

New genera and species of cytheracean Ostracoda from the S.W. Atlantic

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ABSTRACT—Five new genera of cytheracean Ostracoda are described from the S.W. Atlantic area. They are: *Austrocytheridea* and *Papillosocythere*, which belong to the Cytherideinae and Neocytherideinae respectively, and *Austroaurila*, *Falklandia*, and *Meridionalicythere*, which are all members of the Hemicytheridae.

INTRODUCTION

This paper forms part of a much larger study of the Recent Ostracoda of the Antarctic, sub-Antarctic, Falkland Islands and the coast and Continental Shelf of Tierra del Fuego, the Magellan Straits and the Argentinian, Uruguayan and southern Brazilian seaboard. The study is based on eulittoral and sublittoral samples collected by the senior author, assisted by Argentinian colleagues, during a number of excursions and expeditions made during 1970–1973. A large number of sediment samples from the Continental Shelf and the estuary of the Rio de La Plata were made available by the Hydrographic Service of the Argentine Navy.

The Bairdiacea, marine Cypridacea and the cytherid family Pectocytheridae from this material formed the basis of a Magister thesis written by Mognilevsky (MS, 1976). The cytheracean family Leptocytheridae were studied by Whatley & Mognilevsky (1975). In 1984, the remainder of the material, together with additional samples provided by the British Antarctic Survey, was made the basis of three Magister theses at Aberystwyth. Coxill (MS, 1985) studied deep water and shelf faunas from the Antarctic and South Scotia Sea and also those of the littoral and sublittoral of East Falkland. Toy (MS, 1985) studied the littoral faunas of Tierra del Fuego, both sides of the Magellan Straits and the Argentine Coast north to lat. 45°S. and sediment samples from the Continental Shelf north to the same latitude. Chadwick (MS, 1986) worked on the Ostracoda of the Argentine littoral from lat. 45°S. north to the estuary of the Rio de La Plata and from sediments from the Continental Shelf of northern Argentina, Uruguay and southern Brazil. He also studied a suite of samples from the estuary of the Rio de La Plata.

Details of the sampling localities and of the samples themselves can be found in the respective theses and these data will be published in a subsequent paper on the ecological and zoogeographical distribution of the

Ostracoda of the region. These studies yielded a rich and diverse fauna of podocopid ostracods. For example, Mognilevsky recorded 16 species, Coxill 97 species, Toy 90 species and Chadwick 104 species.

All figured types of new species are housed in the collections of the Department of Zoology, British Museum (Natural History) and other figured specimens are housed in the Micropalaeontology Museum, Department of Geology at Aberystwyth. A representative collection of all the species dealt with in this paper will be deposited in the Museo de la Plata, Argentina.

SYSTEMATIC DESCRIPTIONS

Phylum Crustacea Pennant, 1777
Class Ostracoda Latreille, 1806
Order Podocopida Müller, 1894
Suborder Podocopina Müller, 1894
Superfamily Cytheracea Müller, 1894
Family Cytherideidae Sars, 1925
Subfamily Cytherideinae Sars, 1925
Genus *Austrocytheridea* gen. nov.

Type species. *Austrocytheridea dispersopunctata* gen. et sp. nov.

Derivation of name. Latin, with reference to the apparent restriction of the genus to the South Atlantic.

Diagnosis. Large, subovate to subelliptical with distinct anteroventral incurvature. Anterior margin narrowly rounded with apex below mid-height; posterior bluntly pointed. Thick-shelled. Smooth except for small but deep, irregularly distributed punctae which contain normal pore canal openings. Hinge antimerodont, strongly developed with long terminal elements. Inner lamella of moderate width and with large anterior vestibulum; radial pore canals short, simple or rarely bifurcating, some 25 anteriorly. Four small rounded to oval, well-spaced adductor scars and a strongly

"v"-shaped vertically disposed frontal scar. Strongly dimorphic.

Remarks. In its shape and outline, this genus resembles *Ovocytheridea* Grekoff, from the Cretaceous of Africa. The latter genus, however, differs in internal details, most importantly in its rather narrow avestibulate inner lamella. Some species of *Cyamocytheridea* Oertli are similar in shape but have a much less robustly developed median hinge element and a frontal scar which is more crescentic and which opens anteriorly rather than dorsally. *Sarsicytheridea* Athersuch, is similar internally but very different in shape. The genus is apparently monotypic and restricted to the southern S.W. Atlantic.

Austocytheridea dispersopunctata sp. nov.
(Pl. 1, figs. 1–8)

Derivation of name. Latin, with reference to the widely spaced punctae.

Diagnosis. As for genus.

Holotype. Female right valve (1986, 507).

Material. 71 adults and juveniles including several live specimens.

Type Locality. From eulittoral algae in a small bay immediately to the west of Ushuaia, Beagle Channel, Tierra del Fuego, at approximately lat. 54°40' S.; long. 68°0' W. Recent.

Description. Large, laterally inflated, thick-shelled and strongly sexually dimorphic. Female subovate, male subelliptical and less inflated. Anterior margin narrowly rounded with apex below mid-height. Dorsal margin without cardinal angles; subumbonate in female, arcuate in male. Ventral margin biconvex, with distinct anteroventral oral incurvature. Posterior margin bluntly pointed to subrounded. Maximum length below mid-height; maximum height at mid-length; maximum width just behind mid-length. Valve surface smooth except for small but deep irregularly distributed punctae which are associated with normal pore canals, and very weak ventral ribs. Inner lamella wide anteriorly; narrow ventrally and posteriorly. Vestibulae at each

Explanation of Plate 1

Figs. 1–8. *Austocytheridea dispersopunctata* gen. et sp. nov.

Fig. 1. Paratype, ♀ LV, (1968, 508), ext. lat. (×65). Same sample as holotype.

Fig. 2. Paratype, ♂ LV, (1968, 510), ext. lat. (×65). Same sample as holotype.

Fig. 3. Holotype, ♀ RV, (1986, 507), ext. lat. (×61). Eulittoral algae just west of Ushuaia, north shore of Beagle Channel, lat. 54°50' S.

Fig. 4. Paratype, ♂ RV, (1986, 511), ext. lat. (×64). Eulittoral *Cladophora*, Puerto Porvenir, Magellan Straits coast of Chilean Tierra del Fuego, lat. 53° S.

Fig. 5. Paratype, ♀ LV, (1986, 508), int. (×65). Same sample as holotype.

Fig. 6. Paratype, ♂ LV, NT/Arg/Ad 10, ext. lat. (×65). Same sample as holotype.

Fig. 7. Paratype, ♀ RV, (1986, 509), ext. lat. (×62). Same sample as holotype.

Fig. 8. Paratype, ♀ RV, (1986, 509), int. (×62). Same sample as holotype.

Figs. 9–13. *Papillosacythere parallela* gen. et sp. nov.

Fig. 9. Holotype, ♂ RV, (1986, 512), ext. lat. (×100). Bahia Samboronbon, estuary of the Rio de La Plata, muddy silt, lat. 36°15'05" S.; long. 56°55'05" W., 4 m.

Fig. 10. Paratype, ♀ c. JC/Arg/173, left ext. lat. (×96). Shelly sand, lat. 36°12'40" S.; long. 56°24'08" W., 21 m.

Fig. 11. Paratype, ♂ LV, (1986, 513), ext. lat. (×96). Same sample as holotype.

Fig. 12. Holotype, int. (×100).

Fig. 13. Paratype, juv. LV, (1986, 515), ext. lat. (×111). Same sample as holotype.

Fig. 14. Paratype, juv. RV, (1986, 516), ext. lat. (×122). Same sample as holotype.

Figs. 15–21. *Austroaurile theeli* (Skogsberg), 1928.

Fig. 15. ♀ LV, NT/Arg/At 1, ext. lat. (×68). Eulittoral, Puerto Deseado, Santa Cruz Province, Argentina, lat. 47°45'10" S.

Fig. 16. ♂ RV, NT/Arg/At 7, ext. lat. (×63). Same sample as Fig. 15.

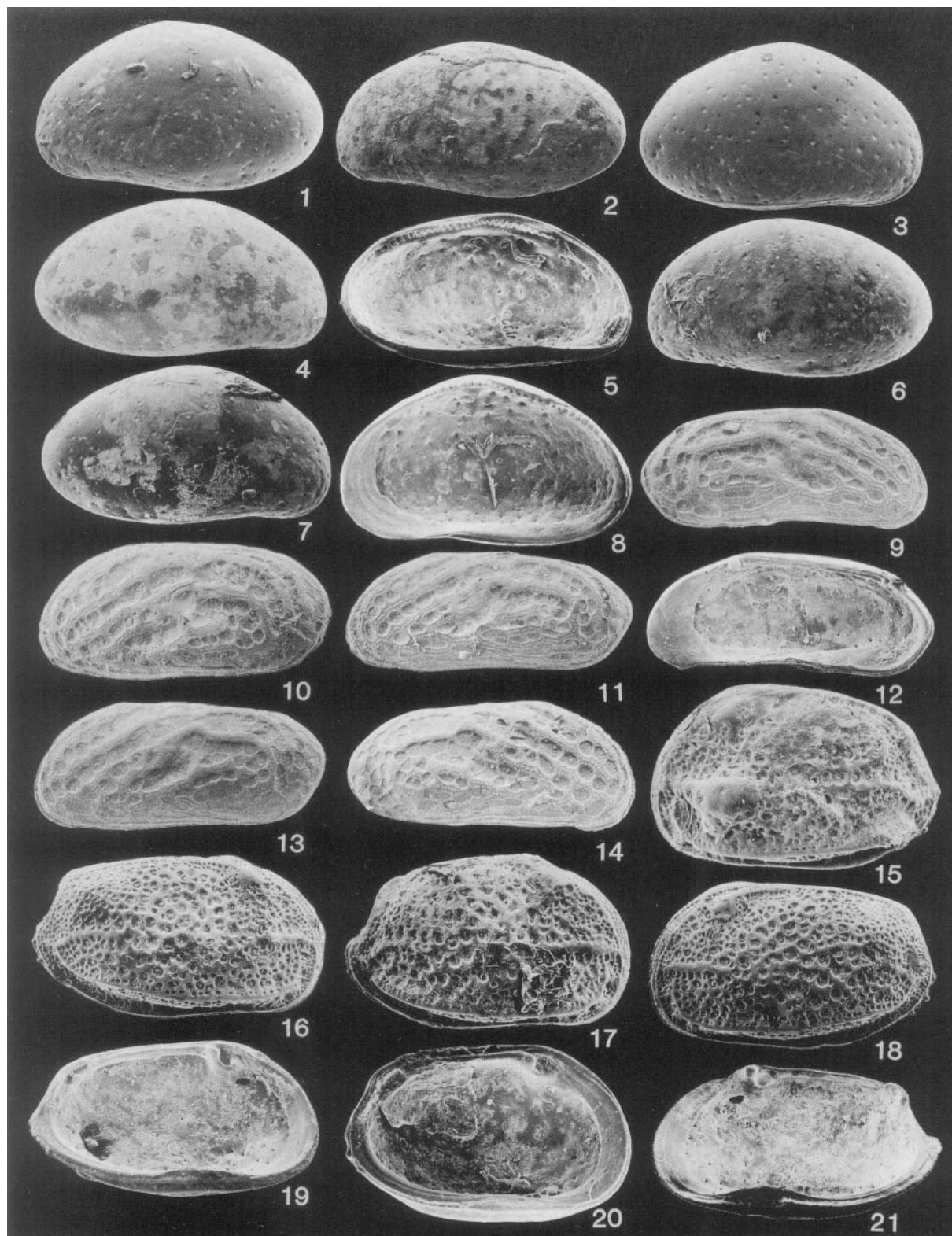
Fig. 17. ♀ RV, NT/Arg/At 3, ext. lat. (×64). Same sample as Fig. 15.

Fig. 18. ♂ LV, NT/Arg/At 6, ext. lat. (×64). Same sample as Fig. 15.

Fig. 19. ♂ LV, NT/Arg/At 6, int. (×64). Same sample as Fig. 15.

Fig. 20. ♀ LV, NT/Arg/At 2, int. (×66). Eulittoral, north coast of Tierra del Fuego at Estancia Viamonte, lat. 53°56' S.

Fig. 21. ♂ RV, NT/Arg/At 4, int. (×64). Same sample as Fig. 15.



end, widest anteriorly. Approximately 25 simple (rarely bifurcating) radial pore canals anteriorly. Hinge strongly developed, antimerodont; terminal elements long. Adductor muscle scars well-spaced, frontal scar strongly "v"-shaped and vertically disposed.

Dimensions (mm).	Length	Height
Holotype, ♀ right valve (1986, 507)	0.80	0.48
Paratype, ♀ left valve (1986, 508)	0.75	0.43
Paratype, ♀ right valve (1986, 509)	0.80	0.49
Paratype, ♂ left valve (1986, 510)	0.75	0.40
Paratype, ♀ right valve (1986, 511)	0.77	0.43

The first, second and third paratypes are from the same sample as the holotype. The last paratype is from a eulittoral sample of *Cladophora* collected on the northern shore of the entrance to Puerto Porvenir on the east coast of the Magellan Straits in Chilean Isla Grande (Tierra del Fuego) at about lat. 53°S.

Distribution. This species has been recorded from eulittoral and sublittoral sediment and algal samples in and around Port Stanley, East Falkland (Coxill MS, 1985); in the eulittoral of Tierra del Fuego (Toy MS, 1985). Chadwick (Ms, 1986) records it dead at two littoral stations on Peninsula Valdex (Lat. 42°47'S.) and he and Toy encountered dead specimens of the species on the shelf between lat. 50°41.8'S. and lat. 36°10.4'S. at depths ranging from 3–131 m.

Subfamily Neocytherideinae Puri, 1957
Genus *Papillosacythere* gen. nov.

Type species. *Papillosacythere parallela* sp. nov.

Derivation of name. Latin, referring to the papillate nature of the surface ornament of species of this genus.

Diagnosis. A genus of Neocytherideinae with strong horizontal and oblique ribs and interconnecting reticulae. Elevated areas of surface covered with fine lines of papillae which parallel the rib directions. Hinge strong, modified lophodont. Fulcral point very strongly developed, crescentic.

Remarks. No other species of this genus are known from the Recent but several others, as yet undescribed, can be seen in the Valicenti Collection, from the Oligo-Miocene which is housed at Aberystwyth. This genus differs from all other members of the subfamily in the nature of its strongly ribbed and delicately papillose ornament.

Papillosacythere parallela sp. nov.
(Pl. 1, figs. 9–14)

1975 New genus and species. Whatley & Mognilevsky; 517–519; pl. 2, figs. 12–18; pl. 3, fig. 29.

Derivation of name. Latin, with reference to the parallel lines of papillae on the ribs of this species.

Diagnosis. Medium-sized, elongate subrectangular.

Surface ornament of low broad ribs which are subhorizontal in the posterior and oblique in the anterior part of the valve and which are interconnected by large reticulae and intricately covered with parallel rows of papillae. Left valve much larger than right.

Holotype. Male right valve (1986, 512).

Material. Some 60 specimens of adults and juveniles, all but a few of which are dead.

Type locality. From the Recent of the estuary of the Rio de La Plata, Bahia Samboronbon, lat. 36°15'05"S; long. 56°55'05"W, muddy silt with finely comminuted shell fragments, depth 4 m.

Description. Medium. Elongate subrectangular in lateral view. Thick-shelled. Anterior margin asymmetrically rounded with greatest convexity ventrally; posterior margin subrounded to bluntly pointed, apex at mid-height. Dorsal margin short, straight; ventral margin with gentle median concavity. In dorsal view the lateral surface tapers gently towards the anterior and more sharply towards the posterior from the posteromedian point of maximum inflation. Left valve much larger than right with strong overlap ventrally and postero-dorsally. Maximum length at mid-height; maximum height at the anterior cardinal angle. Valve surface costate, reticulate and papillate. The ribs are low and broad and the intercostal areas are reticulate by virtue of being subdivided by low muri which connect the major ribs. The ribs are disposed subhorizontally in the posterior part and obliquely in the anterior part. Parallel rows of delicate papillae extend along the length of the ribs. Ventral surface longitudinally striate. Normal pore canals small and open. Inner lamella wide, particularly anteriorly and inner margin parallel to outer margin. Anterior vestibulum wide, crescentic and deepening anteroventrally; posterior vestibulum smaller, narrower and extending posteroventrally. Radial pore canals few, long and slender; 8–10 anteriorly of which two bifurcate medianly (see Whatley & Mognilevsky, 1975, pl. 3, fig. 29); 8–10 posteriorly and posteroventrally which always occur as parallel pairs. Hinge lophodont. Anterior element of right valve a boss-like tooth; posterior element blade-like. Adductor scars comprise 4 undivided scars in an oblique row, there is a large single, heart-shaped frontal scar and a strongly incised fulcral point anterodorsal to the adductors. Sexual dimorphism pronounced, the male being more elongate and more pointed posteriorly than the female.

Dimension (mm).	Length	Height
Holotype, ♂ right valve (1986, 512)	0.49	0.21
Paratype, ♂ left valve (1986, 513)	0.51	0.22
Paratype, ♀ carapace (1986, 514)	0.51	0.25
Paratype, juv. left valve (1986, 515)	0.45	0.20
Paratype, juv. right valve (1986, 516)	0.40	0.19

Paratypes 1 and 3 are from the same sample as the holotype.

Remarks. The species is more strongly ribbed than the as yet undescribed species known to the authors from the Oligo-Miocene of Patagonia.

Distribution. This species is commonly encountered as dead valves and carapaces in the littoral between lat. 38°S. and lat. 42°40'S. and from the shelf between lat. 36° and lat. 42°23'S. at depths of 4–57 m. The only live specimens were encountered at lat. 42°23'S; long. 62°43'W. at 14 m on medium sand with some shell fragments and at lat. 42;23'S.; long. 6243'W. at 57 m on fine silty sand with numerous foraminifera and comminuted shell fragments.

Family Hemicytheridae Puri, 1953
Genus *Austroaurila* gen. nov.

Type species. *Cythereis* (*Cythereis*) *theeli* Skogsberg, 1928.

Derivation of name. Latin, with reference to the evident relationship of this genus to *Aurila* Pokorný, and its apparent restriction to the South Atlantic.

Diagnosis. A large thick-shelled, subquadrate to subrectangular genus of the Hemicytheridae with straight dorsal margin. Ornament punctate to reticulate with weak ribs. Eye tubercle prominent. Tubercular excrescences may be developed (*A. theeli*). Posterior margin subcaudate and upturned in right valve; subrounded to bluntly pointed in left valve. Inner lamella of medium width; very narrow vestibulae at end margins. Numerous anterior radial pore canals. Hinge strongly holamphidont with slight auriline notch in posterior tooth of right valve. Muscle scars hemicytherid with both central adductors subdivided.

Remarks. This genus differs from *Aurila* in the shape of the carapace, the dorsal margin of both valves of *Austroaurila* being straight. Also, in *Aurila*, only the dorsomedian adductor scar is subdivided. *Austroaurila* somewhat resembles *Falklandia* gen. nov. but the latter has a hemiamphidont hinge with a clearly dentate posterior hinge element in the right valve.

Included within *Austroaurila* are the type species, *A. theeli* and also *A. recurvirostrata* (Skogsberg) and *A. impluta* (Brady). The genus is apparently confined to shelf and littoral environments in the South Atlantic.

Austroaurila theeli (Skogsberg), 1928
(Pl. 1, figs. 15–21)

pars 1880 *Cythere impluta* Brady: 76, pl. 26, figs. 6a–d, non pl. 16, figs. 3a–d. = *Austroaurila impluta* (Brady), 1880.

1928 *Cythereis* (*Cythereis*) *theeli* Skogsberg: 106, pl. 2, fig. 6, pl. 5, fig. 3, text-fig. 17.

1979 "*Aurila*" *theeli* (Skogsberg), Kaesler, Smith & Whatley: 239.

Material. 494 adults and juveniles, many live.

Remarks. This species is somewhat similar in shape to *Falklandia ehippiata* (Skogsberg) from the Falkland Islands, Tierra del Fuego and the littoral and shelf of southern Argentina. However, the dorsal margin of the latter is more horizontal and the anterolateral tubercular excrescence developed in both species in the female left valve, is not accompanied by a similar posteroventral excrescence in *A. theeli* as it is in *F. ehippiata*.

Brady's 1880 material of *A. impluta* included both that species and *A. theeli*. The lectotype selected for the former species by Puri & Hulings (1976, p. 278, pl. 9, figs. 15, 16) is fortunately clearly not *A. theeli*. *A. impluta* differs in lacking the anterolateral tubercle.

Distribution. The type locality of this species is off the coast of the Province of Chubut, in 9 m of water. Skogsberg (1928) also recorded it from off the coast of Tierra del Fuego. Kaesler *et al.* (1979) recorded it in the Magellan Straits and Coxill (MS, 1985) found it in littoral samples from East Falkland. Toy (MS, 1985) records it from the littoral of the Beagle Channel, the Magellan Straits, the north coast of Tierra del Fuego and along the littoral of the Argentine Coast to Bahía Solano, some 25 km north of Comodoro Rivadavia, at about lat. 45°4n'S. Chadwick (MS, 1986) encountered the species in the Argentine littoral between Peninsula Valdez (lat. 42°47'S.) and Mar del Plata (lat. 38°S.) and on the shelf between lat. 36°12'S. and 42°23'S. All the Continental Shelf specimens were dead but the species is commonly encountered live in littoral samples, particularly of algae. It does however, also occur live in littoral sediments, particularly those rich in organic detritus.

Austroaurila impluta (Brady), 1880
(Pl. 2, figs. 1–5)

pars 1880 *Cythere impluta* Brady: 76, pl. 16, figs. 3a–d; non. pl. 26, figs. 6a–d = *Cythere theeli* Skogsberg.

1970 *Hemicythere patagonica* Rossi de Garcia: 383, pl. 1, fig. 4.

1976 *Cythere impluta* Brady, Puri & Hulings: p. 278, pl. 9, figs. 15, 16.

Material. 6 dead adult valves.

Remarks. This species differs from *A. theeli* in its greater size, in lacking a median rib and in that the female left valve lacks an anterolateral tubercular excrescence. Brady (1880) included both this species and *A. theeli* in his concept of *Cythere impluta*. He clearly indicates, however (pp. 76–77), that he had considered the possibility that he was dealing with two species.

Distribution. Brady's original material of *C. impluta* is from anchor mud at 6 fathoms in Stanley Harbour, Falkland Islands. Rossi de Garcia (1970) recorded the species from Puerto Piramides, Golfo Nuevo, Province of Chubut in beach sand. In the present study it has been found only in a single sediment sample from the shelf at lat 50°41.8'S.; long. 61°00.6'W. from 40m on fine to medium calcareous sand and silt.

Austroaurila recurvirostrata (Skogsberg), 1982
(Pl. 2, figs. 6, 7)

- 1928 *Cythereis* (*Cythereis*) *recurvirostrata* Skogsberg:
108, pl. 4, fig. 1; pl. 5, fig. 4; text-fig. 18.
1962 *Aurila recurvirostrata* (Skogsberg), Hartmann:
236.
1979 "*Aurila*" *recurvirostrata* (Skogsberg), Kaesler,
Smith & Whatley: 239.

Material. 2 juvenile valves.

This species is notably larger than either *A. impluta* or *A. theeli* the mean length of males for the three species being 0.95, 0.86 and 0.78mm respectively. It is most similar morphologically to *A. theeli* but differs from that species in its coarser ornament and in the rows of punctae which elaborate the alar rib. It also lacks the anterolateral tubercle in the female left valve which is such a diagnostic feature of *A. theeli*.

Distribution. Skogsberg (1928) encountered this species on the Burwood Bank (lat. 53°45'S.; long. 61°10'W.) at depths of 137–150m on mussel sand with stones. Hartmann (1962) found it at two littoral localities in the southern Chilean province of Magallanes. Kaesler *et al.* (1979) record it from the Magellan Straits. In the present study, neither Toy nor Chadwick encountered the species but Coxill recovered two dead juveniles from a kelp (*Macrocystis*) holdfast in Stanley Harbour, Falkland Islands.

Explanation of Plate 2

Figs. 1–5. *Austroaurila impluta* (Brady), 1888.

All from calcareous sand and silt at 131m. lat. 50°41.8'S.; long. 61°00.6'W.

- Fig. 1. ♂ LV, NT/Arg/Ai 3, ext. lat. (×57).
Fig. 2. ♀ RV, NT/Arg/Ai 4, ext. lat. (×60).
Fig. 3. ♀ LV, NT/Arg/Ai 1, ext. lat. (×57).
Fig. 4. ♀ RV, NT/Arg/Ai 2, ext. lat. (×57).
Fig. 5. ♀ RV, NT/Arg/Ai 5, ext. lat. (×58).

Figs. 6, 7. *Austroaurila recurvirostrata* (Skogsberg), 1928.

Both specimens from sublittoral *Macrocystis* holdfast, just west of cemetery, Port Stanley, East Falkland.

- Fig. 6. juv. LV, DJC/134, ext. lat. (×86).
Fig. 7. juv. LV, DJC/136, int. (×86).

Figs. 8–14. *Falklandia ephippiata* (Skogsberg), 1928.

- Fig. 8. ♂ LV, NT/Arg/Fe 5, ext. lat. (×57). Eulittoral, Puerto Deseado, Santa Cruz Province, Argentina, lat. 47°45'10"S.
Fig. 9. ♀ RV, NT/Arg/Fe 4, ext. lat. (×60). Same sample as Fig. 8.
Fig. 10. ♀ LV, NT/Arg/Fe 3, ext. lat. (×62). Sublittoral *Macrocystis* holdfast, Bahia Cavendish, Santa Cruz Province, Argentina, lat. 47°45'S.
Fig. 11. ♀ LV, NT/Arg/Fe 1, int. (×60). Same sample as Fig. 8.
Fig. 12. ♂ RV, NT/Arg/Fe 6, ext. lat. (×58). Same sample as Fig. 8.
Fig. 13. ♂ LV, NT/Arg/Fe 5, int. (×57). Same sample as Fig. 8.
Fig. 14. ♀ LV, NT/Arg/Fe 3, int. (×62). Same sample as Fig. 8.

Figs. 15–19. *Meridionalicythere discophora* (Skogsberg), 1928.

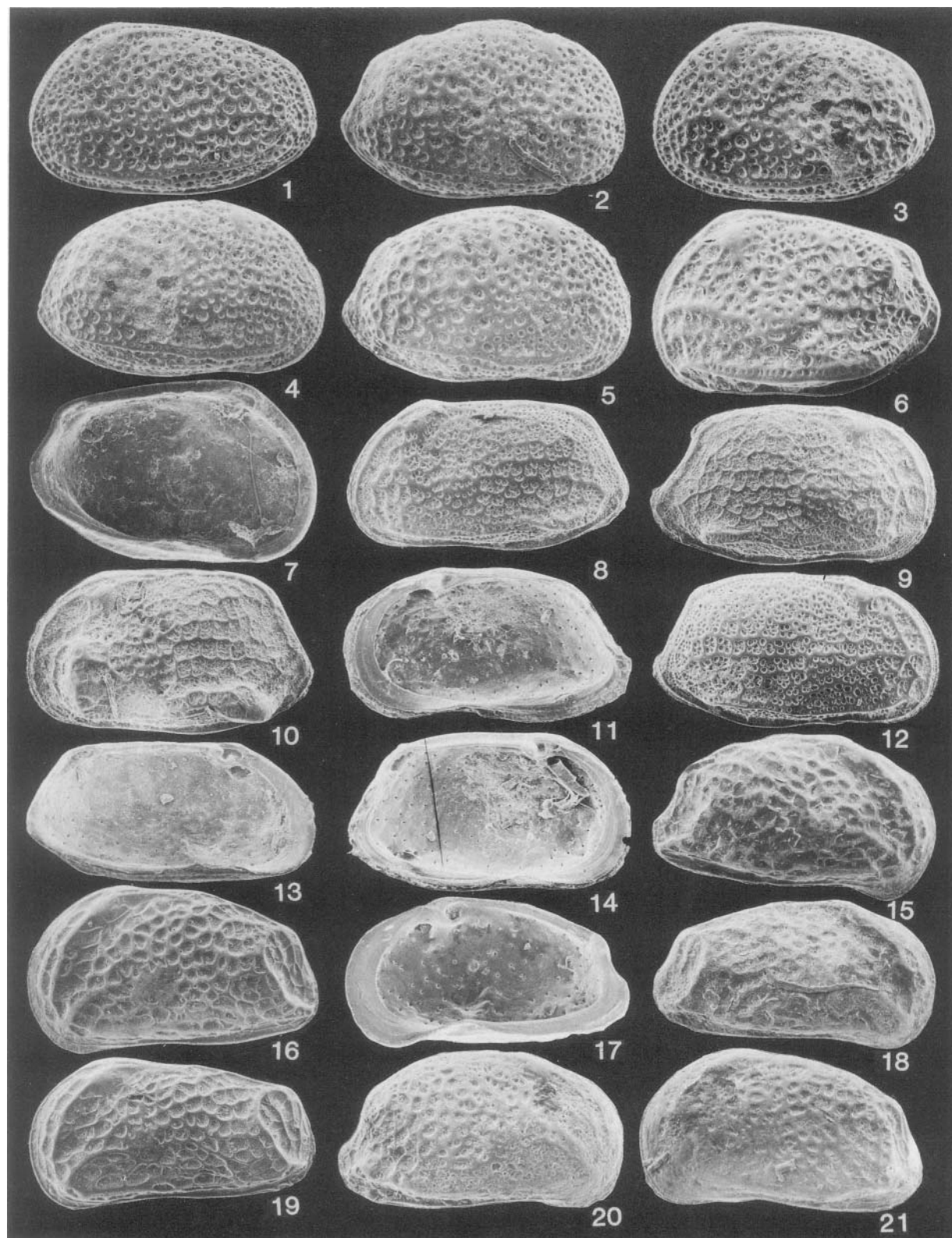
All from eulittoral algae, north shore of Beagle Channel, just west of Ushuaia, lat. 54°50'S.

- Fig. 15. ♀ RV, NT/Arg/Md 2, ext. lat. (×63).
Fig. 16. ♀ LV, NT/Arg/Md 1, ext. lat. (×63).
Fig. 17. ♀ RV, NT/Arg/Md 3, int. (×63).
Fig. 18. ♂ RV, NT/Arg/Md 5, ext. lat. (×67).
Fig. 19. ♂ LV, NT/Arg/Md 4, ext. lat. (×62).

Figs. 20, 21. *Meridionalicythere mesodiscus* (Skogsberg), 1928.

All from eulittoral algae, norther shore of Beagle Channel, just west of Ushuaia, lat. 54°50'S.

- Fig. 20. ♀ RV, NT/Arg/Mm 2, ext. lat. (×65).
Fig. 21. ♀ LV, NT/Arg/Mm 1, ext. lat. (×63).



Genus *Falklandia* gen. nov.

Type species. *Cythereis* (*Cythereis*) *ephippiata* Skogsberg, 1928.

Derivation of name. With reference to the type locality of the type species, Berkley Straits, Port Louis, Falkland Islands.

Diagnosis. A large subquadrate to subrectangular genus of the Hemicytheridae with subcaudate posterior margin. Carapace thick-shelled, somewhat tumid and covered with reticulate ornament the fossae of which are secondarily punctate with usually 4 punctae per fossa. Eye tubercle large and prominent. Male with less well developed alar ridge than female; female left valve with well developed anterolateral tubercular excrescence. Wide inner lamella with narrow vestibulae at each end margin. Numerous simple radial pore canals anteriorly. Hinge robustly developed, hemiamphidont, the posterior terminal element of the right valve being a dentate bar with 5–7 small oval teeth which increase in size distally. Adductors with two central scars subdivided. Male considerably more elongate than female.

Remarks. This as yet monotypic genus is apparently confined to the South Atlantic and southernmost South America. *Falklandia* somewhat resembles certain species of *Austroaurila*, particularly *A. theeli* (Skogsberg). The two genera, however can be readily distinguished on hingement, the latter being holamphidont and the former hemiamphidont. Although the female left valves of both *F. ephippiata* and *A. theeli* develop an anterolateral excrescence, that of the former is aligned vertically while that of the latter is either hemispherical or aligned horizontally and is almost smooth.

Falklandia ephippiata (Skogsberg), 1928
(Pl. 2, figs. 8–14)

1920 *Cythereis* sp. Skogsberg: 145.

1928 *Cythereis* (*Cythereis*) *ephippiata* Skogsberg: 100,
pl. 2, fig. 7; pl. 3, fig. 3; pl. 5, fig. 2; text-fig. 16.

1962 *Aurila ephippiata* (Skogsberg), Hartmann: 237.

Material. 268 adults and juveniles, many live specimens.

Remarks. As in *A. theeli*, only the female left valve has a tubercle anterolaterally. The function of this structure is unknown.

Distribution. This species was originally described by Skogsberg from the Berkley Straits and Carenage Creek, Port Louis, Falkland Islands. Coxill (MD, 1985) recovered 18 specimens in eulittoral and sublittoral algal samples from Stanley Harbour, Eliza Cove and the Estuary of the Murrel River, all in East Falkland, but failed to encounter the species in samples from Port Louis. Hartmann found it in the littoral of Tierra del Fuego. Toy (MS, 1985) recovered 250 specimens from littoral algal and sediment samples from the Beagle

Channel, Magellan Straits and the Argentine coast north to Puerto Deseado (lat. 54°50' S. to lat. 47°10' S.). The species was absent from shelf sediment samples and Chadwick failed to recover it in his study of the Argentine littoral Ostracoda north of lat. 45°S.

Meridionalicythere gen. nov.

Type species. *Cythereis* (*Cythereis*) *discophora* Skogsberg, 1928.

Derivation of name. With reference to the apparent restriction of this genus to the South Atlantic.

Diagnosis. A genus of the Hemicytheridae with large subrectangular to subtrapezoidal carapace; maximum height at the anterior cardinal angle. Dorsal margin, straight and inclined towards the posterior, or convex. Anterior margin well rounded; posterior subtruncate to bluntly pointed, apex below mid-height. Ornament reticulate and/or punctate, with or without costae. Dorsal loop and subalar ridge more or less well developed. Shell thick. Subcentral tubercle present but not prominent. Eye tubercle small, prominent. Inner lamella of median width with very narrow vestibulae at each margin. Hinge holamphidont, robustly developed. Posterior terminal element of right valve a boss-like tooth or a smooth arcuate bar. The two central adductor scars are subdivided. Strongly sexually dimorphic, males much more elongate than females.

Remarks. This genus is based on the three species *M. discophora*, *M. mesodiscus* and *M. taeniata* (all Skogsberg, 1928). *Meridionalicythere* differs from *Aurila* in shape, the nature of the adductor scars and in hingement. From *Procythereis* Skogsberg, it differs in both shape and ornament and in its much less strongly developed alar ridge. From *Hemicythere* it differs in being less subrectangular, in possessing a subcentral tubercle, a dorsal loop and an alar ridge. The genus is apparently confined to the S.W. Atlantic and southernmost South America.

Meridionalicythere discophora (Skogsberg), 1928
(Pl. 2, figs. 15–19)

1928 *Cythereis* (*Cythereis*) *discophora* Skogsberg: 83, pl. 2, fig. 1; text-fig. 13.

1962 *Aurila discophora* Skogsberg, Hartmann: 237.

1979 "*Aurila discophora*" Skogsberg, Kaesler, Smith & Whatley: 239.

Material. 191 adult and juveniles, including many live specimens.

Remarks. The mean length of this species (0.77 mm) is slightly greater than that of *M. mesodiscus* (0.75 mm) and considerably greater than *M. taeniata* (0.69 mm). *M. discophora* is the most strongly reticulate of the three species, its dorsal loop is more strongly developed than that of *M. mesodiscus* but slightly less than that of *M. taeniata*.

Distribution. Skogsberg's original material was from Carenage Creek, Port Louis, Falkland Islands. Coxill (MS, 1985) recorded the species abundantly in littoral algae from around the Port Stanley area of East Falkland. Toy (MS, 1985) found more than 100 specimens from eulittoral algal and sediment samples from the Beagle Channel, the Magellan Straits and the Argentine coast north to Caleta Olivia, in the Province of Santa Cruz, at about lat. 46°30' S. The species was absent from shelf sediment samples and Chadwick (MS, 1986) did not encounter it in his study of the Ostracoda north of lat. 45°.

Meridionalicythere mesodiscus (Skogsberg), 1928
(Pl. 2, figs. 20, 21; Pl. 3, figs. 1–9)

1928 *Cythereis* (*Cythereis*) *mesodiscus* Skogsberg: 87, pl. 2, figs. 2, 3; pl. 4, fig. 7, text-fig. 14.

1962 *Aurila mesodiscus* (Skogsberg), Hartmann: 237.

1979 "*Aurila*" *mesodiscus* (Skogsberg), Kaesler, Smith & Whatley: 239.

Material. 399 adults and juveniles, many live.

Remarks. This species differs from other members of the genus in the very elongate shape of the male and in the nature of its ornament. The posterodorsal loop is very weakly developed and the ornament comprises irregular reticulae posteriorly, subhorizontally aligned punctae within a reticulum in which the horizontal murae predominate medianly, and a weak irregular reticulum anteriorly, containing within the fossae a delicate secondary punctation. The subalar ridge is only weakly developed in this species. All these characters serve to distinguish this species from other members of the genus.

Distribution. Very abundantly distributed throughout the area studied. Skogsberg (1928) first recorded it from a depth of 9m off Puerto Madryn, Province of Chubut, at approximately lat. 42°50' S. and also from off Isla Nueva, south of the Beagle Channel. Hartmann (1962) recorded it from the littoral of Magallanes Province, southern Chile and Kaesler *et al.* from the Magellan Straits. Coxill (MS, 1985) found 29 specimens from eulittoral and upper sublittoral environments around the Port Stanley area of East Falkland. Toy (MS, 1985) records the species in algal samples and sediments of various types from the littoral of the Beagle Channel, the northern coast of Tierra del Fuego, the Magellan Straits and the Argentine coast north to Caleta Olivia, near the boundary between the provinces of Santa Cruz and Chubut, at about lat. 45°40' S. Chadwick (NS, 1986) recovered the species in similar environments from the beach at Puerto Madryn (lat. 40°40' S.), in the Province of Chubut north to San Antonia Oeste (lat. 42°50' S.) in the Province of Rio Negro. The total latitudinal range of this species, from

54°50' S. to 40°40' S. is considerable. It was not encountered in sediment samples from the shelf.

Meridionalicythere taeniata (Skogsberg), 1928
(Pl. 3, figs. 10–14)

1928 *Cythereis* (*Cythereis*) *taeniata* (Skogsberg): 72, pl. 1, fig. 6; pl. 4, fig. 5; text-fig. 11.

1962 *Aurila* ? *taeniata* (Skogsberg), Hartmann: 236.

1979 "*Aurila*" *taeniata* (Skogsberg), Kaesler, Smith & Whatley: 239.

Material. 214 adults and juveniles, including numerous live individuals.

Remarks. This is the smallest species of the genus. It differs from other species in its more convex dorsal margin, particularly in the female, in its irregularly reticulate and secondarily punctate ornament and in the possession of large pore conuli. It also differs in its possession of a very strong posterodorsal loop and a strong ocular ridge which parallels the anterior margin and an anteromarginal ridge which extends distal to it.

Distribution. Skogsberg's material was collected from Carenage Creek, Port Louis, East Falkland (lat. 51°32' S.; long. 58°7' W.) at a depth of 1m in sand with *Codium*. Coxill (MS, 1985) recorded 22 specimens, living and dead, from eulittoral and sublittoral and sediment samples in the general area of Port Stanley, Falkland Islands. Hartmann (1962) recovered the species from the littoral of Rio El Ganso, Magallanes Province, southern Chile and Kaesler *et al.* found it in the Magellan Straits. Toy (MS, 1985) recovered 192 specimens from mainly eulittoral algal samples in the Beagle Channel and Magellan Straits. Its most northern record in Toy's study is at Caleta Olivia (dead) at about lat. 46°30' S. It was not encountered on the shelf nor by Chadwick in his study of the faunas north of lat. 45° S.

? *Meridionalicythere* sp.
(Pl. 3, figs. 15–18)

Material. 2 carapaces with soft parts, 42 left valves, 47 right valves, all juvenile.

Remarks. This smooth species, although common in its occurrence is represented solely by juveniles. We have considered the possibility, because of the fact that we failed to encounter any specimens which could possibly be considered adults of this species, that what we have considered to be the penultimate instar, despite its possession of distinctly juvenile internal characters, might represent a neotonous adult. This possibility remains but since we are unable to demonstrate this beyond doubt, we have left the species in open nomenclature. Similarly, it can only be tentatively assigned to *Meridionalicythere*, to which it is similar in shape and in possessing a weak subcentral tubercle and subalar ridge. The hinge is merodont and the inner

lamella very narrow and weakly calcified.

Distribution. This species is widely distributed in the eulittoral along the Argentine coast from San Antonio Oeste, Province of Rio Negro (lat. 40°40'S.) to Mar del Plata, Province of Buenos Aires (lat. 38°S.). It was also recovered from the shelf, in the estuary of the Rio de La Plata, from lat. 42°23'S. to off the coast of Brazil at lat. 24°02'S.

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Explanation of Plate 3

Figs. 1–9. *Meridionalicythere mesodiscus* (Skogsberg), 1928.

All from eulittoral algae, north shore of Beagle Channel, just west of Ushuaia, lat. 54°50'S.

Fig. 1. ♂ LV, NT/Arm/Mm 4, ext. lat. (×70).

Fig. 2. ♀ LV, NT/Arg/Mm 1, int. (×63).

Fig. 3. ♂ RV, NT/Arg/Mm 5, ext. lat. (×71).

Fig. 4. ♀ LV, NT/Arg/Mm 13, ext. lat. (×66).

Fig. 5. ♂ LV, NT/Arg/Mm 4, int. (×70).

Fig. 6. ♀ RV, NT/Arg/Mm 14, ext. lat. (×66).

Fig. 7. ♀ LV, NT/Arg/Mm 15, lat. (×66).

Fig. 8. ♀ RV, NT/Arg/Mm 3, int. (×64).

Fig. 9. ♀ RV, NT/Arg/Mm 3, ext. lat (×64).

Figs. 10–14. *Meridionalicythere taeniata* (Skogsberg), 1928.

All from the same locality as the previous species.

Fig. 10. ♀ LV, NT/Arg/Mt 1, ext. lat. (×71).

Fig. 11. ♀ RV, NT/Arg/Mt 2, ext. lat. (×72).

Fig. 12. ♂ RV, NT/Arg/Mt 4, ext. lat. (×74).

Fig. 13. ♀ LV, NT/Arg/Mt 3, ext. lat. (×72).

Fig. 14. ♀ RV, NT/Arg/Mt 2, int. (×72).

Figs. 15–18. ? *Meridionalicythere* sp.

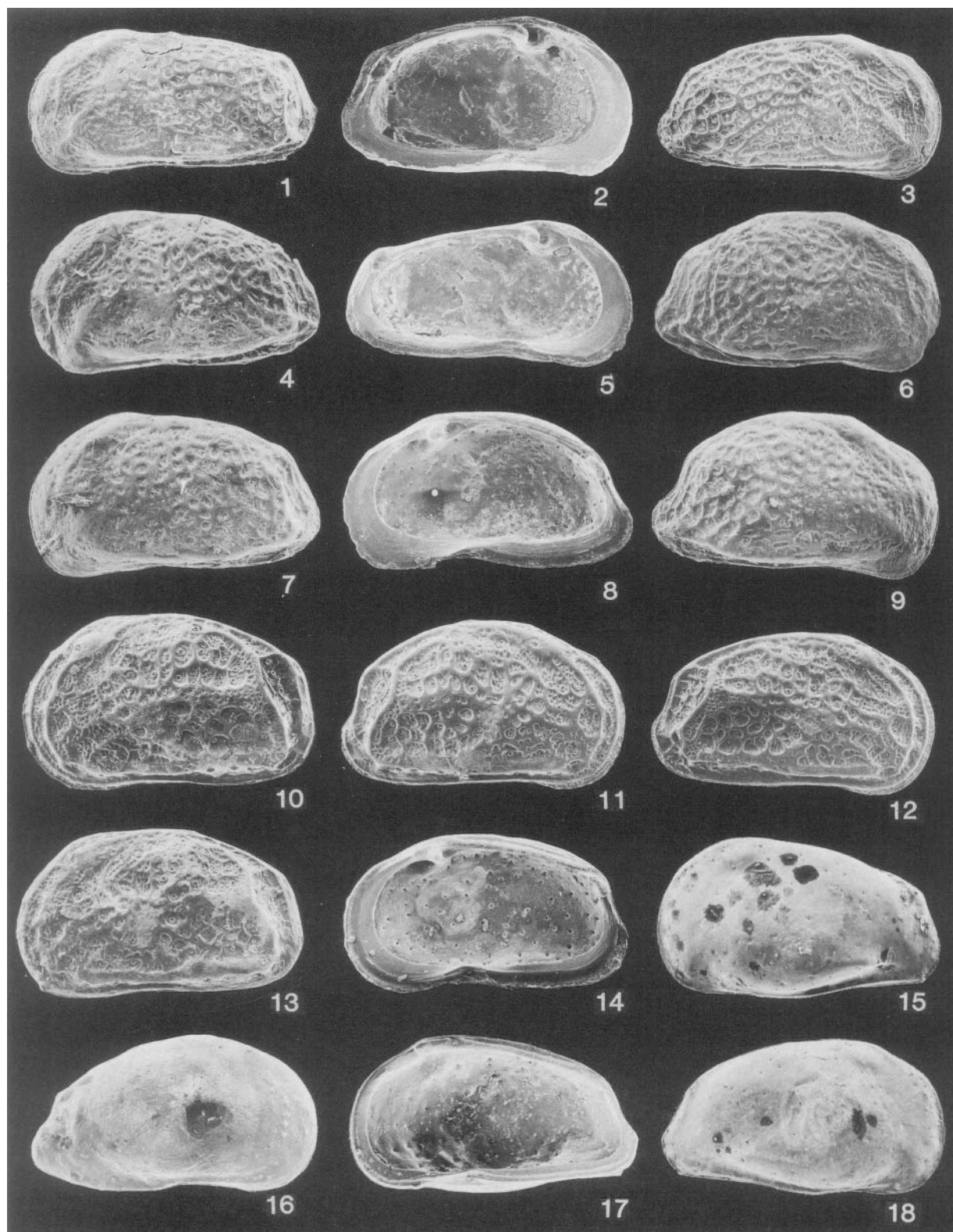
All from algae in ria, immediately south of San Antonio Oeste, Rio Negro Province, Argentina, lat. 40°40'S.

Fig. 15. juv. LV, JC/Arg/345. Sublittoral.

Fig. 16. juv. RV, JC/Arg/345a. Sublittoral.

Fig. 17. juv. RV, JC/Arg/347. Eulittoral.

Fig. 18. juv. RV, JC/Arg/246. Eulittoral.



REFERENCES

- Brady, G. S. 1880. Report on the scientific results of the voyage of H.M.S. Challenger during the years 1873–1876. *Rep. Sci. Res. Voyage H.M.S. Challenger, Zool. 1* (3): *Ostracoda*, 184 pp., 44 pls.
- Chadwick, J. M. 1986. *Recent littoral and shelf Ostracoda from Brazil and Argentina south to 45°S*. Unpub. M.Sc. thesis, Univ. Wales, 292 pp., 10 pls.
- Coxill, D. J. 1985. *Recent podocopid Ostracoda from deep waters of the South Scotia Sea, littoral and shelf of Antarctica, and the littoral of East Falkland*. Unpub. M.Sc. thesis, Univ. Wales, 455 pp., 9 pls., 4 text-figs.
- Hartmann, G. 1962. In Hartmann-Schroeder, G. & Hartmann, G. Zur Kenntnis des Eulittorals der chilenischen Pazifikküste und der argentinischen Küste Sudpatagoniens unter besonderer Berücksichtigung der Polychaeten und Ostracoden. *Mitt. Hamburg Zool. Mus. Inst.*, **60**, 169–270, 223 figs.
- Kaesler, R. L., Smith, S. & Whatley, R. C. 1979. Ostracoda and petroleum pollution in the Strait of Magellan. *Proc. 7th Int. Symposium on Ostracoda, Beograd. Serbian Geological Society*, 237–242.
- Moguilevsky, A. 1977. *The taxonomy, morphology and distribution of some podocopid Ostracoda from Argentinian waters*. Unpub. M.Sc. thesis, Univ. Wales, 238 pp., 40 pls.
- Puri, H. S. & Hulings, N. C. 1976. Designation of lectotypes of some ostracodes from the Challenger Expedition. *Bull. Br. Mus. nat. Hist. (Zool.)*, **29**, (5), 249–315, 27 pls., 14 text-figs.
- Rossi de Garcia, E. 1970. Un nouveau genre d'ostracodes des cotes de Patagonie, Republique Argentine. *4th Colloq. Africa Micropal.*, 379–386, 2 pls.
- Skogsberg, T. 1928. Studies on marine ostracods. Part 2. External morphology of the genus *Cythereis* with description of 21 new species. *Calif. Acad. Sci. Occasional Papers*, **15**, 1–155, 23 text-figs. pls. 1–6.
- Toy, N. 1985. *Recent littoral and shelf Ostracoda from Argentinian and Chilean waters south of 45°S*. Unpub. M.Sc. thesis, Univ. Wales, 171 pp., 7 pls.
- Whatley, R. C. & Moguilevsky, A. 1975. The family Leptocytheridae in Argentine waters. *Bull. Am. Paleont.*, **65**, No. 282, 501–527, 3 pls.