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## A NEW AMPHIPOD SPECIES *ECHINOGAMMARUS KARADAGIENSIS* SP. N. (AMPHIPODA, GAMMARIDAE) FROM CRIMEAN COASTS (BLACK SEA, UKRAINE)

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**A New Amphipod Species *Echinogammarus karadagensis* sp. n. (Amphipoda, Gammaridae) from Crimean Coasts (Black Sea).** Grintsov V. A. — *Echinogammarus karadagensis* Grintsov, sp. n. (Amphipoda, Gammaridae) is described and illustrated based on specimens collected from the pebble-sand beach on Crimean coasts (0 m) (Black Sea). Morphological and ecological data are given.

Key words: Amphipoda, *Echinogammarus*, new species.

***Echinogammarus karadagensis* (Amphipoda, Gammaridae) — новый вид бокоплова с побережья Крыма (Черное море).** Гринцов В. А. — Описан вид бокоплавов *Echinogammarus karadagensis* Grintsov, sp. n. (Amphipoda, Gammaridae), впервые обнаруженный у берегов Крыма (Черное море). Приведены данные по морфологии и экологии вида.

Ключевые слова: Amphipoda, *Echinogammarus*, новый вид, бокоплова.

### Introduction

In 2004, a new gammarid species (family Gammaridae) was found in the water area of the Karadag Nature Reserve (Crimea, Feodosia Region). It inhabits an uprush of the pebble-sand beach. Pinkster (1993) placed this species into the genus *Echinogammarus* Stebbing, 1899. However, by some characters, it clearly differs from the previously described representatives of this family (Alouf, 1975, 1976; Karaman, Ruffo, 1977; Pinkster, 1993). Later, representatives of this species were found in the uprush area of the pebble-sand beach in Laspi bay and Batiliman coast near Sevastopol (Crimea). In this paper male and female of the new species are described, figures of some parts of the body are presented, as well as some remarks on taxonomy and ecology of this species.

### ***Echinogammarus kara dagiensis* Grintsov, sp. n.**

**Material.** Holotype ♂, Ukraine, Crimea, Batiliman, uprush of the pebble-sand beach, 28.03.04 (Grintsov) (Institute Biology of the Southern Seas NASU). Paratype: ♂, ♀, in the same place (Grintsov) (Institute Biology of the Southern Seas NASU).

**Description.** Body slim, compressed laterally. Head length almost subequal to length of the first two mesosomal segments. Interantennal lobe slightly pointed in upper and lower corners and poorly concaved on anterior margin. Lower antennal sine deep. Rostrum small. Eyes black, elongated, slightly kidney-shaped. Body semitransparent, no visible colour.

**Male.** Body length 8 mm. Antennae I and II equal in length: second pair massive.

**Antenna I.** Flagellum almost twice as long as peduncle. Antenna armed with small setae. Ventral side of peduncular segments with row of long setae. First peduncular segment longer than second one. Additional flagellum with four segments.

**Antenna II.** Peduncle slightly longer than flagellum. Peduncular segments and flagellar segments armed with long setae, often curved at apex. Gland straight. No calceoli and aesthetasc.

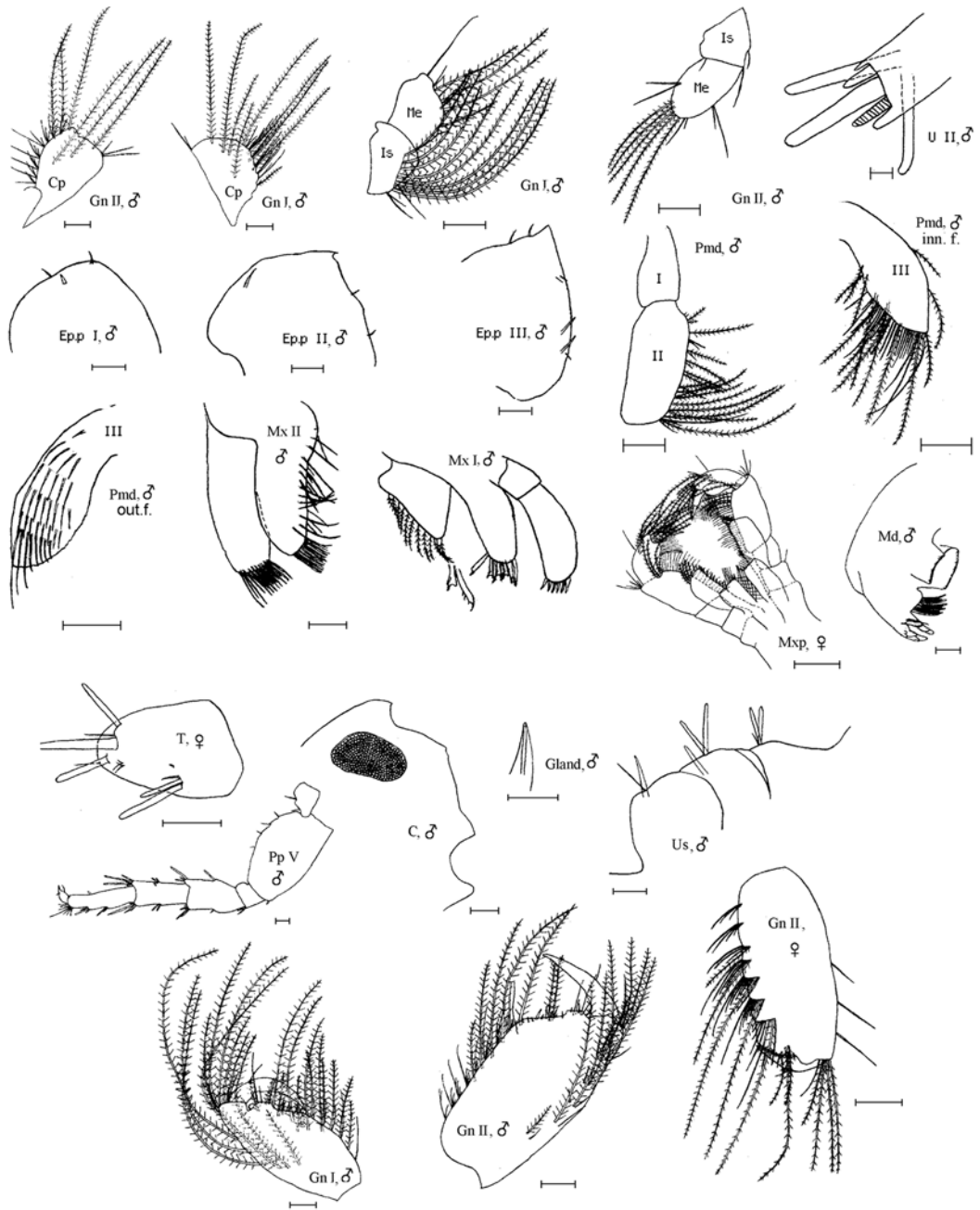


Fig. 1. *Echinogammarus karadagensis*.

Pmd. I, II — first and second parts of mandibular palp, Pmd. III out. f. — outer flat of the third part of mandibular palp, Pmd. III inn. f. — inner flat of the third part of mandibular palp, Mx I — maxilla I, Mx II — maxilla II, Mxp. — maxilliped, Md. — mandible, U. II — uropod II, U. III — uropod III, T. — telson, Pp. VII — pereopod VII, C. — head, Gland, Us. — urosome, Gn. I — gnathopod I, Gn. II — gnathopod II, Cp. — carpus, Is. — ischius, Me. — merus, Ep. p. I — epimeral plate I, Ep. p. II — epimeral plate II, Ep. p. III — epimeral plate III. Scale bar 0.1 mm.

Рис. 1. *Echinogammarus karadagensis*.

Pmd. I, II — первый и второй членики щупика мандибулы, Pmd. III out. f. — внешняя сторона третьего членика щупика мандибулы, Pmd. III inn. f. — внутренняя сторона третьего членика щупика мандибулы, Mx I — максилла I, Mx II — максилла II, Mxp. — максиллипед, Md. — мандибула, U. II — второй уropод, U. III — третий уropод, T. — тельсон, Pp. VII — pereopod VII, C. — цефалон, Gland. — gland, Us. — уросом, Gn. I — гнатопод I, Gn. II — гнатопод II, Cp. — карпус, Is. — ишхиус, Me. — мерус, Ep. p. I — эпимеральная пластинка I, Ep. p. II — эпимеральная пластинка II, Ep. p. III — эпимеральная пластинка III. Масштабная линейка 0,1 мм.

Upper lip rounded. Mandibles (fig. 1) with developed cutting edge, developed dental process and row of setae inside dental row. Mandibular palp 3-segmented. First segment small, second largest. Third palpal segment, except for simple setae, armed with group of long plumose setae on margin. Maxillae I and II typical for genus *Echinogammarus*. Internal lobe of maxilla I with row of plumose setae. Maxilliped with 4-segmental palp, with claw-shaped last segment. Outer lobe and palpal segments (except for last segment) armed with usual and long plumose setae. Some plumose setae as long as penultimate segment of maxilliped palp.

Coxal plates structure typical for *Echinogammarus*. Fourth coxal plate with hollow on posterolateral margin. Epimeral plates III with small spine in posteroinferior corner and a few short setae. Also, epimeral plates I and II each with a few short setae.

Gnathopods I and II rather strong. Second pair larger than first one. Gnathopod I, except for usual setae, with groups of long plumose setae, on ischial, meral, carpal and propodal segments, and some plumose setae longer than their segments. At the first gnathopod pair, propodus larger than carpus having expressed palmar margin with pair of strong spines at the end between each dactylus locate. Dactylus as long as palmar margin. Propodus longer than carpus at second gnathopod pair. Gnathopods II also with groups of long plumose setae on meral, carpal and propodal segments along usual setae. Some plumose setae longer than corresponding segments. Propodus with clear palmar margin and one pair of strong spines at apex. Dactylus as long as palmar margin. First gnathopod pair armed with more long plumose setae than second one. Branchial plates oval, with clear transversal folds.

Pereopods strong, spinous. First two pairs (pereopods III–IV) smallest and almost equal in length. Length of pereopods V–VI evenly increasing from fifth to seventh pairs. All pereopods with developed dactylus with setose on internal margin.

Urosomal segments prominent, bearing spines and setae in the following order:

Us I: 0–2–0

Us II: 1–2–1

Us III: 0–2–1 (one seta and one spine in middle row).

Uropods I–II strong, structure typical for *Echinogammarus* spp. Peduncle and branches almost equal in length. Uropod III going far behind the end of the first pair. Outer ramus of third uropod pair much longer than peduncle, 2-segmental. Second segment small. Exopodit armed with spines and short plumose setae. Inner ramus small, scale-like.

Telson split up to the base, elongated egg-shaped. Each lobe bearing three spines on the end and 2 spines and a seta on lateral margin.

Female. Body length 7 mm. Morphologically similar to male. Differing by less armed second pair of antennas without curved setae on the end. Gnathopods smaller than in male and similar in size. Propodal gnathopod segments narrower than in male. Plumose setose on gnathopod segments similar to those in male. Oostegites narrow, with long setae on margins. All extremities similar to those in male, but weaker and poorly setose.

**Etymology.** Species *Echinogammarus karadagiensis* is named after the place of its first finding in the water area of the Karadag Nature Reserve, near Feodosia town in Crimea.

**Taxonomic remarks.** The species is morphologically similar to *Echinogammarus ischnus behningi* (Martynov, 1919) (= *Chaetogammarus ischnus behningi*), but the genus *Chaetogammarus* synonymized by Pinkster, 1993). However, it clearly differs from the latter species by long plumose setae on mouthparts and gnathopods, urosome setose and smaller size. The individuals of the new species are often found living together with *Echinogammarus ischnus behningi*.

**Ecology.** Distribution of the species is clearly restricted to the uprush area on the pebble-sand and sandy beaches. Animals form dense colonies up to about a thousand individuals per square meter in some areas of beach, where sand grains sized not less than 5–6 mm. It occurs for all seasons of the year together with the other representatives of the genus such as *Echinogammarus ischnus behningi*, *E. foxi* (Schellenberg, 1928), *E. olivii* (Milne Edwards, 1830); and with some freshwater amphipods from other families — *Hyale prevostii* (Milne Edwards, 1830), *Melita palmata* (Montagu, 1804) and others.

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