

## ***Gerdocypris*, a new genus of Paracyprididae (Ostracoda) from the North Atlantic, Mediterranean and East Africa**

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**ABSTRACT**—The genus *Gerdocypris* (type species *Gerdocypris muelleri* sp. nov.) is described as new based on a mature male from the Bay of Naples. *Gerdocypris* ranges from the North Atlantic and Mediterranean to East Africa. Its differences from *Aglaiocypris* and *Aglaiella* are discussed and tabulated.

### **INTRODUCTION**

The description by Hartmann (1964) of a new genus, *Ghardaglaia*, from the Red Sea and the comparison of this genus with *Aglaiocypris* Sylvester-Bradley, 1947 originally described from Messina, Sicily (Brady, 1868) and *Aglaiella* Daday, 1910 described from the Mareotis, Alexandria, Egypt, refocussed attention upon a difficult group of related genera in the ostracod family Paracyprididae. Re-examination of types and new material led McKenzie (1982) to a brief review of these and some related taxa, including *Tasmanocypris* McKenzie, 1979. As a result, several taxa previously assigned to *Aglaiocypris* are now known to be distinct from that genus (and the other genera listed above) necessitating the description of a new paracypridid genus.

### **SYSTEMATIC DESCRIPTIONS**

Suborder Podocopina Sars, 1866  
Superfamily Cypridacea Baird, 1845  
Family Paracyprididae Sars, 1923  
Genus *Gerdocypris* McKenzie gen. nov.  
(Pl. 1, figs. 1–15)

**Type species.** *Gerdocypris muelleri* sp. nov.

**Derivation of name.** For Prof. Gerd Hartmann, the University of Hamburg, in recognition of his many contributions to ostracod taxonomy.

**Diagnosis.** A genus of the family Paracyprididae characterised by a weakly calcified, regularly elongate bean-shaped carapace, smooth surfaced and whitish. Inner lamellae broad anteriorly and ventrally, narrow posteriorly; marginal pore canals short and straight, except ventrally where a few are longer; normal pore canals simple, rimmed; muscle scars of general cypridacean type; male shell bears the imprints of 4 strands of seminal vesicles posteriorly. Antennule 5-segmented; antenna with strongly reduced 'natatory' setae; maxillule epipod with 3 downwards directed setae and about 10 Strahlen, 3rd lobe with 2 smooth Zahnborsten; P1 epipod with 6 Strahlen; P2 terminal claw long, slender

and regularly curved; P3 5-segmented, the long reflexed bristle jointed at about 2/3 its length from the proximal end; furcal lamella short and broad, with 2 strong stubby claws, an anterior bristle and 2 longish posterior bristles; rake like organ with 14 small teeth. Hemipenis with coils opening ventrally, peniferum digitate; Zenkers Organ with 5 whorls; endopods of the male P1 symmetrical, i.e. not dissimilar on right and left of the body.

**Remarks.** McKenzie (1982, pp. 416–417) points out that *Aglaiella complanata* (Brady & Robertson, 1870) which was figured in the American Treatise (Moore, 1961) as representing *Aglaiocypris* is not an example of this genus, having a different radial pore canal pattern and a different soft anatomy. The former character has been confirmed from examination of specimens of *A. complanata* in the Norman Collection at the British Museum (Natural History). Unfortunately, no dissection slides for the taxon are available in the BM (NH) collections.

The finding recently of a mature male of the species identified by G.W. Müller (1894) as *A. complanata* enables a more detailed comparison with the male described by Brady (1868) among the syntypes of *Aglaiella pulchella* Brady, 1868 which is the type species of *Aglaiocypris*. The re-illustration of the type of *Aglaiella* (McKenzie, 1982, Pls. 5, 6) also enables a comparison with that genus (Table 1).

In addition to the data presented in Table 1, *Aglaiella* differs from *Gerdocypris* in that the reduced 'natatory' setae of the antennae are somewhat longer in *Aglaiella* and more numerous (5 in *Aglaiella* versus 3 in *Gerdocypris*).

*Gerdocypris muelleri* sp. nov.

**Derivation of name.** After G.W. Müller, who described and illustrated this taxon as *A. complanata* in his Bay of Naples monograph (Müller, 1894).

**Description.** Carapace of medium size (length 0.73 mm),

	<i>Gerdocypris</i>	<i>Aglaiella</i>	<i>Aglaiocypris</i>
Number of antennular segments	5	6	7
Number and type of Zahnborsten	2, smooth	2, smooth	3, smooth
Ventromarginal furcal bristles	long	short	short
Radial pore canals	short, straight	moderately long, some branched	long, branched
Imprints of seminal vesicles on shell	4	not known	7
Shell patch pattern	absent	absent	present
Nature of shell	weakly calcified	well calcified	strongly calcified

**Table 1.** Some differences between the shells and soft anatomies of *Gerdocypris*, *Aglaiella* and *Aglaiocypris*.

regularly elongate bean-shaped and weakly calcified; greatest height medial and less than half the length; dorsum regularly arched; venter inflexed near-medially; anterior and posterior margins subequally rounded, the posterior slightly narrower. In dorsal view, elongate sub-elliptical; greatest width medial and less than half the length; extremities subacuminate. Surface of the valves smooth; colour whitish. Inner lamellae broad anteriorly and ventrally, narrow posteriorly; line of concrescence submarginal; consequently the radial pore canals are very short and straight (not particularly numerous) except ventrally where a few are longer; normal pore canals scattered, simple, rimmed; muscle scars comprising a cypridacean rosette of 3 anterior and 2 posterior adductors (the uppermost adductor divided), a fulcral scar, plus 2 small mandibular scars (Pl. 1, fig. 1).

Antennule 5-segmented; length ratios of the segments about 5:1:3:1:0.5; 1st segment with a proximodorsal and 2 long ventrodorsal bristles; 2nd segment with a dorsodorsal bristle; 3rd segment carrying 1 mediodorsal and 1 mediodorsal bristle; 4th segment with 4 bristles,

3 of them long and 1 very long; 5th segment with 4 terminal bristles, 3 long (including 1 very long) and 1 short and slender (Pl. 1, fig. 2).

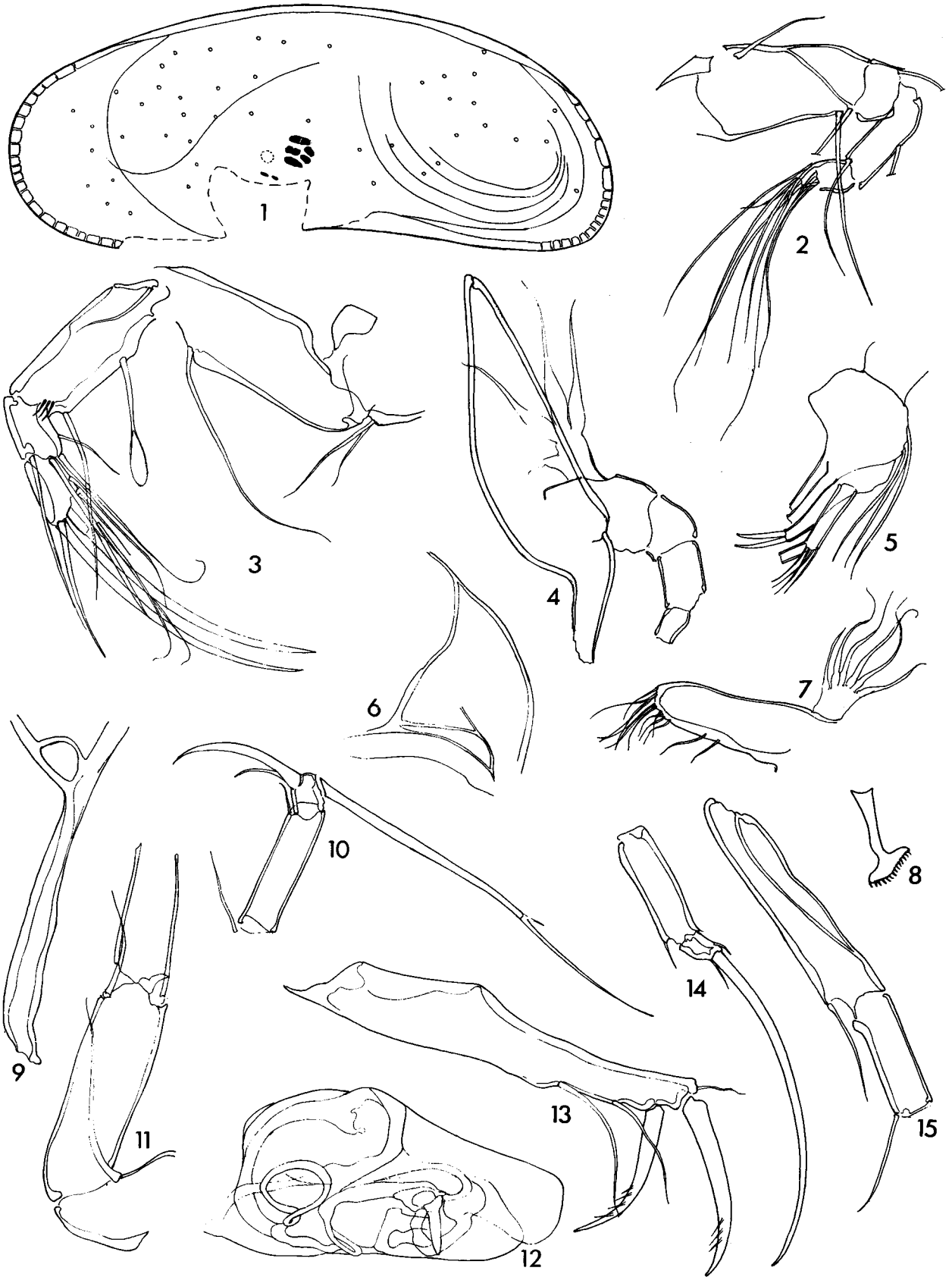
Antenna 6-segmented; comprising coxale, basale, exopod and endopod. Coxale with 2 unequal relatively short ventrodorsal bristles; basale with a long ventrodorsal bristle. Exopod reduced to a small baseplate bearing 3 unequal bristles, 1 about half the length of the 1st endopod segment, the remaining 2 very small. Endopod 4-segmented; length ratios of the segments 11:4:4:2; 1st segment with a well developed near proximal Y-aesthetasc, a ventrodorsal bristle and a small subventrodorsal clump of 3 short bristles (which are the strongly reduced relicts of natatory bristles); 2nd segment with a medioventral bristle and 2 distal bristles, plus a ventrodorsal claw; 3rd segment with 2 distal claws and a distal bristle, the 2 claws dorsal (1 of them very strong), the bristle ventral and short; 4th segment with a strong distal claw and 2 slender distal bristles (Pl. 1, fig. 3).

#### Explanation of Plate 1

All figures are  $\times 425$  unless otherwise specified.

*Gerdocypris muelleri* McKenzie gen. et sp. nov., mature male, Secca di Forio, Bay of Naples; BM(NH) no. 1982.176, holotype.

Fig. 1, RV, int. lat. ( $\times 140$ ); fig. 2, antennule; fig. 3, antenna; fig. 4, mandible (chaetotaxy omitted); fig. 5, maxillule, showing the 3 downwards-directed bristles of the epipod, the palp and lobes with the 2 smooth Zahnborsten of the 3rd lobe; fig. 6, head region; fig. 7, maxilla (P1), epipod and exopod; fig. 8, rake-like organ; fig. 9, chitin support; figs. 10, 11, P3 (Cleaning Limb); fig. 12, hemipenis; fig. 13, furca; figs 14, 15, P2 (Walking Leg).



Mandible comprising coxale, basale, epipod and endopod. Coxale with at least 4 strong teeth, the anteriormost incisor-like, the others molar-like and decreasing in size from front to rear, plus a medial anterior bristle and 2 small sideways-directed postero-ventral bristles. Basale with 3 ventral bristles, one of them a slender  $\alpha$  bristle. Epipod with at least 4 Strahlen. Endopod 3-segmented; length ratios of the segments 3:4:2; 1st segment with a dorsodistal bristle and a clump of at least 3 (and probably 4) ventrodistal bristles, but a  $\beta$  bristle could not be distinguished; 2nd segment with 5 dorsodistal bristles, a mediiodistal bristle and 2 ventrodistal bristles (the mediiodistal bristle undifferentiated); 3rd segment with 2 terminal claws (one larger than the other) and at least 1 slender terminal bristle (Pl. 1, fig. 4).

Maxillule comprising epipod, endopod and lobes. Epipod with 10 Strahlen and 3 downwards-directed bristles. Palp and lobes elongate; palp 2-segmented; length ratio of the segments 5:2; 3rd lobe with 2 smooth Zahnborsten (Pl. 1, fig. 5).

Maxilla (P1) comprising protopod, epipod, exopod and endopod. Protopod possibly bare. Epipod with 6 Strahlen. Exopod with a terminal cluster of about a dozen slender bristles plus 2 more proximal ventral bristles. Endopod obscured on the dissection slide but Müller (1894, Pl. 12, Fig. 42) illustrates a small 2-segmented palp with a simple sigmoidal terminal clasping part ending in a small spine—presumably the right and left endopods are not dimorphic in the male since Müller does not record dimorphism. Female endopod (Müller, 1894, Pl. 12, fig. 43) a simple lobe with 3 terminal bristles (Pl. 1, fig. 7).

P2 (Walking Leg) with a 4-segmented endopod; length ratios of the segments 12:6:6:1.5; 1st and 2nd segments each bearing a ventrodistal bristle of similar length; 3rd segment with a short ventrodistal bristle; 4th segment with single short ventro- and dorsodistal bristles plus a long, slender and regularly curved terminal claw (Pl. 1, figs. 14, 15).

P3 (Cleaning Limb) reflexed, 5-segmented; length ratios of the last 4 segments about 10:6:6:1.7; 1st segment with at least 1 long bristle (ventrodistally); 2nd segment and 3rd segment each bearing a dorsodistal bristle of similar length; 4th segment with a short dorso-distal bristle; 5th segment with a short terminal bristle and 2 opposed larger bristles, the smaller of these claw-like (about twice the length of the short bristle) and the larger about 3 times longer than the claw-like bristle and divided at about  $\frac{2}{3}$  its length from the proximal end (Pl. 1, figs. 10, 11).

Furca bilamellar, short and broad; each lamella with 2 strong, stubby terminal claws which are spinose distally, plus a slender anterodistal bristle and 2 nearly equal slender bristles (almost as long as the claws) on the margin behind the posterior claw but well separated

from it and from each other (Pl. 1, fig. 13).

Chitin Support thick, rather pointed at the end where it connects with the furca and forked proximally with a large eyelet in the fork (Pl. 1, fig. 9).

Head region simple, arcuate, coming to a point at the tip of the labrum (Pl. 1, fig. 6).

Rake-like organ with about 14 small teeth (Pl. 1, fig. 8).

Hemipenis subquadrate; anterior lobes rather broadly rounded; seminal tube complexly coiled, the coils opening downwards; copulatory process broadly pointed, digitate (Pl. 1, fig. 12).

Zenker's Organ with 5 inner whorls.

**Holotype.** A mature male BM(NH) no. 1982.176 comprising 2 separated valves (somewhat damaged during dissection) on a microslide, plus a dissection slide.

**Material.** Single mature male (the holotype), plus several juveniles.

**Locality.** Secca di Forio, Bay of Naples; depth 50m.

Dimensions (mm)	Length	Height
Holotype	0.73	0.295

**Remarks.** The new species is very similar to *Aglaia complanata* as represented in the Norman Collection at the BM(NH), especially the specimen from Birterbuy Bay, Ireland (no. 1911.11.8 M.2998). Unfortunately, this specimen is broken and appears to be an A-1 juvenile without soft parts. The other specimen of *A. complanata* in the collections (no. 1911.11.8 M.2997), a left valve, is mature and higher with respect to its length also more robustly calcified than *Gerdocypris muelleri*. It, too, lacks soft parts.

Due to the unsatisfactory nature of these specimens, it seems preferable at this stage to describe *G. muelleri* as a new species, while recognising that better and topotypic material of *A. complanata* may lead subsequently to the synonymising of *muelleri* with *complanata*.

Another species which clearly belongs in *Gerdocypris* is *Aglaioocypris eulitoralis* Hartmann, 1974. The soft parts of *A. eulitoralis* are very close to those of *G. muelleri*, except that on the furca the posterior of the 2 bristles on the ventral margin of the lamella is about twice as long as the anterior ventromarginal bristle, whereas in *G. muelleri* this bristle is only slightly longer than the anterior ventromarginal bristle. In size and shape *A. eulitoralis* is smaller and somewhat higher with respect to its length than *G. muelleri* (Hartmann, 1974, Pl. 144, figs. 995–1005).

*Gerdocypris* as presently understood, therefore, includes the species:

- Gerdocypris muelleri* sp. nov. (the type species);
- Gerdocypris complanata* (Brady and Robertson, 1870); and
- Gerdocypris eulitoralis* (Hartmann, 1974).

The genus is distributed through the North Atlantic (*complanata*), in the Mediterranean (*muelleri*) and on

the coast of East Africa (*eulitoralis*); at depths ranging from the littoral to about 50m.

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