

A new *Renaudcypris* (Crustacea: Ostracoda) from Lake Taal (Philippine Islands)

by K. WOUTERS

Abstract

Renaudcypris luzonensis n.sp., a new species of the ostracod genus *Renaudcypris* MCKENZIE, 1980 is described and illustrated. The distribution of the actually known species of the genera *Renaudcypris* and *Hansacypris* is briefly discussed.

Introduction

To date five species belonging to the genera *Renaudcypris* and *Hansacypris* have been described by HARDING (1962), MCKENZIE (1980), WOUTERS (1984) and HARTMANN (1984). Material available from Lake Taal (The Philippines) yielded a sixth species, *R. luzonensis* n.sp., which is described and illustrated in this paper. The distribution of Renaudcypridinae is still poorly known. The discovery of a *Hansacypris* species from the Comoros and the description of *R. natans* by HARTMANN from Tuamotu throw a new light on the distribution of Renaudcypridinae, and show that they are more widely distributed than was hitherto believed. It is not unlikely that they are distributed throughout the tropical Indo-Pacific realm.

Systematics

Family Paracyprididae SARS, 1923
Subfamily Renaudcypridinae MCKENZIE, 1980
Genus *Renaudcypris* MCKENZIE, 1980

Renaudcypris luzonensis n.sp.
(Fig. 1-11; Pl. I, fig. 1-8)

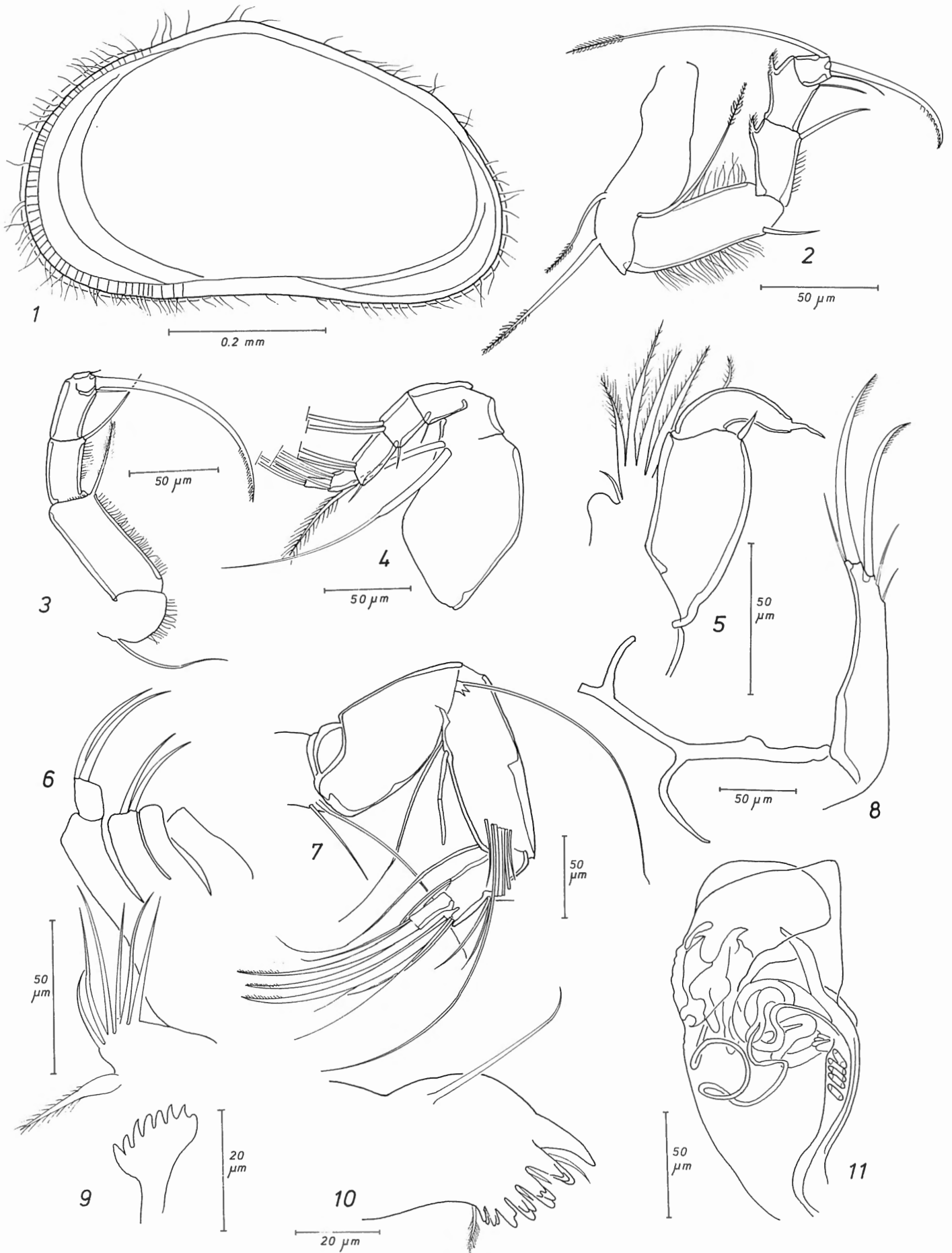
Derivatio nominis: after Luzon, Philippine Islands.
Type-locality: Lake Taal, S.E. of Manila, Luzon, Philippines; 14°02' N, 121°33' E.
Holotype: a dissected male, with valves (O.C. 1140 a) and soft parts (O.C. 1140 b).
Paratypes: nine dissected specimens (four males and five females), five dry specimens used for scanning electron microscopy, and 20 undissected specimens preserved in alcohol (O.C. 1141 - O.C. 1155).

DESCRIPTION

Medium-sized valves; H/L-ratio ranging from 0.55 to 0.61; rounded subtriangular valves, with dorsal margin tapering towards the posterior; left valve dorsal margin slightly convex, with an anterior but without a posterior cardinal angle; left valve with two cardinal angles; anterior margin broadly rounded; posterior margin narrow; ventral margin nearly straight in the left valve and weakly concave in the right one; carapace spindle-shaped in dorsal view; left valve overlapping the right one; sinuous overlap in ventral view; valve surface weakly punctate, especially in the dorsal and the central area; anterior, posterior and ventro-lateral areas very finely pitted or almost smooth; valves covered with stiff hairs. With the scanning electron microscope it can be seen that there is no microstructure on the valves. The valves have a very indistinct eye spot, hardly visible under the light microscope. Under the S.E.M. it is a small area without punctations. Anterior and posterior vestibula present; marginal pore canals short and straight.

Antennula: seven-segmented; segment ratios: 43:14:13:12:12:9:7; first segment large, with two strong ventral setae: the proximal one without setules and the distal one with spiny setules at both sides; dorsal/ventral chaetotaxy of segments 1 to 6: 1/2, 1/0, 0/1, 2/1, 2/1, 5(?)0; last segment with long natatory setae; second segment with a ventral tube-like projection.

Antenna: five-segmented; length ratios of endopodite segments: 47:25:9; exopodite inserted at the base of the third segment, and consisting of a long, fine bristle with two very short triangular spines; Y-aesthetasc long, slender and medially sutured; six swimming setae, the dorsal and the ventral one short, the remaining four long and reaching almost to the tips of the terminal claws; fourth segment with two large claws and a large seta and fifth segment with a strong claw; the species thus having three large terminal claws, in the female; males have four large terminal claws.



Mandible: endopodite four-segmented; division between segment one and two not very well marked; segment ratios: 18:12:12:9; chaetotaxy as in *R. wolffi*; seven molar teeth, the first tooth large and simple, the second, third and fourth teeth tricuspidate, fifth and sixth teeth bifid and seventh tooth small and indistinctly bifid; mandibular epipodite with one short and six long Strahlen.

Maxillule with a two-segmented elongate palp and two smooth Zahnborsten on the palp and on the third lobe; epipodite with five long and one short mouthward directed Strahlen.

Maxilla: epipodite with one short and five long Strahlen; male endopodite a two-segmented clasping organ.

Walking leg (P.2): five-segmented; length ratios of second to fifth segment and claw: 30 (S2): 16 (S3): 12 (S4): 4 (S5): 52 (Cl.).

Cleaning limb (P.3): five segmented; length ratios of endopodite segments: 31: 16: 19: 5; postero- and antero-distal setae of the protopodite with two rows of spiny setules; second segment hirsute dorsally and ventrally; third segment weakly hirsute ventrally; third and fourth segment with a strong dorso-distal spiny process; terminal segment with a short seta, a strong curved claw and a long, slightly curved, reflexed seta, with two distal rows of spinules.

Furca with one anterior and two posterior bristles; two very large, distally serrated claws.

Copulatory appendage with two large, overlapping lobes; dorsal one with a flattened distal margin and a straight dorsal margin, with a rounded angle between the two margins; ventral lobe with a slightly convex distal margin and a concave dorsal margin; transition between both margins rounded; vas deferens with a double loop, leaving an opening between the two loops in the antero-ventral area. Rake-like process with eight teeth; Zenker's organ with five rosettes.

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

Dimensions:

Holotype: right valve: length 0.64 mm and height 0.35 mm; left valve: length 0.64 mm and height 0.37 mm.

Paratypes: length 0.59 - 0.65; height 0.35 - 0.39.

OCCURRENCE

R. luzonensis n.sp. was found only at the type-

locality. It was collected in Lake Taal, Luzon, the Philippines, by Dr. A. CAPART on 15th July 1978. Water temperature: 30.1°C; pH: 8,74 and salinity (measured with a salinity refractometer): 1‰. Lake Taal is a large caldera lake. The species was found living on the bottom and on algae, at a depth of 0 to 2 m. It occurs together with numerous Tanaidacea and with some other ostracods, among them *Dolerocypris taalensis*, a species already described from Lake Taal by TRESSLER (1937).

AFFINITIES AND DIFFERENCES

R. Luzonensis n.sp. is closely related to *R. wolffi* (HARDING, 1962). Nevertheless there are several characteristics allowing discrimination between both species. The most important difference is in the morphology of the distal lobes of the copulatory appendage of the male.

In *R. luzonensis* n.sp. the ventral lobe has a slightly convex distal margin and a concave dorsal margin. In *R. wolffi* this lobe is evenly and broadly rounded, and the dorsal lobe is much more rounded than in *R. luzonensis* n.sp. The shape of the valves is almost identical in both species. The microstructure of the valve surface between the punctations consists of small comma-shaped pustules in *R. wolffi*.

In *R. luzonensis* n.sp. the surface shows no microstructure.

R. gorongae can be easily distinguished by the deep punctations on the valves, by the well developed eye spot and by the presence of a knob-like protuberance on the ventral side of the male clasping organ.

Notes on the distribution of Renaudocypridinae

Until now six species belonging to the genera *Renaudocypris* MCKENZIE, 1980 and *Hansacypris* WOUTERS, 1984 have been described.

Renaudocypris gorongae MCKENZIE, 1980 (type-species of the genus *Renaudocypris*): Gorong Island, Moluccas and Uipi Island, Solomon Islands.

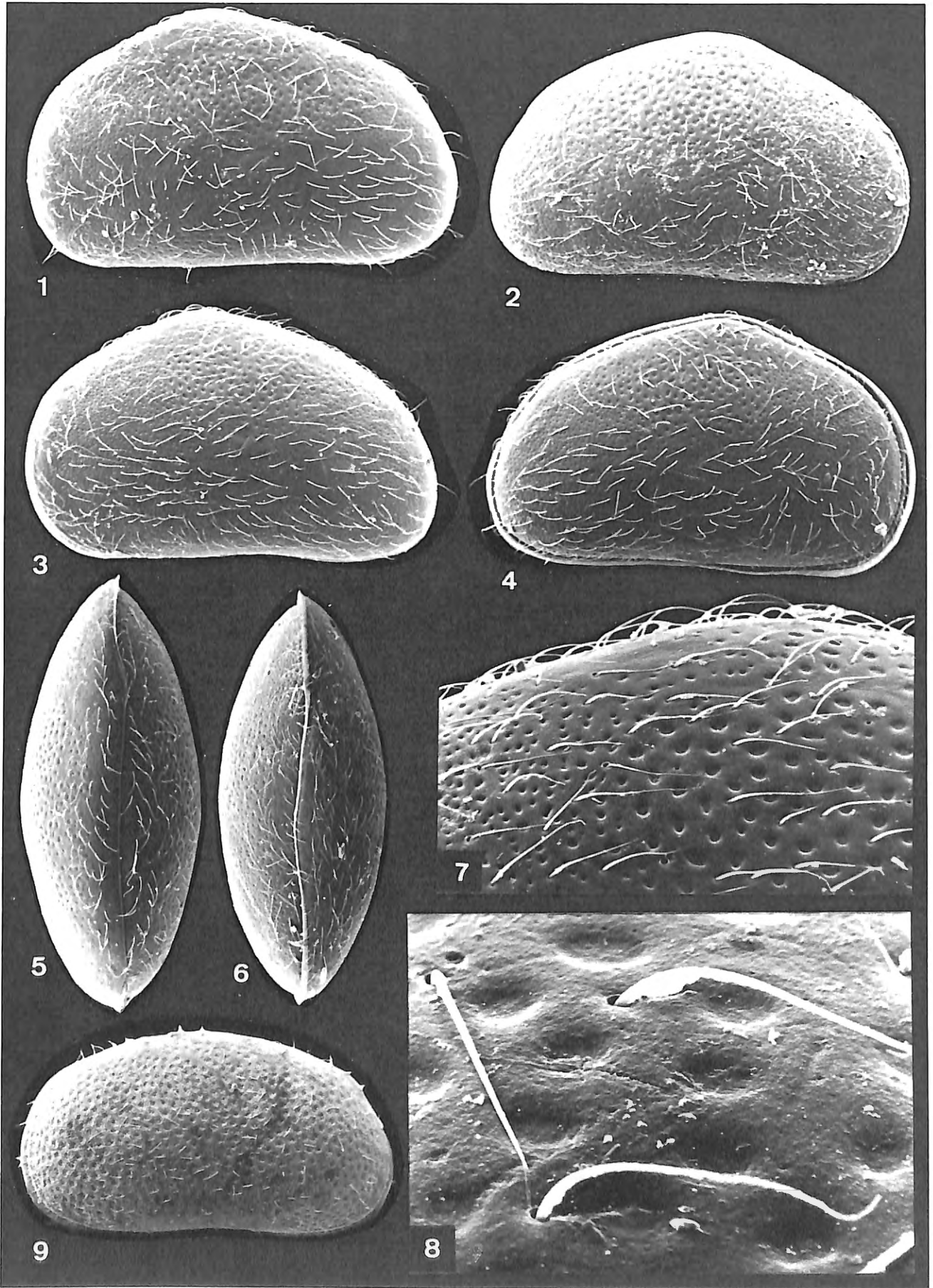
Renaudocypris wolffi (HARDING, 1962): Rennell Island, Solomon Islands and N. Papua New Guinea.

Renaudocypris luzonensis n.sp.: Lake Taal, the Philippines.

Hansacypris aspera WOUTERS, 1984 (type-species of the genus *Hansacypris*): N. Papua New Guinea.

◁ Fig. 1-11. *Renaudocypris luzonensis* n.sp., Lake Taal, The Philippines.

Fig. 1. Right valve internal view, male, holotype. Fig. 2. Cleaning limb (P.3), male, paratype. Fig. 3. Walking leg (P.2), male, holotype. Fig. 4. Antennula, female, paratype. Fig. 5. Maxilla, male, holotype. Fig. 6. Maxillula, male, holotype. Fig. 7. Antenna, female, paratype. Fig. 8. Furca and furcal attachment, male, holotype. Fig. 9. Rake-like process, male, holotype. Fig. 10. Mandible, molar teeth, male, holotype. Fig. 11. Male copulatory appendage, holotype.



Hansacypris glabra WOUTERS, 1984: N. and E. Papua New Guinea (new record: on the beach of a small island off Bubuleta near Bou, Milne Bay Province, E. Papua New Guinea).

Hansacypris natans (HARTMANN, 1984): Rangiroa Island, Tuamotu Islands.

Empty valves of a *Hansacypris*-species (Pl. I, fig. 9) were found at Ouroveni, S.E. of Grande Comore, the Comoros (leg.: Expédition Karthala 81, Groupe Plongée, Mr. J.L. KENNES, 3rd August 1981), in a mangrove environment, very close to the sea. Those specimens strongly resemble *H. aspera* WOUTERS, 1984 as well for the shape of the valves as for the microstructure of the valve surface. In absence of the soft parts, and in particular of the male copulatory organ it is not possible to give a more detailed determination of the material from the Comoros.

Nevertheless, the discovery of *Hansacypris* in the Comoros and the recent description of *H. natans* from Tuamotu by HARTMANN (1984) show that the Renaudcypridinae are not restricted to the Indo-Malayan region, but that they have a much wider distribution, probably throughout the Indian and Pacific Oceans. It is very likely that still other Renaudcypridinae are to be expected, when only properly looked for.

Acknowledgements

I am indebted to Dr. A. CAPART for offering me the specimens of Lake Taal to study, to Mr. J.L. KENNES and the members of the "Expédition

Karthala 81" for the material of the Comoros, to Mr. F. FIERS for his help with the drawings, and to Mr. W. VANMAELE for the processing of the samples.

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Koninklijk Belgisch Instituut
voor Natuurwetenschappen
Recent Invertebrates Section
Vautierstraat 29
B-1040 Brussels, Belgium.

◁ Plate I

Fig. 1-8. *Renaudcypris luzonensis* n.sp., Lake Taal, The Philippines.

Fig. 1. Female left valve, paratype, X 120. Fig. 2. Female right valve, paratype, X 120. Fig. 3. Male left valve, paratype, X 120. Fig. 4. Male right valve, paratype, X 120. Fig. 5. Female carapace, dorsal view, paratype, X 120. Fig. 6. Male carapace, ventral view, paratype, X 120. Fig. 7. Male left valve, antero-dorsal valve surface, paratype, X 530. Fig. 8. Female, left valve, valve surface, central area, paratype, X 2050.

Fig. 9. *Hansacypris* sp., Ouroveni, Grande Comore, the Comoros, left valve, X 120.