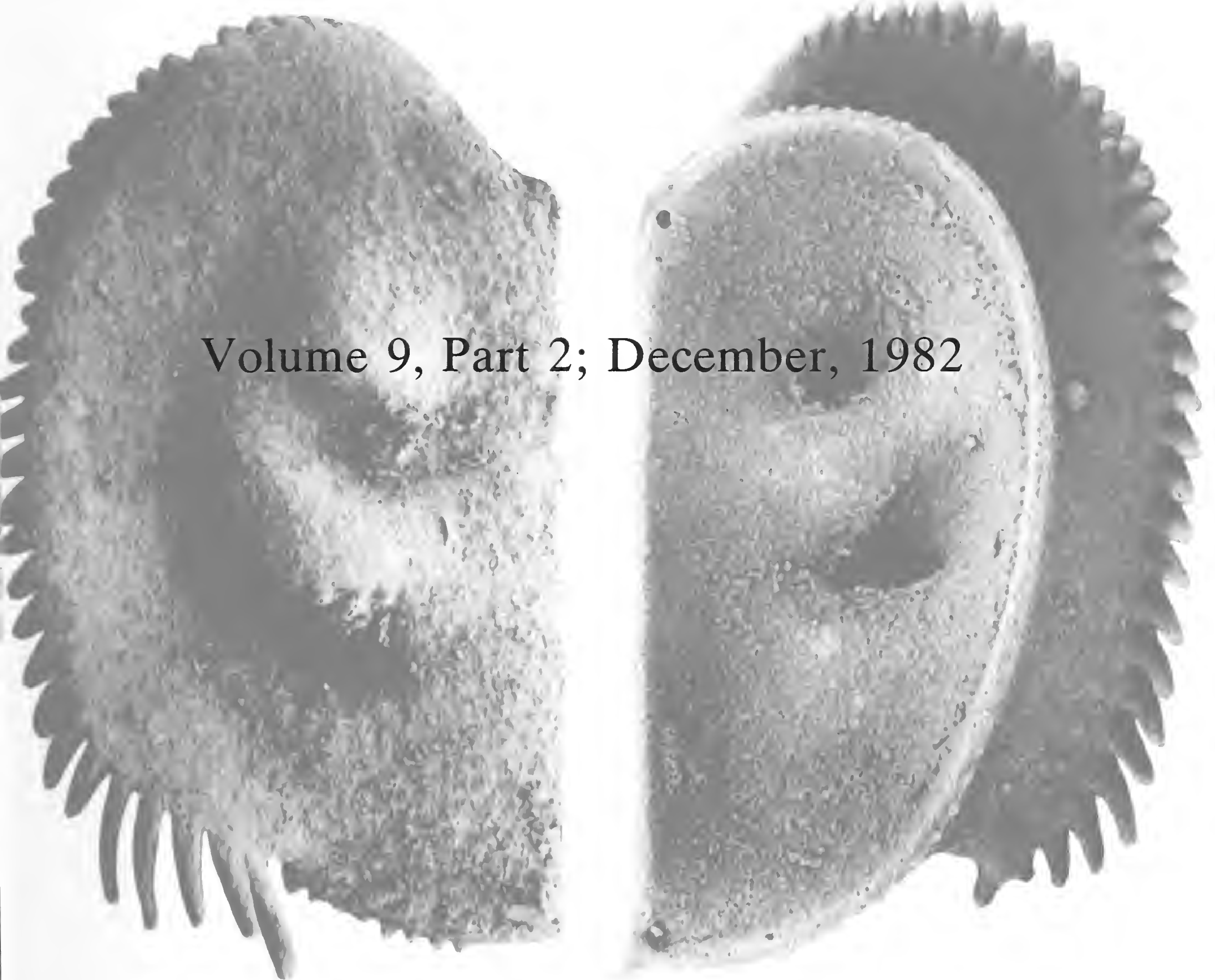
A Stereo-Atlas of Ostracod Shells

edited by R. H. Bate, J. W. Neale, Lesley M. Sheppard and David J. Siveter



Volume 9, Part 2; December, 1982

Published by the British Micropalaeontological Society, London

Instructions to Authors

Contributions illustrated by scanning electron micrographs of Ostracoda in stereo-pairs are invited. Format should follow the style set by the majority of papers in this issue. Descriptive matter apart from illustrations should be cut to a minimum; preferably each plate should be accompanied by one page of text only. Blanks to aid in mounting figures for plates may be obtained from any one of the Editors or Editorial Board. Completed papers should be sent to Dr David J. Siveter.

The front cover shows a female left valve, external and internal views, of **Bilobatia serralobata** Schallreuter.

Printed by United Printing Services, Blackpool, England.

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Volume 9, 1982

Part 1 (pp. 1–84); 16th July, 1982
Part 2 (pp. 85–144); December, 1982

Published by The British Micropalaeontological Society, London

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595.336.13 (113.312) (755 : 162.079.39) : 551.35+552.55

ON *HITHIS COLONUS* SCHALLREUTER & SIVETER sp. nov.

by R. E. L. Schallreuter and David J. Siveter
(University of Hamburg, West Germany and University of Leicester, England)

Hithis colonus sp. nov.

Holotype: Brit. Mus. (Nat. Hist.) no. **OS 6681**, ♀RV.
[Paratypes: Brit. Mus. (Nat. Hist.) nos. **OS 6682-91** and Geologisch-Paläontologisches Institut, University of Hamburg no. **2675**].

Type locality: Section in field on South side of road, 0.2 km SE of Strasburg Junction, just W of Strasburg, Shenandoah County, Virginia, U.S.A., *c.* lat. 39° 0′ N, long. 78° 22′ W. Locality 3 of Whittington & Evitt (*Mem. geol. Soc. Amer.*, **59**, 5, 1954) and Tripp & Evitt (*Geol. Mag.*, **118**, 666, 1982); lower part of Edinburg Formation, middle Ordovician.

Derivation of name: Latin *colonus*, inhabitant of a colony; 'Virginia' being named by Sir Walter Raleigh in honour of Queen Elizabeth I.

Figured specimens: Brit. Mus. (Nat. Hist.) nos. **OS 6681** (holotype, ♀RV: Pl. **9**, 88, fig. 3), **OS 6682** (♂LV: Pl. **9**, 86, figs. 4, 5; Pl. **9**, 88, fig. 4), **OS 6683** (♀LV: Pl. **9**, 88, fig. 2), **OS 6685** (♀RV: Pl. **9**, 88, fig. 1), **OS 6686** (♀LV: Pl. **9**, 86, figs. 1-3; Pl. **9**, 88, fig. 5). All specimens are silicified, from the type horizon and locality; material kindly sent for study by Mr. R. Tripp.

Explanation of Plate 9, 86

Figs. 1-3, ♀LV (**OS 6686**, 1460μm long): fig. 1, ext. post; fig. 2, ext. lat.; fig. 3, ext. ant. Figs. 4, 5, ♂LV (**OS 6682**, 1430μm long): fig. 4, ext. lat.; fig. 5, ext. ant.
Scale A (250μm; ×40), figs. 1, 3; scale B (250μm; ×37), fig. 2; scale C (250μm; ×37), figs. 4, 5.

Diagnosis: *Hithis* with L4 as a broad, mostly dorsal inflation in posterior third of domicilium. L3 elongate, tilts backwards, becoming confluent dorsally with L4 and separated from it ventrally by a broad depression (S3). L1 elongate parallel to anterior margin. Dolon from anterior part of ventral to anteroventral regions, strongly convex ("false pouch"), with row of long spines confluent with velum. Velum developed pre-dolonally and post-dolonally as a ridge, bears long spines at least to anterior cardinal corner and also near posterior cardinal corner. Terminations to at least mid ventral-anterior series of spines apparently joined by a 'bar' in both dimorphs. Lobes lack ornament.

Remarks: This is the first record of *Hithis* outside Baltoscandia. Two other congeneric taxa are known (Schallreuter, *Palaeontographica* **144**, 76, 1973), the type-species *H. hithis* Schallreuter, 1964 from M Ordovician Backsteinkalk erratic boulders of N Germany and *H. leviconvexus* Schallreuter, 1967 from U Ordovician Öjlemyrflint erratic boulders on Gotland. *Hithis* is thus one of several ostracod genera common to both the European and N American plates during M Ordovician times.

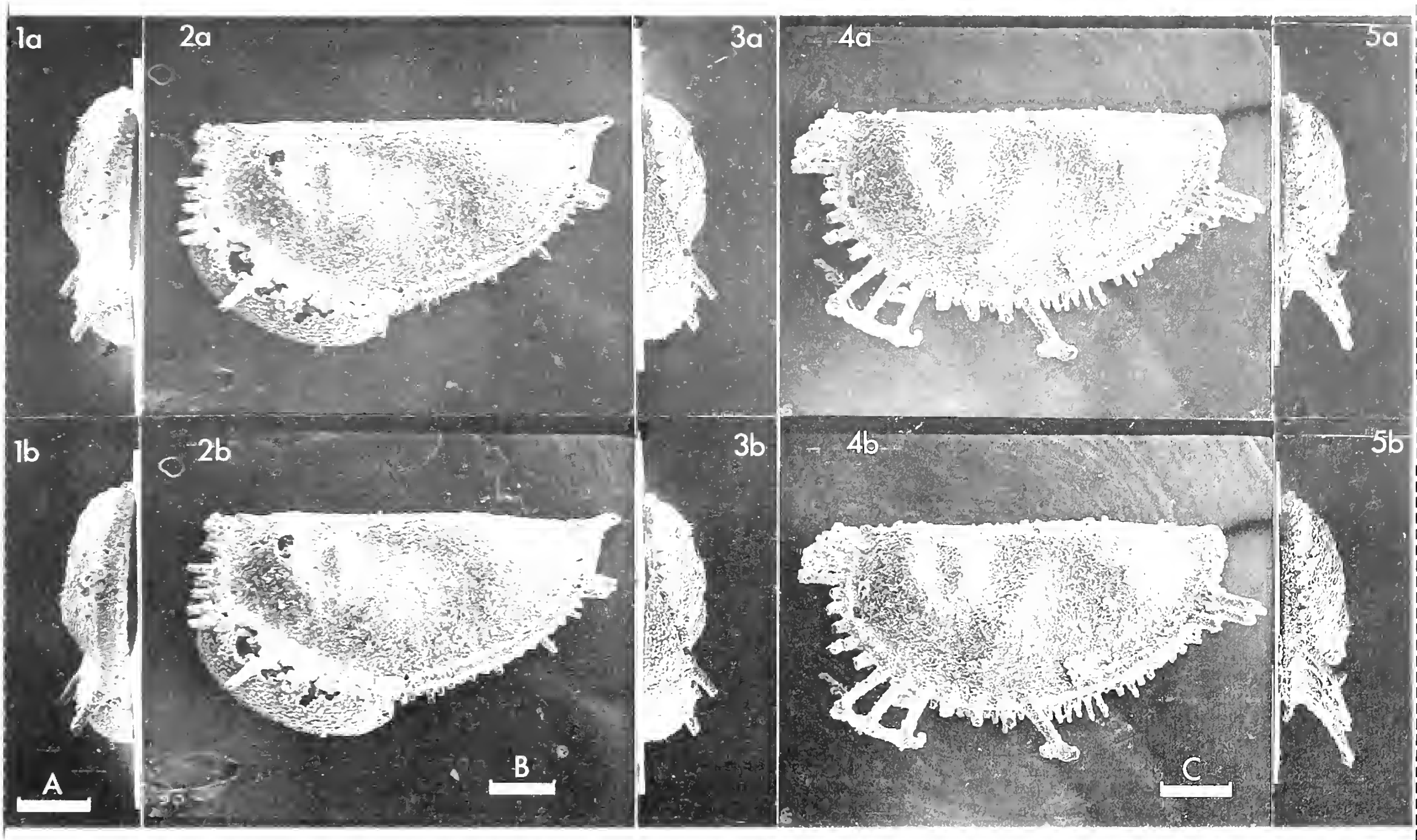
H. colonus is larger than both *H. hithis* (♀*c.* 0.74 mm long) and *H. leviconvexus* (♀*c.* 1.20 mm long). It most resembles *H. hithis*, which also has a short, strongly convex dolon with a row of spines at about the border of lateral and ventral surfaces, and a similar S2 and preadductorial node. Compared to *H. hithis* the dolon in *H. colonus* extends further anteriorly, its dolonal spines are stronger, L1 and L4 are lobes rather than single ventral spine-like nodes, its velum is developed above and behind the dolon as a spinose ridge (cf. only spines in *H. hithis*) and its lateral surface lacks spines or granules.

H. leviconvexus is possibly synonymous with *H. ? mamillosa* Krause (*Z. Deutsch. geol. Ges.*, **44** (3), 393, 1892; cf. Schallreuter *Stereo-Atlas of Ostracod Shells* **6**, 85, 1979). It is distinguished from both congeneric taxa by its weakly convex dolon. *H. colonus* represents a second lineage and possibly a separate subgenus.

Distribution: Known at present only from the type locality.

Explanation of Plate 9, 88

Fig. 1, ♀RV, int. lat. (**OS 6685**, 1400μm long); fig. 2, ♀LV, int. lat. (**OS 6683**, 1450μm long); fig. 3, ♀RV, ext. lat. (holotype, **OS 6681**, 1450μm long); fig. 4, ♂LV, ext. vent. (**OS 6682**); fig. 5, ♀LV, ext. vent. obl. (**OS 6686**).
Scale A (300μm; ×33), fig. 1; scale B (300μm; ×30), fig. 2; scale C (250μm; ×37), fig. 3; scale D (250μm; ×37), figs. 4, 5.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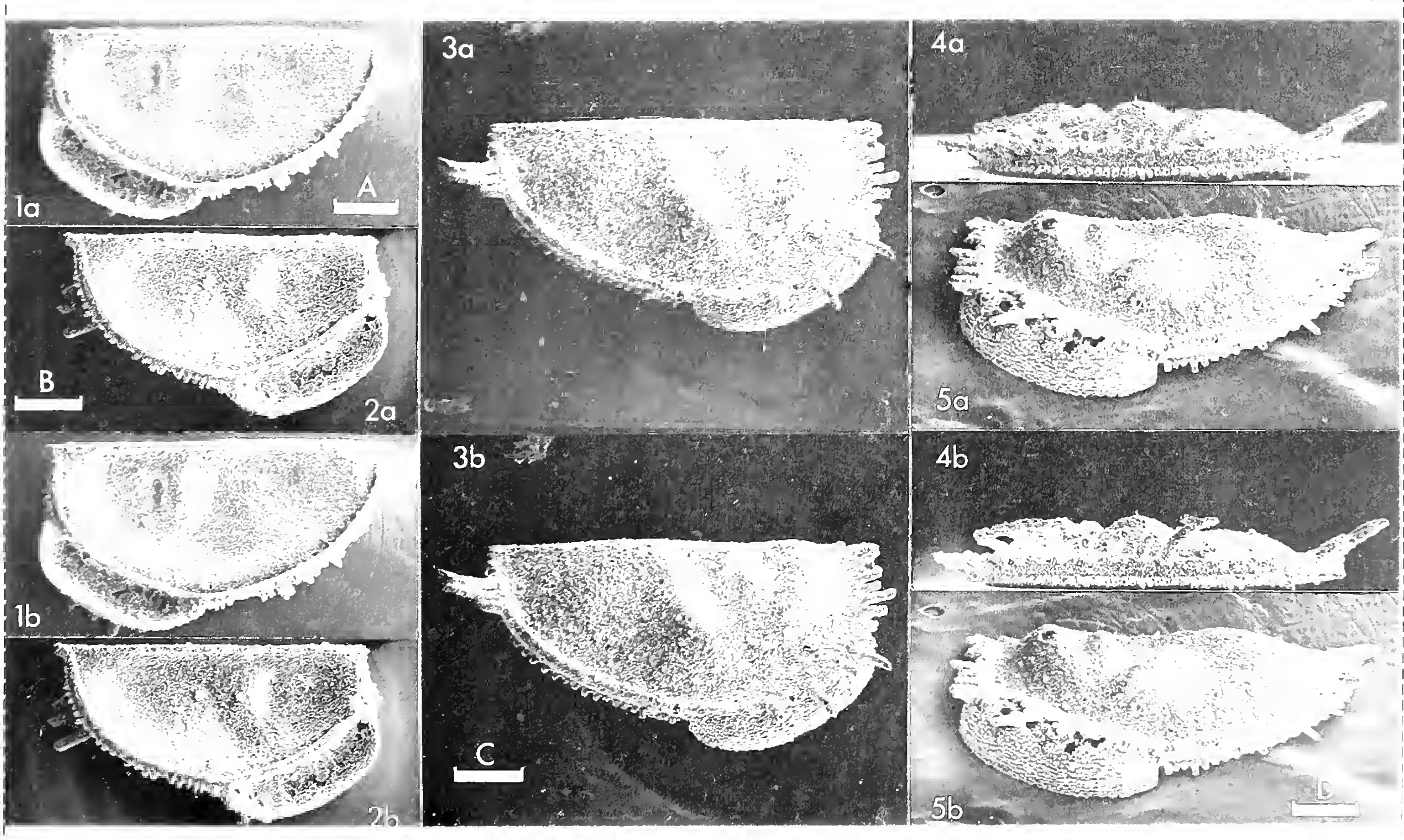
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Stereo-Atlas of Ostracod Shells 9 (16) 89-92 **(1982)**
595.336.13 (113.312) (429 : 162.005.51) : 551.35 + 552.55

ON *HOMEOKIESOWIA EPICOPA* SIVETER sp. nov.

by David J. Siveter
(University of Leicester, England)

Homeokiesowia epicopa sp. nov.

1978 *Tallinnella* sp. nov. 1; D. J. Siveter, *in*: R. H. Bate and E. Robinson (Eds.), A Stratigraphical Index of British Ostracoda, *Geol. J.*, special issue 8, 48, pl. 1, figs. 9, 10.

Holotype: Brit. Mus. (Nat. Hist.) no. **OS 6695**, ♀LV.

Type locality: Old quarry about 300m south of Cwm Agol Farm, about 8km west of Llandeilo, Dyfed, Wales; approx. lat. 51° 51′ N, long. 4° 05′ W (Nat. Grid. Ref. SN 56552070). Llandeilo 'Flags', Llandeilo Series, M Ordovician.

Derivation of name: Greek, *epikopos,* furnished with oars; fancied resemblance of the nodes and velum to an ancient galley ship.

Figured specimens: Brit. Mus. (Nat. Hist.) nos. **OS 6669** (♂RV: Pl. **9**, 90, figs. 2, 3; Pl. **9**, 92, fig. 1), **OS 6670** (♀LV: Pl. **9**, 90, fig. 4), **OS 6695** (holotype, ♀LV: Pl. **9**, 90, fig. 1; Pl. **9**, 92, fig. 2), **OS 6696** (♀RV: Pl. **9**, 92, figs. 3-5), **OS 6697** (♀RV: Pl. **9**, 92, fig. 6).
All figured specimens are from the type locality and horizon.

Explanation of Plate 9, 90

Fig. 1, ♀LV, ext. lat. (holotype, **OS 6695,** 2130μm long). Figs. 2, 3, ♂RV (**OS 6669,** 1840μm long): fig. 2, ext. lat.; fig. 3, ext. post. Fig. 4, ♀LV, ext. lat. (**OS 6670**, 1860μm long).
Scale A (500μm; ×25), fig. 1; scale B (500μm; ×30), figs. 2-4.

Diagnosis: Large species of *Homeokiesowia* having small nodes on moderately developed lobes. Dorsal parts of L1, L3 and L4 are bulbous, extending above dorsum. L2 consists of dorsal and ventral nodes connected by weak, sinous ridge. L4 and the more prominent L3 are ridge-like centrally and each has a ventral node. Female dolon in lateral view extends from posterodorsal region to below posterior base of L3. Valves granulose.

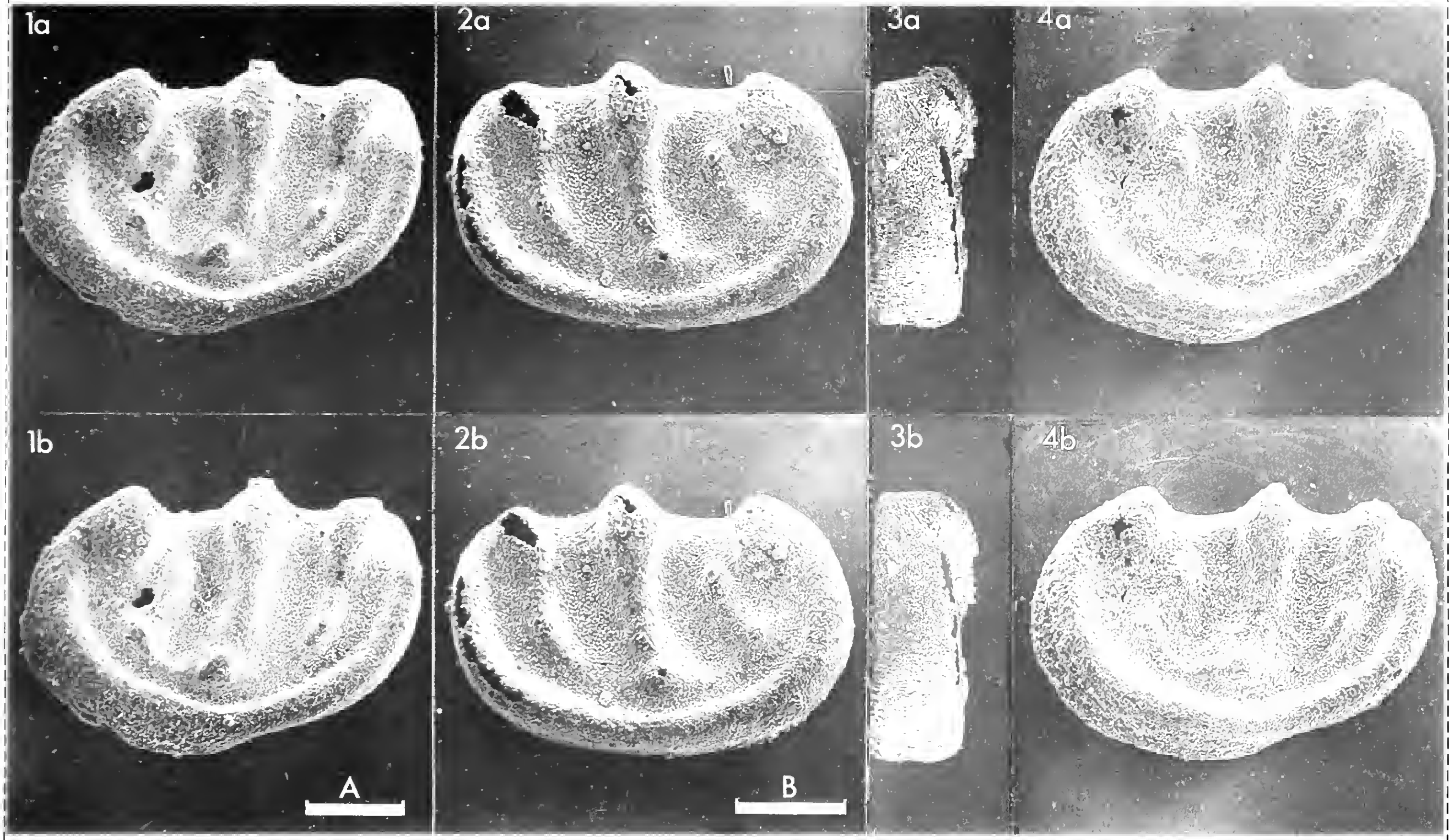
Remarks: The tallinnelline *Homeokiesowia* Schallreuter, 1979 is here recorded from outside the M Ordovician (Viru Series) of Baltoscandia for the first time. *H. epicopa* shows incipient dissolution of its lobes into nodes, a development more completely accomplished in the Estonian type-species, *H. frigida* (Sarv, 1959) (see Schallreuter, *Stereo-Atlas of Ostracod Shells* **6** (15), 75-78, 1979). The lobal morphology in *H. epicopa* represents a more primitive condition than that of congeneric forms. *H. epicopa* further differs from *H. frigida* in its larger size (females can be twice as large), by its shorter dolon which in lateral outline is more abruptly restricted posteroventrally, by the absence of tubercles covering the velum and of spine-like structures above L1 and L2. Both species show well developed infravelar antral dimorphism and have a similar pattern of nodes in front of and behind S2. The only other known congeneric species, *H. pernodosa* Öpik (*Publ. geol. Inst. Univ. Tartu,* **50**, 31, 1937) is poorly known, but also displays a more advanced lobal dissolution than in *H. epicopa*.

All the known material of *H. epicopa* is silicified. In addition to the figured valves, other material (Brit. Mus. (Nat. Hist.)) includes **OS 6694** and valves labelled "*Tallinella* sp." in **IO 6257**.

Distribution: Besides the type locality, *H. epicopa* is known at present from one other nearby locality at a similar horizon (C. Jones, pers. comm.).

Explanation of Plate 9, 92

Fig. 1, ♂RV, ext. dors. (**OS 6669**); fig. 2, ♀LV, ext. vent. obl. (holotype, **OS 6695**). Figs. 3-5, ♀RV (**OS 6696** 1910μm long): fig. 3. ext. ant.; fig. 4, ext. lat.; fig. 5, ext. vent. Fig. 6, ♀RV, int. vent. obl. (**OS 6697**, 2100μm long).
Scale A (500μm; ×30), fig. 1; scale B (500μm; ×25), fig. 2; scale C (500μm; ×30), figs. 3-5; scale D (500μm; ×25), fig. 6.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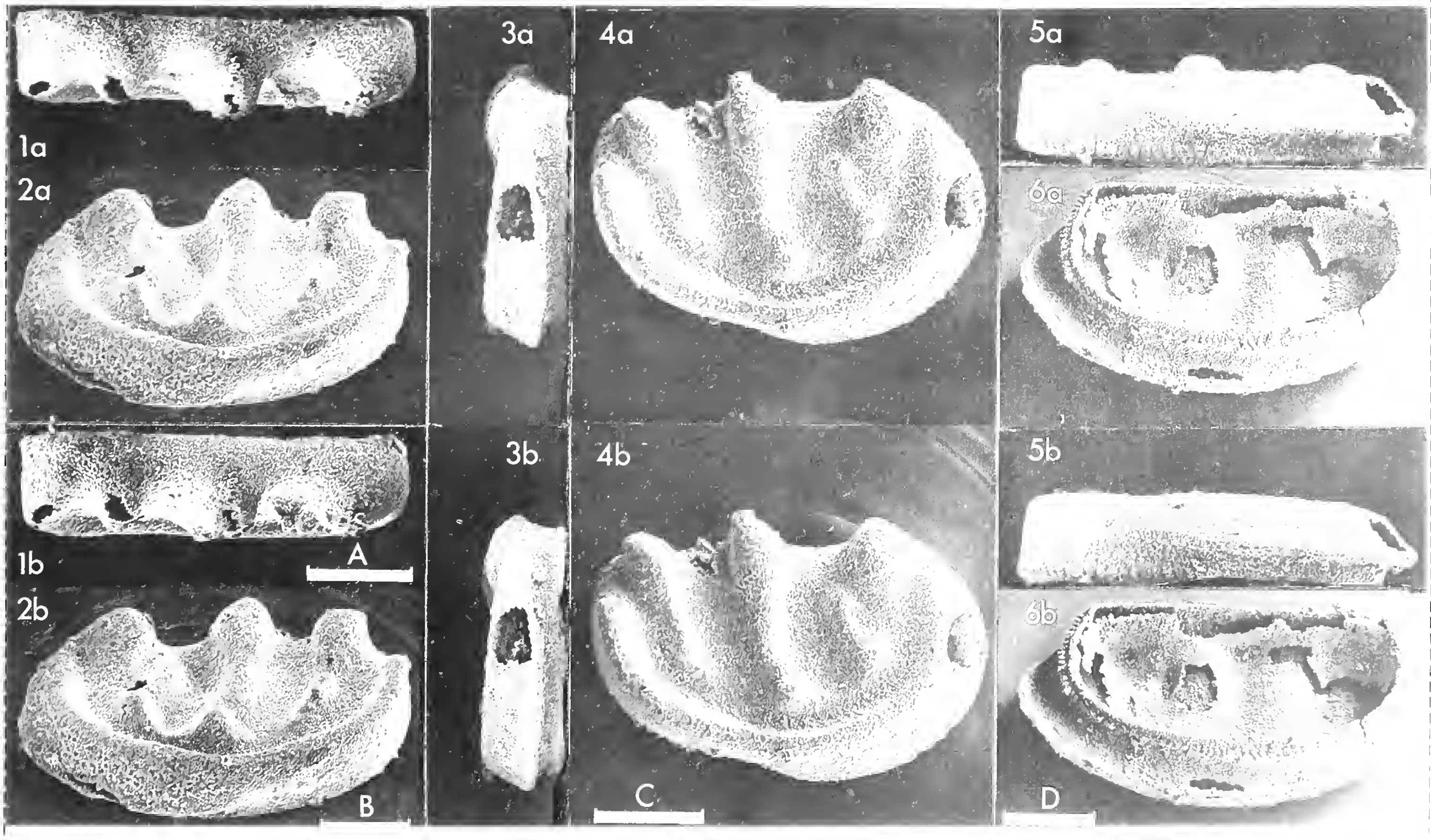
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Stereo-Atlas of Ostracod Shells 9 (17) 93-100 **(1982)**
595.336.13 (113.313) (420 : 162.003.54) : 551.35 + 552.52

ON *SCHALLREUTERIA SUPERCILIATA* (REED)

by David J. Siveter
(University of Leicester, England)

Genus *SCHALLREUTERIA* gen. nov.
Type-species: *Beyrichia (Ctenobolbina?) superciliata* Reed, 1910

Derivation of name: In honour of Dr. R. E. L. Schallreuter, University of Hamburg, for his considerable contribution to our knowledge of Ordovician ostracods.

Diagnosis: Wehrliinae with four distinct, non-cristate lobes. Anterior and postadductorial lobes (L1, L3) project as cusps well above the dorsal margin; L4 widest and with a low cusp, L3 slender, L2 diminutive. Infravelar antral dimorphism; females with long convex, sausage-shaped dolon, with fine transverse external 'ribbing' and a row of fine peripheral spines having a grill-like appearance. Velum in tecnomorphs has rows of small spines. Valves granulose and tuberculate-spinose.

Explanation of Plate 9, 94

Figs. 1-3, ♂ RV (**A109790a**, 2050μm long): fig. 1, ext. ant., ornament on velum and ant. lobe; fig. 2, ext. lat.; fig. 3, ornament on L3-L4.
Scale A (100μm; × 100), fig. 1; scale B (500μm; × 34), fig. 2; scale C (100μm; × 135), fig. 3.

Remarks: *Rakverella* Öpik (*Publ. geol. Inst. Univ. Tartu* **50**, 45, 1937) and *Pectidolon* Schallreuter (*Geologie*, **15**, 205, 1966) show closest morphological similarity to *Schallreuteria*, which differs particularly in its more well defined, non-cristate quadrilobation and by its wider and less markedly grill-like dolonal periphery. In dolonal and velar morphology *Schallreuteria* displays typical wehrliine characteristics and is the first recorded representative of the subfamily from outside Baltoscandia.

The special kind of antral dimorphism which typifies the Wehrliinae Schallreuter (*Ber. geol. Ges. D.D.R.*, **10** (4), 484, 1965) is most spectacularly displayed in *Bilobatia* Schallreuter, 1976 (see Schallreuter, *Stereo-Atlas of Ostracod Shells*, **9** (2), 9-16, 1982).

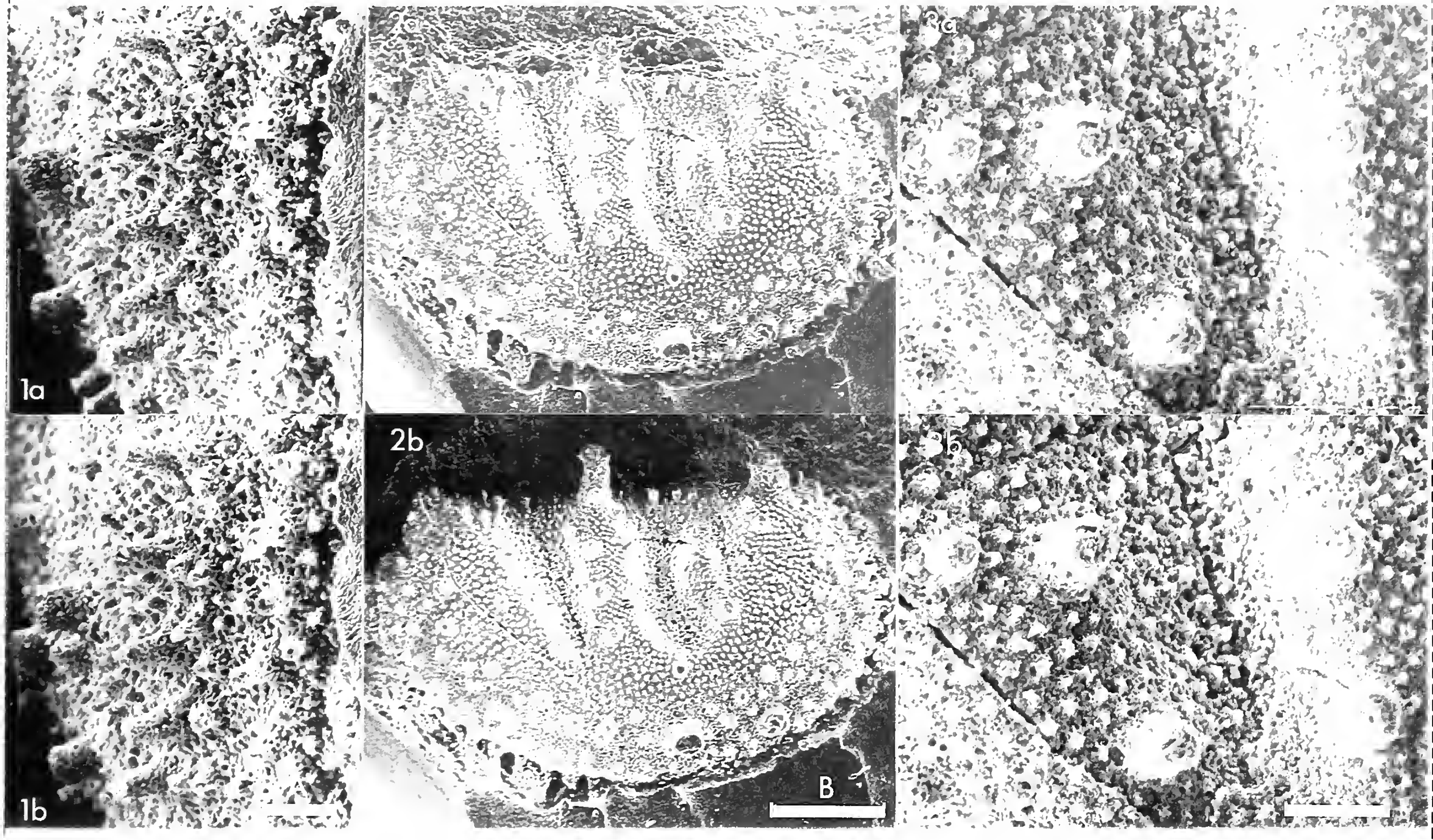
Schallreuteria superciliata (Reed, 1910)

1910 *Beyrichia (Ctenobolbina?) superciliata* sp. nov. F. R. C. Reed, *Geol. Mag.*, (5), **7**, 218, pl. 17, figs. 14, 14a.
1910 *Beyrichia (Tetradella) Turnbulli* sp. nov. F. R. C. Reed, *Geol. Mag.*, (5), **7**, 219, pl. 17, figs. 12, 12a, 13, 13a.
1934 *Ctenobolbina superciliata* (Reed); R. S. Bassler & B. Kellett, *Spec. Pap. geol. Soc. Am.*, **1**, 53, 207.
1934 *Tetradella turnbulli* (Reed); R. S. Bassler & B. Kellett, *Ibid.*, **1**, 210, 483.
1947 *Tetradella superciliata* (Reed); J. C. Harper, *Geol. Mag.*, **84**, 350, pl. 10, fig. 6.
1978 '*Beyrichia*' *superciliata* Reed, 1910; D. J. Siveter, *in:* R. H. Bate & E. Robinson (Eds.), A Stratigraphical Index of British Ostracoda, *Geol. J.*, special issue **8**, 52, pl. 3, figs. 3, 4, 6.

Lectotype: (here designated). Sedgwick Museum, University of Cambridge no. **A10985 a-b;** tecnomorphic RV external and internal moulds, Reed, pl. 17, figs. 14, 14a, 1910. For a lectotype designation of '*B.*' *turnbulli* see Remarks below.

Explanation of Plate 9, 96

Fig. 1, part ♂ LV, ext. lat. (**A109790b**; length visible 1880μm). Figs. 2, 3, ♀ RV (**A29968b**, 2250μm long): fig. 2, ext. lat.; fig. 3, ornament on L1-L2.
Scale A (500μm; × 34), fig. 1; scale B (500μm; × 31), fig. 2; scale C (100μm; × 86), fig. 3.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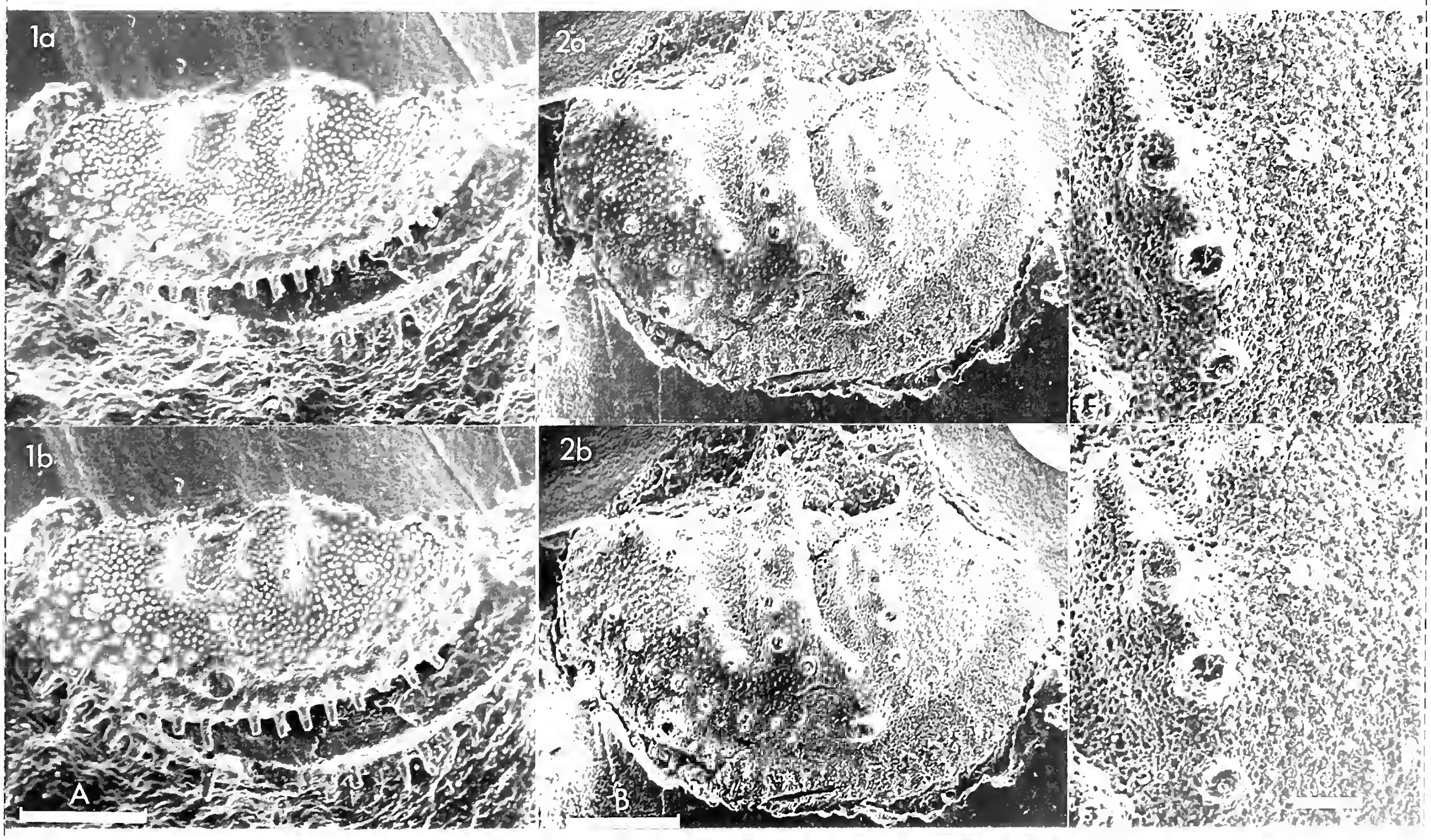
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Type locality: Near Alston road, *c.* 1 km NE of Melmerby, Cumbria, England, Nat. Grid Ref.: NY 62313832; approx. lat 54° 44′ N long. 2° 35′ W. See W. T. Dean (*Proc. Yorks. geol. Soc.*, **32,** 210-14, 1959). Melmerby Beds (= Part of the Dufton Shales), Longvillian, Caradoc Series, Ordovician.

Figured specimens: Sedgwick Museum, University of Cambridge nos. **A109790a** (♂RV: Pl. **9**, 94, figs. 1-3), **A109790b** (♂LV: Pl. **9**, 96, fig. 1), **A29968b** (♀RV: Pl. **9**, 96, figs. 2, 3), **A10983b** (♀RV: Pl. **9**, 98, figs. 1-4; Pl. **9**, 100, fig. 1), **A10984b** (♀RV: Pl. **9**, 100, fig. 2), **A10985b** (lectotype, tecnomorphic RV: Pl. **9**, 100, fig. 3).

All specimens form part of Reed's original material and are from the type locality.

Diagnosis: Species of *Schallreuteria* with prominent single spines adjacent to adventral structure: in both dimorphs one spine occurs below S2 and one posteroventrally, male has third spine below L1. Sulci irregularly granulose to smooth; discrete tubercles, often arranged in rows, occur along lobes.

Explanation of Plate 9, 98

Figs. 1-4, ♀RV (lectotype of '*B.*' *turnbulli*, **A10983b**, 2120μm long): fig. 1, ext. lat.; fig. 2, ornament on S2-L3; fig. 3, syllobial ornament; fig. 4, peripheral spines on dolon.

Scale A (500μm; ×33), fig. 1; scale B (100μm; ×120), fig. 2; scale C (50μm; ×185), fig. 3; scale D (50μm; ×200), fig. 4.

Remarks: All known material consists of moulds and the delicate lobal cusps are sometimes not preserved in the casts (cf. females Pl. **9**, 96, fig. 2 and Pl. **9**, 98, fig. 1). Based on Reed's only figured (tecnomorphic) specimen of '*B.*' *superciliatia* (lectotype designated above) and his two figured (female right) valves of '*B.*' *turnbulli* (lectotype here designated: **A10983a – b** = Reed 1910, pl. 17, figs. 12, 12a) the two species are considered synonymous. This fact but not the dimorphic nature of the taxa, was recognised by Harper (1947), who attributed the specific differences described by Reed to factors of preservation. The figures in Reed's paper were printed 'in reverse'; all 3 valves are re-illustrated herein. Conspecific material consists of **A10984a – b** (♀RV: Reed 1910, pl. 17, figs. 13, 13a), **A29967a – b** (tecnomorphic LV), **A29968a – b** (♀RV), and **A109790a – b** (incomplete tecnomorphic carapace).

Harper (1947, 350) incorrectly used the term 'holotype' for Reed's only figured valve of '*B.*' *superciliata*. The second syntype of '*B.*' *superciliata*, **A29971a – b** (tecnomorphic RV) is not conspecific with the designated lectotype and probably belongs to *Rigidella*.

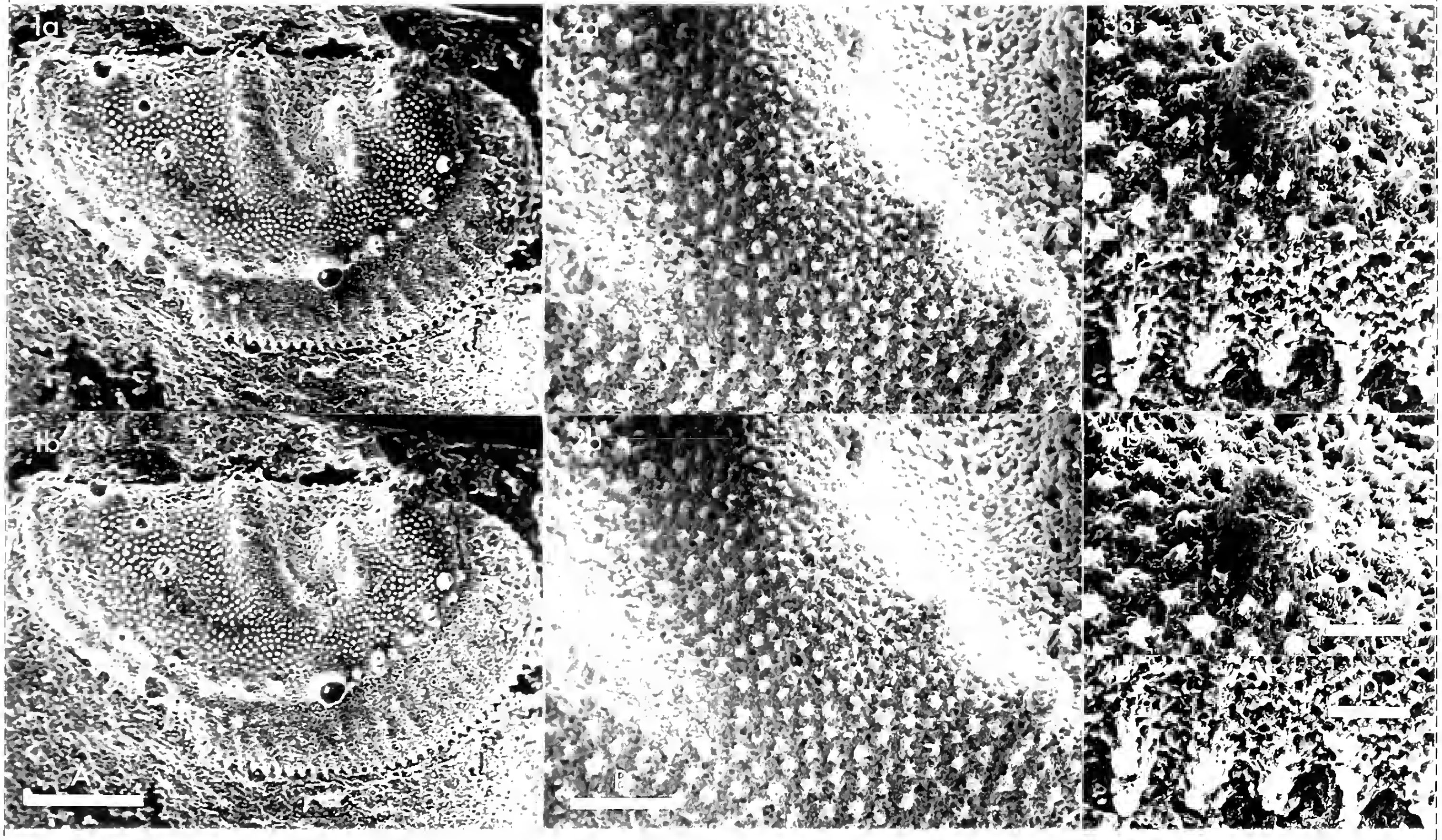
In adults of *S. superciliata* the development of tubercles varies. There can be 3-4 conspicuous tubercles aligned respectively along L2, the posterior part of L3 and the anterior part of L4 (e.g. Pl. 9, **96**, fig. 2) though the full complement of tubercles is lacking in some adults (e.g. Pl. 9, **98**, fig. 1).

Distribution: Known with certainty only from the type locality in the Cross Fell inlier. *Tetradella* cf. *superciliata* is recorded from the Longvillian of the Harthwaite Sike section of the same inlier (Dean 1959, 207).

Explanation of Plate 9, 100

Fig. 1, ♀RV, syllobial ornament (**A10983b**); fig. 2, ♀RV (**A10984b**, 2230μm long); fig. 3, tecnomorph RV, ext. lat. (lectotype of '*B.*' *superciliata*, **A10985b**, 1975μm long).

Scale A (100μm; ×120), fig. 1; scale B (500μm; ×31), fig. 2; scale C (500μm; ×31), fig. 3.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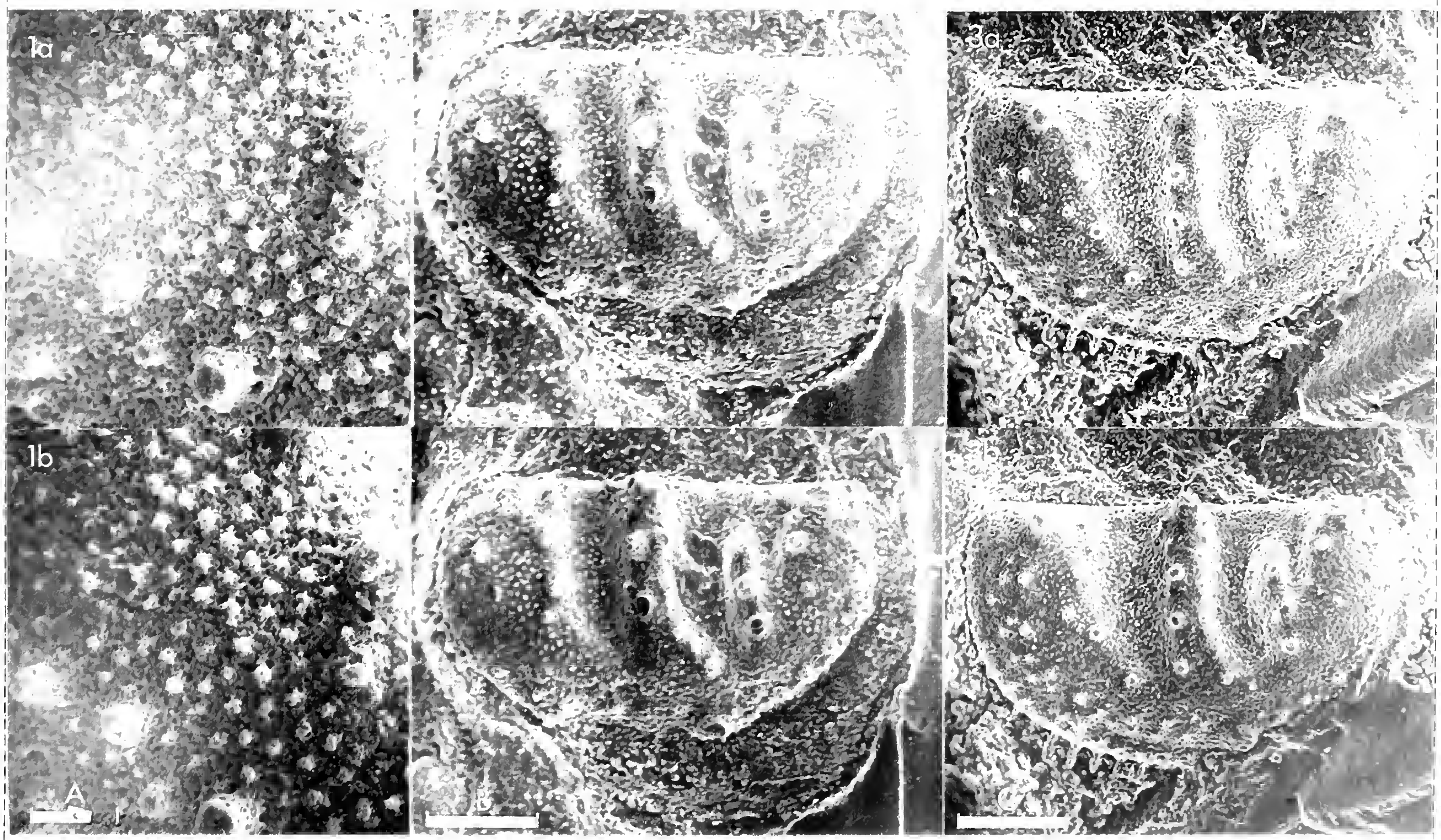
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Stereo-Atlas of Ostracod Shells 9 (18) 101-104 **(1982)**
595.336.13 (113.313) (492.71 : 161.008.54) : 551.35 + 552.55

ON *CONCAVHITHIS LATOSULCATUS* SCHALLREUTER gen. et sp. nov.

by Roger E. L. Schallreuter
(University of Hamburg, German Federal Republic)

Genus *CONCAVHITHIS* gen. nov.
Type-species: *Concavhithis latosulcatus* sp. nov.

Derivation of name: Latin, *concavus*, concave and the generic name *Hithis*, alluding to the concave posterior ventral margin. Gender masculine.

Diagnosis: A medium-sized, unisulcate genus of Sigmoopsinae. Free margin in posterior half of centroventral region concave. Nearly unisulcate; S2 in dorsal half very broad and deep, ventrally small, narrower and not very deep; S1 almost obsolete, S3 a weak sulcus or a semisulcus. Field (= L4) posterior of S3 much closer to the contact plane than field anterior of S3. L1 and L2 virtually fused, preadductorial node discernable. L3 consisting of a posteroventral lobe and a dorsal bulb-like lobal spine. Tecnomorphs with a keel-like velum. Females with a small velar flange and a velar antrum, and a histial ridge without an antrum. Marginal sculpture on both valves appears as a normal or small flange-like ridge. Lateral surface punctate to reticulate. Marginal surface reticulate except for the velar antrum. Histial canaliculus with a row of puncta.

Remarks: *Concavhithis* is considered a descendant of *Sigmoopsis* and is distinguished from it by several features but the main difference is its spine-like dorsal L3. In the typical *Sigmoopsis* species the males possess a histial ridge and the females a histial flange with a histial antrum.

Explanation of Plate 9, 102

Figs. 1, 2, tecnomorphic RV (holotype, **GPIMH 2678**, 1005μm long): fig. 1, ext. lat.; fig. 2, ext. vent. obl.
Scale A (100μm; $\times$ 99), figs. 1,2.

Remarks (contd): One evolutionary trend in *Sigmoopsis* is to reduce the histial sculptures. In one of the youngest species, *S. granulata*, the male histium is still present but developed only as a brim whereas the velum is developed as a distinct keel. In the females of *S. granulata* the histium is developed as a flange-like keel but there is no histial antrum, only a canaliculus with a row of puncta.

Concavhithis latosulcatus sp. nov.

Holotype: Geologisch-Paläontologisches Institut und Museum, University of Hamburg, no. **2678**, tecnomorphic RV.
[Paratypes: nos. **2679- 2682**].

Type locality: Upper Ordovician Öjlemyrflint erratic boulder no. Sy156 of the Upper Kaolinsand (Lower Pleistocene), near Braderup, Isle of Sylt (N Frisian Is., N Sea), Germany; lat 54° 56′N, long. 8° 21′E.

Derivation of name: Latin, *latus*, broad and *sulcatus*, sulcate; alluding to the broad S2.

Figured specimens: Geologisch-Paläontologisches Institut und Museum, University of Hamburg **(GPIMH)** nos. **2678** (tecnomorphic RV: Pl. **9**, 102, figs. 1, 2), **2679** (fragmentary tecnomorphic (?) RV: Pl. **9**, 104, fig. 1), **2680** (incomplete tecnomorphic LV: Pl. **9**, 104, fig. 2) and **2681** (fragmentary ♀RV: Pl. **9**, 104, fig. 3). All specimens are from the type locality; boulder coll. by Ulrich von Hacht, 1981.

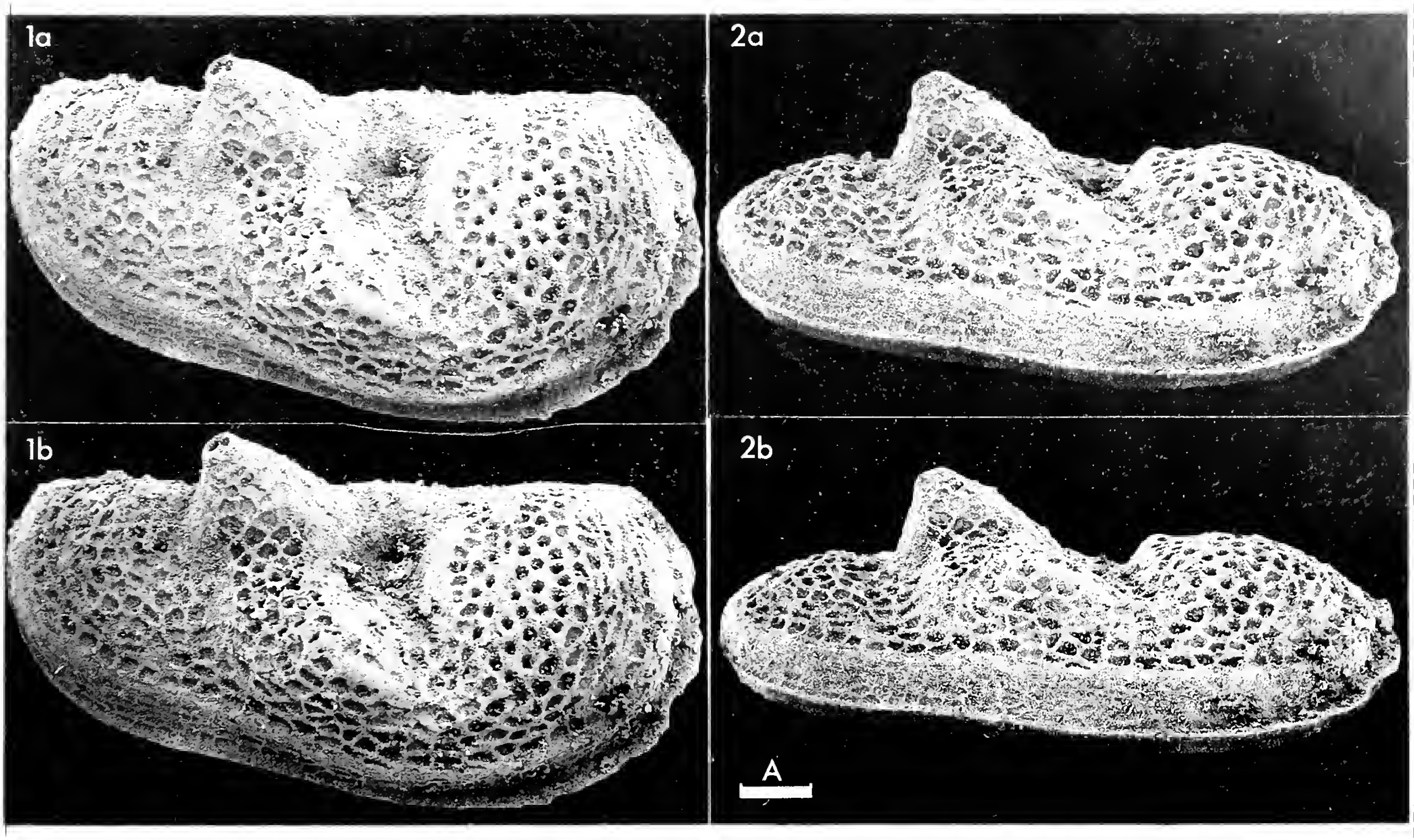
Diagnosis: As for the genus.

Remarks: *Concavhithis latosulcatus* is another example of a palaeocope with a ventricular concavity. Other examples are *Disulcina ? longissima* Schallreuter (*N. Jb. Geol. Paläont. Mh.* **1971** (11), figs. 1.1-3), *Wehrlia olbertzae* Schallreuter (*Ber. geol. Ges. DDR* **10** (4), 484, pl.11, fig. 2, 1965 and *Palaeontographica* (A) **153** (4/6), 208, pl. 42 (= 9), fig. 1, 1976) and *Tetrada ventroconcava* Schallreuter, 1976 (*op. cit.*, 174-5, pl. 35 (= 2), figs. 19, 20). Ventricular concavities in palaeocopes are rare exceptions of no great taxonomic significance.

Distribution: Known only from the type locality.

Explanation of Plate 9, 104

Fig. 1, fragmentary (tecnomorphic ?) RV, ext. lat. (paratype, **GPIMH 2679**); fig. 2, incomplete tecnomorphic LV, ext. lat. (paratype, **GPIMH 2680**, 975μm long); fig. 3, fragmentary ♀RV, ext. ant. obl. (paratype, **GPIMH 2681**).
Scale A (100μm; $\times$ 101), figs. 1, 2; scale B (100μm; $\times$ 80), fig. 3.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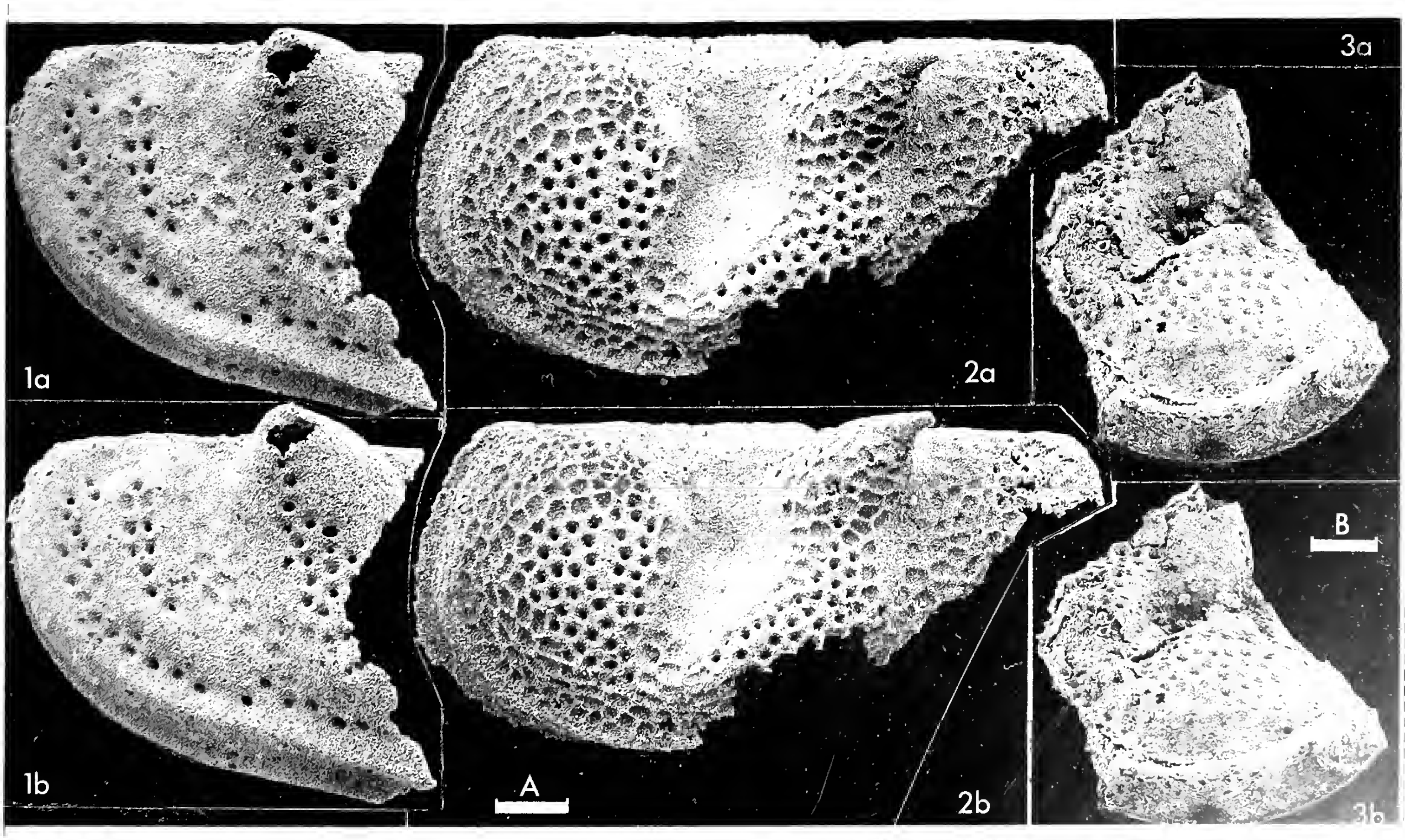
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Stereo-Atlas of Ostracod Shells 9 (19) 105-108 **(1982)**
595.336.13 (113.313) (486 : 161.018.57 + 492.71 : 161.008.54) : 551.35 + 552.55

ON *GELLENSIA NODORETICULATA* SCHALLREUTER sp. nov.

by Roger E. L. Schallreuter
(University of Hamburg, German Federal Republic)

Gellensia nodoreticulata sp. nov.

Holotype: Geologisch-Paläontologisches Institut und Museum, University of Hamburg, no. **2683**, ♀LV. [Paratype: no. **2685**, tecnomorphic RV].

Type locality: Upper Ordovician Öjlemyrflint erratic boulder no. Sy56 of the Upper Kaolinsand (Lower Pleistocene), near Braderup, Isle of Sylt (N Frisian Is., N Sea), Germany; lat. 54° 56′ N, long. 8° 21′ E.

Derivation of name: Latin, *nodus*, node and *reticulatus*, reticulate; alluding to the reticulate preadductorial node.

Figured specimens: Geologisch-Paläontologisches Institut und Museum, University of Hamburg (**GPIMH**) nos. **2683** (incomplete ♀ LV: Pl. **9**, 106, figs. 1, 2) and **2684** (nearly complete tecnomorphic RV: Pl. **9**, 106, figs. 1, 2). No. **2683** is from the type locality; coll. by Ulrich von Hacht, 1977. No. **2684** is from the upper Ordovician Öjlemyrflint erratic boulder no. G13 from the beach at Häftings, Isle of Gotland (Baltic Sea), lat. 57° 53′ N, long. 18° 37′ E; coll. by Horst Kaufmann, 1975.

Explanation of Plate 9, 106

Figs. 1, 2, incomplete ♀LV (holotype, **GPIMH 2683**, 1315μm long): fig. 1, ext. vent.; fig. 2, ext. lat.
Scale A (100μm; ×76), figs. 1, 2.

Diagnosis: Species of *Gellensia* with females a little more than 1.32 mm long. Velar frill nearly entire, narrowing in the dorsal regions, more so posterodorsally than anterodorsally. Marginal sculpture appears as a ridge. Preadductorial node reticulate, lateral surface pustulate.

Remarks: *Gellensia nodoreticulata* differs from the Middle Ordovician type-species, *G. gellensis* Schallreuter (*Geologie* **16** (5), 617, 1967), mainly by its reticulate preadductorial node, its pustulate lateral surface, its ridge-like marginal sculpture and especially its posteriorly longer velar frill. *G. gotlandica* Schallreuter (*op. cit.,* 618) has a relatively higher domicilium, a posteriorly shorter velar frill and a spinose lateral surface.

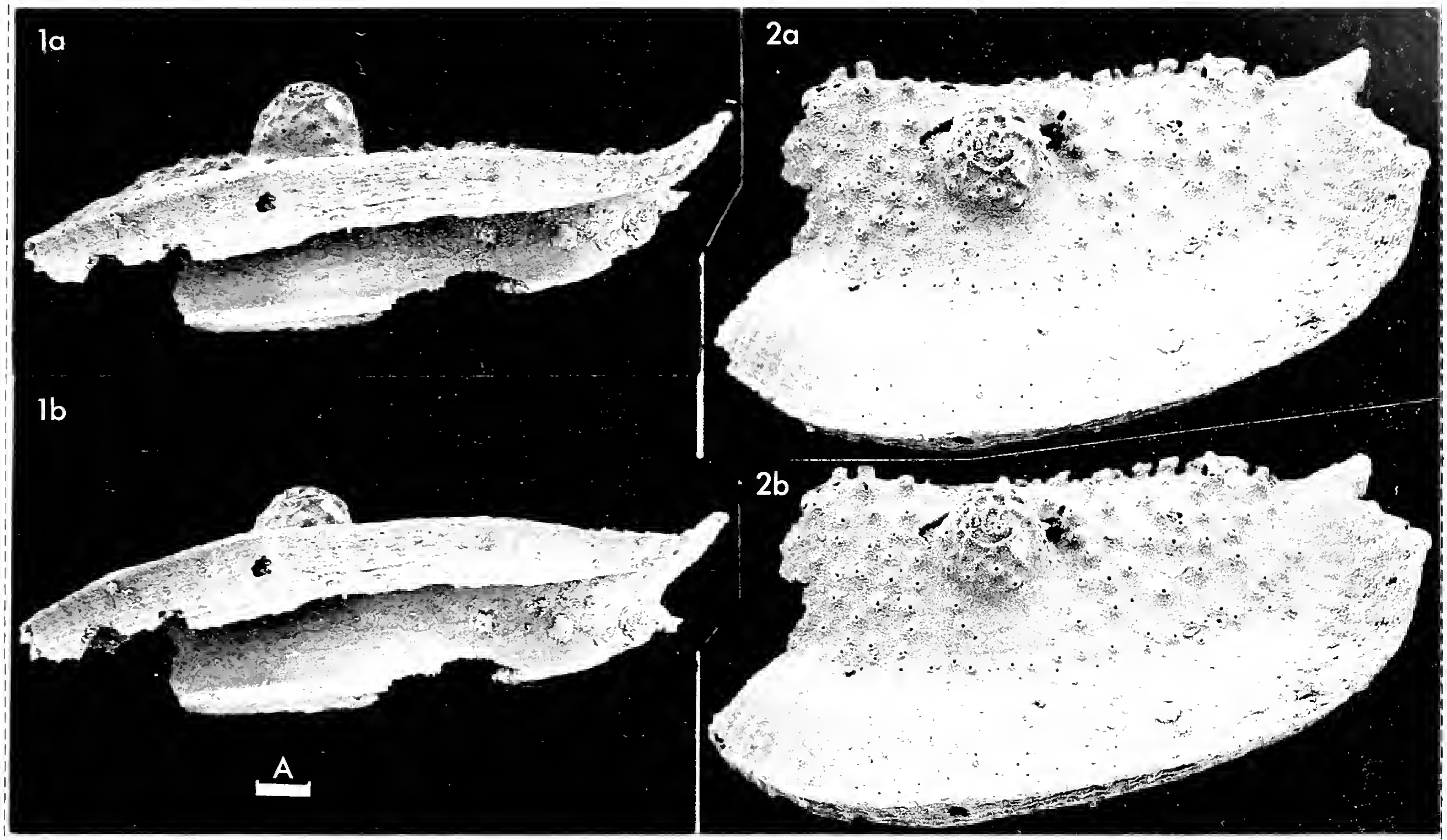
Gellensia nodoreticulata very much resembles *Cystomatochilina*. *Gellensia, Cystomatochilina* and the related *Platybolbina* all show a phylogenetic trend to extend the velar frill to the cardinal corners. In *Platybolbina* (*Reticulobolbina*) and *Gellensia* the frill is restricted in the Middle Ordovician species and entire but narrow at the cardinal corners in the Upper Ordovician species (Schallreuter, *Geologie* **18** (7), 879, 1969). In *Cystomatochilina* the frill is entire and clipped at the cardinal corners even in the Middle Ordovician *C. matura* Schallreuter (*Ber. geol. Ges. DDR,* **10** (4), pl. 9, fig. 2, 1965; *Palaeontographica* (A), **149** (4/6), pl. 22 (1), fig. 2, 1975). In the Upper Ordovician type-species *C. umbonata* (Krause) the frill is entire and also very broad at the cardinal corners (Jaanusson, *Bull. geol. Inst. Univ. Upsala* **37** (3/4) = *Publ. Palaeont. Instn. Univ. Upsala* **17**, fig. 16, 1957).

Cystomatochilina umbonata of Sarv (*Eesti NSV Tead. Akad. Geol. Inst. uurimused* **9**, pl. 1, fig. 1, 1962) from the Porkuni Stage (F_2) of Estonia is perhaps a tecnomorphic valve of *Gellensia nodoreticulata* but the characteristic preadductorial node and the diagnostic dorsal parts of the velar frill are broken away.

Distribution: Öjlemyrflint (Upper Ordovician) erratic boulders of the Isle of Gotland (Baltic Sea) and of the Upper Kaolinsand (Lower Pleistocene) of the Isle of Sylt (N Frisian Is., N Sea).

Explanation of Plate 9, 108

Figs. 1, 2, nearly complete tecnomorphic RV (**GPIMH 2684**, 1245μm long): fig. 1, ext. lat.; fig. 2, ext. vent.
Scale A (100μm; ×80), figs. 1, 2.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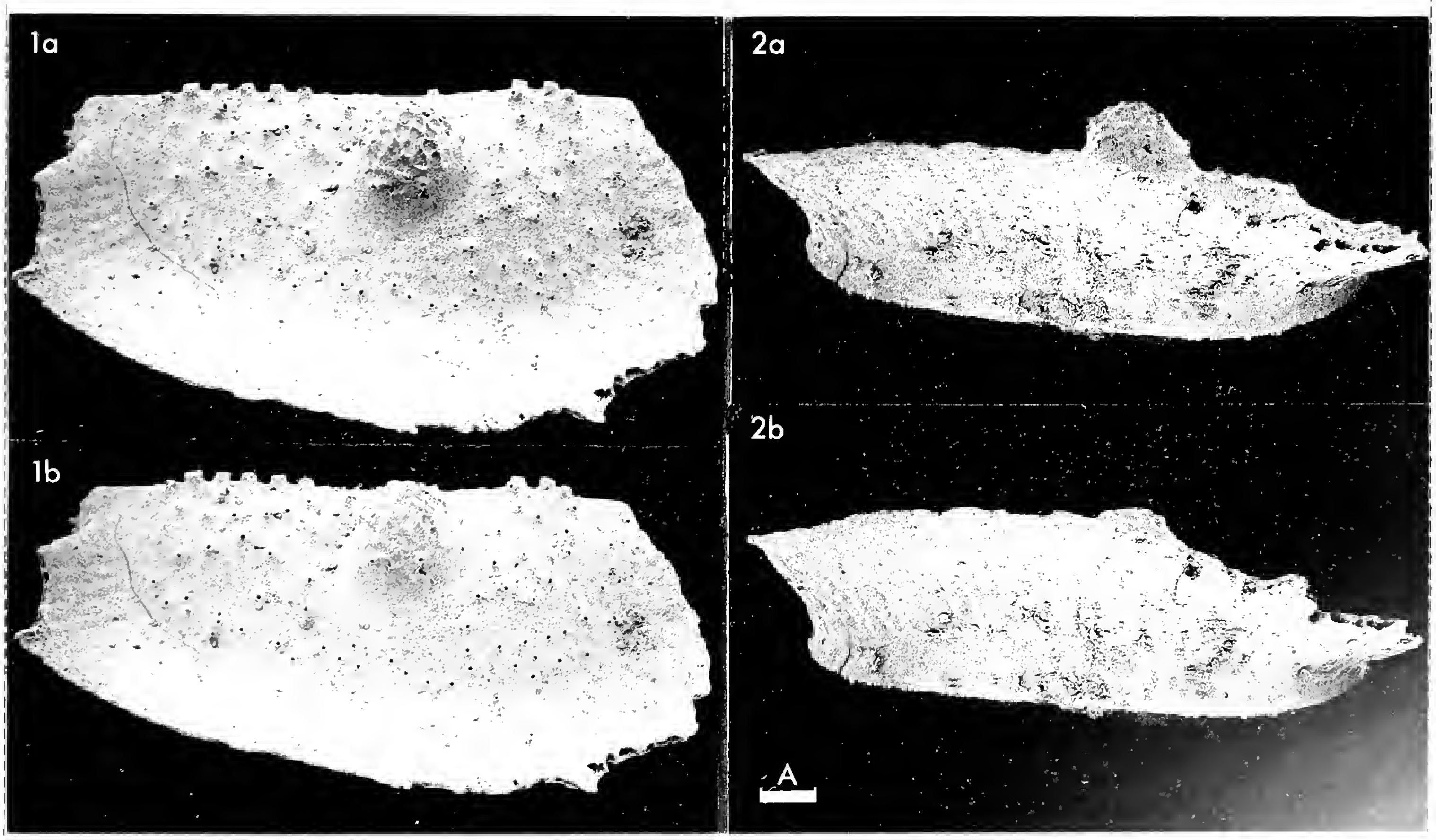
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Stereo-Atlas of Ostracod Shells 9 (20) 109-116 **(1982)**
595.336.13 (113.312) (492.71 : 161.008.54) : 551.35 + 552.55

ON *AIRINA AMABILIS* (NECKAJA)

by Roger E. L. Schallreuter
(University of Hamburg, German Federal Republic)

Airina amabilis (Neckaja, 1958)

1958 *Dilobella amabilis* sp. n. A.I. Neckaja, *Trudȳ vses. neft. nauchno-issled. geol.-razv. Inst. (VNIGRI),* **115** (= *Mikrofauna SSSR* **9**), 349-350, pl. 1, figs. 20, 21.

1959 *Brevibolbina amabilis* (Neckaja); L. I. Sarv, *Eesti NSV Tead. Akad. Geol. inst. uurimused,* **4**, 142-144, 193, tab. 2 (189), pl. 25, figs. 1-4, text-fig. 14B.

1960 *Brevibolbina amabilis* (Neckaja); L. I. Sarv, *Ibid.,* 5, tab. 1.

non 1966 *Brevibolbina amabilis*; R. M. Männil, *Istorija razvitija Baltijskogo bassejna v ordovike (Evolution of the Baltic Basin During the Ordovician),* 52 (? 1967).

1970 *Brevibolbina amabilis* (Neckaja); A. Rõõmusoks, *Stratigrafija viruskoj i charjuskoj serij (ordovik) Severnoj Estonii* **I** *(Stratigraphy of the Viruan Series (Middle Ordovician) in Northern Estonia),* 135, 152, 153, 196, 260, tabs. 10 (178), 12 (219), 15 (296).

1973 *Dilobella amabilis* Neckaja; R. E. L. Schallreuter, Palaeontographica (A), **144** (1/3), 74 (= not *Brevibolbina*; closer to *Disulcina*).

1976 *Brevibolbina amabilis* (Neckaja); N. Sidaravičiene, *Sovet. geol.,* **1976** (8), tab. 1 (49).

1976 *Brevibolbina amabilis* (Neckaja); V. Jaanusson, *The Ordovician System* (Ed. Bassett, M. G.; Proc. Palaeont. Assoc. Symp. Birmingham 1974), text-fig. 10 (faunal log).

1979 *Brevibolbina amabilis;* N. Sidaravičiene, *Eesti NSV Tead Akad. Toimetised (Geol.),* **28** (4), text-figs. 1-3 (faunal logs).

Explanation of Plate 9, 110

Figs. 1-3, ♀RV (**GPIMH 2527,** 659μm long): fig. 1, ext. lat.; fig. 2, ext. vent.; fig. 3, ext. ant.
Scale A (100μm; × 120), figs. 1-3.

Holotype: Vsesojuznyj neftjanoj naučno-issledovatel'skij geologorazvedočnyj institut (VNIGRI), Leningrad, no. **4-128,** ♀RV (carapace ?).

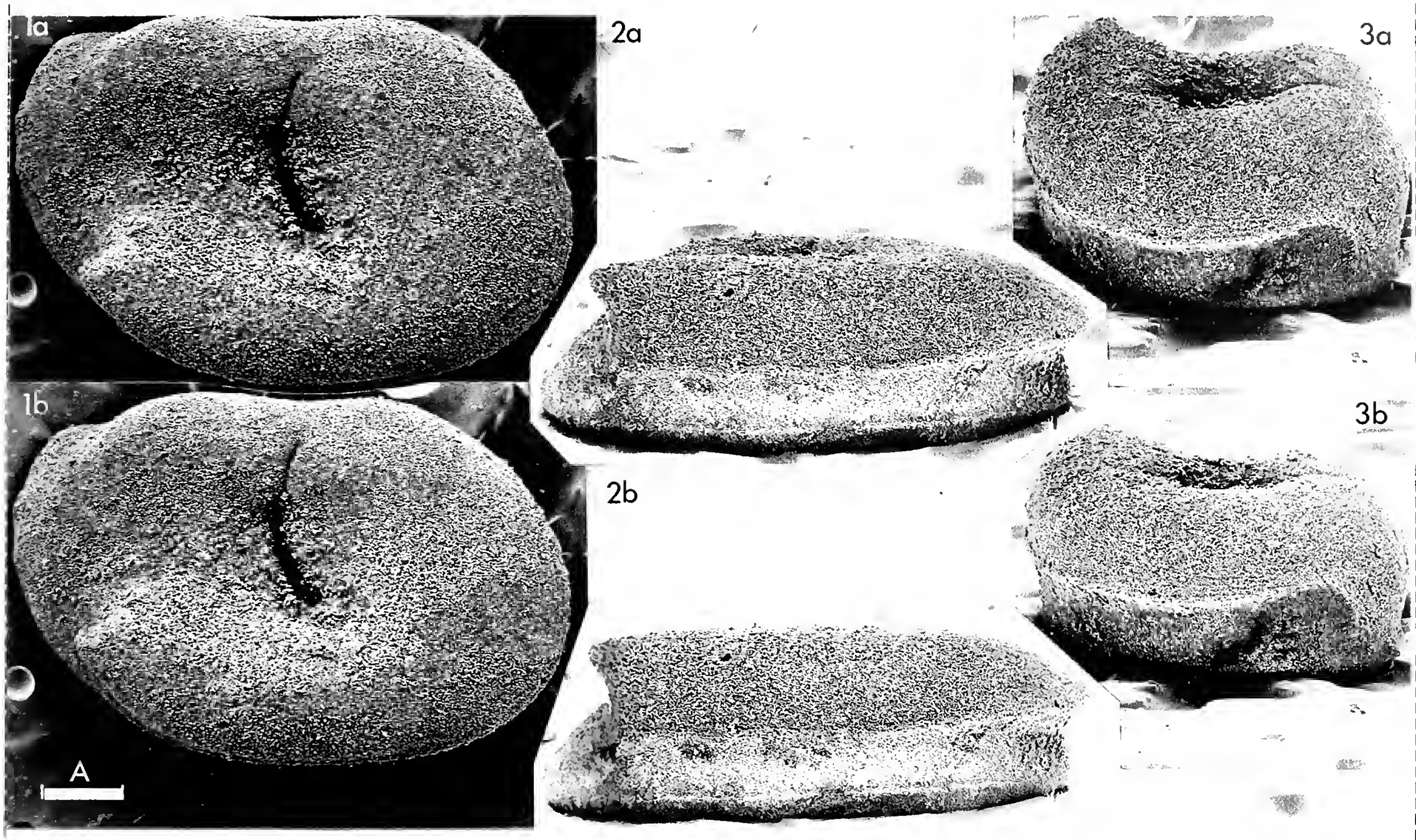
Type locality: Bol'šie Korčany, Leningrad obl., Russia; lat. 59° 33′ N, long. 29° 2′ E. Gubkov beds = Schundorov Substage of the Idavere Stage ($C_3ß$), Viru Series (middle Ordovician).

Figured specimens: Geologisch-Paläontologisches Institut und Museum, University of Hamburg (GPIMH) nos. **2527** (♀RV: Pl. **9,** 110, figs. 1-3), **2528** (♀RV: Pl. **9,** 112, fig. 1), **2529** (♀LV: Pl. **9,** 112, fig. 2), **2530** (juv. car.: Pl. **9,** 112, fig. 3), **2531** (♂LV: Pl. **9,** 114, figs. 1, 2), **2532** (juv. RV: Pl. **9,** 114, fig. 3), **2533** (♀LV: Pl. **9,** 116, fig. 1), **2534** (♀RV: Pl. **9,** 116, fig. 2) and **2535** (juv. LV: Pl. **9,** 116, fig. 3). All the figured specimens are from middle Ordovician Hornstein erratic boulders nos. Sy 52 (nos. **2528, 2529, 2531, 2532, 2534, 2535**) and Sy 108 (nos. **2527, 2530, 2533**) of the Upper Kaolinsand (Lower Pleistocene), near Braderup, Isle of Sylt (N Frisian Is., N Sea), Germany; lat. 54° 56′ N, long. 8° 21′ E; coll. by Ulrich von Hacht in 1978 and 1979.

Diagnosis: Species of *Airina* with adult females 0.64-0.77mm long. Cavum lies in a weak sulcal depression; slit-like caval opening moderately long, has a dorsal prolongation in the form of a very narrow rudimentary slit. At dorsal border two strong plical elevations form an epicline dorsum. No connection between posterior bow of the plica and the posteroventral spine.

Explanation of Plate 9, 112

Fig. 1, ♀RV, ext. lat. (**GPIMH 2528,** 644μm long); fig. 2, ♀LV, ext. lat. (**GPIMH 2529,** 762μm long); fig. 3, juv. car., ext. vent. (**GPIMH 2530,** 537μm long).
Scale A (100μm; × 120), fig. 1; scale B (100μm; × 100), figs. 2, 3.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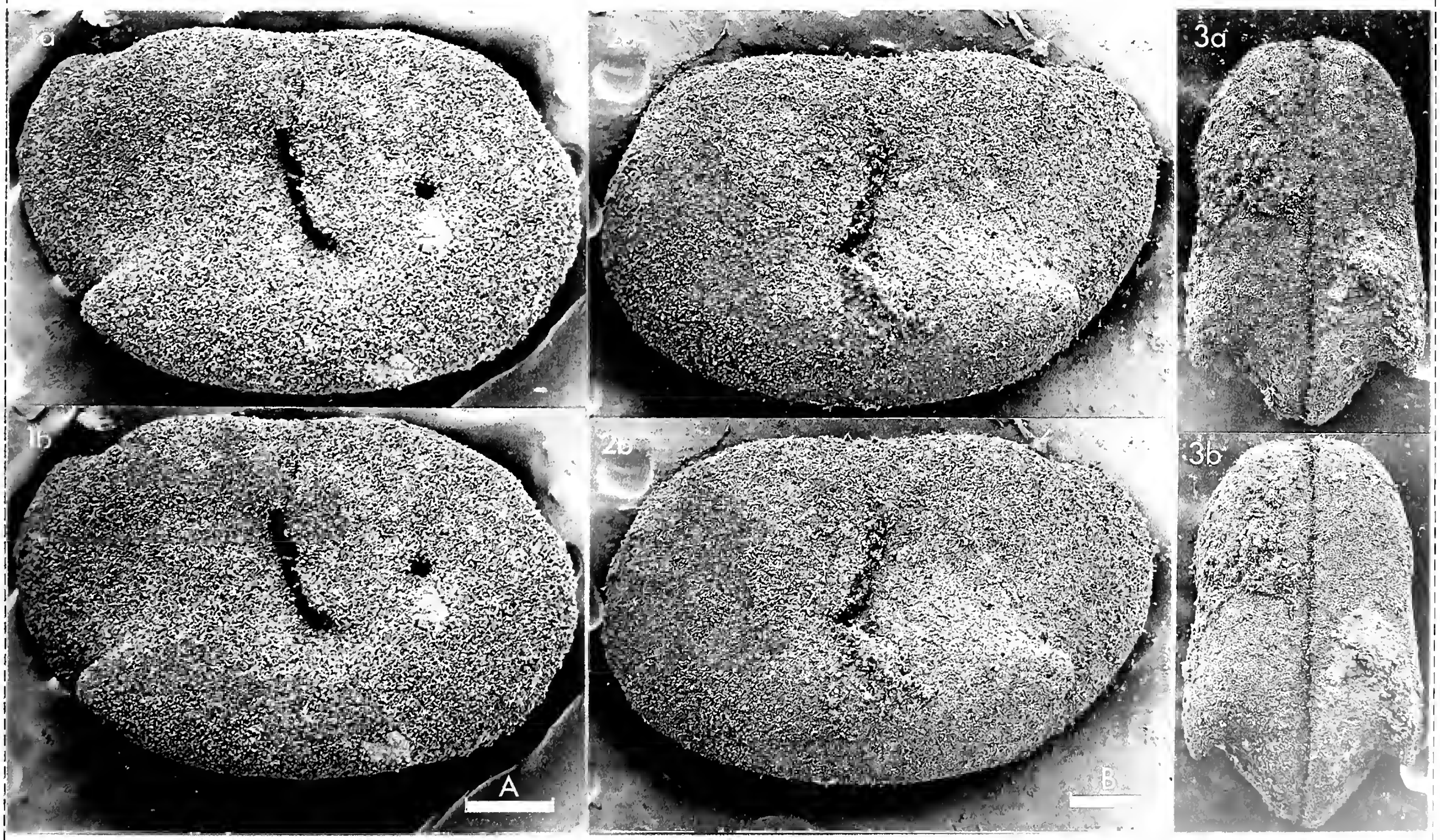
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Remarks: Sidaravičiene (op. cit., 1976, 1979), author of the genus *Airina* (*Paleontologija i stratigrafija Pribaltiki i Belorussii = Palaeontology and Stratigraphy of the Baltic and the Byelorussia,* **3,** 25, 1971), placed this species in *Brevibolbina,* as did Sarv (op. cit. 1959). *Brevibolbina* differs markedly, mainly by having a sulcus developed not as a cavum but as a graben, by its distinct conical pre-adductorial node and especially by its "false brood pouch" with its strongly convex dolonate botulus (Schallreuter, *Stereo-Atlas Ostracod Shells,* **6,** 72; **6,** 74, 1979). *Airina* possesses a typical admarginal botulate antrum. In the original description of *Airina* type-species *Hallatia cornuta* Neckaja (*in* Abushik *et al., Trudy̆ VNIGRI,* **115** = *Mikrofauna SSSR,* **9,** 247, 1958), no cavum is mentioned. The holotype (op. cit., pl. 2, fig. 7) only exhibits a weak sulcus. I suppose that the caval slit is hidden by material so that only the sulcal depression (also present in *A. amabilis)* is seen. If this is not the case and *Airina cornuta* does not possess a cavum, *A. amabilis* would belong to a new genus. *Airina adducta* Sidaravičiene, 1971 (op. cit., 25-26, pl. 1, fig. 1) shows a distinct caval slit. In this respect and in its antral morphology (cf. Sidaravičiene 1971, fig. 1b and Pl. **9,** 110, fig. 2) this species is very similar to *A. amabilis. A. adducta* differs from *A. amabilis* mainly by its larger size (1.00 mm long), its missing (or weak ?) dorsal plica and its (presumably cristal) keel between the dorsal border and its posteroventral spine.

Airina mezciemensis Gailite (*Fauna i stratigrafija paleozoja i mesozoja Pribaltiki i Belorussii = The Fauna and Stratigraphy of Paleozoic and Mesozoic of Baltic and Byelorussia,* 49-50, pl. 1, figs. 6a-b, 1975) is larger (♀♀: 0.90-1.10 mm) than *A. amabilis,* possesses a shorter caval slit and lacks plical elevations. A keel similar to that in *A. adducta* is present posterocentrally and posteroventrally in *A. mezciemensis,* forming a spine-like projection which distinctly overlaps the free margin in lateral view. In *A. adducta* this projection does not reach over the free margin and in *A. cornuta* it only slightly overlaps the free margin.

Explanation of Plate 9, 114

Figs. 1, 2, incomplete ♂ LV (**GPIMH 2531,** 640μm long): fig. 1, ext. lat.; fig. 2, ext. vent. Fig. 3, juv. RV, ext. lat. (**GPIMH 2532,** 590μm long).
Scale A (100μm; × 130), figs. 1, 2; scale B (100μm; × 90), fig. 3.

Remarks (contd.): *A. amabilis* (Kukruse-Kerla stages; C_2-D_2), *A. adducta* (Oanda-Rakvere stages D_3-E), *A. cornuta* (F_1) and *A. mezciemensis* (Pirgu Stage, F_1c) form a phylogenetic lineage. In *A. amabilis* a strong dorsal plica and separate posteroventral spine is present. In *A. adducta* the plica is lacking and there is a keel-like connection between the posterior plical bow and the posteroventral spine. In *A. adducta* the keel reaches the dorsal border and the posteroventral spine does not overlap the free margin (Sidaravičiene, op. cit., pl. 1, fig. 1a, 1971). In *A. cornuta* the keel also reaches the dorsal border and the posteroventral spine slightly overlaps the free margin (Abushik *et. al.,* op. cit., pl. 2, fig. 7a). In *A. mezciemensis* the keel is present only in the posterocentral and posteroventral regions and the posteroventral spine distinctly overlaps the free margin in lateral view (Gailite, op. cit., pl. 1, fig. 6a).

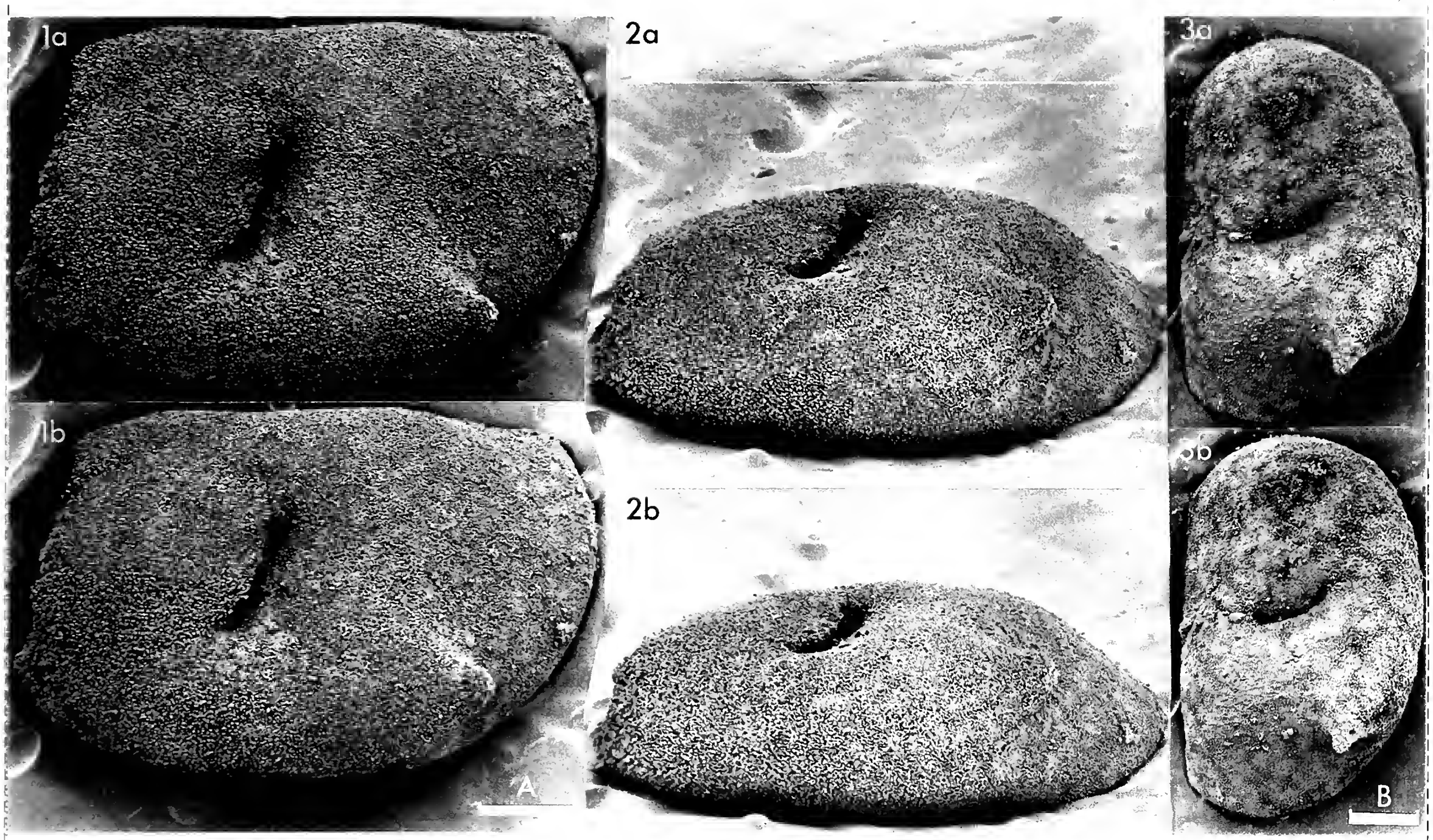
Sarv (op. cit., 142, 1959) considered *Ctenobolbina* ? aff. *obliqua* of Öpik (*Tartu ülikooli j.o. loodusuurijate seltsi aruanded = Ann. soc. rebus naturae invest. Univ. Tartu constitutae,* **43** (1/2) 100; respectively *Tartu ülikooli geol.-inst. toimetused = Publ. geol. Inst. Univ. Tartu,* **50,** 36, 1937) conspecific with *Brevibolbina amabilis.* This seems not to be not the case because of the sigmoidal sulcus, missing dorsal elevations and other distinguishing features of '*C. obliqua*'.

A. amabilis is another good example of the sulcal sculpture called (Schallreuter, *Ber. geol. Ges. DDR,* **9** (3), 390-391, 1964; **10** (4), 482-483, 1965) a cavum. A cavum consists of a relatively large inner 'bubble' of shell material which has only a small slit-like external opening. The function of the cavum is unknown; perhaps it was some kind of buoyancy organ.

Distribution: NW Russian Platform (Leningrad, Estonia, Lithuania): Kukruse (C_2)-Keila stages (D_2), upper part of Viru Series (middle Ordovician). Lower upper part of Viru Series in Hornstein erratic boulders of the Upper Kaolinsand (Lower Pleistocene) near Braderup, Isle of Sylt (N Frisian Is., N Sea), Germany.

Explanation of Plate 9, 116

Fig. 1, ♀ LV, int. lat. (**GPIMH 2533,** 710μm long); fig. 2, ♀ RV, int. lat. (**GPIMH 2534,** 638μm long); fig. 3, juv. LV, ext. lat. (**GPIMH 2535,** 506μm long).
Scale A (100μm; × 105), figs. 1, 3; scale B (100μm; × 125), fig. 2.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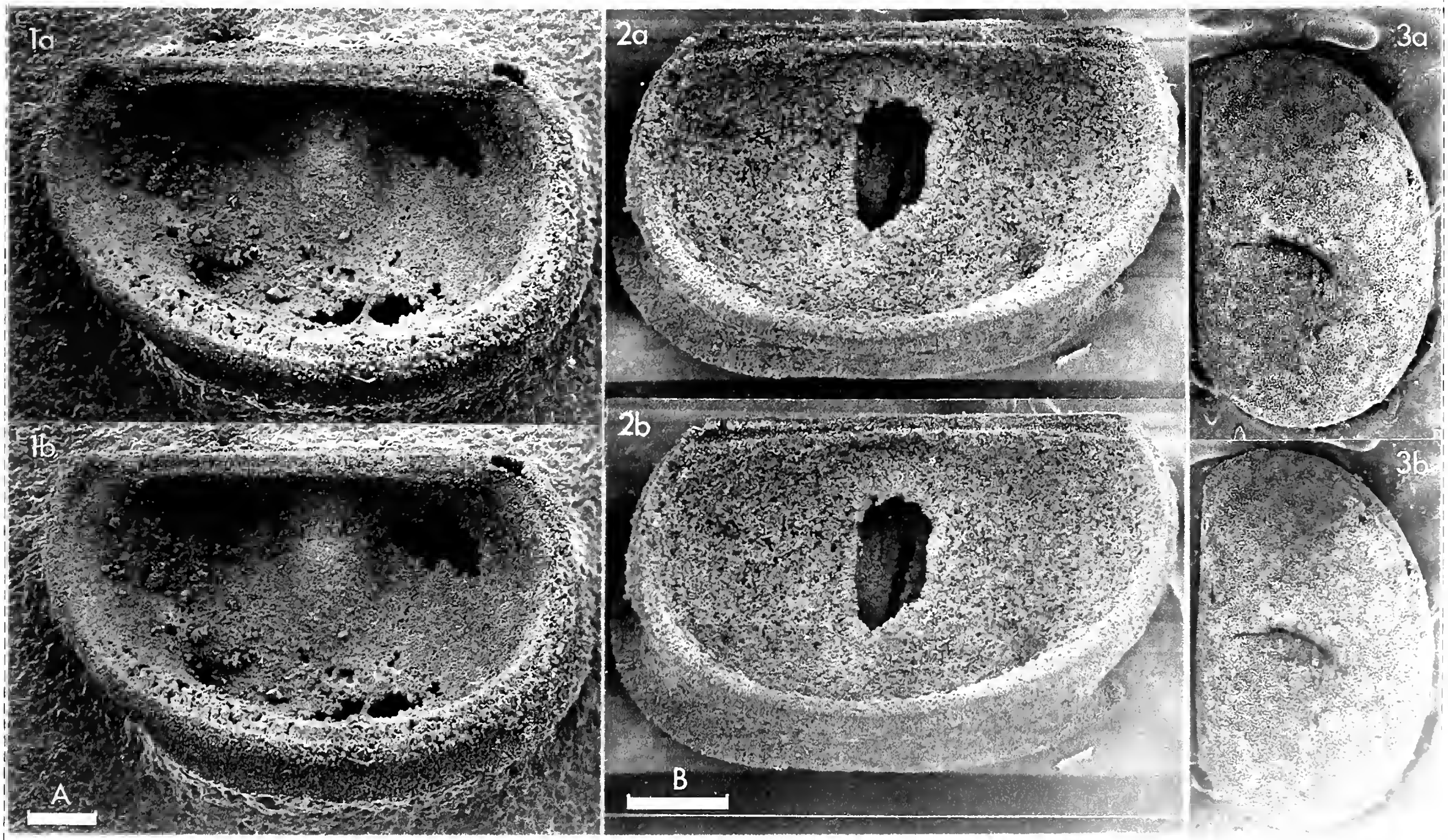
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Stereo-Atlas of Ostracod Shells 9 (21) 117-124 **(1982)**
595.337.12 (119.9) (943 : 163.145.21) : 551.312

ON *BENNELONGIA TUNTA* DE DECKKER sp. nov.

by Patrick De Deckker
(Australian National University, Canberra)

Bennelongia tunta sp. nov.

1981 *Bennelongia* sp. De Deckker, *Trans. R. Soc. S. Aust.*, **105**, 95, fig. 8r.

Holotype: Australian Museum, Sydney, dissected ♂, **P32574.**

Type locality: Billabong (20° 12′ 23″ S, 145° 58′ 41″ E) at the northern end of Lake Powlathanga, very close to Powlathanga Homestead, 35 km W of Charters Towers, Queensland, Australia. Material collected by P. De Deckker (4.VI.1981).

Derivation of name: From an Aboriginal language of Queensland meaning spear in reference to the numerous denticles along a great part of the periphery of the left valve.

Figured specimens: Australian Museum, Sydney nos. **P32574** (holotype ♂ car.; LV: Pl. **9,** 124, figs. 1-2; RV: Pl. **9,** 124, fig. 3; Text-fig. 1 B-E; Text-fig. 2A, C-H), **P32575** (♂LV: Pl. **9,** 118, fig. 3), **P32576** (♀ car.; LV: Pl. **9,** 120, fig. 1; RV: Pl. **9,** 120, fig. 2; Text-fig. 2E), **P32577** (♀ RV: Pl. **9,** 118, fig. 2, Text-fig. 1A, F), **P32578** (♂ car.: Pl. **9,** 120, fig. 3), **P32579** (♀ car.: Pl. **9,** 122, fig. 2), **P32580** (♀ car.: Pl. **9,** 118, fig. 1; Pl. **9,** 122, fig. 4), **P32581** (juv. car.: Pl. 9, 122, fig. 1); **P32582** (juv. car.: Pl. **9,** 122, fig. 6), **P32583** juv. (RV: Pl. **9,** 122, fig. 3; LV: Pl. **9,** 122, fig. 5). All from type locality.

Diagnosis: Oblong shell with LV the larger and forming a dorsal "keel" which embraces the shorter and more ellipsoidal RV; periphery of LV denticulated antero– and posterodorsally and of RV ventrally.

Explanation of Plate 9, 118

Fig. 1, ♀car., ext. rt. lat. (**P32580,** 2200μm long); Fig. 2, ♀RV, ext. lat. (**P32577,** 1965μm long); fig. 3, ♂LV, ext. lat. (**P32575,** 2160μm long). All paratypes.
Scale A (1000μm; ×28), figs. 1-3.

Diagnosis (contd): Valves asymmetrical especially anteroventrally where the larger LV is beak-shaped with broad concave depression posterior to the beak; RV almost smoothly curved except for narrow and pointed beak-shaped structure at edge. Lateral lobe and distal end of inner lobe of hemipenis both pointed and curved inward.

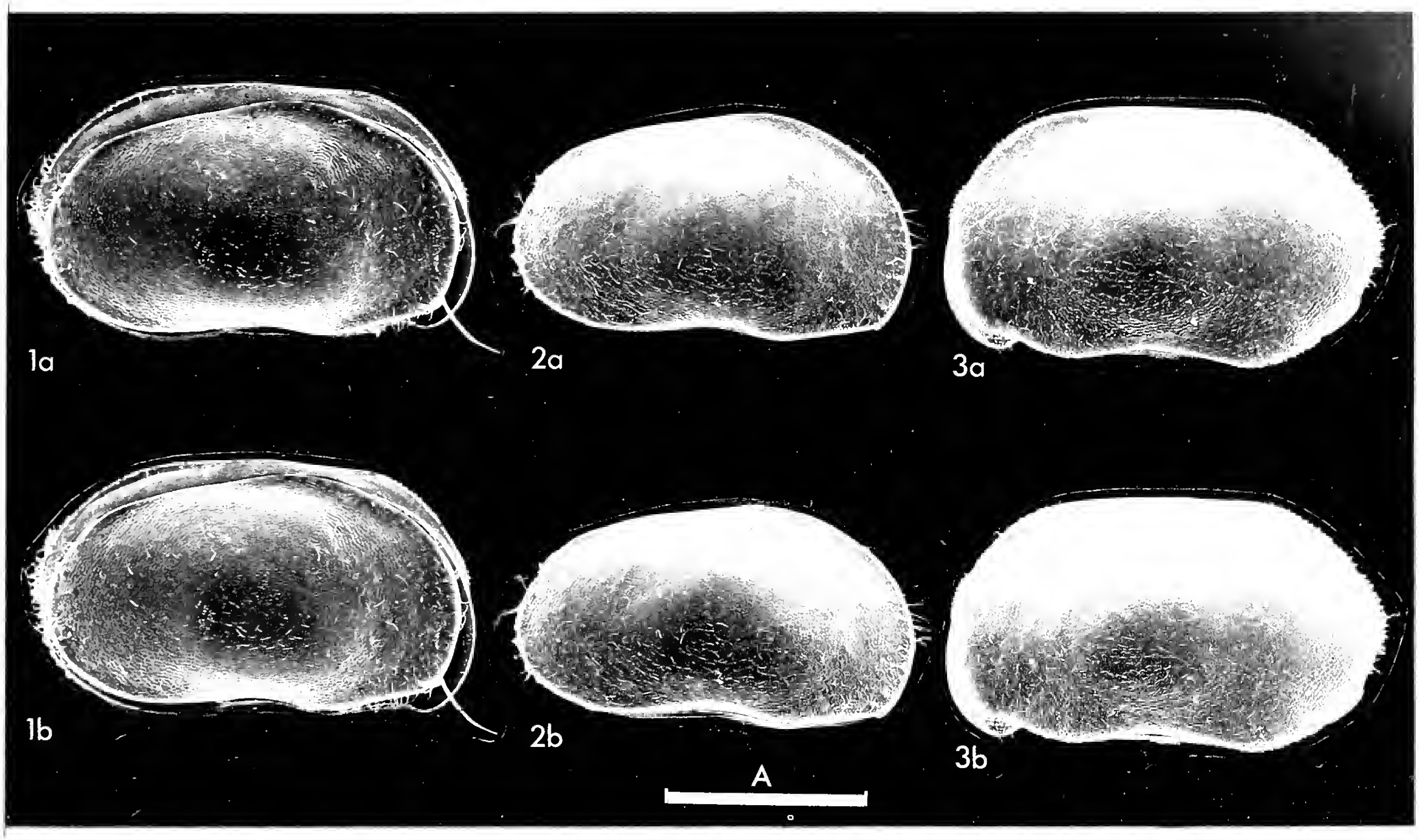
Remarks: *B. tunta* can swim actively and has a green shell. The small, smooth and narrow claw fixed on the inner side of the last segment of the male antenna (Text-fig. 1D) is longer, broader and denticulated in females. Other species of *Bennelongia,* which like *B. tunta* are characterized by a conspicuous inner list forming a lip-like flap anteroventrally only in the LV, have been recently described or reviewed in De Deckker (*Trans. R. Soc. S. Aust.,* **105,** 91-138, 1981) and De Deckker and McKenzie (*ibid* **105,** 53-58, 1981). *B. tunta* is easily distinguished from other species of the genus by the following features: rectangular outline of the shell, much narrower shape in dorsal view, prominent dorsal "keel" seen on taller LV; lateral lobe of hemipenis in shape of a bird of prey's beak. The ventral area of both valves is characterized by a number of small pustules which are closely arranged in rows; these are best seen near the mouth region. Arrangement of adductor muscle scars (see Pl. **9,** 120, fig. 1) like that of *B. harpago* as illustrated on Fig. 7 in De Deckker and McKenzie *(op. cit.)* except that the central scar in the posterior row is missing in *B. tunta*.

Undissected paratype material of *B. tunta* is deposited at the Australian Museum under no. **P32584.**

Distribution: *B. tunta* was originally recorded from Cauckingburra Swamp (collected by Dr B. V. Timms, 16.VII.1974, see De Deckker, 1981 *op. cit.*) near Lake Buchanan, SW. of Charters Towers in Queensland. It was re-collected on 3.VI.1981 by P.D.D. It also has been found some 400 km S. of Charters Towers in 3 adjacent roadside swamps on the northern side of the road between Alice and Barcaldine (20 km E. of Barcaldine and 2 km E. of Geera Railway Station) on 30.V.1981 by P.D.D. The type locality is on the W. of Charters Towers.

Explanation of Plate 9, 120

Fig. 1, ♀LV, int. lat. (**P32576,** 2340μm long); fig. 2, ♀RV, int. lat. (**P32576,** 2060μm long); fig. 3, ♂car., ext. lt. lat. (**P32578,** 2025μm long). All paratypes.
Scale A (1000μm; ×28), figs. 1-3.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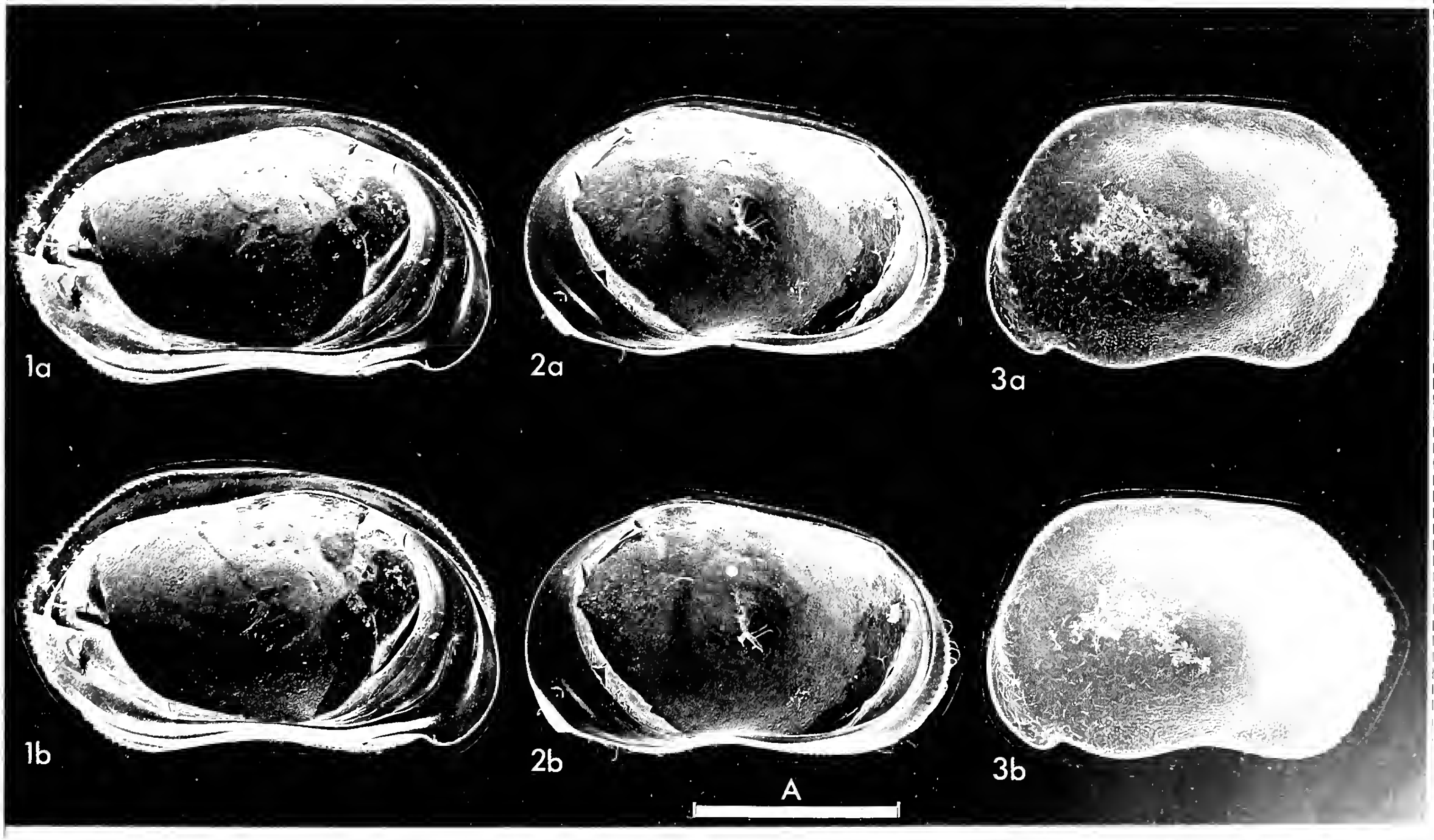
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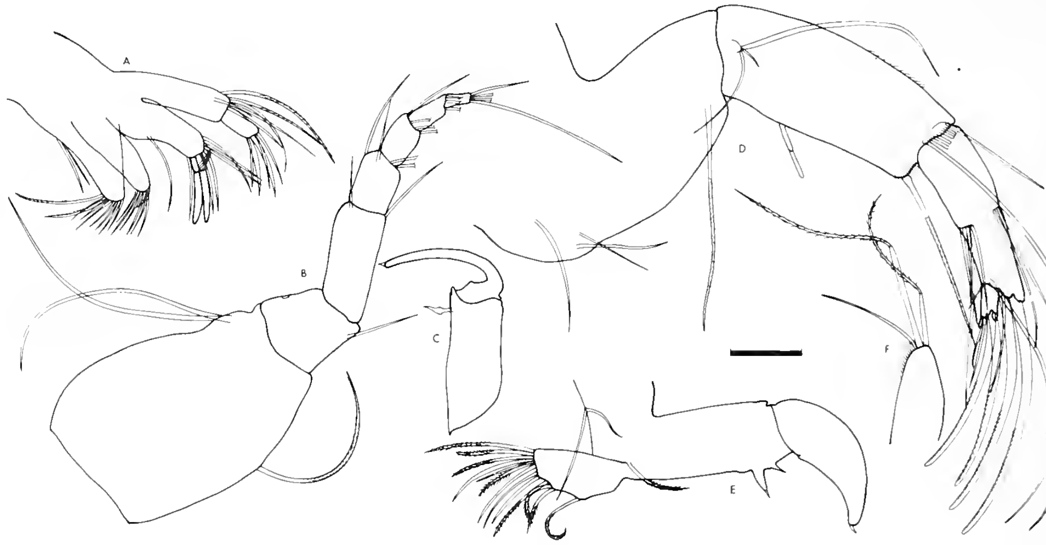
Text-fig. 1, ♀(paratype, **P32577**) A: maxillular processes and palp; F: maxillar palp. ♂(holotype, **P32574**) B: antennula, C: left maxillar palp; D: antenna; E: right maxilla.



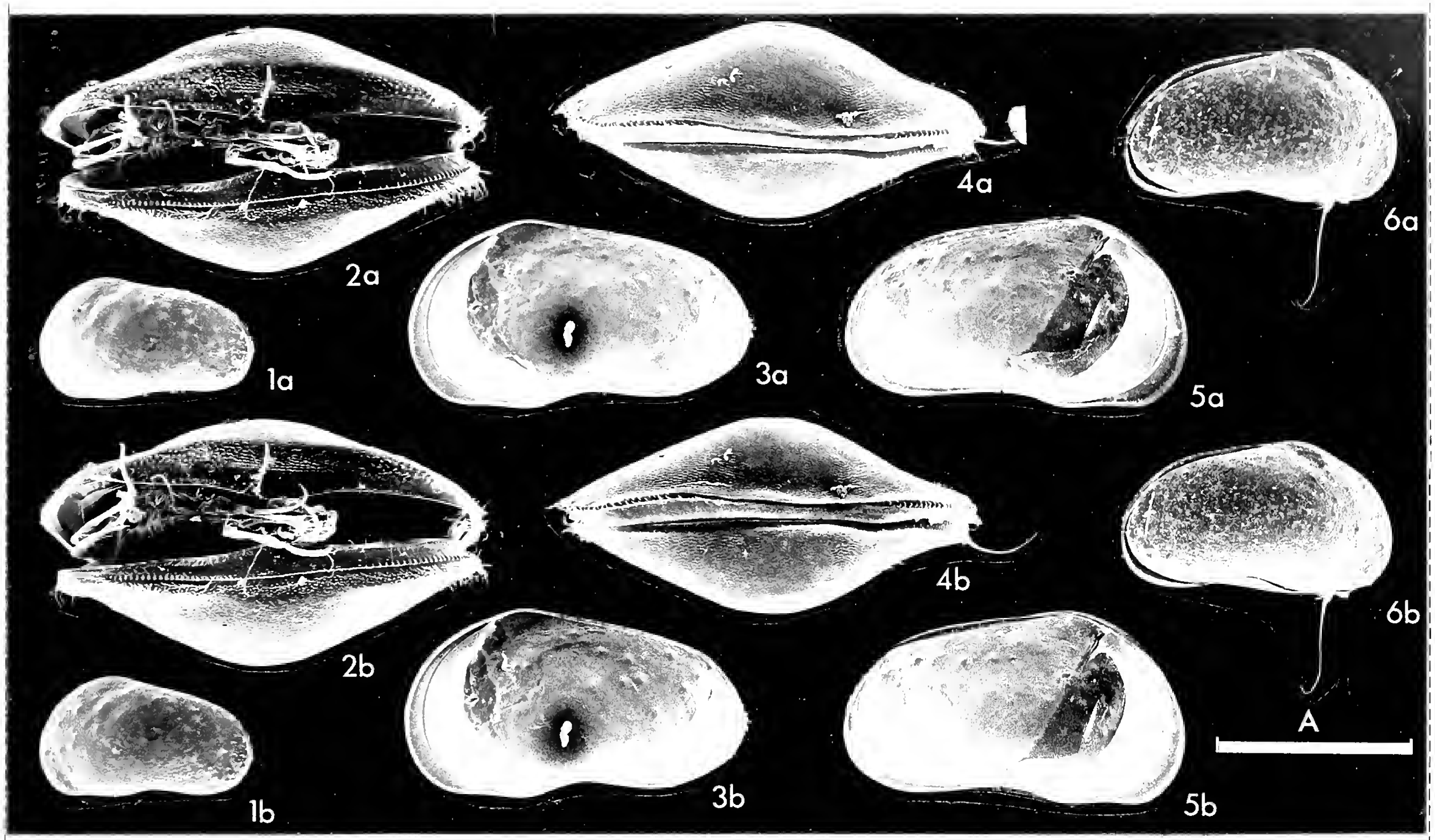
Explanation of Plate 9, 122

Fig. 1, juv. car., ext. lt. lat. (**P32581,** 1050μm long); fig. 2, ♀car., ext. vent. (**P32579,** 2170μm long); fig. 3, juv. RV, int. lat. (**P32583,** 1680μm long); fig. 4, juv. car., ext. dors. (**P32580,** 2200μm long); fig. 5, juv. LV, int. lat. (**P32583,** 1680μm long); fig. 6, juv. car., ext. rt. lat. (**P32582,** 1335μm long). All paratypes.
Scale A (1000μm; × 28), figs. 1-6.

Text-fig. 2, ♂(holotype, **P32574**) A: thoracopoda I; C: mandibular palp; D: thoracopoda II; E: hemipenis; F: furca; G: Zenker organ; H: furcal attachment. ♀(paratype, **P32576**) B: rake-like organ.
Scale 1: 100μm for A, C-H; 2: 100μm for B.

Explanation of Plate 9, 124

Figs. 1-3, car. (holotype, **P32574**), figs. 1, 2, LV, ant. int. lat. at different angles; fig. 3, RV, ant. int. lat.
Scale A (500μm; × 55), figs. 1-3.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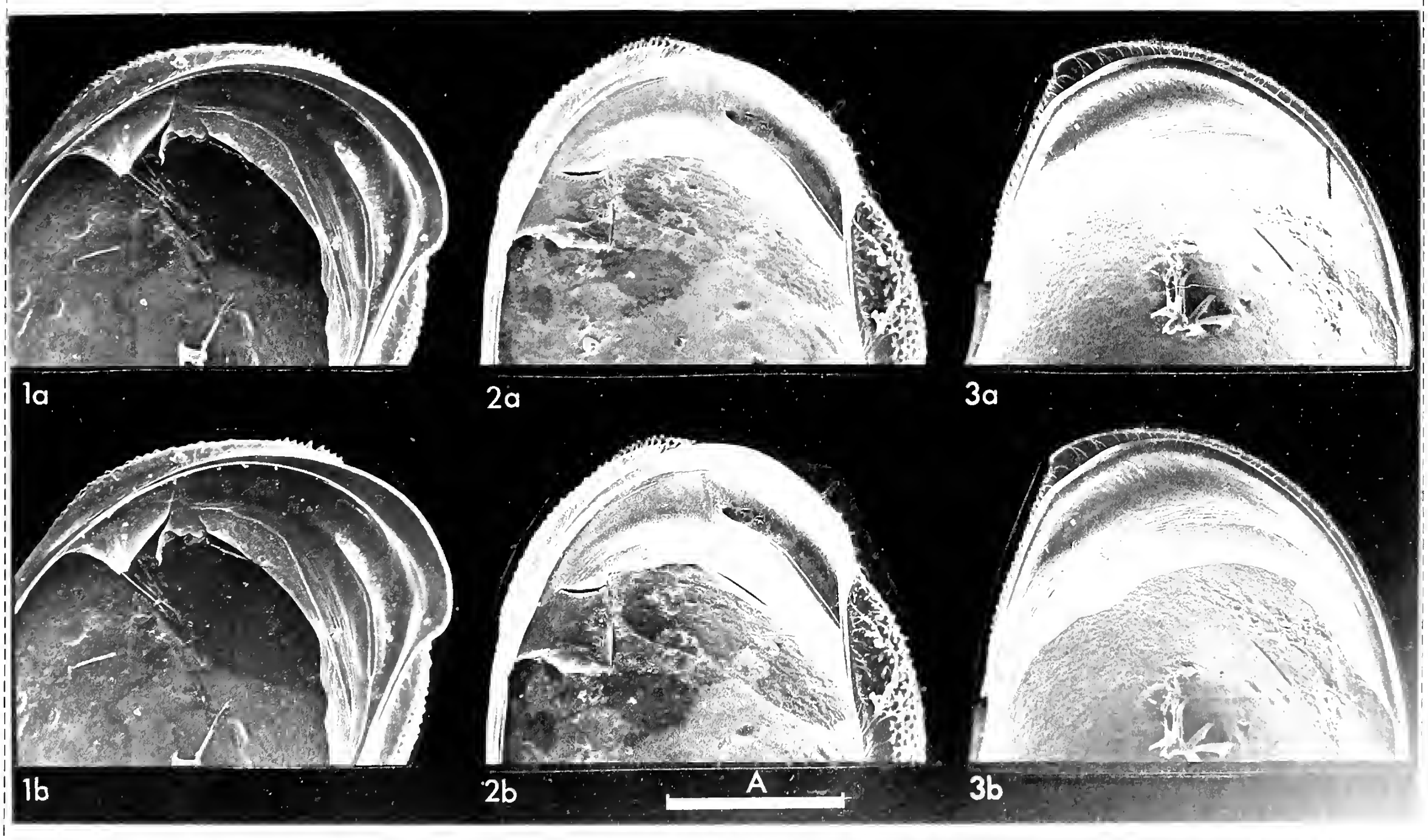
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595.337.12 (119.9) (941.163.116.33) : 551.312.2

ON *CABONCYPRIS NUNKERI* DE DECKKER gen. et sp. nov.

by Patrick De Deckker
(Australian National University, Canberra)

Genus *Caboncypris* gen. nov.
Type species: Caboncypris nunkeri sp. nov.

Derivation of name: From an Aboriginal language of Western Australia meaning large, combined with *Cypris*.

Diagnosis: Large size (~ 3mm long), smooth to pseudopunctate shell with broad selvage in both valves and placed far away from outer edge. Ventral overlap of LV over RV. "Sensory" organ on side of 2nd segment of antenna like a tiny depression; distal segment of maxillula elongated; mandibular palp with $\propto$ bristle smooth and as long as penultimate segment, β bristle shorter and tufted, γ bristle slightly longer than distal segment and pilose on its distal half; rake-like organ with 6 to 7 teeth plus a bifid one; male maxillar palps asymmetrical; penultimate segment of thoracopoda I weakly divided; furca with 2 claws and 2 smaller setae; furcal attachment simple and bifurcate; Zenker's organ with more than 60 rosettes.

Remarks: The morphology of the furca (2 claws, 2 setae) and of the furcal attachment (proximal part bifurcate and median part simple) places *Caboncypris* in the Eucypridinae Bronstein, 1947.

Caboncypris nunkeri sp. nov

Holotype: Australian Museum, Sydney, dissected ♂ **P32563**

Type locality: Roadside swamp, on edge of Armidale golf course along Forrest road situated E. of Forrestdale Lake, near Perth, Western Australia. Material collected by J. Terni (8.IX.1981).

Derivation of name: From an Aboriginal language of Western Australia meaning pretty.

Explanation of Plate 9, 126

Fig. 1, ♂LV, ext. lat. (**P32564,** 2950μm long); fig. 2, ♂RV, ext. lat. (**P32564,** 2740μm long); fig. 3, ♂car., ext. lt. lat. (**P32567,** 2960μm long). All paratypes.
Scale A (1000μm; × 20), figs. 1-3.

Figured specimens: Australian Museum, Sydney, Nos. **P32563** (holotype, ♂RV: Pl. **9,** 128, fig. 2; LV: Pl. **9,** 128, fig. 3; rake-like organs: Pl. **9,** 132, fig. 3; Text-fig. 1; Text-fig. 2A-I), **P32564** (♂car.; LV: Pl. **9,** 126, fig. 1; RV: Pl. **9,** 126, fig. 2; Zenker's organ: Pl. **9,** 132, fig. 2; hemipenis: Pl. **9,** 132, fig. 4), **P32565** (♀ maxillular palp: Text-fig. 2E); **P32567** (♂car.: Pl. **9,** 126, fig. 3); **P32568** (♂car.: Pl. **9,** 130, fig. 1), **P32569** (♀car.: Pl. **9,** 128, fig. 1; Pl. **9,** 130, fig. 3), **P32570** (♂anatomy: Pl. **9,** 130, fig. 2); **P32571** (♂anatomy: Pl. **9,** 130, fig. 4), **P33572** (♂anatomy: Pl. **9,** 132, fig. 1). All from type locality.

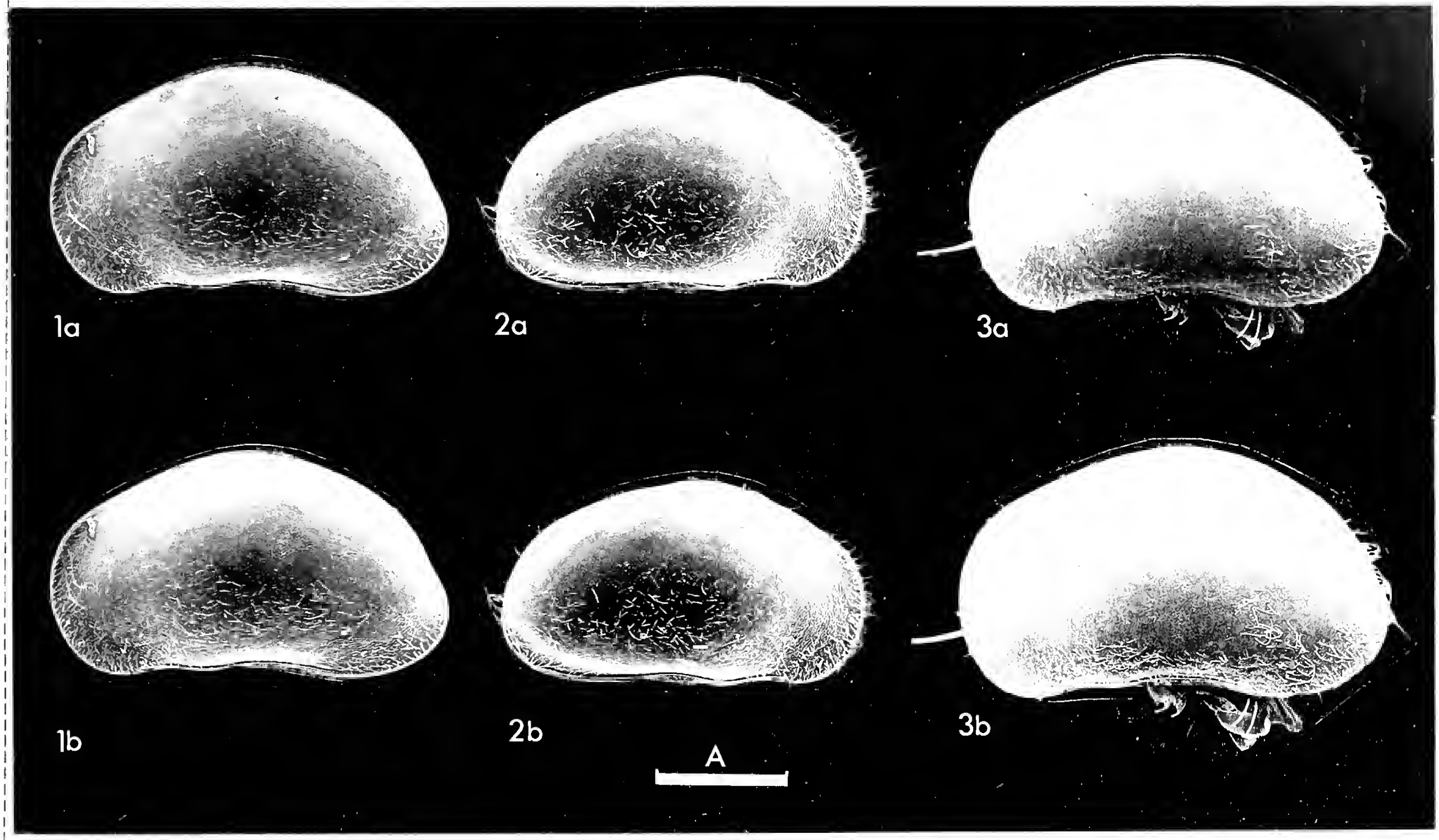
Diagnosis: Ellipsoid shell in lateral view with flattened ventral area where two concavities occur, one at $\frac{1}{4}$ of length from anterior end and other in middle. LV larger and overlapping RV in dorsal area by forming a narrow "keel". Selvage prominent throughout and similar in both valves being well removed from outer edge except in mouth region where it is near outer edge at level of anterior concavity. Posteriorly, selvages in both valves interlock with RV selvage external. Maxillular palps of male asymmetrical with inner edge of right grasping organ bearing a lump. Lateral lobe of hemipenis digitate and curved inward; inner lobe broad and tongue-shaped. Furcal claws unequal.

Remarks: *Caboncypris* differs from the Australian endemic genus *Australocypris,* which it closely resembles, by the position of the selvage in both valves which is an important taxonomic feature at generic level in the tribe Mytilocypridini (see De Deckker, *Aust. J. Zool. Suppl. Ser.* **58,** 1-62, 1978), to which *Caboncypris* belongs. *Caboncypris* differs from the megalocypridine genera by having a narrow digitate outer lobe on the hemipenis (in *Megalocypris* it is trapezoid, *Apatelecypris* tongue-like and *Hypselecypris* circular shaped); also, the furcal attachment in all these 3 genera has a hook-like process near the articulary extremity whereas none is present in *Caboncypris.*

Distribution: *C. nunkeri* has been collected at the type locality on several occasions by J. Terni to whom I am most grateful. It has also been collected once before in 1905 by the Hamburg Scientific Expedition to Western Australia. I wish to thank Prof. G. Hartmann for supplying material from this collection.

Explanation of Plate 9, 128

Fig. 1, ♂car., ext. rt. lat. (paratype, **P32569,** 3125μm long); fig. 2, ♂RV, int. lat. (holotype, **P32563,** 2900μm long); fig. 3, ♂LV, int. lat. (holotype, **P32563,** 3030μm long).
Scale A (1000μm; × 20), figs. 1-3.


1a
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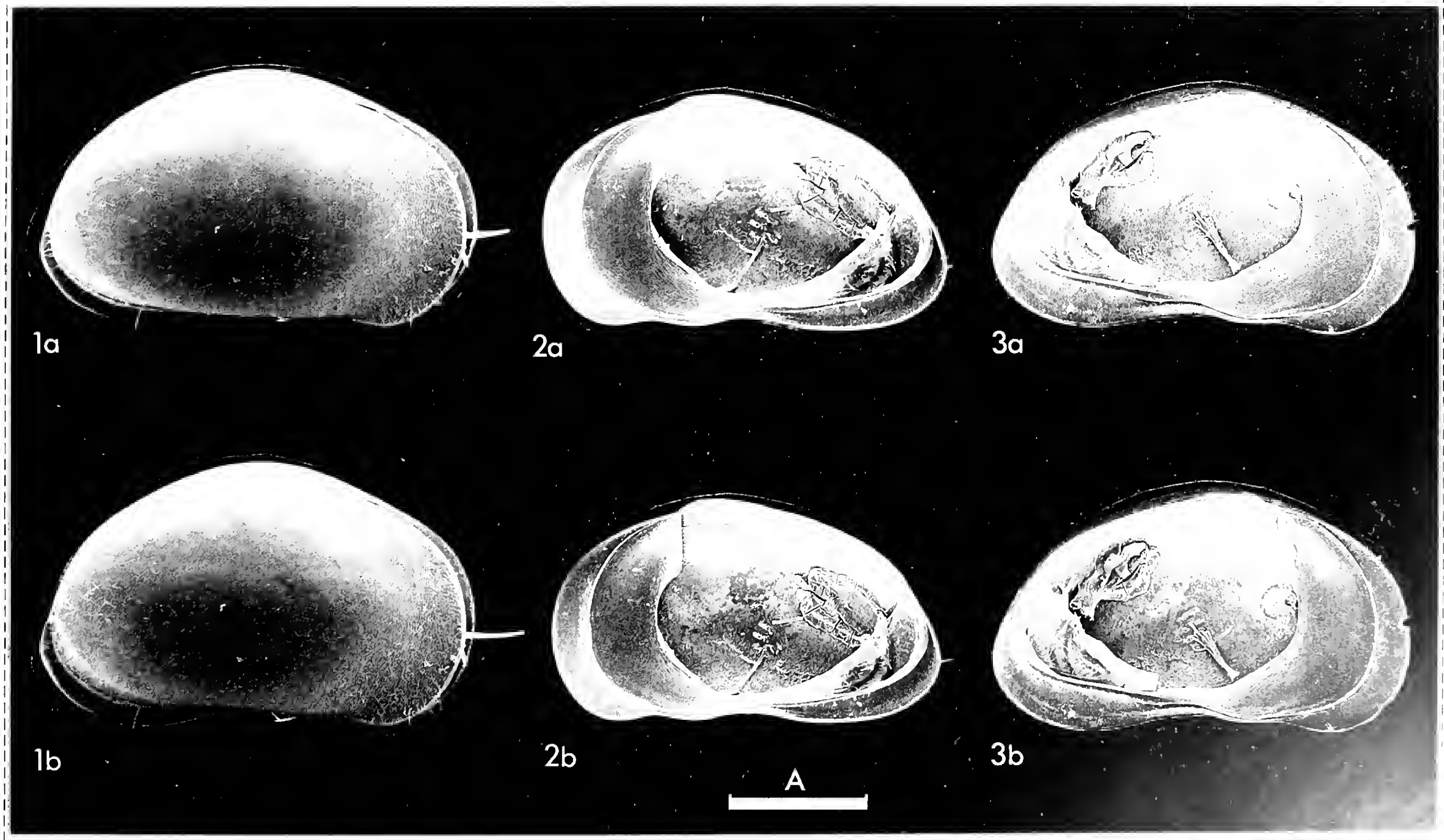
3a
1b
2b
3b
A


1a
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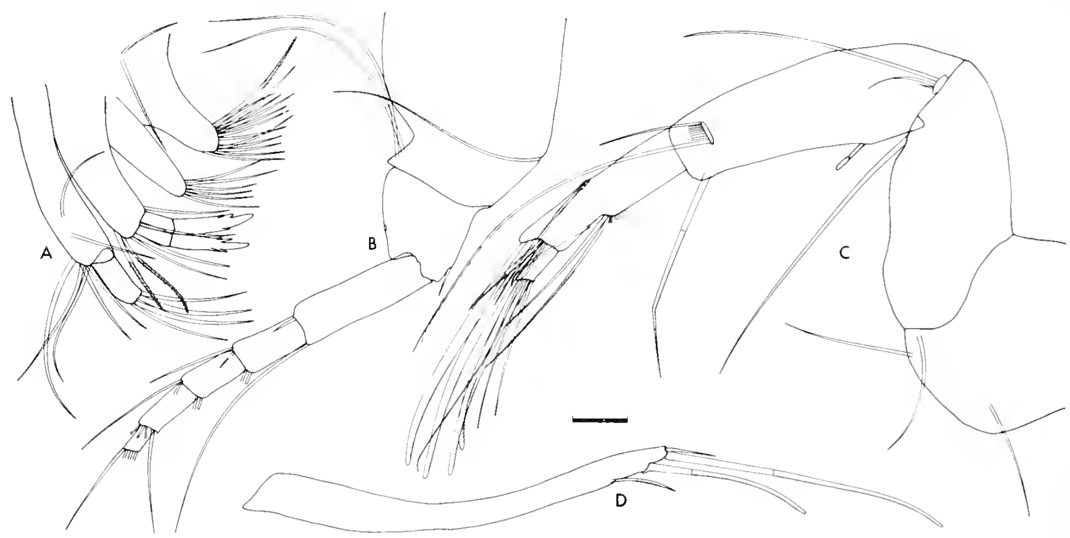
A

Text-fig. 1, ♂ (holotype, **P32563**) A: maxillular processes and palp; B: antennula; C: antenna; D: furca.



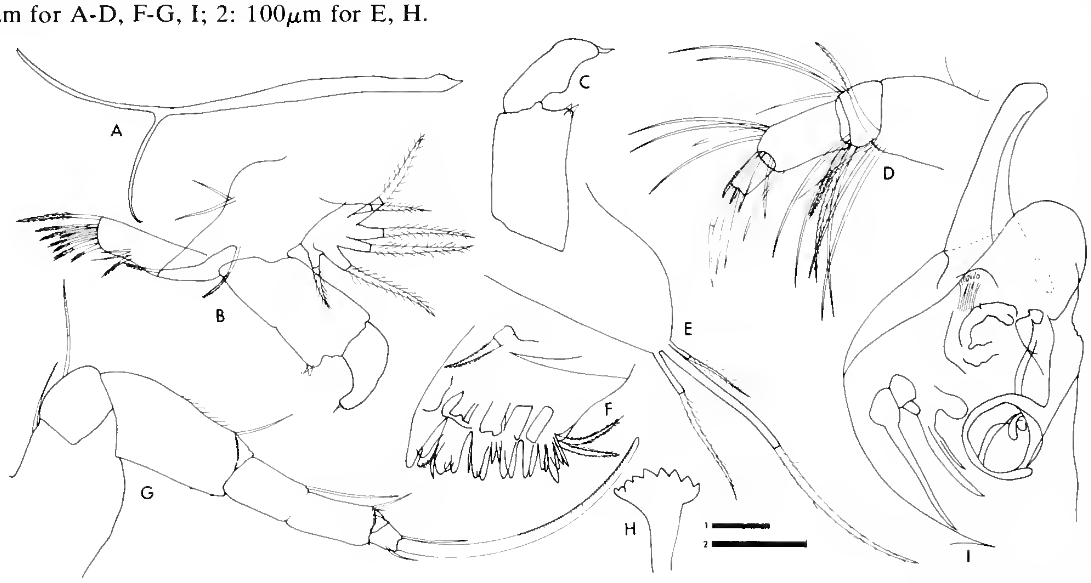
Explanation of Plate 9, 130

Fig. 1, ♂ car., ext. vent. (**P32568,** 2910μm long); fig. 2, ♂, rt. lat., anatomy and part of LV visible after RV removed (**P32570,** 3200μm long); fig. 3, ♀ car., ext. dors. (**P32569,** 3060μm long); fig. 4, ♂, lt. lat. tilted, anatomy and part of RV visible after LV removed (**P32571,** 2600μm long). All paratypes.

Scale A (1000μm; × 20), figs. 1, 3; B(1000μm; × 17.5), fig. 2; C(1000μm; × 25), fig. 4.

Text-fig. 2, ♂ (holotype, **P32563**) A: furcal attachment; B: left maxilla; C: right maxillar palp; D: mandibular palp; F: mandibular coxale; G: thoracopoda I; H: rake-like organ; I: hemipenis. ♀ (paratype, **P32565**) E: maxillular palp.

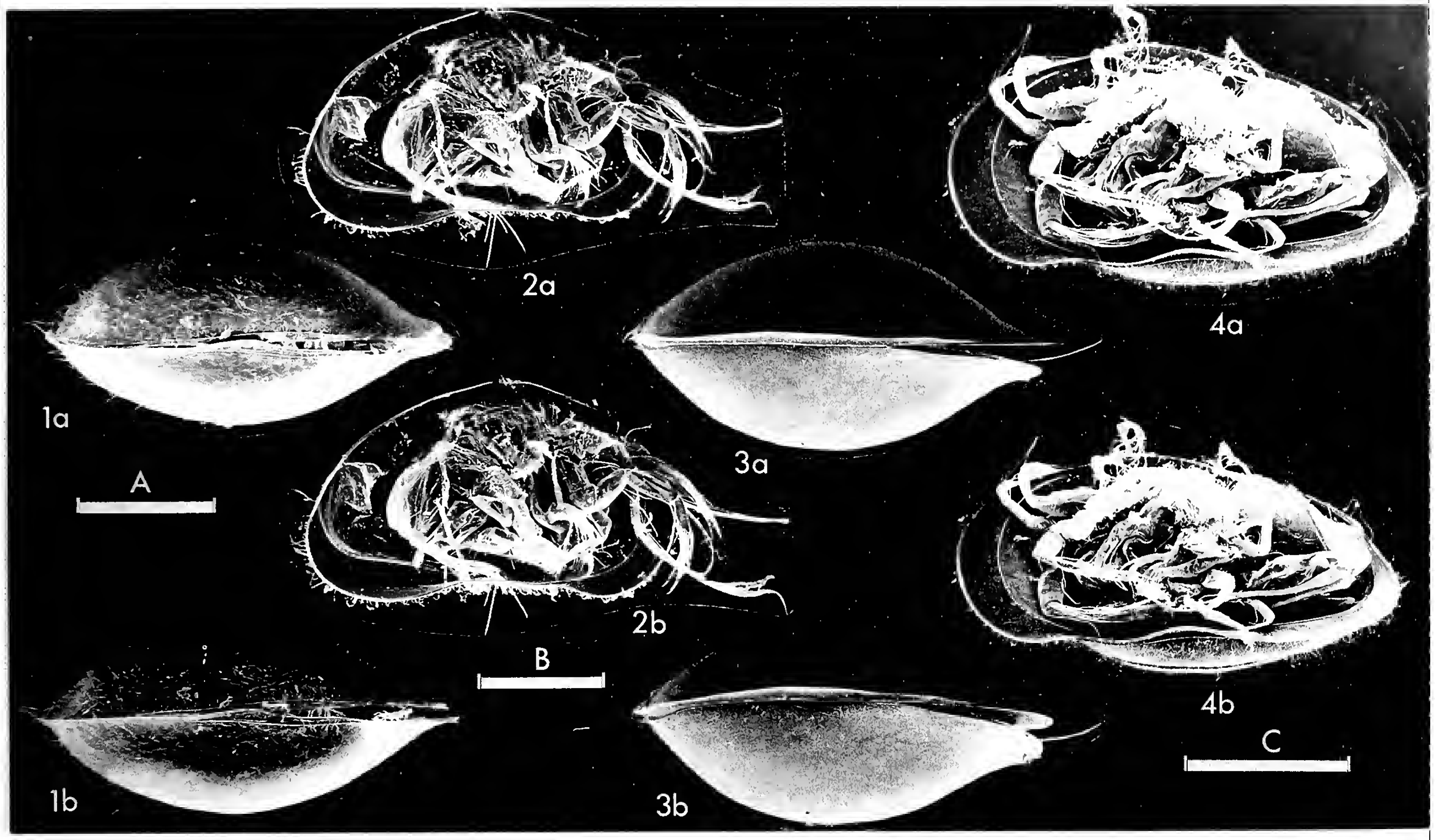
Scale 1: 100μm for A-D, F-G, I; 2: 100μm for E, H.



Explanation of Plate 9, 132

Fig. 1, ♂, lt. lat., anatomy after both valves removed (paratype, **P32572,** 2225μm long); fig. 2, ♂, Zenker organ (paratype, **P32564,** 560μm long); fig. 3, ♂, hemipenis (paratype, **P32564,** 560μm long); fig. 3, o , rake-like organs (holotype, **P32563**); fig. 4, ♂, hemipenis (paratype, **P32564,** 760μm long).

Scale A (1000μm, × 28), fig. 1; B (200μm; × 115), figs. 2, 4; C (100μm; × 185), fig. 3.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1a
A
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B
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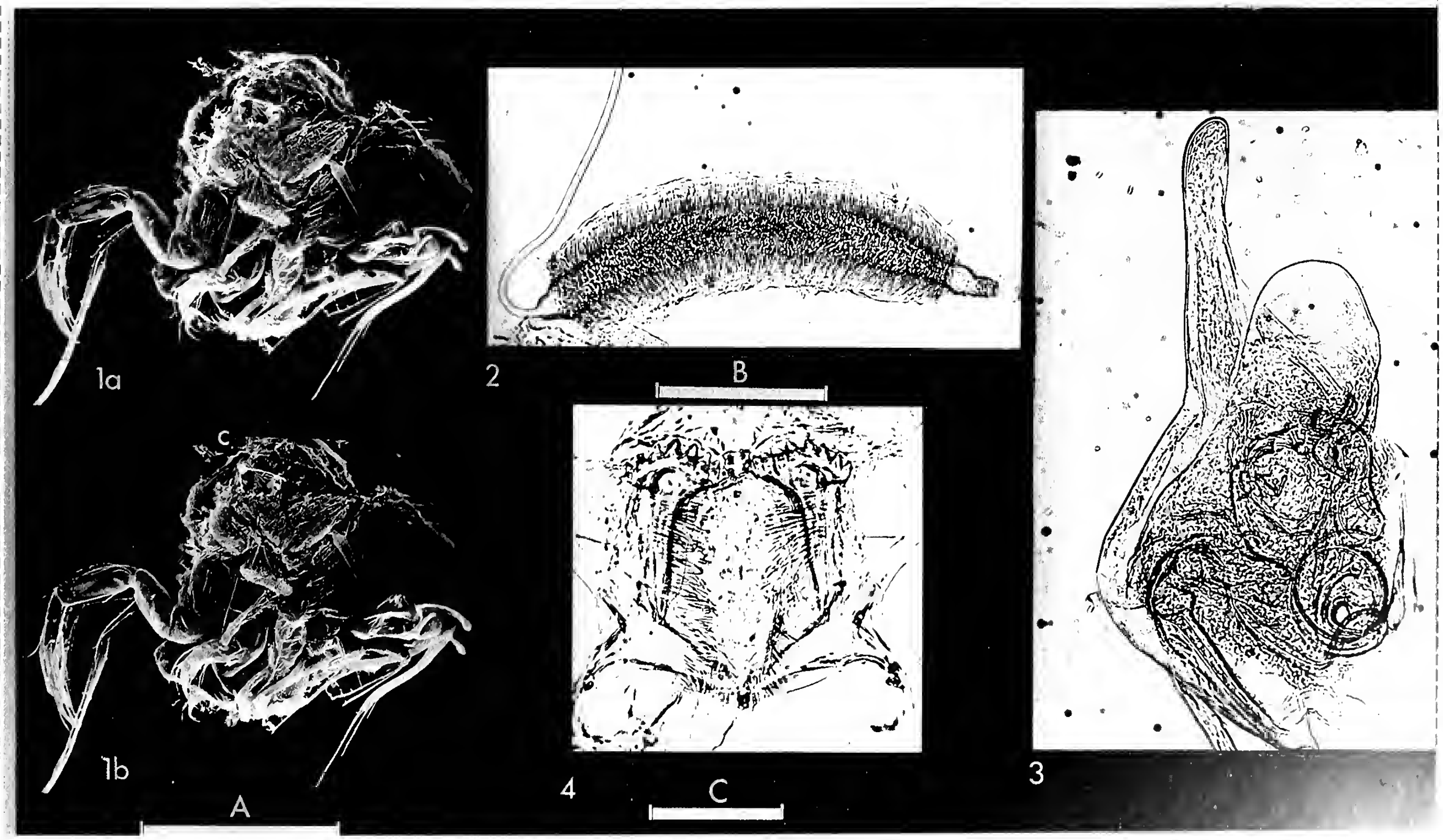
1b
3b
C


1a
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3
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595.337.12 (119.9) (948.163.132.13) : 551.312.4

ON *CYPRETTA YAPINGA* DE DECKKER sp. nov.

by Patrick De Deckker
(Australian National University, Canberra)

Cypretta yapinga sp. nov.

Holotype: Australian Museum, Sydney, dissected ♂, **P32557.**

Type Locality: Mudginberri Lagoon, a billabong along Magela Creek (lat. 12° 36′ S, long. 132° 52′ E), some 200km E of Darwin, Northern Territory, Australia. Material collected by Dr. R. Marchant (17.1.1980).

Derivation of name: From an Aboriginal language of the Northern Territory, meaning big.

Figured specimens: Australian Museum, Sydney nos. **P32556** (♂car.; LV: Pl. **9,** 136, fig. 2; RV: Pl. **9,** 136, fig. 3; Pl. **9,** 140, fig. 1; Zenker's organ: Pl. **9,** 140, fig. 3; Text-fig. 1; Text-figs. 2 C-H), **P32557** (holotype ♂car.; LV: Pl. **9,** 134, fig. 1; RV: Pl. **9,** 134, fig. 3; hemipenis: Pl. **9,** 140, fig. 2; Zenker's organ: Pl. **9,** 140, fig. 5), **P32558** (♀ LV: Pl. **9,** 134, fig. 2; Text-figs. 2A-B), **P32559** (♀ LV: Pl. **9,** 136, fig. 1), **P32560** (♂ car.: Pl. **9,** 138, fig. 1; Pl. **9,** 140, fig. 4), **P32561** (♂car.: Pl. **9,** 138, fig. 3), **P32562** (♀car.: Pl. **9,** 138, fig. 2). All from type locality.

Explanation of Plate 9, 134

Fig. 1, ♂ LV, ext. lat. (holotype, **P32557,** 900μm long); fig. 2, ♀ LV, ext. lat. (paratype, **P32558,** 1010μm long); fig. 3, ♂RV, ext. lat. (holotype, **P32557,** 975μm long).
Scale A (500μm; × 58), figs. 1-3.

Diagnosis: Shell triangular in lateral view with length-height ratio between 1.4 and 1.5; greatest height at about middle. Dorsal area, where left valve is embraced by right and at the point of greatest height, forming a conspicuous pointed boss. In front of the boss, shell broadly curved but behind it is steeply inclined. Selvage in same position in both valves but much broader in right valve. Furca without anterior seta or with a miniscule one. Lateral lobe of hemipenis tongue-shaped and outer lobe small and wedge-shaped. For outline see Text-fig. 2F. Zenker's organ with about 17 rosettes.

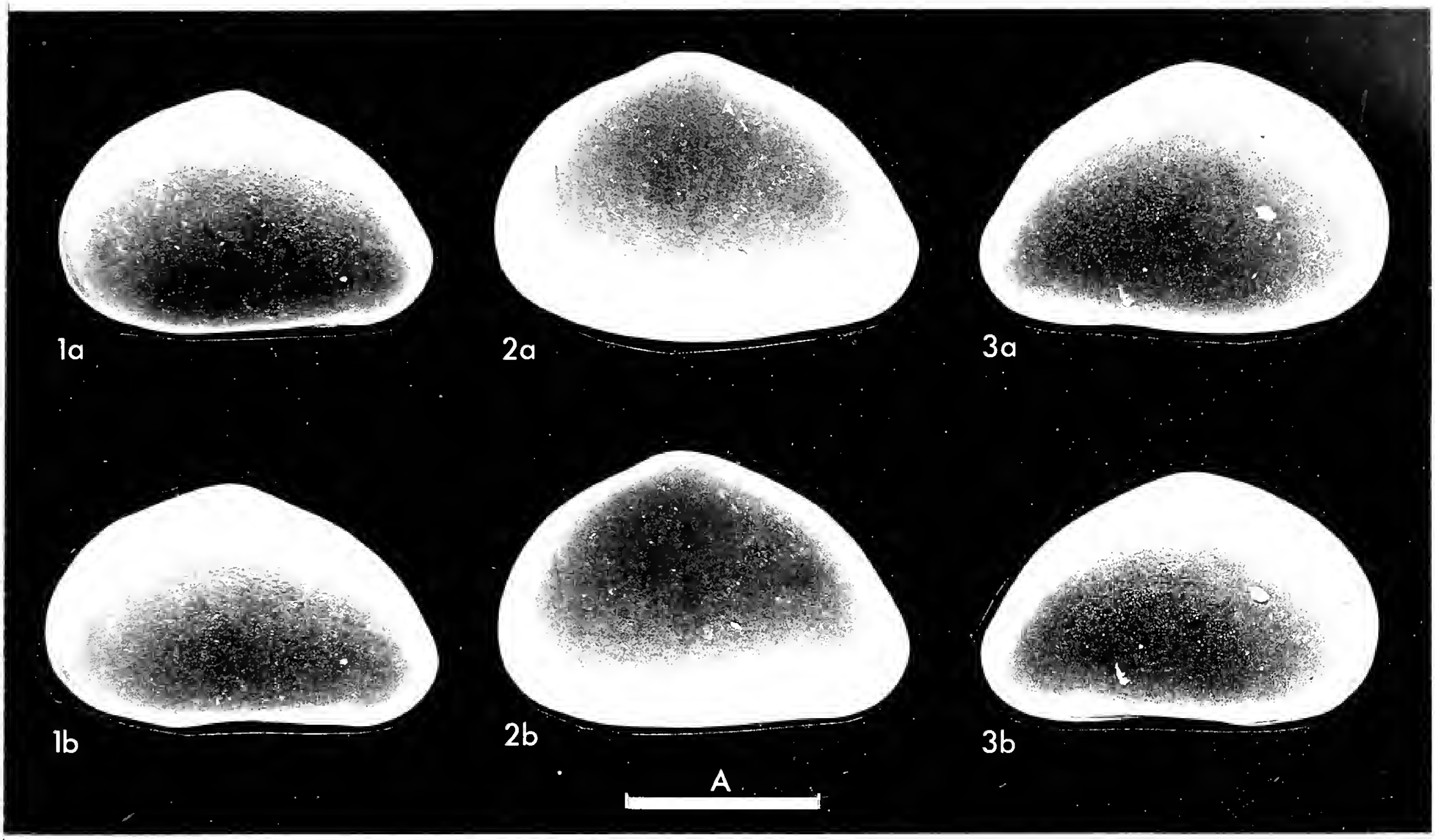
Remarks: When preserved in alcohol, the shell of *C. yapinga* is colourless. This species possesses the radial septae (Pl. **9,** 140, fig. 1) best seen in transparent light as in all *Cypretta* species. However, the row of posteroventral nodes on the inner lamella in RV typical of the genus could not be seen in *C. yapinga*. A general review of *Cypretta* species is available in Sohn and Kornicker (*Smithson. Contr. Zool.* **141,** 1973) and shows that *C. yapinga* is one of the largest species known in the genus. It is also represented by both sexes, a fairly uncommon feature for *Cypretta* species. In females, there is an additional claw attached to the last segment of the antenna; it is ²/₃ the length of the other claws and is thinner.

Undissected specimens of *C. yapinga* are deposited in the Australian Museum under no. **P32565.**

Distribution: So far *C. yapinga* has only been recorded from the type locality. For more details on Mudginberri Lagoon see Marchant *Aust. J. mar. Freshwat. Res.* **33,** 329-342, 1982). At the time of collection (17.1.1980) pH of the water was between 6 and 7, water temperature close to 30°C and water was turbid. The sample was collected in the littoral zone, over submerged grass and macrophytes. I wish to thank R. Marchant for this information and the specimens. Uranium mining (Ranger Uranium Mine) has recently started near Magela Creek and *C. yapinga* could prove to be an ideal biological "sensor" to study the input of metals in the creek waters and which could be taken up by the organisms in their shells in the billabongs along the Creek.

Explanation of Plate 9, 136

Fig. 1, ♀ LV, int. lat **P32559,** 960μm long); fig. 2, ♂LV, int. lat. (**P32556,** 950μm long); fig. 3, ♂RV, int. lat. (**P32556,** 990μm long). All paratypes.
Scale A (500μm; × 58), figs. 1-3.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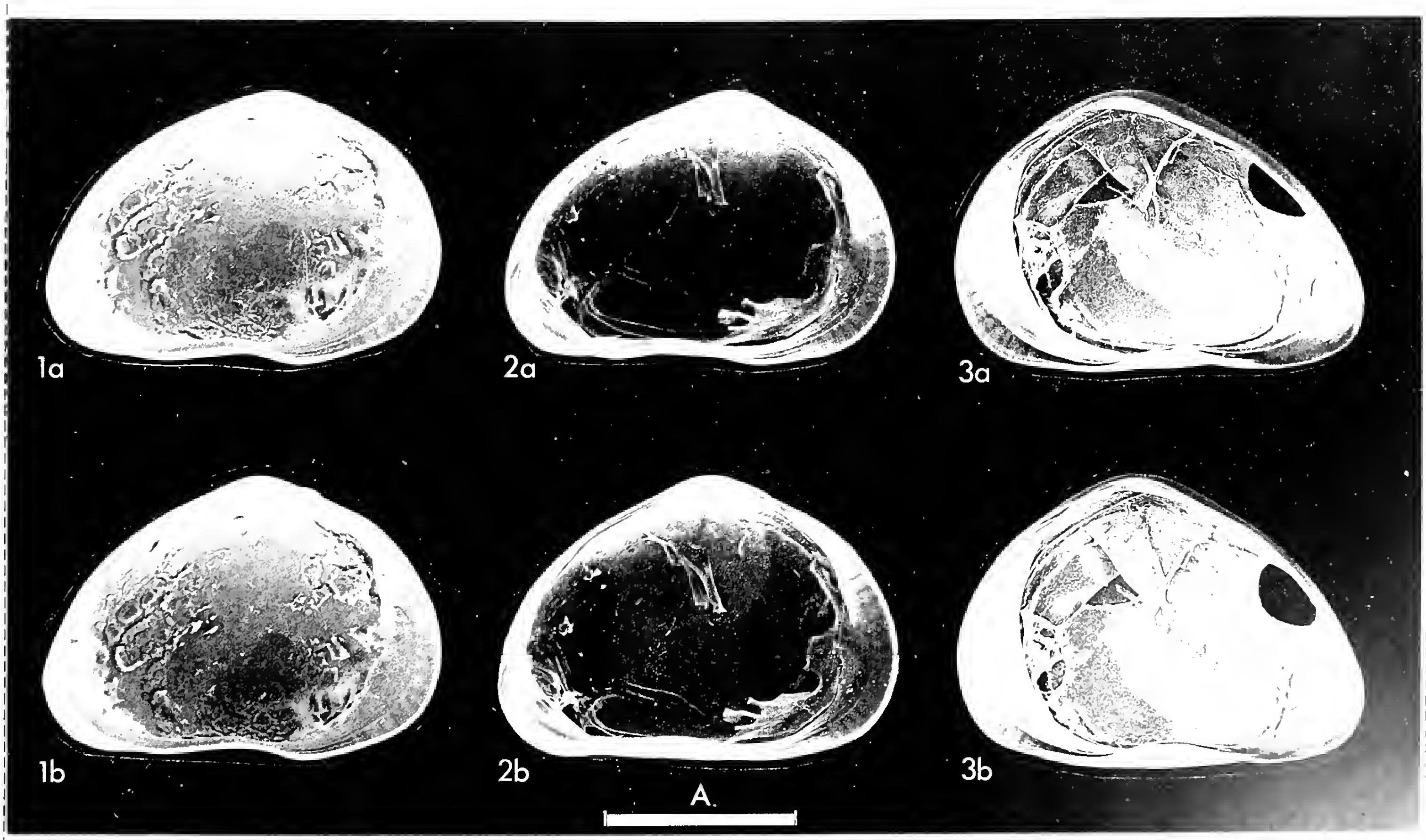
A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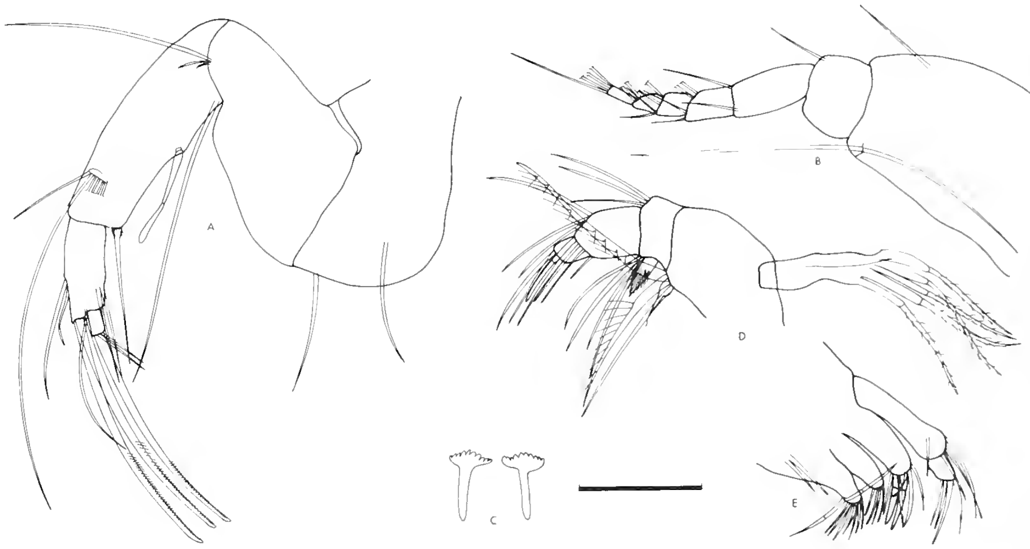
Text-fig. 1, ♂ (paratype **P32556**) A: antenna; B: antennula; C: rake-like organ; D: mandibular palp; E: masticatory processes and palp.



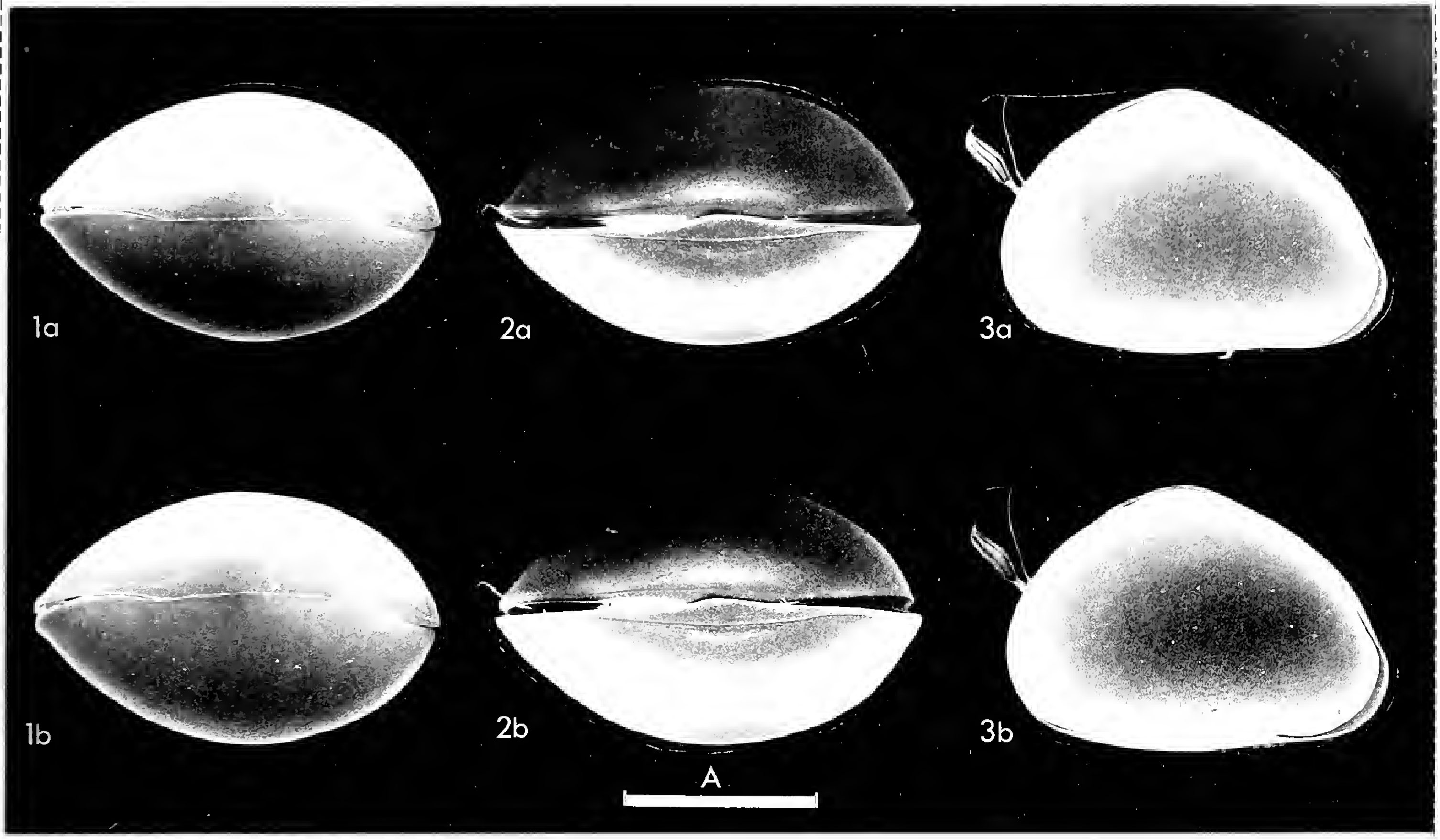
Explanation of Plate 9, 138

Fig. 1, ♂ car. ext. dors. (**P32560,** 960μm long); fig. 2, ♀ car. ext. vent. (**P32562,** 1020μm long); fig. 3, ♂ car. ext. lt. lat. (**P32561,** 930μm long). All paratypes.
Scale A (500μm; × 58), figs. 1-3.

Text-fig. 2, ♀ (paratype **P32558**) A: thoracopoda II; B: maxilla. ♂ (paratype **P32556**) C: right maxillular palp and epipod plate; D: left maxillular palp; E: thoracopoda I; F: hemipenis; G: furca; H; furcal attachment.

Explanation of Plate 9, 140

Fig. 1, ♂ RV, int. lat., detail of anterior area (paratype, **P32556,** 580μm long); fig. 2, ♂, hemipenis (holotype, **P32557,** 280μm long); fig. 3, ♂, Zenker organ (paratype, **P32556,** 330μm long); fig. 4, ♂ car. dors., showing pore canals and setae in hinge area (paratype, **P32560,** 110μm long); fig. 5, ♂, Zenker organ with external sheath removed (holotype, **P32557,** 330μm long).
Scale A (100μm; × 200), fig. 1; B (100μm; × 180), figs. 2, 3, 5; C (50μm; × 1040), fig. 4.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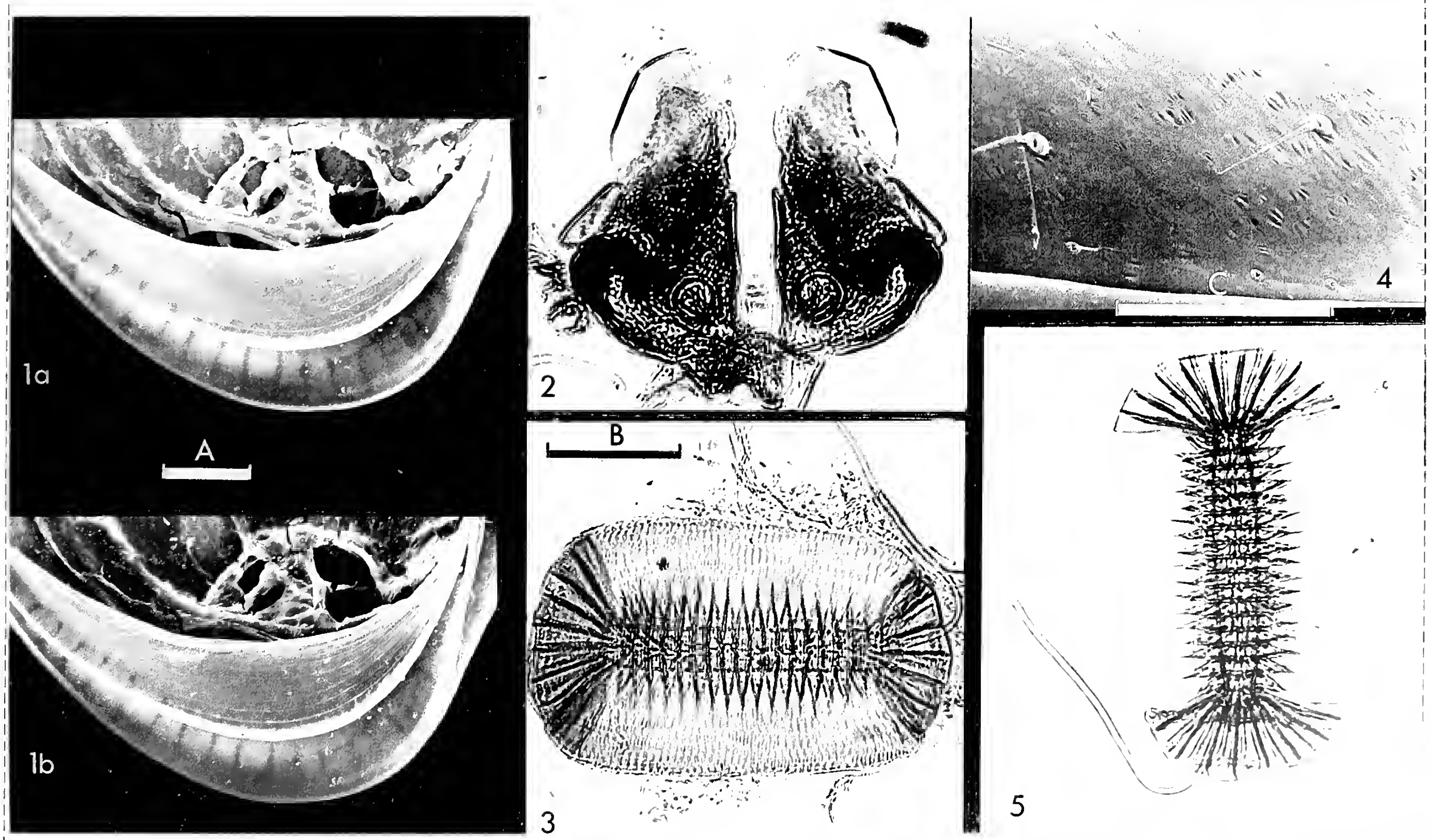
1a
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1b
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B
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General Index

Index; Geological Location

See **1** (2) 5-22 **(1973)** for explanation of the Schedules in the Universal Decimal Classification

Index; Geographical Location

See **1** (2) 5-22 (**1973**) for explanation of the Schedules in the Universal Decimal Classification

ON *EUCYPRIS FONTANA* (GRAF)–ADDENDA

by Patrick De Deckker
(Australian National University, Canberra)

The following ammendments to my 1981 paper (*Stereo-Atlas of Ostracod Shells,* **8,** 87-92, 1981) should be noted:
Under *Type locality,* delete the words 'Freshwater' and 'Antarctica' (The same words should be deleted on the *Notiocypridopsis frigogena* paper–Stereo-Atlas of Ostracod Shells 8, 101, **1981**–under the type locality).
Under *Diagnosis,* line 4, delete 'Right furca without anterior seta'.
Under *Distribution,* line 3, after 'et al' add '(*Br. Ant. Surv. Data* 3, 1979 and' and delete the first bracket on line 4.

In addition to the above, new information has necessitated the inclusion of the following sentence to replace the second paragraph under *Remarks:*
'It is surprising to find that the right furca of *E. fontana* from Signy Island does not possess an anterior seta–an unusual phenomenon among eucyprid ostracods. It is present, however, on the type material'.

Stereo-Atlas of Ostracod Shells: Vol. 9, Part 2

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