

The Renaudcypridinae (Crustacea: Ostracoda) from Bogia area (Papua New Guinea)*

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ABSTRACT: A new ostracod genus, *Hansacypris* gen.nov., and two new species, *Hansacypris aspera* sp.nov. and *Hansacypris glabra* sp.nov., as well as the species *Renaudcypris wolffi* (Harding, 1962) are recorded from Bogia area (North of Papua New Guinea). The relationships between the genera *Renaudcypris* and *Hansacypris*, and the characteristics of the subfamily Renaudcypridinae are discussed.

RESUME: Un nouveau genre d'ostracode, *Hansacypris* gen.nov. et deux nouvelles espèces, *Hansacypris aspera* sp.nov. et *Hansacypris glabra* sp.nov., ainsi que l'espèce *Renaudcypris wolffi* (Harding, 1962) récoltés aux environs de Bogia (Nord de la Papouasie Nouvelle-Guinée) sont décrits. Les genres *Renaudcypris* et *Hansacypris* sont comparés et les caractères de la sous-famille des Renaudcypridinae sont discutés.

1 INTRODUCTION

The ostracod material collected during an expedition to Papua New Guinea in 1982 proved to be very rich. When studying this fauna, three species belonging to the subfamily Renaudcypridinae were found. The subfamily characters have been largely discussed by McKenzie (1980). The discovery and the description, however, of the new genus *Hansacypris* allows a better understanding of this small but remarkable subfamily, and throws a new light on some particular morphological characteristics. In order to compare the new species described in this paper with *Renaudcypris gorongae* McKenzie, 1980, the type-species of the genus *Renaudcypris* was restudied on the basis of its paratypes. The carapaces of the paratypes, however, had deteriorated by the acidity of the preserving fluid. Fortunately I could examine specimens of *R.gorongae* with well preserved valves from the

* Leopold III Biological Station, Laing Island, Contribution no.64.



Figures 1-11. *Hansacypris aspera* sp. nov., Laing Island: 1. Antennula, female, paratype; 2. Antenna, male, paratype; 3. Maxillula, female, paratype; 4. Mandible, female, paratype; 5. Mandible, molar teeth, female, paratype; 6. Maxilla, male, paratype; 7. Walking leg (P.2), male, paratype; 8. Cleaning limb (P.3), female, paratype; 9. Furca and furcal attachment, male, paratype; 10. Rake-like process, female, paratype; 11. Male copulatory appendage, holotype.

Solomon Islands, collected by Prof. A. Coomans in 1982. This material proved to be particularly important, because it allowed me to study the morphology of the valves which turned out to be of great systematic importance.

2 SYSTEMATICS

FAMILY PARACYPRIDIDAE Sars, 1923

SUBFAMILY RENAUDCYPRIDINAE McKenzie, 1980

Genus *Renaudcypris* McKenzie, 1980

Diagnosis: small to medium-sized, subtriangular valves, with a H/L-ratio of 0.55 or larger; dorsal margin with a striking anterior and a less pronounced posterior cardinal angle; eye spots present; valves punctate; surface between punctations smooth to almost smooth.

Renaudcypris wolffi (Harding, 1962)
(Figs. 12-19, 33; Pl. 1, Figs. 1-4)

Synonymy

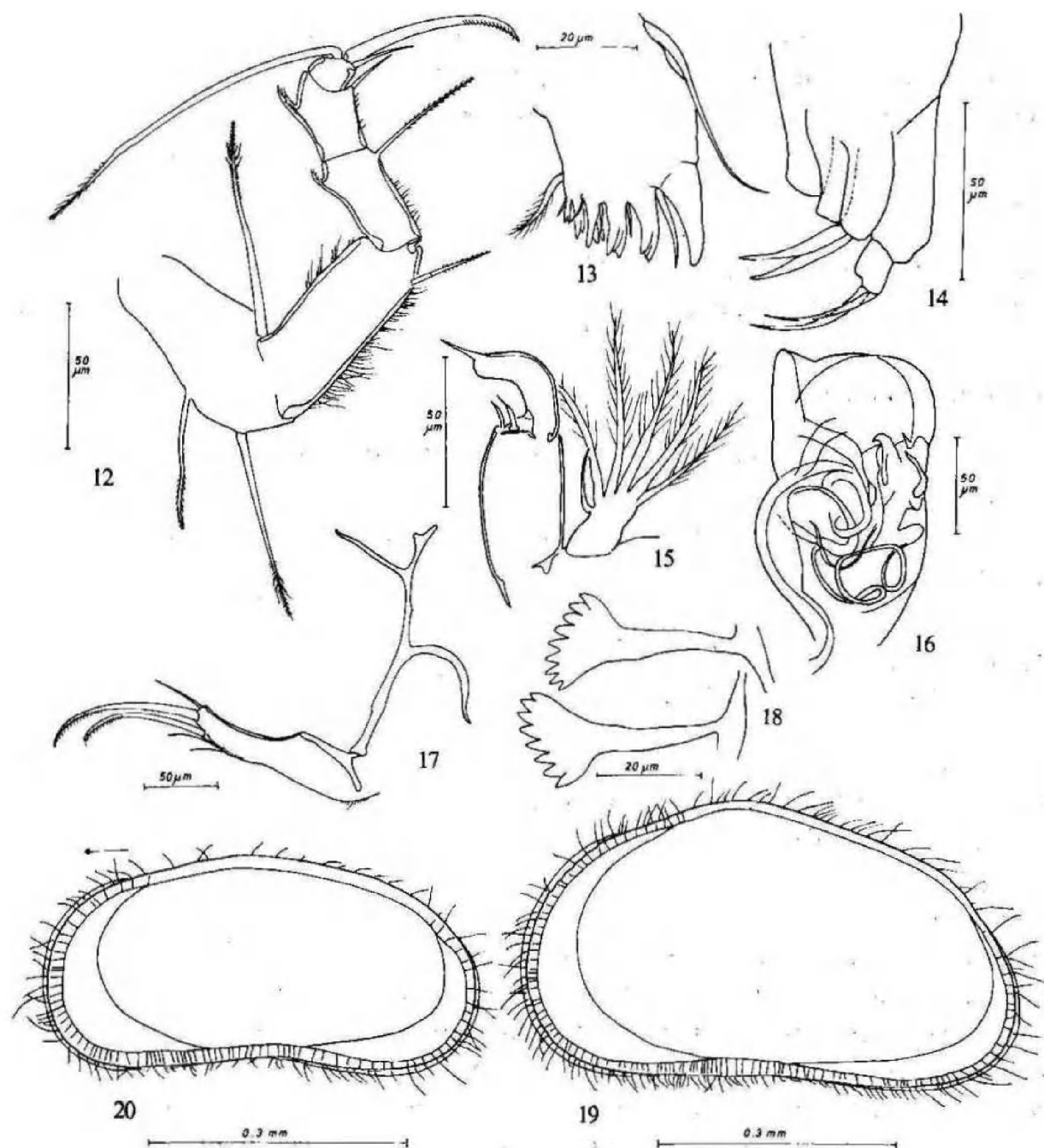
Pontoparta wolffi Harding, 1962:51, Figs. 1-13.

Renaudcypris wolffi McKenzie, 1980:514.

Description

Medium-sized valves; H/L-ratio ranging from 0.55 to 0.60; dorsal margin tapering towards the posterior; left valve dorsal margin convex without angulations; right valve dorsal margin with a slight depression in front of the highest part and with an antero-median and postero-median angulation; anterior margin broadly rounded; posterior margin narrow, but evenly rounded; ventral margin almost straight in the left valve, and weakly concave in the right one; carapace spindle-shaped in dorsal view, with pointed extremities; sinuous overlap of the left valve over the right one in ventral view; valve surface weakly punctate, especially in the dorsal, anterior and posterior areas; central and ventral parts of the valve almost smooth. The valves have a hairy appearance by the presence of stiff hairs. With the S.E.M. it can be seen that there is almost no microstructure. The microstructure consists of very small (about $\frac{1}{2}$ micrometer) and dispersed comma-shaped thickenings. Under the light microscope the valves are smooth and shiny; in transmitted light the valves show a fine network of small polygonal meshes. The valves have an indistinct eye spot.

Antennula: seven-segmented; segment ratios: 40:10:17:11:13:7:6. First segment with strong ventral setae, the most distal one with spiny setules at both sides of the axis; dorsal/ventral chaetotaxy of the segments: 1/2, 1/0, 0/1, 2/1, 2/1, 5/0; last segment with two long natatory setae; second segment with a ventro-proximal tube-like projection.



Figures 12-20. 12-19: *Renaudocypris wolffi* (Harding 1962), River Boroi: 12. Cleaning limb (P.3), male; 13. Mandible, molar teeth, male; 14. Maxillula, male; 15. Maxilla, male; 16. Male copulatory appendage; 17. Furca and furcal attachment, male; 18. Rake-like process, male; 19. Right valve internal view, male. 20: *Hansacypris aspera* sp. nov., right valve internal view, male, holotype, Laing Island.

Antenna: five-segmented; length ratios of endopodite segments 53:28:9; exopodite inserted on a small elevation and consisting of a long bristle and two very short setae; Y-aesthetasc long and slender, with a median suture; four long, one medium-sized and one short natatory setae reaching almost to the tips of the terminal claws; three claws on the penultimate segment and one terminal claw.

Mandible: endopodite four-segmented; segment ratios: 20:14:14:9, chaetotaxy

(dorsal/ventral): 0/4, 2/5, 6/4 and three long and two (?) short terminal setae; six molar teeth, the first tooth large and simple, the second, third and fourth teeth tricuspidate, fifth and sixth teeth bifid; mandibular epipodite with one short and six long Strahlen.

Maxillule with a two-segmented elongate palp and two large smooth Zahnborsten on the third lobe; epipodite bearing twenty normal Strahlen and five large and one medium-sized mouthward directed Strahlen.

Maxilla: epipodite with six Strahlen; male endopodite a two-segmented clasping apparatus.

Walking leg (P.2): five-segmented; length ratios of second to fifth segments and claw: 40 (S2) : 21 (S3) : 15 (S4) : 5 (S5) : 53 (Cl.).

Cleaning limb (P.3): five-segmented; length ratios of endopodite segments 25:17:12:4; other characteristics as in *Haspera* nov.sp., including the hook-like processes on the third and fourth segment and the peculiar setules on the setae of the protopodite.

Furca with concave anterior margin; anterior and two posterior bristles; large, distally serrate claws; postero-distal comb of small spinules; furcal attachment with strongly curved dorsal branch and forked distal extremity.

Copulatory appendage: two very large overlapping lobes; ventral lobe rounded; dorsal lobe rounded with pointed dorso-distal projection; vas deferens showing a double loop, with an opening between the two loops in the antero-ventral area.

Rake-like process with eight to nine teeth. Zenkers organ with five rosettes.

Colour of specimens fixed with formol and preserved in alcohol: transparent beige.

Dimensions: height 0.35-0.39; length 0.63-0.68 mm.

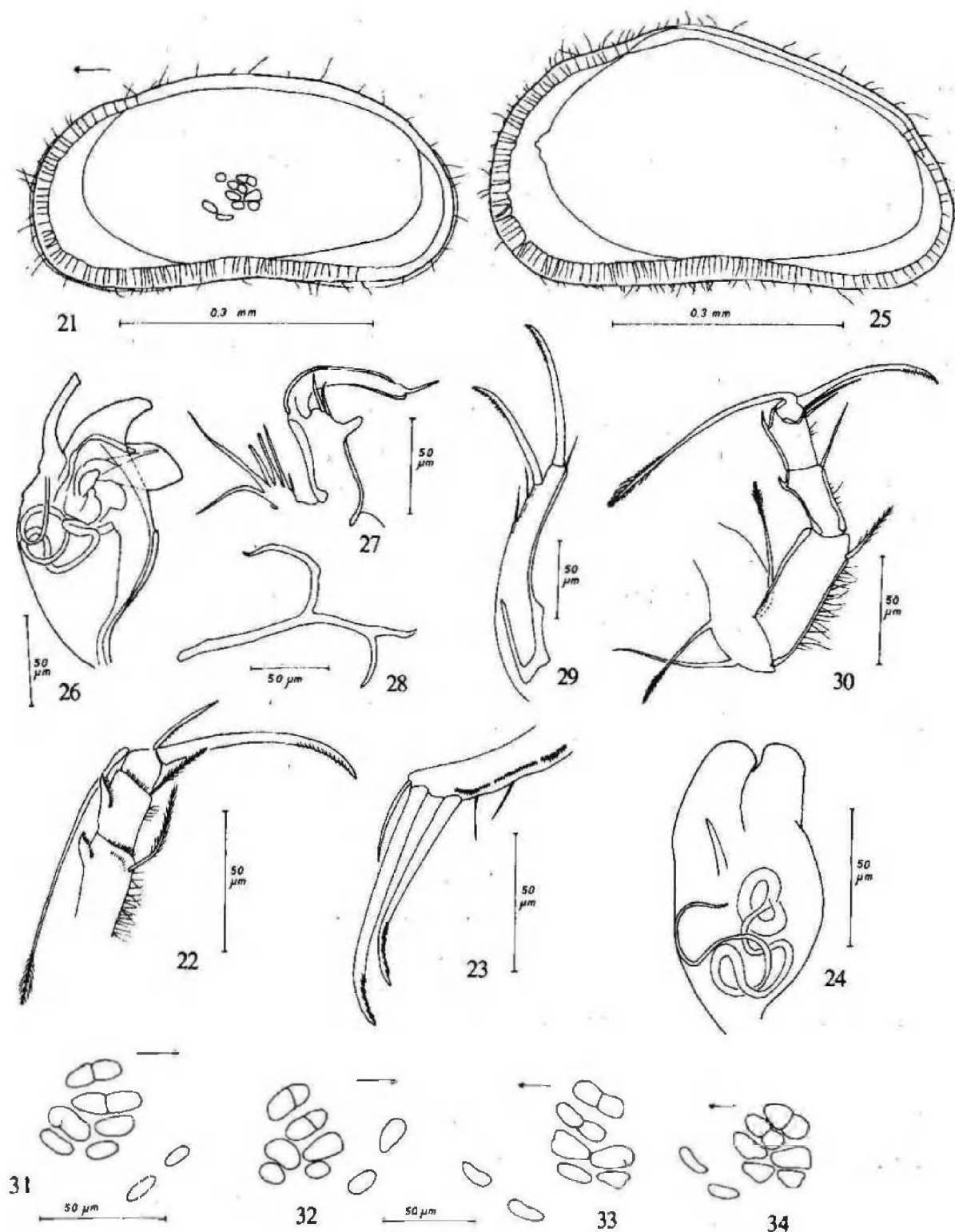
Occurrence: Papua New Guinea, Madang Province, River Boroi, between Boroi Village and Bak, salinity 6 ‰ (26 May 1982); NW of Nubia Village, small rivulet in the coconut plantation at about 200 m from the sea (21 May 1982); Laing Island, N mangrove area, a few empty carapaces (3 May 1982).

Ecology

Renaudcypris wolffi is without any doubt a brackish water species. It has been found living in the River Boroi, in a salinity of 6 ‰. Near Nubia it is living in a small rivulet with a very low or no salinity. The salinity was not measurable with a salinity refractometer. Harding (1962) described it from Rennell Island, Lake Te-Nggano, with a salinity of 4.56 ‰.

Affinities and differences

There are several differences allowing species discrimination between *R. wolffi* (Harding) and *R. gorongae* McKenzie (Fig.25-30, Pl.1, Fig.5-8). The punctations on the valve surface and the eye spot are much more pronounced in *R. gorongae*. The microstructure on the valves of *R. wolffi* consists of small comma-shaped pustules, whereas in *R. gorongae* the valves are almost smooth. In *R. gorongae* the



Figures 21-34. 21-24: *Hansacypris glabra* sp. nov., holotype, male, Laing Island: 21. Right valve internal view; 22. Cleaning limb (P.3); 23. Furca; 24. Male copulatory appendage. 25-30: *Renaudocypris gorongae* McKenzie, 1980; 25. Right valve, male, internal view, Uipi Island, Solomon Islands; 26. Male copulatory appendage, in erection, paratype, Gorong Island; 27. Male maxilla, paratype, Gorong Island; 28. Furcal attachment, paratype, Gorong Island; 29. Furca, paratype, Gorong Island; 30. Cleaning limb (P.3), paratype, Gorong Island. 31-34. Muscle scar patterns: 31. *Hansacypris aspera*, left valve, paratype, Laing Island; 32. *Renaudocypris gorongae*, left valve, Uipi Island, Solomon Islands; 33. *Renaudocypris wolffi*, right valve, River Boroi; 34. *Hansacypris glabra*, right valve, paratype, Laing Island.

postero-dorsal margin is descending more steeply towards the posterior extremity. The male copulatory appendage of *R. wolffi* is characterized by two very large, rounded and overlapping lobes; in *R. gorongae* these lobes are smaller and rather subtriangular. The male clasping apparatus of *R. gorongae* bears a striking ventral projection. This projection is absent in *R. wolffi*.

Genus **Hansacypris** gen.nov.

Derivatio nominis: named after the Hansa Bay, N Papua New Guinea.

Type-species: *Hansacypris aspera* nov.sp. (here designated).

Gender: feminine.

Diagnosis: small, elongate, bean-shaped valves, with a H/L-ratio of about 0.5; dorsal margin arched without pronounced angulation; eye spot absent; valves with or without punctations; surface smooth to very rough.

Discussion: see below.

Hansacypris aspera sp.nov.

(Figs.1-11, 20, 31, Pl.2, Figs.1-6)

Derivatio nominis: Lat. *asper* = rough, because of the rough valve surface.

Type-locality: Laing Island, Hansa Bay, Madang Province, Papua New Guinea, in the lagoon, at a depth of about 0.2 m.

Holotype: a dissected male with valves (O.C.1108a) and soft parts (O.C.1108b and O.C.1108c).

Paratypes: seven dissected specimens (three females and four males) and about 100 undissected specimens preserved in alcohol (O.C.1109-1116, O.C.1136, O.C.1137).

Description

Small elongate valves; H/L-ratio ranging from 0.47 to 0.52; left valve dorsal margin weakly convex; right valve dorsal margin with an indistinct angulation in front of the middle and near the transition to the posterior margin; anterior margin bluntly rounded and posterior margin evenly rounded; central margin somewhat concave; carapace fusiform in dorsal view, with pointed extremities; sinuous overlap of the left valve over the right one in ventral view; valve surface punctate and covered with stiff hairs. The valves have a rough appearance by the presence of a micro-structure which can only be seen with a scanning electron microscope. This micro-structure consists of small and densely set pustules covering the whole carapace, with exception of the muscle scar pattern. A-1 juveniles have the same ornamentation as the adults; A-2 juveniles and younger stages are completely smooth.

Inner lamella moderately side; large anterior and posterior vestibula; numerous short, straight and unbranched marginal pore canals; zone of concrescence narrow; hinge weakly lophodont. Anterior, posterior and ventral margins with a lamellar chitinous selvage; normal pores scattered, with or without a narrow rim. Eye spot absent.

Antennula seven-segmented; segment-ratios: 40:11:12:9:8:6:5. The first segment is large and broad. It bears a dorsal and two long ventral setae; second segment with a dorso-distal seta and a ventro-proximal tube-like projection; third segment with a ventro-distal seta; fourth and fifth segment with a fine ventro-distal bristle and two long dorso-distal natatory setae; sixth segment with four long distal natatory setae and one short bristle; seventh segment with two long terminal natatory setae and a short distal seta.

Antenna five-segmented; length-ratios of endopodite segments: 43:21:10; exopodite consisting of a long seta and two very short teeth-like bristles; Y-aesthetasc very long and slender, with a median suture; four long and two short natatory setae, reaching almost to the tips of the terminal claws; second endopodite segment with three distal claws; third endopodite segment with one distal claw and three setae.

Mandible: endopodite four-segmented; segment ratios: 15:11:12:8; dorsal/ventral chaetotaxy: 0/4, 2/5, 6/4 and five terminal bristles, three of them having a claw-like appearance; epipodite with seven (?) (certainly six) Strahlen. There are six molar teeth that decrease in size from the anterior on the mandibular coxale; the first tooth is strong and simple, the second, third, fourth and fifth teeth are tricuspidate; the sixth tooth is bifid. There is a long anterior seta and a shorter plumose one inserted at the base of the sixth tooth; there are small setae between the teeth.

Maxillula with a two-segmented, elongate palp and two large, smooth Zahnborsten on the third lobe; epipodite bearing about 20 normal Strahlen and five large and one short mouthward directed Strahlen.

Maxilla (P.1): epipodite with five long plumose Strahlen and a short smooth one; male endopodite modified into a clasping apparatus, with a short clasping organ and without a ventral knob-like thickening.

Walking leg (P.2): five-segmented; long and strong curved terminal claw; length-ratios of second to fifth segments and claw: 34 (S2) : 16 (S3) : 13 (S4) : 4 (S5) : 47 (Cl.); second segment strongly and third segment weakly hirsute ventrally.

Cleaning limb (P.3) consisting of five segments: protopodite and four endopodite segments. Length-ratios of endopodite segments: 30:15:13:5. The postero- and antero-distal setae of the protopodite bear two rows of spiny setules, some of those being particularly enlarged giving these setae a very characteristic appearance. Second, third and fourth segments hirsute ventrally; second segment also weakly hirsute dorsally; third and fourth segment bearing a strong dorso-distal spiny process. Terminal segment with a short seta, a curved claw and a long and slightly curved, somewhat reflexed seta, with two distal rows of spiny setules. Furca with an anterior bristle, two strong claws and two posterior bristles. Furcal attachment: articulating extremity without expansions; median branch straight; dorsal branch strongly curved; distal part forked in a short and thick dorso-distal branch and a slender ventro-distal one.

Copulatory appendage with two large lobes, a rounded dorsal lobe and a broad

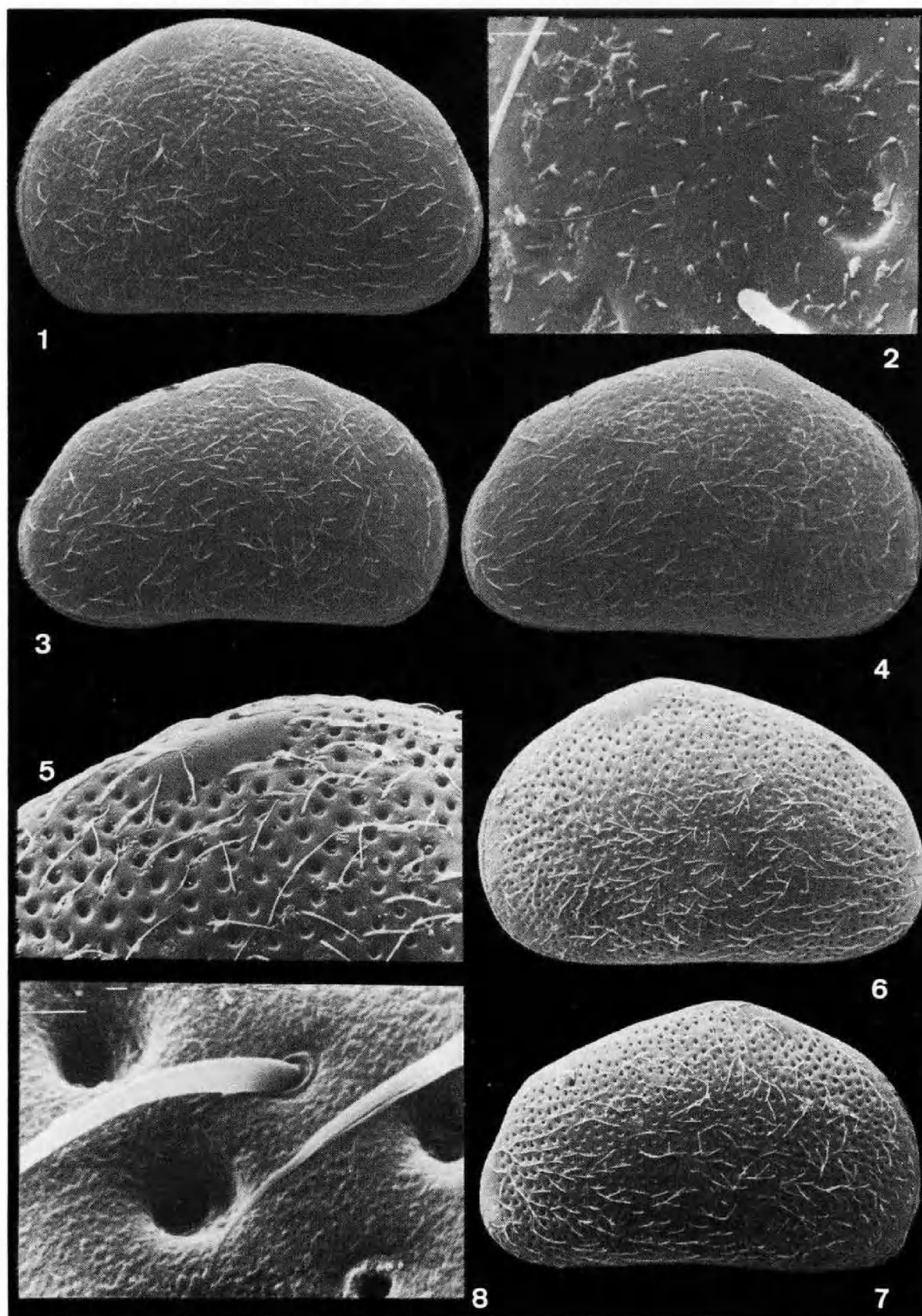


Plate 1: Figures 1-4. *Renaudcypris wolffi* (Harding, 1962), River Boroi, Madang Province, Papua New Guinea: 1. Female left valve, X 90; 2. Valve surface with comma-shaped pustules, X 2250; 3. Male right valve, X 90; 4. Female right valve, X 90.

Figures 5-8. *Renaudcypris gorongae* McKenzie, 1980, Uipi Island, Solomon Islands: 5. Eye spot, left valve, X 290; 6. Left valve, X 95; 7. Right valve, X 95; 8. Valve surface, right valve, X 2380.

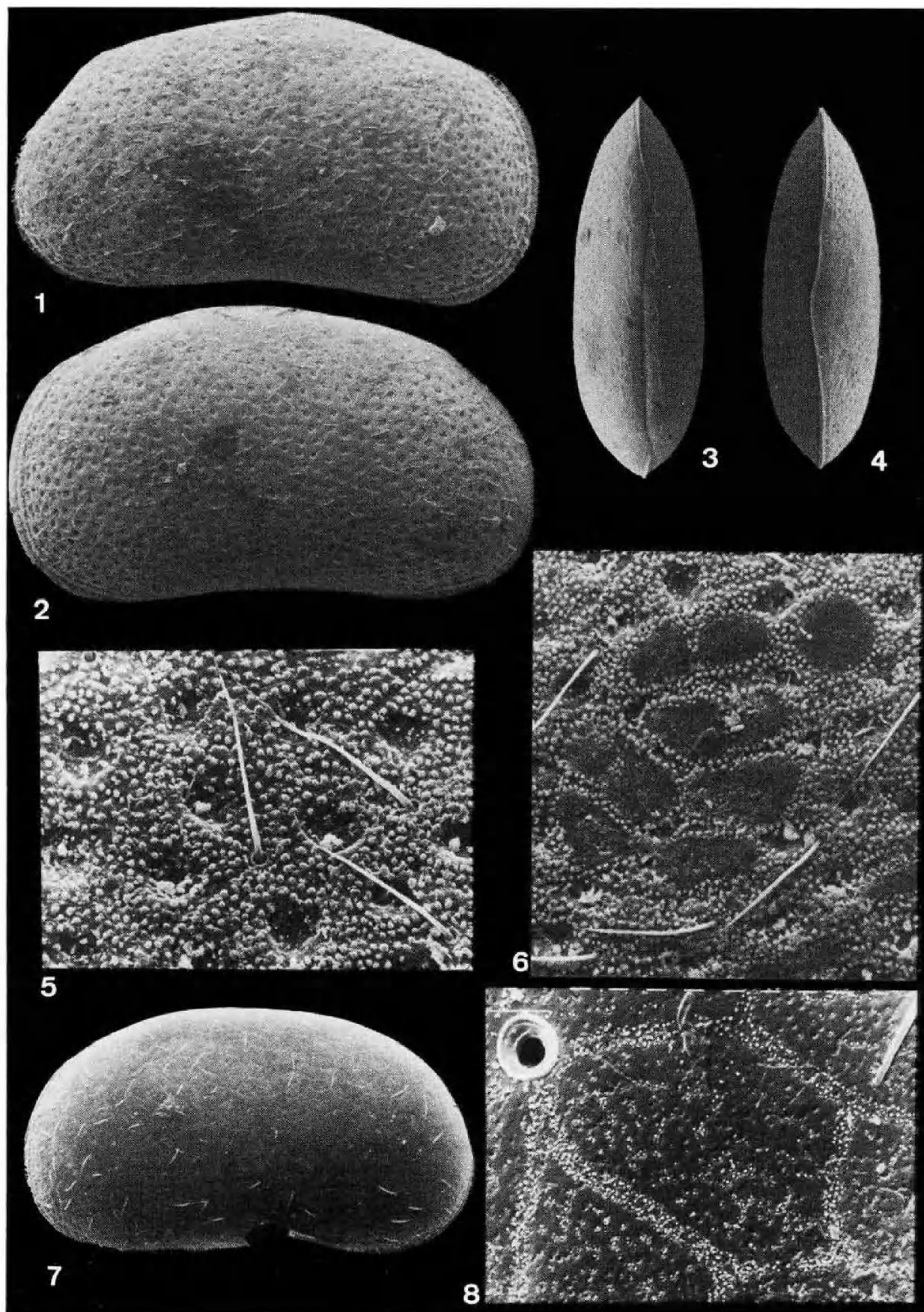


Plate 2: Figures 1-6. *Hansacypris aspera* sp.nov., Laing Island, Papua New Guinea: 1. Male right valve, paratype, X 125; 2. Male left valve, paratype, X 125; 3. Female carapace, dorsal view, paratype, X 95; 4. Male carapace, ventral view, paratype, X 93; 5. Valve surface, male right valve, paratype, X 1120; 6. Female right valve, external view, muscle scar pattern without pustules, paratype, X 800.

Figures 7-8. *Hansacypris glabra* sp.nov., Laing Island, Papua New Guinea, holotype: 7. Male left valve, X 110; 8. Valve surface, X 2380.

ventral one with a flattened distal margin. The vas deferens shows a very characteristic and striking double loop in the anterior area of the appendage, with an antero-ventral opening between the two loops.

Rake-like process with eight teeth. Zenkers organ with five rosettes and a spherically enlarged entrance.

When alive, the animal has a beige colour, resembling very much the colour of the coralline sand on which it lives.

Dimensions:

Holotype: length 0.51 mm; height 0.25 mm.

Paratypes: length 0.50-0.54 mm; height 0.24-0.28 mm.

Occurrence: Papua New Guinea, Madang Province, Hansa Bay, Laing Island, in the lagoon, very common in 0.1 to 0.5 m of water (May and June 1982); Laing Island, NE side, in a very small area of the reef flat where brackish water is sometimes coming in from the small N mangrove area (26 April 1982); Mandy Passage, in a small sheltered bay on the mainland, at about 6 km SE of Laing Island (9 June 1982). Talia Point (S of Bogia), in sediment at the high water level (8 June 1982).

Ecology

Hansacypris aspera sp.nov. is a common species of the shallow littoral zone of sheltered areas (bays, lagoons) with sandy beaches. In the surf zone of the lagoon of Laing Island, it is a very common species. This lagoon, situated at the west side of the island, is protected from the predominant and often violent east winds, and is protected from excessive wave action by a coral reef. It is a fully marine environment, with a salinity of about 34 ‰. At certain times of the year during the rainy season, the salinity of the surface waters can drop very temporarily to about 25 ‰ when large amounts of fresh water, coming from the rivers Ramu and Sepik are transposed along the coasts by currents.

H.aspera can be considered as a fully marine ostracod, but its presence on the small area of the NE reef flat of Laing Island, where brackish water sometimes flows onto the reef flat suggests that it must be a euryhaline species. *H.aspera* has not been found elsewhere on the reef flat.

H.aspera is living in a very special environment, namely the surf zone of sheltered bays and lagoons, where it is crawling on and between the coralline sand grains. They are very active swimmers. When disturbed (in a petri dish) they all swim upwards and swim rapidly down again and restart crawling on and in the sediment until the next disturbance comes, then they all swim upwards again. This is probably what happens when waves disturb the sediment.

Affinities and differences

H.aspera sp.nov. can be easily distinguished from *H.glabra* sp.nov. by the rough valve surface and by its broad and distally flattened dorsal lobe of the copulatory appendage. In *H.glabra* this lobe is narrow and has a rounded distal margin. Furthermore, the cleaning limb of *H.glabra* is much more hirsute than the one of

H. aspera. Finally, *H. glabra* shows three groups of well developed spinules on the distal part of the furca. In *H. aspera* those spinules are very small and hardly visible.

H. aspera is distinguished from *Renaudocypris*-species by the absence of eye spots, its gently arched dorsal margin, its smaller dimensions and its different H/L-ratio.

***Hansacypris glabra* sp.nov.**

(Figs. 21-24, 34; Pl. 2, Figs. 7-8)

Derivatio nominis: Lat. *glaber* = smooth, because of the smooth valves.

Type-locality: Laing Island, Hansa Bay, Madang Province, Papua New Guinea, in the northern mangrove area.

Holotype: male carapace (O.C. 1120) with partially preserved soft parts (O.C. 1120c).

Paratypes: eight carapaces and isolated valves (O.C. 1121 and 1122).

Description

Small, elongated valves; H/L-ratio ranging from 0.48 to 0.52; dorsal margin gently arched, with a small concavity in the eye region; anterior and posterior margins evenly rounded; ventral margin slightly concave; valve surface smooth. Observation with the S.E.M. revealed a pattern of polygonal areas on the valves; the areas are delineated by a narrow zone of small pustules. There are two or three rows of small punctations along the anterior and posterior margin. Eye spot absent.

The soft parts are only partially preserved.

Walking leg (P.2): length-ratios of third to fifth segments and claw: 18 (S3): 14 (S4) : 5 (S5) : 41 (Cl.).

Cleaning limb (P.3): third and fourth segment hirsute ventrally and with strong dorso-distal processes; processes with row of fine setules; third and fourth segments with ventro-distal plumose setae; three rows of fine setules, one at the distal part of the third segment, a second on the proximal part of the fourth segment and a third one on the proximal part of the fifth segment; terminal segment with a short seta, a strong and curved claw and a long, slightly curved seta with two distal rows of spiny setules.

Furca with anterior bristle, two strong, distally serrate claws and two posterior bristles; three groups of small triangular spinules near the posterior margin.

Copulatory appendage with two lobes, both with rounded distal margin; vas deferens with double loop.

Dimensions

Holotype: length 0.53; height 0.25 mm.

Paratypes: length 0.51-0.53 mm; height 0.25-0.27 mm.

Occurrence: Laing Island, northern mangrove area (3 May 1982).

Ecology

Hansacypris glabra was collected dead (carapace with remnants of soft parts, and empty carapaces) in the northern mangrove area of Laing Island. The salinity of this mangrove area is low during the rainy season (6 ‰ on 25 April 1982), changing rapidly to a high salinity at the beginning of the dry season (19 ‰ on 29 April and 31 ‰ on 5 May). During the dry season this mangrove area dries up, and there is no water until the next rainy season. Although we do not know when the collected ostracods died, they probably lived in an environment with a lower salinity. Therefore, *H. glabra* has tentatively to be considered as a brackish water species, and certainly as a euryhaline one.

3 DISCUSSION

When McKenzie (1980) described the new subfamily Renaudcypridinae, two species belonging to the genus *Renaudcypris* were known, namely *R. gorongae* McKenzie, 1980 (the type-species) and *R. wolffi* (Harding, 1962). In this paper two other species, belonging to the new genus *Hansacypris*, namely *H. aspera* sp. nov. and *H. glabra* sp. nov. are described and assigned to the subfamily Renaudcypridinae. The two latter species differ from *R. gorongae* and *R. wolffi* in several characteristics. The H/L-ratio of *H. aspera* ranges from 0.47-0.52, and the one of *H. glabra* from 0.48 to 0.52. *R. gorongae* on the contrary has a H/L-ratio ranging from 0.56-0.61 and *R. wolffi* from 0.55-0.66. This means that the valves of *Renaudcypris*-species have a distinctly different outline, due mainly to the presence of a pronounced angulation in the dorsal margin. In *Hansacypris*-species the dorsal margin is gently arched. Furthermore, *H. aspera* (length: 0.47-0.52 mm) and *H. glabra* (length: 0.51-0.53) are smaller than *R. gorongae* (length: 0.57-0.63) and *R. wolffi* (length: 0.62-0.68). A third characteristic separating *H. aspera* and *H. glabra* from the *Renaudcypris*-species is the absence of eye spots. *R. gorongae* and *R. wolffi* have small eye spots. In *H. aspera* and *H. glabra*, on the contrary, eye spots could not be detected. The systematic importance of eye spots has recently been stressed by De Deckker (1979) when dealing with genera of the Notodromadinae. The eye spots of the genus *Renaudcypris* are not eye tubercles, but flattened to slightly elevated areas without ornamentation. They are very distinct in *R. gorongae*, and somewhat less in *R. wolffi*. They are also present in A-1 instars. *Hansacypris*-species lack the eye spot completely, in both adults and instars. For that purpose instars (down to A-4) of *H. aspera* were studied, and proved to be without eye spots. From all these differences it appears that in Renaudcypridinae there are at least two easily recognizable groups of related species. I judge them sufficiently different from each other to introduce the new genus *Hansacypris*.

There are also a large number of characteristics that both genera have in common. The valves have a hairy appearance by the presence of spiky hairs. The size and shape of the vestibulum and the number and arrangement of the marginal pore canals is without much variation. The muscle scar pattern is a *Paracypris*-like pat-

tern in all four species studied. The selvage and the ventral overlap are almost identical. The soft parts do not show major morphological differences.

The microstructure of the valves has only a specific value, but it is interesting to note how variable it can be between genera. *H. aspera* has large and deep punctations and is entirely covered with pustules. *H. glabra*, on the contrary, has no punctations (with exception of a few rows of small punctations along the anterior and posterior margin), and shows a pattern of polygonal smooth areas separated from each other by narrow rows of very small pustules. *R. gorongae* is characterized by deep punctations, and the areas between the punctations are practically smooth. *R. wolffi*, on the other hand, has shallow punctations, but the surface between them is covered with comma-shaped pustules. Furthermore, in transmitted light *R. wolffi* shows a pattern of polygonal meshes, imperceptible on the outer surface, and resembling very much the pattern of *H. glabra*.

From the foregoing, the extensive diagnosis of the subfamily Renaudocypridinae can be formulated as follows:

Valves small to medium-sized; bean-shaped to subtriangular and covered with spiky hairs; valve surface smooth to pustulose; anterior and posterior vestibulum present; short, straight and unbranched marginal pore canals; muscle scar pattern *Paracypris*-like.

Antennula: seven-segmented; second segment with tube-like ventro-lateral projection. Antenna with long natatory setae, reaching to the tips of the terminal claws, and with a long and slender, medially sutured Y-aesthetasc. Mandible with simple, bifid and trifid molar teeth. Maxillula with two smooth Zahnborsten on the third lobe; epipodite with six mouthward directed Strahlen. Cleaning limb: penultimate segment divided medially; third and fourth segment with strong dorso-distal spiny processes; dorsal seta of protopodite with particularly enlarged spiny setules implanted on the distal half of those setae; terminal segment with a short seta, a long, curved claw and a long and somewhat reflexed seta. Furca with two posterior bristles. Furcal attachment with strongly curved dorsal branch and forked distal part. Copulatory appendage with two distal lobes. Rake-like process with six to nine teeth. Zenkers organ with five rosettes and a spherically enlarged entrance.

The differences between the different subfamilies of the Paracyprididae have already been largely discussed by McKenzie (1979, 1980). The most striking characteristic separating the Renaudocypridinae from the Thalassocypridinae and the Paracypridinae is the different morphology of the cleaning limb. In Renaudocypridinae, this limb shows spiny processes on the third and fourth segment, bears a long claw, a long and somewhat reflexed seta and a short seta on the terminal segment, and finally, it is characterized by the presence of very typical spiny setules, especially on the protopodite dorsal seta. None of those structures have been seen in the two other subfamilies.

The collections are deposited in the Recent Invertebrates Section of the Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels.

4 NOTES ON THE DISTRIBUTION OF RENAUDCYPRIDINAE

The four known species are distributed as follows:

Renaudcypris gorongae: Gorong Island, Moluccas, on coralline sand and algal fragments; marine, euryhaline species (McKenzie 1980). Uipi Island, Marovo lagoon, N New Georgia, Solomon Islands, coralline sand with thin layer of detritus, very shallow water, fully marine environment; leg.: A.Coomans, 30 October 1982.

Renaudcypris wolffi: Rennell Island, Lake Te-Nggano, Solomon Islands; brackish environment (Harding 1962). Papua New Guinea, Bogia area, several localities, in brackish environments.

Hansacypris aspera: Papua New Guinea, Bogia area, several localities, fully marine, somewhat sheltered environments.

Hansacypris glabra: Papua New Guinea, Bogia area, only on Laing Island; probably a brackish water species.

It is interesting to note that each of the two genera has a species adapted to the marine and to the brackish environment. The marine species seem to be restricted to the shallow parts of sheltered bays and lagoons. The brackish water species live in different types of habitats, including mangrove areas, brackish ponds and rivers.

As already stressed by McKenzie (1980), Renaudcypridinae seems to be restricted to the Indo-Malayan region.

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