Range extension and supplementary description of *Dolerocyria taalensis* (Tessler) (Crustacea: Ostracoda)*

Karel Wouters

*Koninklijk Belgisch Instituut voor Natuurwetenschappen, Recent Invertebrates Section, Vautiersstraat 29, B-1040 Brussels, Belgium*

ABSTRACT: New material of *Dolerocyria taalensis* (Tessler), the type-species of the genus *Dolerocyria*, from Lake Taal (the Philippines), N. Papua New Guinea and Rennell Island (Solomon Islands) allowed a careful re-examination of the soft parts. The species is described and the morphological characteristics are discussed.


1. INTRODUCTION

The genus *Dolerocyria* was described by Tessler (1937), with *D. taalensis* as its type-species (by monotypy). Although Tessler disposed of two mature males (the holotype is a male) and of one immature female, the male characteristics are neither described nor figured. New material of the species from Lake Taal (the type-locality), from N. Papua New Guinea and from Rennell Island allowed a redescriptions of the species and a comparison with the few other species of the genus.

*Leopold III Biological Station, Laing Island, Contribution no. 118.
2. TAXONOMIC ACCOUNT

Systematics

Family Paracyprididae Sars, 1923

Subfamily Thalassocypridinae Hartmann and Puri, 1974


Dolerocypria taalensis Tessler, 1937 (Figs 1-14)

Valves: small, translucent, completely smooth, and elongate; H/L-ratio ranging from 0.35 to 0.38; anterior margin evenly rounded; posterior extremity tapering; dorsal margin gently arched, ventral margin nearly straight; carapace in dorsal view spindle-shaped, with maximal width slightly in front of the middle; sinuous overlap in ventral view, the left valve overlapping the right one.

Inner lamella: broad, with large anterior and posterior vestibula; radial pore canals low in number, short and straight; anterior inner lamella with indistinct striae in the anteroventral area; selvage peripheral; muscle scar pattern consisting of four large and two small adductor scars and two mandibular scars.

Antennula: seven-segmented; segment-ratios: 25:5:14:8:7:6:9. First segment with large ventral setae, the distal one setose; dorsal/ventral chaetotaxy of the segments: 1/2, 1/0, 1/1, 2/1, 2/1, 4/0; last segment with three long distal setae and an aesthetasc; second segment with a ventro-proximal tube-like projection; distal setae of segments 4, 5, 6 and 7 very long swimming setae.

Antenna: six-segmented in males and five-segmented in females; length ratios of endopodite segments in female: 32:25:9 and in male: 31:15:10:7; exopodite long and very slender; large Y-aesthetasc medially sutured and with inflated distal part; five long and one short swimming setae, the long ones reaching somewhat beyond the tips of the claws; second and third segments with male setae in males; three large terminal claws in females and four in males.

Mandible: palp four-segmented; segment ratios: 12:10:11:6; chaetotaxy as illustrated in Figure 4; epipodite with eight (very difficult to see) perhaps 9 Strahlen; molar teeth without peculiarities.

Maxillula: two-segmented palp with subquadrate terminal segment; epipodite with 18 normal hairy Strahlen and six large smooth mouthward directed Strahlen.

Maxilla: epipodite with five large and one short Strahlen; male endopodite a two-segmented claspers apparatus with very peculiar setae-like structures implanted on the body of the claspers apparatus; both the left and the right claspers organs bear two long, one medium-sized and one short 'setae'. These setae-like structures have a very characteristic appearance: under a high power microscope they appear to be entirely covered by very short, minute spines.
Occurrence

*Dolerocypria taalensis* was originally described from Lake Taal (Luzon Island, the Philippines) by Tessler (1937). The species was found again in Lake Taal by A. Capart (12th July 1978), living on algae, at a depth of 0 to about 2 m (t: 30.1°C, pH: 8.74, sal.: approx. 1 g/l). The species was also collected by the author on 26th May and 17th June 1982 at five localities in the mangrove area of the River Boroi (N. Papua New Guinea, Madang Province, about 10 km NW of Awar Village). It was found living in salinities ranging from 6 to 16‰. The species was also found on 26th April 1982 in the small southern mangrove pond of Laiag Island (N. Papua New Guinea, Hanua Bay), having a salinity of 4‰ at that time. Two specimens were found in mud from oysters collected by local fishermen in the mangrove area of the River Sepik (2nd May 1982). Finally, material from Lake Te-Ngano (Rennell Island, Solomon Islands) was sent to me for determination by Dr T. Wolff (Copenhagen), yielded numerous specimens of *Dolerocypria taalensis*. It was collected from 17th to 19th March 1965 by the Rennell Island Expedition.

Affinities and differences

In *Dolerocypria elongata* (Hartmann, 1955), the claw of the walking leg is much longer and the reflexed seta of the cleaning limb is markedly shorter. The copulatory appendage has a subtruncate distal margin. *Dolerocypria fastigata* Keyser, 1975 differs by having two setae-like structures on the right male clasping organ and three on the left one. *D. taalensis* has four 'setae' on both clasping organs. The reflexed seta of the cleaning limb of *D. fastigata* lacks the setules arranged in a comb-like pattern. The copulatory appendage is clearly different, with, among other things, a triangular distal margin. *Dolerocypria mukaishimensis* Okubo, 1980 is much more difficult to distinguish because the morphology of the male appendages is unknown. This species differs by its very hirsute cleaning limb and by its higher valves (H/L-ratio: 0.42 and 0.41) (*D. taalensis*: 0.35-0.38). Taking into account that the other characteristics are very much in agreement it is clear that these differences are hardly sufficient to distinguish between species. It is not impossible that *D. taalensis* and *D. mukaishimensis* are conspecific; if they are not, they are probably very closely related. This will remain an open question until the male of *D. mukaishimensis* will be described.

3. DISCUSSION

The most striking characteristics of *Dolerocypria taalensis* and other *Dolerocypria*-species is the presence of long setae-like structures on the male clasping apparatus. These structures are not real setae, but membrane-like appendages, covered with very fine and short setules. The true nature and function of those structures remain unexplained. Still other genera of the Thalassocypridi-
næ show setae-like structures on the male claspers, e.g. *Thalassocypria*
Hartmann, 1957 (type-species *T. aestuaria* Hartmann, 1957) and *Paracypris*
Sars, 1910 (type-species: *Paracypris tenus* Sars, 1905) (see also Rome 1962:
23). The presence of setae-like structures can be interpreted as a synapomorphy of
the genera *Dolerocypris*, *Paracypris* and *Thalassocypris*, indicating at least a
close relationship.

As already stressed by McKenzie (1979: 33) *Dolerocypris taulensis* has two
posterior bristles on the posterior margin of the furca, whereas Tessler (1937)
illustrates only one bristle. All our specimens clearly show two bristles. *Paracypris
tenus* (Sars, 1905) should have no posterior bristles according to Sars
(1905), but McKenzie (1979) reports the presence of a single stiff hair. Even
under a high power microscope I was unable to see this hair on the syntype.
The penultimate segment of the cleaning limb of the syntype of *Paracypris tenus*
is not divided as figured by Sars (1905), but looks very much like the one of *D.
taulensis*.

According to Harding (1962) the differences between the type-species of
*Paracypris*, *Dolerocypris* and *Thalassocypris* are only of specific value, and he
considers *Dolerocypris* and *Thalassocypris* as junior synonyms of *Paracypris*.
Some arguments are in favour of this synonymy: the elongate shape of the valves,
the long setae-like structures on the male claspers apparatus, the undivided
penultimate segment of the cleaning limb. There may be differences in the
position of the posterior margin of the furca. Only the careful re-examination of
new male specimens of *Paracypris tenus* (Sars, 1905) can bring some light to
this taxonomic confusion. It is hoped that the redescript of *D. taulensis* will
contribute to the solution of this problem.

ACKNOWLEDGEMENTS

I am most grateful to Dr A. Capart (Brussels) for offering me his ostracod material
from Lake Taal, to Dr M. Christiansen (Oslo) for the loan of the types of
*Paracypris tenus* and to Dr T. Wolff (Copenhagen) for the ostracods from
Rennell Island. My expedition to Papua New Guinea was supported by the
Leopold III Foundation and by the F.K.R.O. (Belgian Fund for joint basic
Research).

REFERENCES

Harding, J.P. 1962. *Mundula muta* and four other new species of ostracod crustaceans from
Hartmann, G. 1955. Neue marine Ostracoden der Familie Cytheridae und der Subfamilie

Keyser, D. 1975. Ostracoden aus den Mangrovegebieten von Südwest-Florida (Crustacea:
Okubo, I. 1980. Three new species of the Family *Candonaidae* (Ostracoda) from the Inland Sea
3 (8): 1-305.