15.2  21.3  10.3  87.7  22.1  51.5  18.6  29.2  17.0
      28.1  43.2  46.6  19.0  11.09999.09999.0   3.0   3.0   6.0
       3.0   4.0
2626 118.7  36.8  19.0  24.1   5.8  11.2   7.2  15.8   9.5   2.3
      36.1   8.9  11.1   7.0  50.3  18.6  32.5   8.3  19.4   9.7
      18.09999.09999.0  19.0  11.0  14.0  11.0   3.0   3.0   6.0
       3.0   4.0
2627 310.0 104.7  56.4  69.0  15.2  25.0  17.7  42.8  18.1   3.2
      61.8  27.4  29.0  17.4 133.0  31.1  90.7  15.5  41.5  25.8
      45.7  59.5  65.7  19.0  11.0  12.0  12.0   3.0   3.0   6.0
       4.0   3.0
2628 248.0  82.7  41.2  53.2  11.3  25.4  16.8  34.0  18.4   2.4
      62.3  15.8  26.3  11.3 108.5  23.4  61.0  12.6  35.7  24.2
```

```
        38.0   41.0   46.7   19.0   11.0   12.0   12.0    3.0    3.0    7.0
         4.0    3.0
  2629 308.8  108.4   41.6   59.0   15.2   34.0   20.5   44.9   26.5    2.8
        56.9   25.6   19.9   15.4  137.5   65.1   90.0   12.7   38.0   22.5
        37.7   60.7   65.1   20.0   11.0   10.09999.0    3.0    3.0    6.0
         4.0    4.0
  2630 213.0   71.5   34.5   45.0   10.4   23.0   15.5   25.9   19.8    3.1
        46.6   16.6   23.9   13.1   95.7   21.4   59.2   11.4   28.9   22.0
        29.5   46.19999.0   16.0   11.0   13.0   12.0    3.0    3.0    6.0
         4.0    2.0
  2631 290.0  102.79999.0   66.0   13.3   37.5   22.0   41.0   24.5    4.3
        64.2   36.8   36.2   14.4  142.3   28.3   85.8   13.0   39.2   30.5
        43.2   57.89999.0   17.0   11.0   11.0   11.0    3.0    3.0    6.0
         4.0    3.0
  2632 233.5   78.1   35.3   47.9   11.1   23.8   16.6   31.1   20.0    2.8
        59.8   19.4   25.6    9.1  102.3   22.8   57.8   10.8   31.6   23.4
        32.7   48.39999.0   17.0   11.0   12.09999.0    3.0    3.0    6.0
         4.0    3.0
  2633 372.5  132.1   51.5   79.4   14.9   43.0   24.0   48.6   32.2    3.6
        67.7   39.7   36.6   17.7  167.6   31.8   92.6   18.3   44.3   32.7
        50.0   58.9   66.7   18.0   11.0   12.0   12.0    3.0    3.0    6.0
         4.0    3.0
  2634 318.2  108.59999.0   64.0   14.8   36.0   21.0   33.0   27.7    3.4
        69.09999.0   35.6   12.1  142.3   31.5   83.8   14.2   44.3   30.3
        45.09999.09999.0   17.0   11.0   12.0   12.0    3.0    3.0    6.0
         4.0    3.0
  2635 281.0   97.29999.0   62.0   14.5   33.0   18.0   30.0   25.7    3.0
        62.99999.0   33.9   16.7  128.5   24.7   69.5   17.1   37.8   26.7
        35.5   54.19999.0   18.0   11.0   12.0   11.0    3.0    3.0    6.0
         4.0    3.0
  2636 172.0   55.9   26.9   35.1    8.7   18.2   12.2   22.1   15.4    2.9
        42.2   12.3   18.8    8.3   74.4   18.2   46.4   11.3   27.4   17.5
        26.5   29.6   31.7   18.0   11.0   12.0   12.0    2.0    3.0    6.0
         3.0    3.0
  2637 148.2   49.8   25.5   31.5    8.2   16.1    9.8   19.0   12.5    1.7
        43.9   11.7   15.5    7.5   64.6   16.0   40.4    9.7   23.1   14.1
        21.8   32.5   31.5   18.0   11.0   13.0   12.0    3.0    3.0    6.0
         4.0    2.0
  2638 168.3   61.2   29.6   38.3    8.2   18.1   12.3   25.2   16.4    2.7
        44.1   15.0   17.3    8.1   78.6   17.2   45.7    8.5   22.0   15.2
        25.9   33.69999.0   17.0   11.0   13.0   12.0    3.0    3.0    6.0
         4.0    2.0
  2639 297.0  104.0   46.7   62.3   13.9   32.0   21.6   47.3   24.2    4.8
        66.4   23.3   32.0   19.0  131.3   33.6  100.5   14.5   40.2   24.9
        42.0   65.0   66.5   19.0   11.0   11.0   10.0    3.0    3.0    6.0
         4.0    4.0
  2640 170.4   54.7   25.9   35.9    8.1   18.0   11.4   24.6   13.7    2.2
        49.6   13.5   14.7   11.2   70.4   16.4   45.9   10.2   25.8   14.4
        22.19999.09999.0   16.0   11.0   13.0   12.0    3.0    3.0    6.0
         4.0    4.0
  2641 159.8   52.2   20.9   32.5    7.3   17.9    9.69999.0   14.5    2.9
        53.2   15.0   16.8    5.9   66.9   18.1   46.9   11.5   23.4   12.5
        26.19999.09999.0   17.0   11.0   14.0   13.0    3.0    3.0    6.0
         4.0    4.0
  2642 142.0   46.1   22.5   30.0    6.8   15.1    9.3   19.0   11.6    2.7
        44.2   11.7   13.9    8.3   61.0   16.2   42.5    9.1   20.9   12.0
        20.59999.09999.0   16.0   11.0   13.0   12.0    3.0    3.0    6.0
         4.0    4.0
  2643 290.0   96.2   48.9   60.7   11.6   32.1   19.0   41.3   28.0    4.7
        73.2   26.7   31.0   16.4  126.8   31.7   81.3   19.6   38.7   25.5
        43.49999.09999.0   18.0   11.0   15.0   13.0    3.0    3.0    6.0
         4.0    4.0
  2644 320.0  113.7   62.0   71.0   12.5   34.0   22.5   47.6   28.9    3.8
        83.8   33.0   32.8   29.1  141.8   34.4   94.0   16.5   45.1   26.4
        43.69999.09999.0   18.0   11.0   16.0   13.0    3.0    3.0    6.0
         4.0    4.0
```

```
2645 338.0 113.3  49.6  67.4  12.99999.0  25.0  45.0  26.4   4.6
      77.5  29.0  40.5  15.2 153.9  29.1  83.0  16.8  51.8  31.9
      52.9  68.7  67.6  18.0  11.0  13.0  12.0   3.0   3.0   6.0
       4.0   2.0
2646 225.0  74.6  36.8  48.0  10.4  20.2  12.7  30.8  13.8   3.4
      58.8  17.9  19.9   9.9  94.7  24.9  60.8  13.8  32.2  18.1
      31.4  43.5  48.5  16.0  10.0  11.0  12.0   3.0   3.0   6.0
       4.0   2.0
2647 215.0  69.6  41.6  45.7  11.9  18.3  10.8  30.0  11.3   3.0
      55.5  16.8  20.4  12.1  92.4  24.0  62.4  11.8  30.3  18.9
      33.09999.09999.0  17.0  11.0  12.0  12.0   3.0   3.0   6.0
       4.0   2.0
2648 149.0  49.0  20.7  32.0   8.4  12.3  10.6  20.9  11.3   2.6
      42.3  12.5  14.9   7.9  65.7  17.6  43.0   8.0  21.3  14.0
      22.8  29.6  31.6  15.0  11.0  12.0  11.0   3.0   3.0   6.0
       4.0   2.0
2801 160.3  51.8  27.2  34.8   8.7  16.5  11.3  20.7  13.3   2.9
      51.8  13.4  17.1  11.2  69.1  17.9  48.2  11.5  21.6  14.5
      22.3  38.4  38.2  17.0  11.0  15.0  13.0   2.0   3.0   7.0
       3.0   1.0
2802 122.7  36.7  20.4  24.4   6.19999.0   7.2  13.8   9.1   1.5
      21.0   9.5  13.3   7.3  51.0  14.0  32.0   6.2  13.5   9.4
      19.3  22.79999.0  16.0  12.0  13.09999.0   3.0   3.0   7.0
       4.0   4.0
2803 294.0  90.7  47.5  62.2  12.6  32.3  22.4  36.5  25.5   5.0
      75.3  24.0  30.7  15.5 116.2  29.0  83.6  14.3  37.7  24.2
      42.0  64.8  58.1  17.0  12.0  14.0  13.0   2.0   3.0   7.0
       3.0   1.0
2804 226.0  70.5  37.5  45.5  10.7  26.6  16.8  28.5  19.8   3.6
      61.4  18.0  23.7  13.6  96.0  25.0  64.6  12.5  31.4  18.0
      33.39999.0  52.7  16.0  12.0  15.0  12.0   3.0   3.0   7.0
       3.0   1.0
2805 150.7  46.5  25.7  32.4   7.8  15.1   9.8  20.0  11.6   2.5
      45.7  11.4  14.7   8.8  61.9  15.1  43.2   8.4  19.7  12.2
      23.49999.0  30.6  15.0  12.0  16.0  13.0   3.0   3.0   7.0
       4.0   4.0
2806 223.0  67.7  40.9  47.5  10.5  26.2  16.6  29.0  17.1   3.9
      63.6  21.0  24.2  13.6  92.2  24.4  66.1  13.6  28.6  19.0
      31.2  52.4  50.0  16.0  12.0  14.0  13.0   2.0   3.0   7.0
       3.0   1.0
2807 173.5  53.2  25.9  33.5   8.8  17.5  11.7  21.1  12.5   3.1
      49.3  14.4  17.2  10.8  71.1  18.5  50.4  10.1  21.6  13.6
      28.39999.09999.0  16.0  12.0  15.0  13.0   3.0   3.0   7.0
       4.0   4.0
2808 129.2  37.9  21.1  26.6   7.1  12.0   8.5  15.1   9.9   2.4
      39.5  10.0  13.5   7.1  54.0  15.4  39.5   7.1  16.7  10.1
      23.7  26.5  26.8  15.0  12.0  14.0  13.0   3.0   3.0   7.0
       4.0   4.0
2809 122.0  37.4  19.1  24.7   7.3  12.5   8.1  14.8   9.4   2.0
      36.4   9.3  12.8   7.9  50.4  13.7  36.9   8.0  15.1   9.9
      19.69999.09999.0  17.0  12.0  14.0  13.0   3.0   3.0   7.0
       4.0   4.0
2810 148.6  45.5  22.7  29.9   7.7  16.5  10.2  19.1  10.4   3.2
      44.5  12.4  14.9   9.4  62.3  17.3  40.4  10.5  19.3  12.2
      22.39999.09999.0  16.0  12.0  15.0  13.0   3.0   3.0   7.0
       4.0   4.0
2811 164.8  51.5  27.0  34.1   7.6  17.8   9.8  21.2  11.2   3.9
      46.8  13.4  16.9   9.5  70.7  17.8  47.5   9.8  21.2  13.0
      25.89999.09999.0  16.0  12.0  17.0  13.0   3.0   3.0   7.0
       4.0   4.0
2812 112.5  34.7  18.1  21.9   6.6  11.3   7.1  14.0   9.0   2.5
      35.9   8.3  11.3   7.5  46.4  12.2  29.0   7.1  16.1   9.2
      19.09999.0  24.2  16.0  12.0  16.0  14.0   3.0   3.0   7.0
       3.0   4.0
2813 105.1  31.0  18.3  21.7   5.8  10.7   6.7  13.1   9.0   1.6
      37.8   8.5  10.5   6.5  43.3  12.2  29.8   6.8  15.1   7.9
```

	17.8	24.3	23.2	17.0	12.0	15.0	13.0	3.0	3.0	7.0
	3.0	4.0								
2814	278.0	87.5	42.1	53.7	12.0	27.7	19.1	40.4	20.9	3.4
	67.5	22.59999.09999.0			123.6	27.8	75.6	14.7	40.0	22.0
	39.5	54.8	58.0	20.0	11.09999.09999.0			3.0	3.0	7.0
	4.0	4.0								
2815	144.8	46.0	22.5	31.5	8.6	14.4	9.5	17.3	10.5	2.5
	47.4	11.4	15.3	9.8	60.2	15.9	43.4	7.0	18.7	12.2
	22.5	35.29999.0		16.0	10.0	14.0	12.0	3.0	3.0	7.0
	3.0	1.0								
2816	103.1	31.9	18.4	21.9	6.3	8.3	5.8	11.6	7.5	2.1
	36.4	7.9	11.1	8.0	40.9	11.9	29.4	6.9	13.0	8.5
	16.5	23.4	24.3	17.0	10.0	14.0	12.0	3.0	3.0	7.0
	3.0	1.0								
2817	186.0	59.7	30.3	40.4	9.0	21.0	13.4	24.0	18.0	2.9
	57.0	16.0	20.4	11.7	82.0	21.7	58.2	9.4	24.8	15.7
	27.8	44.1	45.4	17.0	12.0	15.0	12.0	2.0	3.0	7.0
	4.0	1.0								
2818	103.2	31.3	16.7	21.8	6.3	10.3	6.7	12.5	7.9	2.0
	38.7	8.6	10.7	7.1	42.5	12.6	28.2	7.8	14.3	9.3
	16.5	23.8	22.6	16.0	10.0	13.0	11.0	3.0	3.0	7.0
	3.0	1.0								
2819	107.1	32.9	17.7	20.8	5.9	9.3	6.4	12.1	7.0	1.5
	40.7	8.4	10.7	7.8	43.0	12.2	31.6	6.6	14.0	9.2
	17.0	25.4	23.0	17.0	10.0	13.0	12.0	3.0	3.0	7.0
	3.0	1.0								
2820	152.0	49.6	29.8	34.9	9.1	18.0	11.1	19.9	13.6	3.3
	57.6	13.4	18.1	9.3	68.7	17.3	45.0	10.2	17.8	13.3
	20.4	38.1	38.8	17.0	11.0	14.0	11.0	3.0	3.0	7.0
	4.0	1.0								
2821	229.0	71.7	38.7	48.2	10.6	25.3	16.7	30.5	19.9	4.5
	67.6	21.6	23.6	15.6	94.5	24.7	64.0	17.0	30.8	19.4
	32.6	53.0	53.5	17.0	11.0	14.0	13.0	3.0	3.0	7.0
	3.0	1.0								
2822	253.0	81.3	45.0	56.5	11.7	28.5	20.1	33.2	20.0	3.7
	68.7	19.8	28.2	19.4	105.5	29.1	75.5	13.1	28.7	20.0
	34.2	59.7	58.2	17.0	12.09999.09999.0			3.0	3.0	7.0
	3.0	1.0								
2823	175.2	56.4	30.2	39.3	9.3	19.0	13.5	22.0	15.0	3.5
	60.5	14.4	18.1	10.6	76.1	20.3	54.8	10.4	21.6	15.4
	25.8	44.4	43.7	16.0	12.0	14.0	13.0	3.0	3.0	7.0
	3.0	1.0								
2824	179.0	58.0	30.2	39.8	8.4	19.7	12.0	23.4	14.7	3.4
	53.9	14.6	19.3	13.0	76.4	21.2	54.7	12.6	21.5	15.3
	26.5	44.39999.0		16.0	11.0	15.0	13.0	3.0	3.0	7.0
	3.0	1.0								
2825	228.0	76.0	36.6	49.7	11.0	26.0	18.8	30.9	18.9	4.1
	66.7	19.0	23.6	18.7	96.0	25.3	70.2	12.6	25.4	19.0
	32.9	52.8	52.2	17.0	11.0	12.0	12.0	3.0	3.0	7.0
	3.0	1.0								
2901	121.1	36.7	19.5	23.6	6.5	12.4	8.3	14.6	9.7	2.4
	35.1	10.8	11.2	6.1	47.1	14.0	37.9	6.5	16.5	9.5
	19.8	23.9	22.6	15.0	12.0	13.0	12.0	3.0	3.0	7.0
	4.0	3.0								
2902	141.8	43.5	24.0	29.8	7.5	15.3	10.2	18.7	12.6	2.9
	38.5	12.9	13.0	7.8	57.2	16.0	42.8	6.6	19.4	10.6
	22.8	27.1	25.1	16.0	12.0	14.0	11.0	3.0	3.0	7.0
	4.0	3.0								
2903	146.9	45.8	24.2	32.4	7.9	14.9	10.2	20.3	9.4	2.0
	42.0	13.79999.09999.0			61.6	16.6	46.3	7.2	17.7	12.1
	23.5	30.9	30.0	15.0	11.0	13.0	12.0	3.0	3.0	7.0
	4.0	3.0								
2904	149.0	46.6	24.7	30.7	8.6	14.8	10.2	20.6	10.1	1.8
	42.5	12.1	15.9	8.7	62.1	18.1	40.8	6.4	19.7	11.7
	25.1	33.3	32.3	17.0	13.0	13.0	12.0	3.0	3.0	7.0
	4.0	3.0								

2905	121.9	38.0	21.7	26.2	7.0	12.8	8.0	16.5	10.8	2.4
	35.2	11.5	13.6	8.0	51.0	13.7	33.4	6.8	17.0	10.0
	19.8	25.1	25.7	15.0	12.0	14.0	14.0	3.0	3.0	7.0
	4.0	2.0								
2906	149.5	47.6	25.2	32.4	8.7	14.1	10.5	20.1	11.2	3.7
	39.0	11.8	17.2	9.0	62.5	16.9	50.1	7.2	17.8	11.8
	24.6	29.8	32.6	16.0	11.0	15.0	14.0	3.0	3.0	7.0
	4.0	3.0								
2907	134.8	41.9	26.7	30.8	7.2	14.3	8.4	18.1	11.0	3.0
	35.6	13.4	14.5	7.5	56.6	16.7	38.6	8.0	17.0	11.9
	22.1	26.8	29.2	17.0	12.0	15.0	14.0	3.0	3.0	7.0
	4.0	2.0								
2908	142.7	44.7	26.6	30.0	7.8	13.5	8.8	20.2	11.2	2.7
	38.6	11.6	9999.0	9999.0	59.4	16.4	47.1	6.5	16.1	11.9
	22.6	30.0	30.3	16.0	12.0	15.0	12.0	3.0	3.0	7.0
	4.0	3.0								
2909	207.0	64.1	34.5	40.7	9.0	21.7	14.8	27.9	16.6	4.0
	53.6	17.6	22.8	12.9	88.5	24.2	66.8	11.5	25.6	16.5
	29.7	45.6	44.0	15.0	10.0	14.0	13.0	3.0	3.0	7.0
	4.0	5.0								
2910	216.0	66.4	34.0	41.9	10.6	23.4	15.7	29.7	16.0	3.1
	52.0	17.9	23.5	10.5	90.6	22.2	63.5	9.6	30.5	16.8
	32.2	47.4	48.1	15.0	11.0	16.0	9999.0	2.0	3.0	7.0
	4.0	5.0								
2911	123.5	36.5	20.6	24.6	6.9	9999.0	9999.0	14.6	9.8	1.8
	41.7	9.5	12.7	7.2	50.2	13.1	34.6	5.9	16.1	11.6
	19.2	25.3	26.0	17.0	11.0	9999.0	9999.0	3.0	3.0	7.0
	4.0	4.0								
2912	118.3	35.6	19.2	23.7	6.5	12.1	8.1	15.0	10.5	2.2
	35.3	10.0	11.2	8.4	47.0	14.5	32.5	6.6	15.2	9.6
	21.2	24.4	23.7	15.0	11.0	14.0	11.0	3.0	3.0	7.0
	4.0	3.0								
2913	232.4	74.6	42.8	50.7	11.0	27.2	16.5	33.0	16.3	3.6
	55.9	19.6	22.6	15.9	95.5	26.5	66.8	10.0	27.2	19.5
	37.3	47.2	49.3	15.0	12.0	15.0	12.0	2.0	3.0	7.0
	4.0	3.0								
2914	291.3	88.9	47.4	62.5	14.9	9999.0	9999.0	37.4	23.6	5.0
	60.9	32.2	26.4	20.4	118.5	28.3	79.9	8.8	33.5	22.5
	44.5	61.4	62.7	17.0	12.0	15.0	14.0	3.0	3.0	7.0
	4.0	3.0								
2915	82.1	24.5	16.6	18.1	4.8	8.5	5.8	10.0	7.3	1.4
	27.7	7.0	8.5	5.6	34.0	8.8	19.5	6.6	11.8	6.0
	13.5	17.8	15.7	15.0	12.0	14.0	14.0	3.0	3.0	7.0
	4.0	2.0								
2916	255.0	80.6	33.1	52.5	13.3	27.5	18.0	36.1	21.8	3.9
	58.2	20.6	29.6	15.7	110.7	27.9	74.4	9.7	32.2	20.6
	34.9	53.1	52.8	17.0	12.0	13.0	12.0	3.0	3.0	7.0
	4.0	4.0								
2917	115.9	34.6	17.9	21.9	5.9	11.2	7.9	14.1	7.8	2.2
	34.8	9.3	10.8	5.2	46.2	11.7	33.9	6.5	14.7	9.7
	17.6	22.1	21.8	17.0	11.0	15.0	13.0	3.0	3.0	7.0
	4.0	3.0								
2918	190.0	62.6	34.0	42.0	10.0	24.6	15.0	27.3	15.5	4.1
	51.6	20.0	18.9	13.4	83.1	22.3	58.7	12.3	24.1	15.0
	28.1	41.9	40.7	16.0	11.0	14.0	14.0	3.0	3.0	7.0
	4.0	3.0								
2919	107.7	34.5	19.8	22.9	6.0	10.5	7.6	14.4	9.4	2.2
	35.5	9.6	11.6	5.9	47.4	12.6	32.3	5.2	14.0	8.9
	17.2	24.0	22.4	15.0	12.0	14.0	12.0	3.0	3.0	7.0
	4.0	2.0								
2920	114.3	34.6	20.2	23.5	6.8	10.8	7.2	15.0	8.2	2.2
	37.2	9.9	12.7	6.3	47.1	13.4	34.8	6.8	13.5	9.9
	17.4	25.4	23.9	14.0	12.0	14.0	13.0	3.0	3.0	7.0
	4.0	2.0								
2921	115.5	34.0	20.6	23.3	6.5	11.0	7.3	14.7	8.6	3.0
	33.2	10.3	11.6	6.1	46.6	13.3	33.0	5.7	14.8	10.0

	19.0	21.5	20.6	15.0	12.0	14.0	14.0	3.0	3.0	7.0
	4.0	2.0								
2922	125.2	37.6	22.0	26.4	6.8	12.5	8.6	16.8	10.2	2.4
	34.0	11.0	12.6	6.9	51.4	15.3	43.1	6.3	14.9	9.9
	20.4	25.9	25.9	16.0	12.0	15.0	14.0	3.0	3.0	7.0
	4.0	2.0								
2923	240.0	77.5	40.7	54.5	12.7	29.5	18.2	33.6	19.0	4.1
	58.9	18.5	24.7	15.8	101.6	27.0	74.4	10.6	28.3	17.4
	34.9	51.9	50.2	15.0	12.0	15.0	15.0	2.0	3.0	7.0
	4.0	3.0								
3001	253.8	80.9	40.4	59.5	6.8	43.1	28.7	30.5	34.8	4.9
	63.1	27.5	21.8	12.0	99.5	32.6	53.7	29.6	31.6	17.8
	37.1	9999.0	9999.0	16.0	10.0	10.0	9.0	3.0	5.0	4.0
	4.0	2.0								
3002	56.2	18.5	9.6	13.3	1.6	10.0	5.7	7.1	7.7	1.4
	20.3	5.7	7.7	4.4	23.3	6.7	9.0	10.6	9.5	4.4
	10.0	11.6	9.7	17.0	9.0	11.0	9.0	3.0	5.0	4.0
	3.0	2.0								
3003	74.3	23.9	13.3	18.2	2.7	12.5	7.2	9.4	10.9	1.6
	26.4	8.2	7.9	6.3	30.1	10.3	10.6	13.8	11.6	5.8
	11.8	9999.0	14.0	16.0	9.0	11.0	9.0	3.0	5.0	4.0
	3.0	2.0								
3004	59.4	19.4	9.8	14.5	1.9	10.4	5.8	6.7	8.2	1.3
	18.4	5.8	6.5	4.5	23.3	6.3	8.7	11.1	9.6	4.1
	9.7	10.3	9.5	16.0	9.0	10.0	9.0	3.0	5.0	4.0
	3.0	2.0								
3101	208.0	67.1	28.8	37.5	11.4	22.8	19.1	19.4	21.7	2.2
	60.3	20.9	15.8	10.1	79.0	19.5	64.5	8.6	30.7	13.7
	37.0	37.5	35.3	21.0	9.0	60.0	9999.0	2.0	1.0	4.0
	1.0	1.0								
3102	163.0	50.3	23.6	29.4	8.3	19.9	13.2	13.7	14.7	2.0
	43.1	16.0	13.3	8.0	59.5	16.3	50.3	7.7	24.8	11.7
	30.9	31.1	31.5	20.0	9.0	59.0	9999.0	1.0	1.0	4.0
	1.0	1.0								
3103	176.0	58.3	25.9	34.6	9.2	25.0	17.0	18.0	19.0	2.0
	39.2	18.0	15.0	8.8	68.8	17.9	54.3	9.8	27.9	14.6
	30.2	30.7	33.4	20.0	8.0	57.0	54.0	3.0	3.0	4.0
	1.0	1.0								
3104	174.0	53.1	23.2	32.2	8.3	22.3	15.4	16.9	17.8	2.1
	49.5	17.0	14.2	8.7	64.7	18.4	57.2	13.0	28.2	13.3
	29.5	30.7	29.6	18.0	8.0	56.0	48.0	3.0	3.0	4.0
	1.0	1.0								
3105	102.3	28.0	14.5	16.0	6.4	9.4	5.8	8.1	7.7	.8
	9999.0	8.6	7.1	4.2	34.4	10.0	34.0	6.6	16.8	7.0
	19.5	15.6	15.9	20.0	9.0	56.0	56.0	2.0	3.0	4.0
	1.0	1.0								
3106	264.0	85.9	35.7	50.9	11.1	29.4	22.6	28.6	26.4	2.7
	68.8	28.9	22.9	15.4	102.3	25.6	82.3	12.3	39.9	18.9
	47.6	45.2	46.2	19.0	9.0	62.0	9999.0	2.0	3.0	9.0
	1.0	1.0								
3107	214.2	69.6	34.0	40.6	11.1	23.1	21.1	22.1	22.1	2.6
	58.3	23.1	18.4	8.3	85.0	21.0	65.3	12.1	31.6	15.6
	37.5	41.9	39.2	19.0	8.0	58.0	9999.0	9999.0	3.0	4.0
	1.0	1.0								
3108	100.3	29.5	15.0	17.5	6.2	10.1	8.1	8.2	7.9	1.2
	26.4	9.1	17.6	3.7	34.9	9.4	30.7	5.4	15.9	6.9
	22.3	17.9	19.5	18.0	9.0	57.0	9999.0	3.0	3.0	4.0
	1.0	1.0								
3109	222.0	71.3	32.4	43.7	10.9	26.6	21.4	23.2	24.4	3.0
	60.6	23.1	19.5	11.2	85.3	21.7	70.0	11.8	36.8	16.8
	39.6	40.0	41.8	18.0	8.0	67.0	52.0	2.0	3.0	4.0
	1.0	1.0								
3110	215.0	73.7	32.3	40.8	10.7	25.6	18.9	22.1	22.1	3.9
	57.5	22.1	17.0	9.1	82.8	21.0	62.4	14.5	33.6	15.6
	40.4	41.1	38.7	19.0	9.0	62.0	54.0	2.0	3.0	4.0
	1.0	1.0								

3111	282.0	94.0	43.1	54.1	13.0	33.5	26.0	30.4	28.5	2.8
	71.3	30.0	22.8	13.5	106.7	29.4	85.1	18.8	49.3	20.6
	48.5	46.5	46.8	20.0	9.0	64.0	51.0	2.0	5.0	9.0
	1.0	1.0								
3112	131.0	37.9	17.2	22.4	6.9	13.2	10.2	11.5	13.0	1.3
	39.0	12.2	10.6	5.9	47.4	13.8	41.2	7.7	22.6	9.0
	25.5	23.8	24.0	20.0	9.0	57.0	49.0	1.0	1.0	4.0
	1.0	1.0								
3113	183.5	55.3	27.9	33.2	9.5	19.8	14.9	16.9	16.0	2.4
	9999.0	17.5	15.0	7.6	68.4	18.5	60.2	11.5	31.0	14.1
	32.7	34.2	32.8	20.0	9.0	63.0	53.0	1.0	1.0	4.0
	1.0	1.0								
3114	169.0	53.2	26.4	31.3	8.4	21.3	16.0	17.3	17.5	2.5
	9999.0	15.2	12.7	6.9	63.4	17.2	49.9	9.6	29.0	12.8
	30.4	33.4	32.3	20.0	9.0	62.0	52.0	1.0	1.0	4.0
	1.0	1.0								
3115	206.0	65.2	30.0	39.0	11.1	24.5	18.2	19.1	21.9	3.0
	9999.0	19.8	17.0	8.4	77.8	20.7	67.4	10.1	36.9	14.6
	38.5	40.3	39.8	20.0	9.0	64.0	48.0	2.0	3.0	4.0
	1.0	1.0								
3116	274.0	89.5	38.6	50.0	12.8	30.1	24.9	26.4	30.6	4.0
	73.3	28.1	27.5	9.8	106.0	27.3	86.0	13.0	42.6	17.2
	47.4	52.5	51.8	21.0	9.0	65.0	49.0	3.0	3.0	4.0
	1.0	1.0								
3117	192.2	61.1	30.3	33.9	8.9	22.0	15.9	19.7	19.1	2.5
	9999.0	19.2	20.6	8.0	73.5	18.3	57.2	12.5	30.2	13.5
	36.0	33.5	34.8	20.0	9.0	60.0	52.0	3.0	1.0	4.0
	1.0	1.0								
3118	180.0	54.1	23.8	33.9	8.3	21.2	15.2	17.2	16.8	2.5
	44.1	17.4	14.5	8.7	66.5	17.3	57.5	12.3	31.0	13.3
	33.1	31.0	32.4	20.0	9.0	61.0	57.0	1.0	5.0	4.0
	1.0	1.0								
3301	153.8	47.7	27.7	34.1	8.2	14.9	22.5	15.0	16.5	1.9
	45.5	15.1	12.7	9.6	59.2	15.8	40.4	10.1	25.0	10.8
	26.7	31.5	29.5	18.0	9.0	23.0	19.0	1.0	5.0	8.0
	1.0	1.0								
3302	197.0	58.6	30.1	45.8	10.0	26.6	18.9	20.6	21.7	3.1
	50.9	20.8	17.5	11.9	75.4	22.0	59.9	13.6	31.3	15.7
	32.2	42.4	9999.0	19.0	9.0	21.0	20.0	2.0	1.0	8.0
	1.0	1.0								
3303	175.0	52.5	30.5	39.6	10.6	27.1	16.9	18.8	19.0	2.9
	42.4	19.0	15.4	9.2	68.5	20.9	50.3	11.6	29.7	14.9
	27.3	39.4	36.5	17.0	9.0	21.0	21.0	2.0	5.0	8.0
	1.0	1.0								
3304	185.0	54.2	32.4	40.6	10.0	23.9	18.0	19.4	21.1	3.0
	51.2	19.8	17.0	10.2	71.8	17.3	52.5	13.0	30.1	13.4
	31.3	38.4	36.0	18.0	10.0	21.0	20.0	2.0	1.0	8.0
	1.0	1.0								
3305	189.3	56.5	31.9	40.4	9.6	27.2	19.0	19.0	21.8	2.5
	52.0	19.5	15.3	11.0	71.6	20.2	54.3	16.0	30.8	15.0
	31.8	9999.0	35.1	19.0	10.0	9999.0	9999.0	9999.0	9999.0	8.0
	1.0	1.0								
3306	150.0	47.2	28.5	32.8	9.1	20.0	15.5	16.3	16.4	1.8
	42.2	15.8	9999.0	9999.0	60.0	17.5	45.2	10.1	23.0	11.5
	24.5	9999.0	30.7	20.0	9.0	23.0	22.0	2.0	5.0	9.0
	1.0	1.0								
3307	185.3	54.2	31.0	40.0	9.0	25.1	16.5	18.4	19.8	2.8
	47.2	18.5	16.5	11.0	71.3	19.5	53.9	12.0	31.1	14.3
	28.1	37.3	33.9	19.0	10.0	21.0	24.0	2.0	9999.0	9999.0
	1.0	1.0								
3308	138.0	41.8	20.5	27.2	7.9	9999.0	9999.0	14.8	14.3	1.5
	46.3	12.9	9999.0	9999.0	53.5	13.8	40.4	10.4	25.7	11.6
	22.5	24.9	28.0	19.0	10.0	22.0	20.0	3.0	4.0	1.0
	1.0	1.0								
3309	144.2	42.7	23.5	30.4	7.6	17.8	13.2	14.3	15.1	2.1
	48.8	14.6	12.8	8.5	54.3	14.9	41.9	8.0	23.1	10.8

	24.9	34.7	29.8	19.0	9.0	26.0	29.0	2.0	1.0	9.0
	1.0	1.0								
3310	147.4	42.0	22.1	28.8	7.8	19.1	14.1	14.9	17.1	2.5
	41.7	14.8	13.5	8.5	53.0	16.2	44.3	10.1	24.0	10.7
	27.1	29.5	27.9	20.0	9.0	26.0	29.0	1.0	1.0	9.0
	1.0	1.0								
3311	140.0	41.1	22.7	29.0	7.5	20.2	13.5	13.9	16.8	2.0
	40.7	14.1	12.7	7.4	53.4	14.8	39.0	8.6	23.3	11.4
	23.9	29.0	27.5	19.0	9.0	25.0	30.0	1.0	1.0	9.0
	1.0	1.0								
3312	242.0	72.7	42.4	50.7	10.2	32.9	25.0	26.7	19.3	3.7
	56.0	24.4	19.0	13.1	91.2	25.0	79.2	22.7	36.3	17.9
	40.69999.0		44.1	20.0	9.0	24.0	28.0	2.0	5.0	8.0
	1.0	1.0								
3313	171.5	51.0	25.7	34.0	8.2	24.5	17.5	17.4	20.2	2.4
	44.5	17.2	13.4	8.1	62.2	17.1	49.2	7.5	27.0	13.4
	29.89999.0		29.2	20.0	9.0	30.0	29.0	2.0	5.0	4.0
	1.0	1.0								
3314	74.0	20.9	13.6	14.8	5.49999.09999.0			6.5	6.7	.7
	18.3	7.0	6.6	3.8	27.5	7.8	23.2	4.0	12.8	6.0
	13.7	12.8	14.6	20.0	9.0	19.0	19.0	3.0	5.0	8.0
	1.0	1.0								
3315	127.1	37.2	17.1	24.1	7.0	17.0	12.7	13.2	14.2	2.0
	33.3	11.5	10.4	5.1	47.2	14.4	38.3	7.9	22.8	9.3
	21.5	26.0	25.4	21.0	10.0	25.0	28.0	2.0	5.0	9.0
	1.0	1.0								
3316	101.4	29.0	16.5	19.5	6.2	11.9	7.9	10.1	10.0	1.4
	27.6	9.2	8.2	6.0	37.4	10.1	31.4	6.9	18.3	8.2
	19.2	19.8	20.7	19.0	10.0	24.0	25.0	2.0	3.0	9.0
	1.0	1.0								
3317	230.0	72.7	35.2	47.4	11.5	32.3	23.7	24.8	28.2	3.5
	64.3	24.7	19.9	12.8	89.8	24.2	67.9	16.5	33.4	15.4
	40.3	47.9	44.0	17.0	10.0	23.0	20.0	1.0	5.0	9.0
	1.0	1.0								
3318	247.0	85.0	35.5	54.1	12.0	38.7	28.2	29.6	31.2	4.0
	56.2	29.8	19.5	11.0	102.9	26.0	81.6	15.2	34.4	18.2
	43.5	46.6	42.7	19.0	10.0	22.0	20.0	2.0	5.0	8.0
	1.0	1.0								
3319	165.5	50.5	24.5	34.4	7.9	23.5	16.4	16.9	18.7	2.5
	43.5	18.0	14.2	9.0	64.0	18.7	53.8	11.0	22.0	12.0
	29.8	32.0	32.6	20.0	10.0	23.0	22.0	2.0	5.0	9.0
	1.0	1.0								
3320	242.0	73.3	40.1	51.6	10.09999.0		26.0	25.2	31.0	4.5
	57.0	25.2	26.2	10.2	90.1	25.2	76.7	19.5	38.5	18.5
	41.7	44.6	42.7	21.0	10.0	24.0	28.0	2.0	5.0	8.0
	1.0	1.0								
3321	230.0	74.8	34.9	52.4	10.4	33.8	22.6	25.1	27.8	4.1
	65.9	25.5	19.0	15.5	91.3	25.8	79.6	13.6	32.2	16.4
	39.59999.09999.0			19.0	10.0	20.0	21.0	1.0	5.0	8.0
	1.0	1.0								
3322	111.6	33.4	20.3	21.3	6.7	13.5	11.6	11.3	12.9	1.9
	37.9	11.4	10.2	5.5	41.2	11.9	34.4	7.2	19.7	8.1
	20.3	22.1	21.1	19.0	9.0	25.0	28.0	1.0	1.0	4.0
	1.0	1.0								
3323	126.7	39.4	22.0	26.0	7.0	15.0	11.3	14.2	13.1	2.2
	42.2	12.5	11.7	6.2	49.1	13.2	39.5	8.5	21.2	9.7
	21.9	24.2	26.0	19.0	10.0	22.0	24.0	2.0	1.0	9.0
	1.0	1.0								
3324	130.5	38.6	23.1	26.8	7.0	14.5	12.2	12.7	13.7	1.9
	39.1	13.2	12.0	6.3	49.8	20.3	43.3	7.0	8.5	9.1
	22.39999.09999.0			20.0	10.0	21.0	22.0	1.0	1.0	8.0
	1.0	1.0								
3325	100.5	29.6	18.6	20.1	6.1	11.9	8.7	10.0	9.5	1.8
	31.6	9.5	8.3	4.4	36.2	11.5	29.2	7.4	15.9	7.4
	19.2	16.6	19.4	20.0	10.0	22.0	23.0	1.0	5.0	4.0
	1.0	1.0								

3326	118.5	34.8	19.5	23.2	6.2	16.2	11.0	12.4	13.3	2.0
	36.0	11.8	10.4	6.5	43.9	19.9	36.9	7.2	19.9	8.7
	21.0	22.6	26.5	19.0	10.0	23.0	24.0	1.0	1.0	9.0
	1.0	1.0								
3327	86.7	25.5	8.4	15.4	5.0	10.9	8.8	8.1	9.4	1.6
	28.8	8.5	8.7	3.6	31.6	9.2	25.5	6.7	14.2	7.0
	27.0	15.5	14.9	20.0	9.0	28.0	30.0	1.0	5.0	4.0
	1.0	1.0								
3328	89.9	24.8	14.6	16.9	5.3	9.7	7.0	9.0	8.5	1.6
	29.2	7.0	7.8	3.9	33.5	9.7	27.0	6.1	13.3	7.0
	18.0	17.0	17.6	19.0	9.0	23.0	23.0	2.0	5.0	4.0
	1.0	1.0								
3329	89.0	26.6	14.5	18.1	5.1	12.2	8.0	9.5	10.7	1.4
	31.8	8.4	7.4	4.2	33.9	9.8	26.7	5.4	14.3	6.8
	16.7	16.3	18.1	21.0	10.0	25.0	23.0	2.0	5.0	4.0
	1.0	1.0								
3330	114.3	35.3	20.2	23.4	7.0	17.5	11.1	11.2	13.7	2.2
	35.0	11.1	11.9	4.6	43.4	11.4	31.1	8.4	19.4	8.5
	21.0	20.0	23.0	20.0	10.0	28.0	29.0	1.0	5.0	4.0
	1.0	1.0								
3331	109.1	32.5	16.6	20.3	6.0	14.2	10.7	10.8	12.4	2.0
	31.8	10.7	9.8	5.1	41.2	11.6	31.6	7.4	18.8	7.9
	20.1	18.6	20.8	19.0	9.0	26.0	28.0	2.0	5.0	4.0
	1.0	1.0								
3332	85.3	24.7	14.7	16.0	5.7	15.8	12.4	8.0	9.8	1.5
	27.2	7.8	8.0	3.6	31.1	9.5	24.1	6.0	14.6	6.8
	15.6	14.5	15.8	23.0	9.0	26.0	29.0	2.0	5.0	4.0
	1.0	1.0								
3333	79.7	23.1	13.6	15.5	5.1	10.6	5.8	7.8	8.6	1.1
	25.6	7.0	6.1	3.1	28.6	9.1	21.6	6.3	13.3	6.3
	15.3	14.6	14.0	20.0	10.0	23.0	24.0	2.0	5.0	4.0
	1.0	1.0								
3334	108.3	31.8	17.2	21.3	6.6	15.2	10.8	11.3	13.5	1.7
	29.6	9.9	8.6	4.3	40.6	11.2	31.4	7.3	19.5	9.9
	7.6	21.4	19.7	21.0	9.0	27.0	26.0	2.0	5.0	4.0
	1.0	1.0								
3335	110.2	32.4	18.0	19.7	6.5	13.5	9.9	11.2	11.7	1.4
	39.0	10.4	8.5	5.5	41.3	12.1	31.0	8.1	19.3	8.6
	19.8	22.0	21.7	21.0	9.0	23.0	22.0	2.0	5.0	4.0
	1.0	1.0								
3336	149.3	46.2	26.4	31.5	8.8	9999.0	16.0	15.0	19.3	2.0
	36.7	13.6	12.5	7.4	57.1	15.9	42.3	11.6	24.6	11.5
	24.3	28.0	26.7	19.0	9.0	26.0	28.0	2.0	1.0	4.0
	1.0	1.0								
3337	195.0	61.3	33.4	42.5	10.5	28.3	21.2	22.0	26.7	3.0
	9999.0	20.2	17.4	9.5	74.0	22.9	59.3	11.9	31.7	15.7
	33.5	40.5	37.0	18.0	8.0	27.0	28.0	1.0	5.0	4.0
	1.0	1.0								
3338	138.2	40.3	20.2	26.2	7.4	18.2	13.0	13.7	15.4	1.8
	39.3	12.8	11.0	5.7	50.4	13.5	39.4	10.6	23.7	10.7
	26.7	26.4	25.2	18.0	10.0	26.0	28.0	1.0	5.0	4.0
	1.0	1.0								
3339	142.8	43.0	21.0	29.9	7.8	18.0	13.2	14.0	9999.0	9999.0
	41.9	14.5	11.7	7.7	53.7	14.7	44.2	10.9	24.6	10.3
	24.1	29.9	27.5	18.0	9.0	22.0	24.0	2.0	5.0	9.0
	1.0	1.0								
3340	144.7	41.1	21.7	26.3	7.4	18.5	14.2	14.1	14.7	2.0
	40.4	12.8	12.6	5.4	52.0	15.2	44.6	9.6	25.0	11.1
	24.5	29.0	25.2	19.0	9.0	26.0	27.0	2.0	5.0	4.0
	1.0	1.0								
3341	137.9	41.6	20.7	27.8	7.0	18.3	13.8	14.3	16.1	2.0
	44.3	13.1	10.7	5.6	51.0	14.4	40.1	10.8	24.2	11.5
	25.3	27.7	24.9	18.0	9.0	27.0	29.0	2.0	5.0	4.0
	1.0	1.0								
3342	222.0	69.0	34.6	48.5	10.9	34.5	26.3	25.2	31.0	4.0
	58.5	23.2	19.0	8.8	85.4	9999.0	63.4	15.3	39.5	17.4

	36.1	47.0	43.7	17.0	9.0	26.0	26.0	1.0	5.0	9.0
	1.0	1.0								
3343	206.0	64.5	28.3	43.6	9.9	34.2	24.6	23.6	36.0	3.3
	58.0	17.5	17.4	8.0	77.7	21.0	60.4	12.2	33.9	14.3
	33.89999.09999.0			20.0	9.0	25.0	25.0	2.0	5.0	4.0
	1.0	1.0								
3344	270.0	88.6	29.0	46.5	11.7	39.1	30.2	31.3	36.2	4.1
	74.3	25.2	23.0	12.7	104.9	27.5	83.1	12.8	47.1	20.0
	42.4	51.0	53.2	21.0	10.0	25.0	26.0	3.0	5.0	4.0
	1.0	1.0								
3345	145.0	40.8	21.0	30.0	8.1	20.4	12.2	13.4	15.8	2.2
	36.7	13.7	11.3	6.4	52.8	15.4	44.5	7.6	21.8	10.5
	27.6	29.0	27.5	17.0	9.0	22.0	24.0	1.0	5.0	4.0
	1.0	1.0								
3346	155.4	47.0	22.6	32.8	8.2	20.0	15.0	16.0	17.2	2.2
	41.5	16.2	12.1	9.4	58.0	16.1	51.0	10.7	24.4	10.6
	26.6	34.5	30.0	19.0	10.0	23.0	24.0	2.0	5.0	9.0
	1.0	1.0								
3347	260.0	83.7	39.5	58.4	11.8	39.0	30.0	27.7	35.2	4.0
	63.3	28.0	21.1	12.0	99.8	27.5	78.0	15.8	39.4	19.8
	41.89999.09999.0			19.0	9.0	26.0	28.0	2.0	5.0	9.0
	1.0	1.0								
3348	172.7	53.9	24.9	34.3	9.2	21.6	14.7	18.5	19.2	2.3
	54.5	16.4	17.0	8.3	71.7	19.2	50.2	13.7	31.3	13.0
	30.1	33.0	36.3	19.0	10.0	22.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3349	108.5	32.8	17.2	20.8	6.5	11.8	8.1	10.9	10.6	1.8
	35.5	9.8	9.6	5.7	41.6	11.8	33.4	7.3	20.7	8.2
	19.49999.0		21.5	19.0	10.0	22.0	20.0	2.0	4.0	1.0
	1.0	1.0								
3501	237.0	74.4	41.5	49.8	7.5	32.8	22.6	27.0	26.0	3.6
	23.4	22.2	23.5	11.2	95.2	25.0	63.2	23.6	33.1	16.6
	35.59999.09999.0			20.0	11.0	14.0	15.0	2.0	1.0	3.0
	1.0	1.0								
3502	290.0	88.1	46.7	59.5	8.1	36.7	26.0	32.9	27.8	6.0
	25.4	28.3	33.2	11.7	112.4	28.1	70.1	24.8	44.7	19.8
	47.79999.0		55.3	19.09999.0		15.09999.0		3.0	1.0	3.0
	1.0	1.0								
3503	270.0	79.3	44.1	56.0	8.1	35.2	24.2	28.8	28.5	4.2
	26.5	25.4	16.5	12.8	101.8	27.4	76.5	25.1	44.0	18.5
	33.4	45.7	44.8	20.0	12.0	14.0	16.0	3.0	1.0	3.0
	1.0	1.0								
3504	375.0	113.8	62.9	81.8	10.2	52.1	36.2	40.0	41.6	6.7
	35.9	36.1	39.9	19.7	147.0	38.8	104.7	32.5	56.1	25.0
	50.5	74.1	62.7	19.0	10.0	13.0	15.0	2.0	1.0	3.0
	1.0	1.0								
3505	450.0	144.5	93.5	111.1	12.1	65.0	47.8	53.8	53.3	9.9
	43.0	52.9	39.9	17.8	177.4	49.0	131.7	36.2	68.6	34.8
	63.4	84.1	78.5	20.0	11.0	15.0	15.0	3.0	1.0	3.0
	1.0	1.0								
3506	330.0	101.7	55.5	70.8	9.2	44.0	31.4	34.8	37.2	5.8
	31.3	34.0	35.2	15.2	130.3	34.5	89.8	28.5	48.6	23.5
	48.39999.0		58.5	19.0	11.0	15.0	15.0	3.0	1.0	3.0
	1.0	1.0								
3507	390.0	121.5	71.7	86.6	11.0	53.1	36.6	42.2	42.5	7.6
	34.5	41.4	38.0	18.7	151.2	37.6	92.6	33.6	60.3	27.2
	62.5	76.6	62.3	20.0	10.0	17.0	15.0	3.0	1.0	3.0
	1.0	1.0								
3508	304.0	91.6	53.0	65.5	8.6	37.3	26.5	32.2	30.5	5.5
	29.4	31.5	29.3	15.3	116.8	31.2	80.6	29.2	49.5	20.2
	44.5	53.0	51.7	21.0	11.0	15.0	16.0	3.0	1.0	3.0
	1.0	1.0								
3509	242.0	71.5	40.0	46.4	7.7	28.0	20.5	24.2	21.7	3.7
	24.6	20.6	20.1	11.3	90.0	24.6	72.6	19.4	40.5	16.2
	36.0	46.2	41.5	20.0	10.0	14.0	17.0	3.0	1.0	3.0
	1.0	1.0								

3601	224.0	68.5	31.3	40.5	9.7	23.8	17.9	26.3	22.1	3.8
	71.8	22.7	20.4	13.6	89.0	25.6	56.4	26.5	39.4	15.9
	34.5	44.9	43.3	23.0	11.0	15.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3602	260.0	69.8	39.8	51.3	9.5	25.2	18.1	24.9	19.4	4.3
	41.5	24.3	26.8	12.8	98.1	27.0	80.7	29.6	47.2	21.1
	40.6	54.0	50.0	20.0	11.0	17.0	18.0	1.0	4.0	1.0
	1.0	1.0								
3603	180.0	49.0	28.1	34.0	9.1	18.0	13.1	19.1	15.4	4.4
	45.7	15.6	18.6	9.1	67.6	19.6	56.9	18.1	32.3	12.1
	29.0	37.8	37.1	22.0	11.0	18.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3604	154.9	42.0	25.0	28.1	7.9	15.9	10.0	14.6	12.4	3.0
	43.0	12.9	16.4	8.1	58.6	19.4	47.3	12.3	28.3	12.0
	25.9	27.8	31.2	22.0	10.0	15.0	18.0	1.0	4.0	1.0
	1.0	1.0								
3605	375.0	102.5	62.5	80.8	13.1	37.5	25.4	39.1	27.0	6.1
	59.2	35.0	31.8	16.5	142.7	41.6	108.9	39.2	62.9	26.5
	62.9	71.5	62.5	21.0	11.0	16.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3606	303.0	87.9	57.2	69.0	10.5	33.5	21.0	32.7	24.0	7.3
	70.1	29.3	29.3	16.7	116.0	56.2	70.9	36.0	56.2	22.9
	48.5	55.0	53.2	21.0	10.0	15.0	18.0	1.0	4.0	1.0
	1.0	1.0								
3607	270.0	71.2	47.5	57.6	9.9	28.3	17.5	27.7	19.5	5.1
	57.0	23.5	26.4	14.3	98.7	32.8	73.1	29.4	48.9	20.7
	43.3	52.2	55.1	21.0	10.0	14.0	16.0	1.0	4.0	1.0
	1.0	1.0								
3609	310.0	95.7	50.1	67.9	9.9	38.8	28.3	42.2	33.6	6.3
	70.5	30.99999.09999.0			124.6	36.1	61.8	39.5	56.2	22.6
	43.69999.09999.0			21.0	10.0	16.0	16.0	2.0	4.0	1.0
	1.0	1.0								
3610	244.0	77.3	46.3	54.3	8.99999.0		20.6	30.1	26.2	5.6
	54.5	24.2	23.9	14.8	100.5	27.9	56.5	30.5	38.6	18.6
	31.8	49.0	45.5	22.0	11.0	16.0	16.0	1.0	4.0	1.0
	1.0	1.0								
3611	232.0	70.7	38.5	48.0	8.0	29.4	20.8	29.2	24.8	5.2
	63.1	22.3	21.3	13.1	93.4	25.9	57.5	24.5	37.9	17.6
	34.0	45.5	41.5	20.0	11.0	16.0	17.0	2.0	4.0	1.0
	1.0	1.0								
3612	235.0	63.7	34.8	46.9	8.0	23.0	16.6	24.8	20.0	5.5
	64.4	21.5	21.8	10.6	88.0	28.6	67.9	23.2	43.8	16.3
	36.2	40.7	44.5	22.0	10.0	13.0	15.0	2.0	4.0	1.0
	1.0	1.0								
3613	268.0	74.7	50.6	60.4	10.1	26.5	19.9	28.0	21.0	5.4
	55.0	22.9	27.0	13.7	104.1	34.6	79.8	24.0	45.6	19.8
	44.2	51.1	50.6	20.0	11.0	15.0	16.0	1.0	4.0	1.0
	1.0	1.0								
3614	180.6	46.1	29.2	34.5	6.69999.0		11.1	16.9	12.3	2.7
	47.9	13.9	18.2	8.4	68.1	22.9	56.4	15.5	32.8	12.8
	30.3	37.7	39.2	21.0	11.0	15.0	16.0	2.0	4.0	1.0
	1.0	1.0								
3615	97.6	26.5	16.9	18.4	4.4	9.9	7.1	9.7	8.6	2.0
	30.1	7.7	8.9	4.3	36.0	13.0	28.8	8.1	21.0	7.1
	16.0	17.3	16.1	21.0	10.0	15.0	16.0	1.0	4.0	1.0
	1.0	1.0								
3616	152.0	41.6	26.0	30.0	6.5	18.4	11.4	15.9	14.5	2.0
	40.7	13.1	13.7	5.6	55.9	17.7	45.4	14.5	25.2	11.5
	27.1	26.6	26.9	19.0	11.0	15.0	17.0	3.0	4.0	1.0
	1.0	1.0								
3617	157.6	45.3	25.4	32.9	6.4	17.0	12.3	17.4	14.4	2.9
	38.2	14.6	14.5	7.8	58.0	18.5	46.9	14.2	24.0	12.1
	27.0	27.9	26.5	17.0	10.0	15.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3618	151.6	42.0	24.3	28.7	6.3	18.2	11.8	16.0	14.7	2.5
	37.5	13.2	11.7	6.9	54.5	17.5	45.5	14.0	25.3	12.5

	24.1	26.8	25.2	18.0	10.0	15.0	15.0	3.0	4.0	1.0
	1.0	1.0								
3619	380.0	107.2	64.0	80.0	13.7	35.9	28.8	46.0	32.7	7.6
	90.4	38.5	36.0	22.7	144.2	40.0	90.5	34.0	58.0	26.3
	48.4	78.0	70.2	21.0	11.0	15.09999.0		3.0	1.0	3.0
	1.0	1.0								
3620	215.0	62.6	40.1	48.6	8.4	22.7	16.1	21.9	18.4	3.8
	45.7	21.1	20.0	10.4	81.8	23.6	55.6	18.6	38.7	17.9
	35.1	41.1	39.4	19.0	10.0	16.0	17.0	1.0	1.0	3.0
	1.0	1.0								
3621	268.0	79.3	42.6	55.6	10.1	30.09999.0		28.69999.09999.0		
	56.9	28.5	23.8	13.0	105.3	32.2	72.9	20.4	42.9	21.9
	37.4	50.6	46.7	17.0	10.0	17.0	18.0	2.09999.09999.0		
	1.0	1.0								
3622	252.0	74.3	41.0	53.7	8.2	28.5	19.9	27.5	23.8	2.9
	61.0	25.5	22.7	14.7	98.3	25.9	83.4	18.0	39.1	21.7
	36.8	42.0	40.1	17.0	10.0	16.0	17.0	3.0	4.0	1.0
	1.0	1.0								
3623	290.0	89.8	52.3	61.6	11.3	35.9	24.0	29.59999.09999.0		
	60.1	31.3	30.6	15.7	120.0	32.6	88.0	23.4	48.7	24.6
	43.6	51.3	51.5	18.0	11.09999.09999.09999.0				1.0	2.0
	1.0	1.0								
3624	248.0	73.6	40.9	49.7	8.0	26.0	18.5	29.09999.09999.0		
	56.1	24.3	23.7	13.5	98.6	28.5	67.1	18.1	38.8	19.8
	34.6	44.3	47.0	18.0	11.0	15.0	18.0	2.09999.09999.0		
	1.0	1.0								
3625	230.0	67.5	34.8	44.9	8.7	24.4	17.9	24.5	22.6	3.7
	45.0	23.8	20.0	9.6	88.0	25.0	67.3	18.3	34.4	19.4
	35.8	41.6	36.5	18.0	10.0	17.0	18.0	1.0	1.0	2.0
	1.0	1.0								
3626	132.6	38.9	21.9	26.8	5.9	16.4	10.7	16.5	13.2	2.8
	42.6	12.5	12.7	6.8	51.7	16.8	36.8	17.0	22.9	11.1
	20.7	26.2	26.1	21.0	11.0	16.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3627	147.5	40.7	29.4	23.5	6.0	17.0	12.5	15.6	12.7	3.2
	42.3	13.7	16.3	7.5	54.4	18.6	43.1	13.3	26.4	11.7
	21.7	29.0	34.0	21.0	10.0	18.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3628	163.5	42.9	26.6	30.3	6.8	15.3	11.1	17.1	12.6	3.1
	40.2	13.2	17.5	8.6	60.1	19.5	46.4	18.6	31.6	12.0
	27.3	28.5	30.5	23.0	11.0	17.0	18.0	1.0	4.0	1.0
	1.0	1.0								
3629	149.3	38.1	26.0	27.3	6.5	14.1	10.5	14.7	12.2	2.8
	35.6	12.7	13.6	7.6	52.6	18.5	45.5	15.8	30.7	11.8
	23.4	26.1	27.2	23.0	10.0	14.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3630	189.3	49.2	32.7	37.0	7.4	19.5	13.8	19.5	15.3	3.3
	42.8	15.8	18.6	9.4	70.5	21.1	56.0	17.9	34.6	14.3
	29.1	35.2	38.6	22.0	11.0	17.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3631	75.2	20.6	13.2	12.9	4.4	7.7	4.5	7.4	5.3	1.7
	20.8	6.2	6.6	3.9	28.3	8.6	20.1	10.9	15.19999.0	
	9999.0	11.8	12.0	21.0	11.0	18.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3632	72.8	20.3	12.4	13.2	4.4	7.3	4.8	7.3	5.6	1.4
	21.0	6.4	5.8	3.6	27.0	7.6	20.1	8.9	14.1	5.4
	12.3	10.7	12.2	23.0	11.0	18.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3633	84.9	23.8	14.6	15.3	4.8	9.5	5.6	8.3	7.7	1.8
	23.0	6.9	8.5	5.0	32.0	10.5	22.7	10.1	17.3	6.6
	13.3	13.2	14.0	22.0	11.0	17.0	18.0	1.0	4.0	1.0
	1.0	1.0								
3634	80.3	22.0	13.4	15.1	4.5	8.2	5.4	7.9	6.9	2.0
	23.5	6.6	7.2	4.4	30.1	9.8	21.6	9.2	15.5	5.8
	13.1	12.1	12.8	23.0	12.0	17.0	18.0	1.0	4.0	1.0
	1.0	1.0								

3635	80.5	22.7	14.1	14.5	4.6	7.8	5.1	8.4	6.8	1.3
	24.0	6.3	7.7	4.1	30.2	9.2	21.9	10.1	16.6	6.2
	12.2	12.4	13.0	23.0	11.0	16.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3636	83.9	23.7	14.3	14.8	4.7	7.6	4.9	8.6	6.8	1.5
	23.0	6.6	8.6	4.7	31.1	10.7	22.8	9.8	16.4	6.7
	14.3	13.2	13.1	22.0	12.0	17.0	17.0	1.0	4.0	1.0
	1.0	1.0								
3637	75.0	19.5	12.6	13.7	4.6	7.4	4.8	7.2	6.2	1.4
	20.1	5.7	6.8	3.6	27.4	9.3	20.8	8.0	14.1	5.5
	13.1	11.4	12.1	23.0	10.0	18.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3638	89.3	24.0	15.2	16.4	4.8	8.4	5.7	8.6	6.9	1.6
	23.0	6.6	8.8	5.1	33.2	10.5	26.4	8.9	18.1	6.5
	13.9	14.5	13.5	23.0	11.0	17.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3639	87.8	24.1	15.1	15.5	4.8	7.4	5.8	8.8	6.6	1.7
	23.5	7.1	7.5	4.4	32.9	10.4	25.2	9.6	16.9	6.1
	14.8	13.9	13.3	23.0	11.0	18.0	19.0	1.0	4.0	1.0
	1.0	1.0								
3640	94.7	25.2	15.7	17.1	4.8	9.7	5.9	9.4	8.4	1.7
	24.3	7.5	7.9	4.8	33.2	11.6	26.0	12.4	20.0	7.1
	16.3	16.0	16.9	24.0	10.0	16.0	16.0	1.0	4.0	1.0
	1.0	1.0								
3641	375.0	112.9	66.4	80.2	13.1	38.0	27.9	44.5	28.8	7.3
	60.5	32.5	35.0	18.6	152.3	42.0	90.0	38.6	65.9	26.6
	55.69999.09999.0			19.0	10.0	18.0	18.0	2.0	4.0	1.0
	1.09999.0									
3701	290.0	79.5	50.1	59.6	10.5	32.6	25.0	34.1	28.1	5.5
	72.4	29.1	26.5	17.0	107.4	37.1	77.1	34.1	54.1	22.2
	45.0	61.9	61.0	19.0	11.0	15.0	15.0	3.0	4.0	1.0
	1.0	2.0								
3702	325.0	89.3	54.5	65.0	12.1	39.6	26.6	34.9	33.1	6.0
	84.7	31.4	34.3	19.0	123.0	42.3	86.8	33.3	58.3	26.4
	58.1	64.8	63.9	19.0	11.0	15.0	17.0	3.0	4.0	1.0
	1.0	2.0								
3901	177.2	46.2	25.2	27.6	7.9	15.0	11.8	16.7	14.1	1.3
	62.9	15.1	17.6	10.0	64.9	20.0	53.5	8.3	31.0	13.9
	27.6	41.4	36.6	22.0	11.0	13.0	15.0	1.0	4.0	1.0
	1.0	2.0								
3902	167.5	41.5	23.9	26.0	7.8	15.1	11.8	15.5	13.0	1.4
	57.7	13.9	15.8	6.6	59.3	17.5	45.6	10.5	30.3	11.8
	28.9	25.1	30.8	21.0	11.0	14.0	18.0	1.0	4.0	1.0
	1.0	2.0								
3903	182.0	45.1	24.5	28.1	7.9	14.8	11.5	15.2	12.6	1.6
	72.6	15.3	16.0	7.8	62.9	19.8	57.3	11.6	32.0	13.6
	28.4	30.5	32.6	22.0	11.0	13.0	16.0	1.0	4.0	1.0
	1.0	2.0								
3904	172.6	44.3	24.6	27.2	7.1	15.5	10.7	15.9	12.4	1.4
	63.4	14.1	16.4	9.1	61.5	19.5	50.0	8.8	29.3	11.6
	30.7	29.4	32.6	20.0	11.0	14.0	17.0	1.0	4.0	1.0
	1.0	2.0								
3905	213.2	53.7	29.6	32.8	8.6	19.1	15.4	20.1	17.2	1.5
	87.8	17.0	21.1	9.9	75.3	21.8	63.7	11.8	36.8	14.4
	34.9	37.5	38.3	22.0	11.0	14.0	15.0	1.0	4.0	1.0
	1.0	2.0								
3906	280.5	76.5	36.5	43.6	10.2	22.9	19.2	28.6	20.8	1.9
	124.3	24.5	29.2	14.7	107.7	29.0	86.6	14.8	46.7	20.5
	42.2	51.4	54.3	21.0	11.0	15.0	19.0	1.0	4.0	1.0
	1.0	2.0								
3907	300.0	77.2	48.4	55.9	10.6	30.7	23.5	29.5	25.1	4.5
	100.4	28.9	32.5	13.5	110.8	33.4	89.8	24.5	60.9	22.5
	46.39999.09999.0			22.0	11.0	15.0	15.0	1.0	4.0	1.0
	1.0	2.0								
3908	210.7	55.5	35.6	35.8	8.0	18.5	15.9	21.0	18.0	2.2
	74.1	18.0	21.0	8.4	76.0	23.3	63.9	17.0	48.1	15.9

	35.3	38.59999.0		22.0	10.0	12.0	15.0	1.0	4.0	1.0
	1.0	2.0								
3909	277.0	70.4	39.0	48.1	9.9	27.7	19.9	22.5	23.5	3.3
	95.3	25.4	29.1	13.2	99.7	28.5	85.8	22.6	54.5	20.6
	46.29999.0		44.1	22.0	10.0	16.0	18.0	2.0	4.0	1.0
	1.0	2.0								
4201	170.0	42.2	29.5	29.4	6.5	8.5	9.9	14.2	5.5	1.8
	17.1	7.2	19.8	9.4	64.7	22.4	36.0	24.4	28.0	11.7
	31.9	40.0	37.0	18.0	10.0	14.0	18.0	1.0	4.0	1.0
	1.0	2.0								

APPENDIX D. Published papers

1983. Arius graeffei and Arius armiger: valid names for two common species of Australo-Papuan fork-tailed catfishes (Pisces, Ariidae). Trans. R. Soc. S. Aust. 107(3/4): 187-196.

1986. The Australian - New Guinea Ariidae (fork-tailed catfishes) and the problem of genera: a review. Abstr., Ann. Conf. A.S.F.B., Darwin, August 1986.

1986a. Ariidae systematics: comparison of the giant sea catfishes Arius thalassinus and A. bilineatus of the Indo-Pacific. pp. 540-549. In: Uyeno, T., R. Arai, T. Taniuchi and K. Matsuura (eds). Indo-Pacific Fish Biology: Proc. 2nd International Conference on Indo-Pacific Fishes. Ichthyol. Soc. Japan, Tokyo. 986 pp.

1988. A new freshwater catfish (Pisces: Ariidae) from northern New Guinea. Rec. West. Aust. Mus. 14(1): 73-89 (with B.E. Pierce).

Kailola, P. J. (1983). *Aruis graeffei* and *Arius armiger*: valid names for two common species of Australo-Papuan fork-tailed catfishes (Pisces, Ariidae). *Transactions of the Royal Society of South Australia, 107*(3), 187-196.

NOTE:

This publication is included in the print copy
of the thesis held in the University of Adelaide Library.

Kailola, P. J. (1986, August). The Australian-New Guinea Ariidae (fork-tailed catfishes) and the problem of genera: a review. In *Abstracts, 13th Annual conference/Australian Society for Fish Biology.* Conference conducted in Darwin, Northern Territory.

NOTE:

This publication is included in the print copy
of the thesis held in the University of Adelaide Library.

Kailola, P. J. (1986). Ariidae systematics: comparison of the giant sea catfishes *Arius thalassinus* and A. *bilineatus* of the Indo-Pacific. In T. Uyeno, R. Arai, T. Taniuchi & K. Matsuura (eds.) *Indo-Pacific fish biology. Proceedings of the 2nd International Conference on Indo-Pacific Fishes.* (p. 540-549). The Ichthyological Society of Japan, Tokyo.

NOTE:

This publication is included in the print copy
of the thesis held in the University of Adelaide Library.

Kailola, P. J. & Pierce, B. E. (1988). A new freshwater Catfish (Pisces: Ariidae) from northern Australia. *Records of the Western Australian Museum, 14*(1), 73-89.

NOTE:

This publication is included in the print copy
of the thesis held in the University of Adelaide Library.