

A NEW HYPORHEIC *Bogidiella* (Crustacea, Amphipoda) FROM MALLORCA

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Resumen

Se describe un nuevo anfípodo hiporreico procedente de los aluviones de grava del Torrent de Pareis, en Mallorca, como *Bogidiella* (*Bogidiella*) *torrenticola* n. sp. Dicha especie está estrechamente relacionada con la especie congénérica *B. (B.) balearica*, forma cavernícola de la misma isla.

Abstract

In gravel beds of an intermittent stream, Torrent de Pareis, in Mallorca, a new hyporheic amphipod was found, described as *Bogidiella* (*Bogidiella*) *torrenticola* n. sp. It is closely related to its congener from the same island, *B. (B.) balearica*, a cavernicolous species.

Introduction

The species described in this paper was recorded in two previous publications (Stock, 1978: 89; Stock & Illife, 1987: 43), but was not formally described because the material was insufficient.

New material was recently discovered by one of us (J. Li. P.) in hyporheic waters of the gravel bed of the Torrent de Pareis, near Sa Calobra, in the North of Mallorca. This torrent is dry most of the year, but the phreatic level is easily accessible in the brackish lower reaches of the torrent. Moreover, stagnant, permanent pools are found both near the mouth of the torrent, and between huge boulders in the narrower, canyon-like part upstream. The older material, consisting of a single specimen only, was found in brackish ground waters, some 1000 m from the sea. The new collection consists of a considerable number of specimens, collected by means of a Bou-Rouch biophreatic pump in the gravel of a stagnant pool near the first constriction of the river bed (near the first cascade), over 2 km from the sea, in entirely fresh ground water. These

specimens belong to a new species, which is closely related to *Bogidiella (B.) balearica* Dancau, 1973, known from anchihaline cave lakes in eastern Mallorca.

Bogidiella (Bogidiella) torrenticola n. sp.

MATERIAL

Mallorca, Torrent de Pareis (Sa Calobra), in ground water of gravel bank near stagnant pool, near the first cascade; conductivity 463 µS/cm; 30 Jan. 1988. 1 ♂ (holotype), 1 ♀ (allotype), 39 paratypes (10 ♂♂, 20 ♀♀, and 9 damaged, unsexed specimens). All in Zoologisch Museum Amsterdam (ZMA Amph. 108.610), but for 5 paratypes, which are in the collections of the first author).

Accompanying fauna: *Rhipidogammarus* sp. (Amphipoda).

DESCRIPTION

Body length (without antennae and uropods) 2 mm (♂, ♀). Blind; unpigmented. General morphology very

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similar to *B. (B.) balearica* (abbreviated *B. b.*), with which it will be compared.

No secondary sexual dimorphism in appendages.

Antenna 1 as in *B. b.* (accessory flagellum 3-segmented, reaching slightly beyond tip of flagellum segment 2); aesthetascs slightly shorter than corresponding flagellum segments. Flagellum 7- or 8-segmented.

Antenna 2 (fig. 1) resembling that of *B. b.*, but gland cone longer and narrower.

Mandible, palp and inner lobe of maxilla 1, and maxilla 2 as in *B. b.* Outer lobe of maxilla 1 with 7 spines, bearing fewer denticles on inner margin than in *B. b.* (from lateral to medial 1-1-2-1-0-2-1 denticles). Maxilliped: palp and outer lobe as in *B. b.*, inner lobe (fig. 2) with only 2 bifid spines on distal margin (3 in *B. b.*).

Gnathopod 1 (fig. 6). Posterior margin of basis with 1 or 2 long setae (plus 1 shorter subdistal seta). Two palmar angle spines. Palmar index 0.47.

Gnathopod 2 (fig. 7). Basis with 2 long and 1 short seta on posterior margin. Two palmar angle spines. Palmar index 0.44.

Oostegites linear; in all available females devoid of setae (diapause stage). Coxal gills as in *B. b.*

Pereiopods 3 and 4 (figs. 8, 9). Basis, merus, and carpus slightly less armed than in *B. b.* Lentiform organ ovate, large (length organ ca. 30% of length of basis). In *B. b.*, the organ is circular, and < 20% of length of basis. Claw very long and slender (>> 50% of length of propodus, versus ≤ 50% in *B. b.*).

Pereiopods 5 to 7 (figs. 10-12). Lentiform organ ovate, large, often with slightly crenulate margins, > 30% of length of basis (*B. b.* circular, < 20%). Carpus of P6 less slender than in *B. b.* Claw of P5-P7 as in *B. b.*

Pleopods and epimeral plates as in *B. b.*

Uropod 1 (fig. 3) resembling that of *B. b.*, peduncle with ventroproximal spine. Uropod 2 as in *B. b.* Uropod 3 lost in almost all specimens; rami less spinose (fig. 4) than in *B. b.*

Telson (fig. 5) much wider than long (almost as long as wide in *B. b.*); medioterminal emargination widely U-shaped, deep (as in *B. b.*). Usually only 1 very long spine (> telson) on each telson lobe, rarely 1 long and 1 short spine (in *B. b.* 2 long spines).

DISCUSSION

We decided that the hyporheic material belongs to a new species, closely related to, but consistently different from, *B. (B.) balearica* Dancau, 1973, mainly because of the much larger size of the lentiform organ of P3 to P7, the longer claw of P3 and P4, the different shape and armature of the telson, the different ornamentation of the distal spines of the outer lobe of maxilla 1, and a different armature of the inner lobe of the maxilliped.

ETYMOLOGY

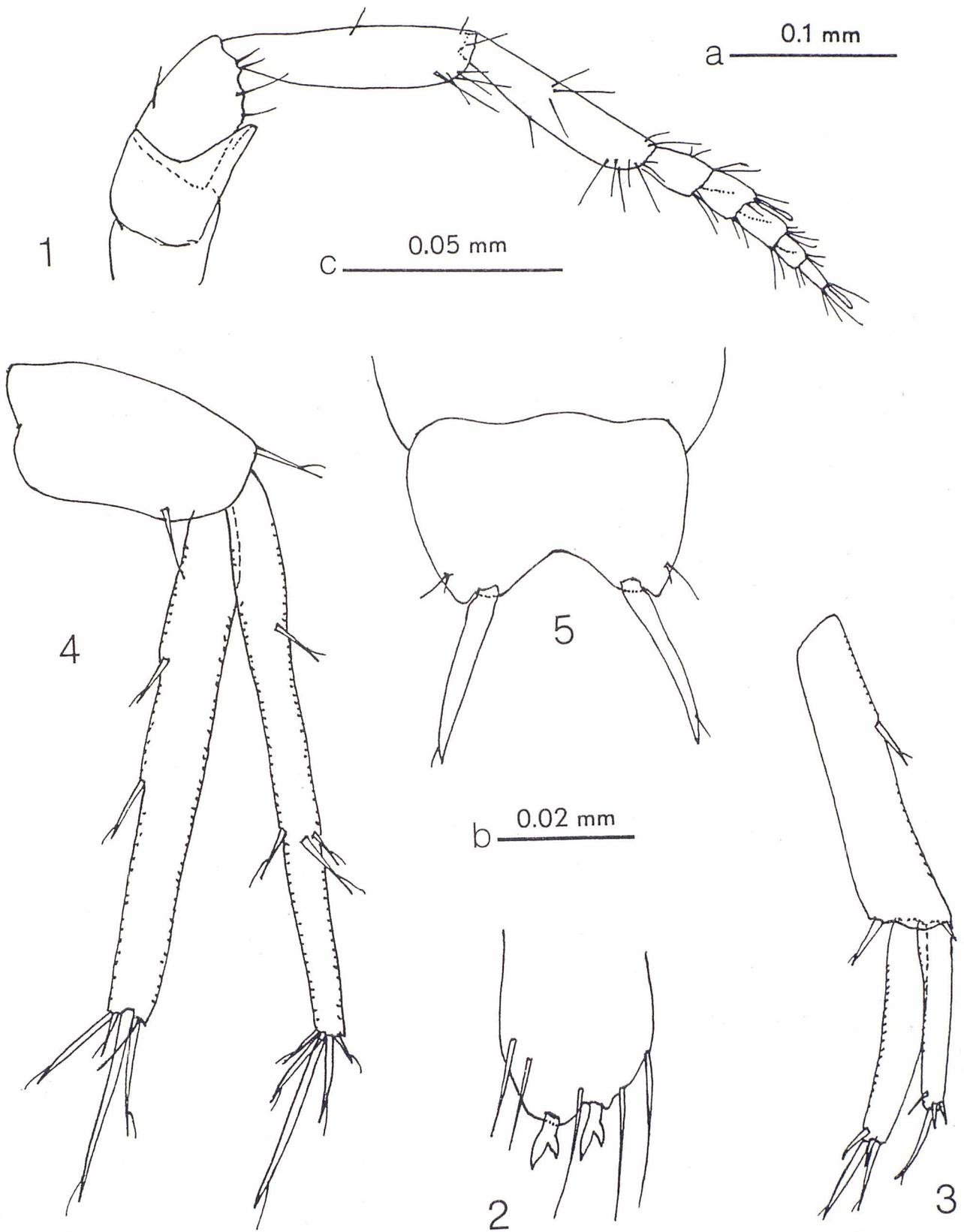
The specific name is composed of the Latin words *torrens* (= stream) and *incola* (= inhabitant), alluding to the habitat of the new species.

Acknowledgements

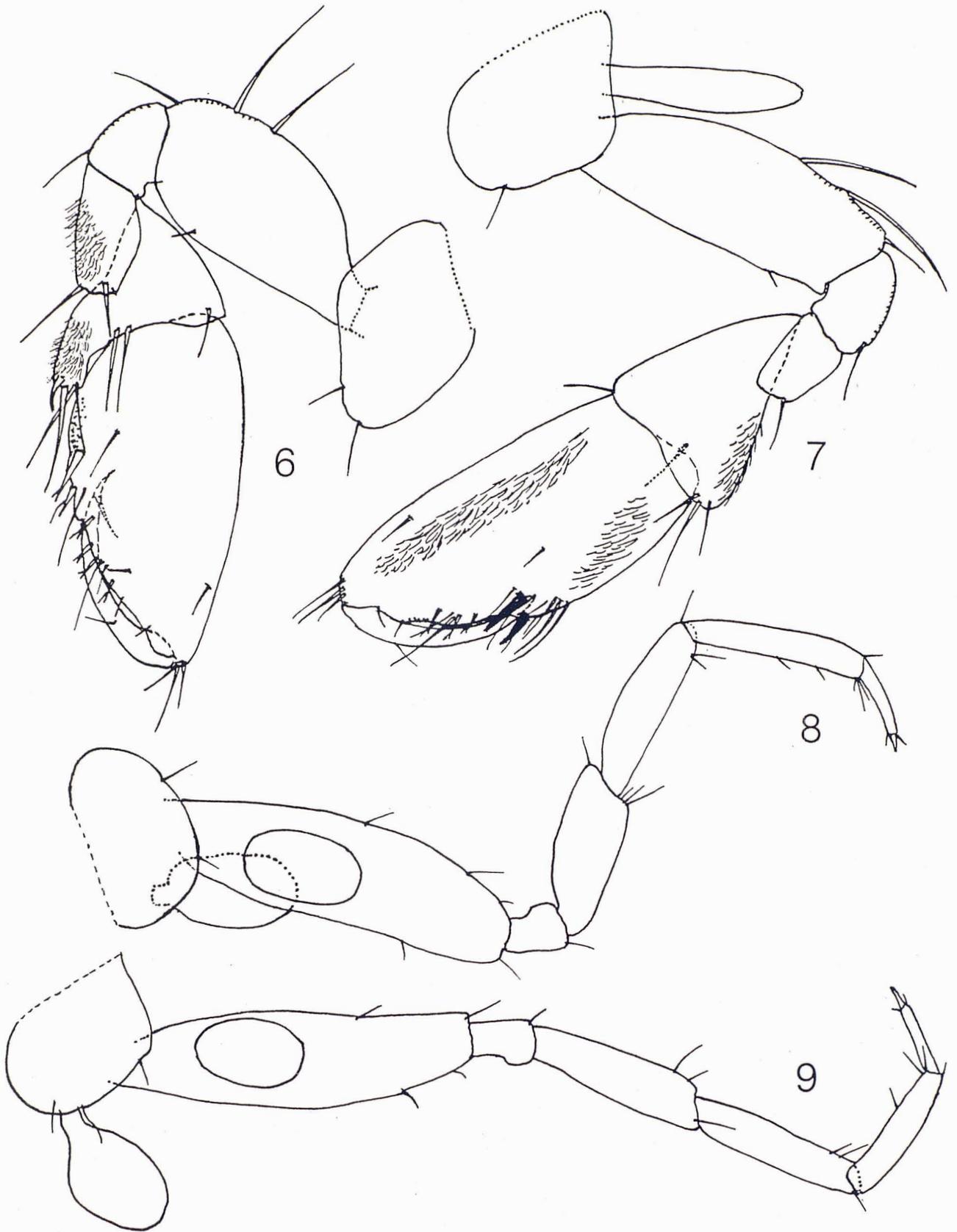
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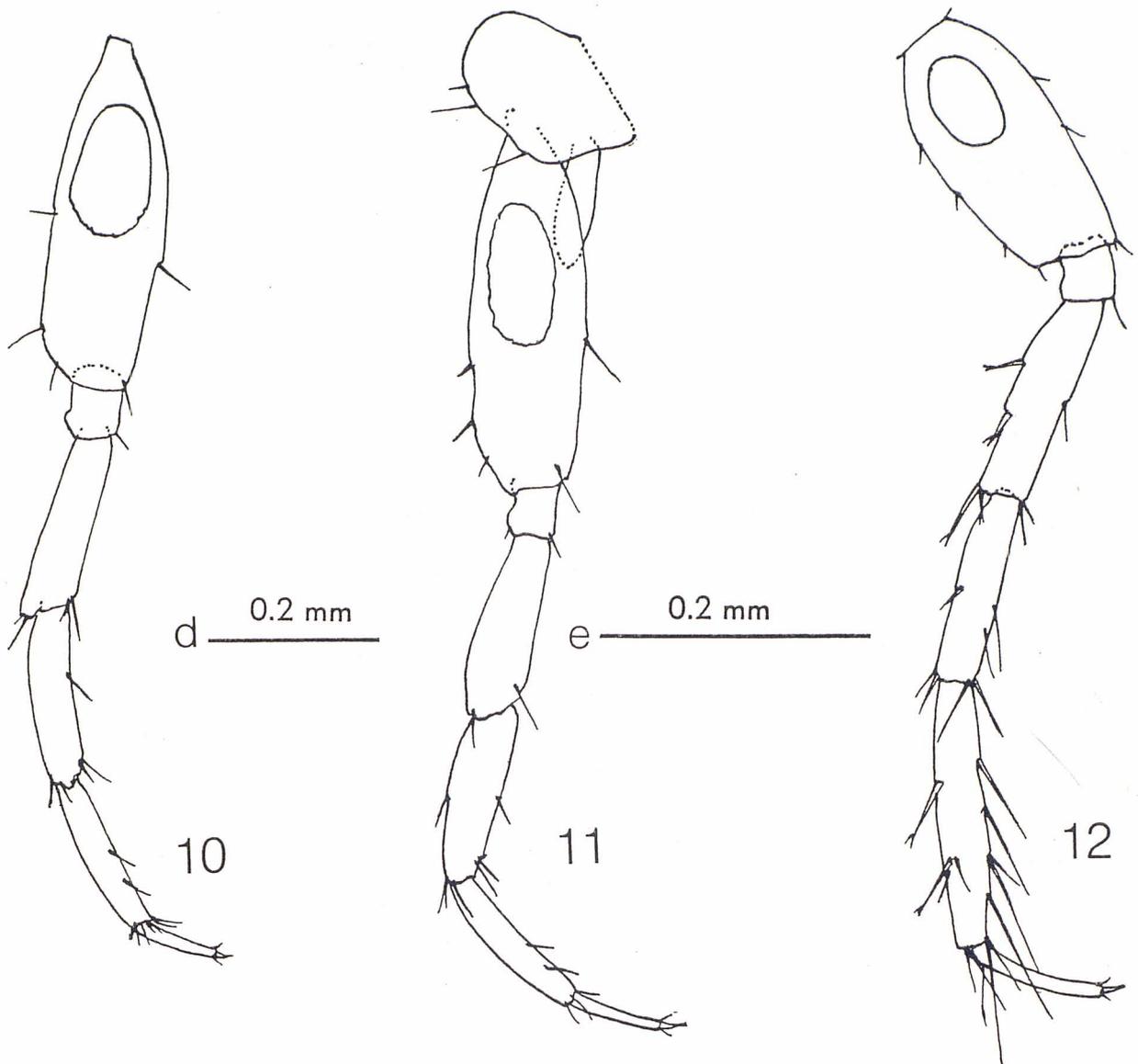
- STOCK, J. H. (1978): «A remarkably variable phreatic amphipod from Mallorca, *Rhipidogammarus variicauda* n. sp.» *Bijdr. Dierk.*, 48 (1): 89-95.
- STOCK, J. H. & T. M. ILIFFE (1987): «The status of *Bogidiella balearica* Dancau, 1973, a stygobiont amphipod from Mallorca». *Endins*, 13: 39-46.



Figs. 1-5: *Bogidiella (B.) torrenticola* n. sp.
 1, antenna 2 ♂ (scale a); 2, inner lobe of maxilliped ♂ (b);
 3, uropod 1 ♀ (a); 4, uropod 3 ♀ (a); 5 telson ♂ (c).



Figs. 6-9: *Bogidiella (B.) torrenticola* n. sp.
6, gnathopod 1 ♀ (scale a); 7, gnathopod 2 ♀ (a); 8, pereopod 3 ♂ (a); 9, pereopod 4 ♂ (a).



Figs. 10-12: *Bogidiella (B.) torrenticola* n. sp.
10, pereiopod 5 ♀ (scale d); 11, pereiopod 6 ♀ (e); 12,
pereiopod 7 ♀ (d).