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ONE NEW SUBTERRANEAN AMPHIPOD FROM YUGOSLAVIA,
NIPHARGUS JUGOSLAVICUS, N. SP. (FAM. GAMMARIDAE).
(CONTRIBUTION TO THE KNOWLEDGE OF THE
- AMPHIPODA 124).

ABSTRACT

The new blind subterranean amphipod (*Amphipoda*, *Gammaridae*) from the subterranean waters of river Trgoviški Timok in Eastern Serbia (Yugoslavia) (village Trgovište, reg. Knjaževac), *Niphargus jugoslavicus*, n. sp. is discovered and described. This species is characterized by specific shape of gnathopods 1-2, rather similar to *Niphargus kochianus melticensis* Dancau et Andreev, 1973 known from Bulgaria (village Sokolovo (Lovetch reg.)).

The taxon *Niphargus kochianus melticensis* Dancau et Andreev 1973 is removed to the specific rank.

INTRODUCTION

During our investigations of *Amphipoda* from Yugoslavia, regarding the project »Fauna of Amphipoda from Yugoslavia« involved through the Academy of Science and Arts of Montenegro (Crna Gora), many samples of amphipods were collected in the eastern part of Yugoslavia. During the study of this material, it was collected one subterranean blind amphipod in the river Trgoviški Timok (eastern Serbia), described here as a new species, *Niphargus jugoslavicus*, n. sp. This species is characterized by the aberrant shape of gnathopods 1-2, and rather similar to *Niphargus kochianus melticensis* Dancau and Andreev 1973 removed here to the specific rank.

Acknowledgments: I am thankful to the Academy of Science and Arts of Montenegro (Crna Gora) for the help in the realization of this project.

TAXONOMIC PART

NIPHARGUS JUGOSLAVICUS, N. SP.

figs. I-VI

Description: Female (?): Body-length up to 4.8 mm. Body stout, smooth, urosomites 1-2 each with 2 dorsolateral spines on each side (fig. I, 1), urosomite 3 smooth.

Coxae 1-4 longer (=higher) than broad, progressively longer toward coxa 4 (fig. I, 1), bearing longer ventromarginal setae; coxa 5 much shorter than 4.

Head with short rostrum, lateral cephalic lobes subrounded, short, ventroanterior sinus present (fig. II, 3). Antenna 1 reaching nearly half of body; peduncular segments 1-3 progressively shorter (fig. II, 1), main flagellum consisting of up to 19 articles, each segment with one aesthetasc; accessory flagellum 2-segmented, short (fig. II, 1).

Antenna 2 short, peduncular segment 4 longer than 5; flagellum shorter than peduncle, up to 8-segmented (fig. II, 2). Antennal gland cone short, straight (fig. II, 2).

Labrum entire, broader than long, subrounded distally (fig. V, 7). Labium with well developed inner lobes (fig. III, 1).

Maxilla 1: inner plate with 2 setae; outer plate with 7 spines: 6 spines with one lateral tooth each, inner spine with 3-4 lateral teeth (fig. VI, 1). Palp of left and right maxilla 1 symmetric to each other, narrow, 2-segmented, each with 8 distal setae (fig. VI, 1, 2).

Maxilla 2: both plates narrow, inner plate without dorsal oblique row of setae (fig. II, 5). Maxilliped: inner plate reaching outer tip of first palp segment, bearing 4 distal spines intermixed with several plumose setae (fig. II, 4); outer plate not reaching tip of second palp segment, bearing a row of distolateral spines (fig. II, 4); palp 4-segmented, segment 4 with nail shorter than the remaining part of segment 4 (fig. II, 4).

Mandible strong, molar triturative, incisor toothed (fig. IV, 3, 4); palp 3-segmented, segment 2 with 7-8 setae; segment 3 with one group of A-setae, 2 groups of B-setae, 13-15 D-setae and 3-4 E-setae (fig. IV, 3).

Gnathopods 1-2 subchelate, slender, unequal. Gnathopod 1 is smaller than gnathopod 2 (fig. III, 2, 3), its segment 2 stout, with several setae along both margins; segment 5 nearly as long as segment 6, unlobed, with 4 groups of setae along posterior margin; segment 6 slightly longer than broad, with parallel lateral margins, posterior margin with 3-4 groups of setae; palm transverse, finely serrate, bearing a row of setae at distal margin, 2 corner spines on outer

face and 1 short subcorner spine on inner face (fig. III, 2, 3), dactyl as long as the diameter of segment 6, bearing 2 setae at outer margin.

Gnathopod 2: segment 2 slender, segments 3-4 short; segment 5 linear, elongated, longer than segment 6, unlobed, bearing 5 groups of setae at posterior margin; segment 6 twice longer than broad, with parallel lateral margins, posterior margin with 5-6 groups of setae, palm like that in gnathopod 1; dactyl with 2 setae at outer margin (fig. III, 4-5).

Pereopods 3-4 subequal, slender, with long dactyl bearing nail longer than the remaining part of dactyl (fig. IV, 1, 2).

Pereopods 5-7 relatively short, pereopod 6 is the longest one; segment 2 of pereopods 5-7 ovoid, lobed (fig. V, 1, 3, 5); segments 3-6 slender; nail slender and long, but shorter than the remaining part of dactyl (fig. V, 2, 4, 6), one plumose seta occurs on outer margin of dactyl.

Pleopods 1-3 normal, bearing 2 retinacula each. Epimeral plates 1-3 angular to pointed, with oblique posterior margin; epimeral plates 2-3 with 2-3 subdistal spines each (fig. I, 2).

Uropod 1 moderately slender; peduncle without ventrofacial spine; rami nearly subequal, bearing lateral and distal spines (fig. VI, 3); distal spines on peduncle reaching 1/3 of peduncle-length only.

Uropod 2: inner ramus hardly longer than outer one, both rami with lateral and distal spines shorter than half of rami-length (fig. VI, 3).

Uropod 3 relatively short, poorly exceeding tip of uropod 1 (fig. I, 1); peduncle short, inner ramus scale-like (fig. I, 3); outer ramus 2-segmented, second segment short, with 3 subdistal setae (fig. I, 3); first segment with bunches of spines along both margins, setae practically absent.

Telson longer than broad, short, hardly exceeding tip of peduncle of uropod 3 (fig. I, 1); each lobe with 3 distal and 0-1 lateral spine (fig. VI, 4, 5); a pair of short plumose setae occurs in the middle of each lobe.

Coxal gills moderately broad, ovoid, occur on pereonites 2-6. Shorter ovoid oostegites without setae, very similar to accessory gills, occur on pereonites 2-5 (fig. II; 6, II, 4; IV, 2).

Males unknown.

Material examined: Trgoviški Timok River, near village Trgovište (reg. Knjaževac, eastern Serbia), August 9, 1981, cca 10 spec. accompanied by other *Niphargus* spp. (leg. G. Karaman).

Loc. typ.: Trgoviški Timok near Trgovište.

Distribution: known only from type-locality.

Remarks: *Niphargus jugoslavicus* is relatively close to the species *Niphargus asper* G. Karaman 1972 known from the wells of Titograd (Crna Gora, Yugoslavia) and to *Niphargus brevirostris* Sket 1971, known from the subterranean waters of Lešće (Gacko Polje, Croatia, Yugoslavia), based on presence of 2 setae on outer margin of dactyl of gnathopods 1-2, by shape of maxilla 1, shape of pereopods 5-7, etc. But, both last species are with short, distally dilated segment 6 of gnathopods 1-2 and with long telson.

N. jugoslavicus is characterized by very aberrant shape of gnathopods 1-2: segment 6 is with parallel lateral margins and with transverse, serrate palm. Among all known *Niphargus* species only *Niphargus kochianus melticensis* Dancau and Andreev 1973, known from Bulgaria, is with similar shape of gnathopods 1-2, but its dactyl of gnathopods is with only one seta on outer margin, and dactyl of pereopods 5-7 is much longer and more slender.

Niphargus jugoslavicus and *Niphargus melticensis* belong to the transitive group of species between *Niphargus kochianus*-group and other «normal» *Niphargus* species.

NIPHARGUS MELTICENSIS Dancau and Andreev, new status

Syn.: *Niphargus kochianus melticensis* Dancau and Andreev 1973: 135, fig. 1-4.

Short diagnosis: Length up to 3 mm. Inner plate of maxilla 1 with 1 seta, spines of outer plate with 1 lateral tooth each (except inner spine). Outer plate of maxilliped not reaching tip of second palp segment, inner plate relatively short. Coxae 1-3 longer than broad, coxa 4 as long as broad. Gnathopods 1-2 with parallel lateral margins of segment 6, palm transverse. Segment 5 of gnathopods 1-2 longer than segment 6, dactyl with 1 seta on outer margin. Dactyl of pereopods 3-7 very slender, with long nail, segment 2 lobed, ovoid. Epimeral plates angular. Uropod 3 short. Telson narrow, each lobe with 3 distal and 1 lateral spine; a pair of longer plumose setae occurs in the middle of each lobe. Males and females similar to each other

Loc. typ.: well in village Sokolow, reg. Lovetch, Bulgaria.

Distribution: known only from type-locality.

Remarks: Dancau and Andreev described this species (1973) sub name *Niphargus kochianus melticensis*, n. ssp.

The analyse of taxonomic differences between this species and *N. kochianus kochianus* Bate showed that *melticensis* differs from *N. kochianus* very much: by subequal shape of gnathopods 1-2 in

males and females, by segment 6 of gnathopods 1-2 with parallel lateral margins and serrate transverse palm; by longer dactyl and nail of pereopods 3-7, by narrower telson provided with distal and lateral spines, by presence of 1 seta on inner plate of maxilla 1 etc.

Based on these investigations, we don't consider *melticensis* as a subspecies of *N. kochianus* Bate, but as a distinct species, *Niphargus melticensis* Dancau and Andreev.

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Re z i m e

JEDAN NOVI PODZEMNI AMFIPOD IZ JUGOSLAVIJE, NIPHARGUS JUGOSLAVICUS, N. SP. (FAM. GAMMARIDAE) (124. PRILOG POZNAVANJU AMPHIPODA)

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U radu je opisana jedna nova vrsta podzemnih amfipoda iz familije *Gammaridae* iz korita rijeke Trgoviški Timok kod sela Trgovište, okolina Knjaževca, istočna Srbija. Ova vrsta, nazvana *Niphargus jugoslavicus*, n. sp. je dosta slična vrsti *Niphargus kochianus melticensis* Dancau & Andreev, 1973, poznate iz Bugarske (Loveč), ali se razlikuje od nje prisustvom 2 dlake na vanjskom rubu daktilusa prvog i drugog gnatopoda, po kraćim i jačim daktilusima svih pereopoda i dr.

Kratka dijagnoza vrste *N. jugoslavicus*:

Dužina tijela naših primjeraka (ženki) do 4.8 mm. Tijelo glatko, prvi i drugi urosomiti svaki sa po 2 trna na svakoj strani. Kokse 1-4 više nego široke, sa dugim ventralnim marginalnim dlakama. Koksa 5 mnogo kraća od kokse 4. Prva antena dostiže polovinu dužine tijela, njen glavni bič sastavljen od 19 segmenata, bočni bič od 2 segmenta. Bočne glavene ploče kratke, zaobljene, rostrum kratak. Usni aparat tipičan za rod *Niphargus*. Maxilliped sa vanjskim lobusom koji malo prelazi polovinu dužine drugog segmenta palpusa, nokat dug.

Prva maksila: unutrašnja grana sa 2 dlake, vanjska grana sa 7 trnova od kojih 6 nose po jedan bočni zubac, a unutrašnji trn nosi 3-4 bočna zupca.

Gnatopodi relativno slabi, uski, prvi gnatopod znatno kraći od drugog. Peti segment prvog gnatopoda iste dužine kao i šesti; peti segment drugog gnatopoda znatno duži od šestog segmenta. Šesti segment oba gnatopoda sa paralelnim bočnim stranama i horizontalnom palmom koja je sitno nazubljena i nosi 2 trna u uglu; daktilus nosi 2 dlake na vanjskoj strani. Treći i četvrti pereopod sa dugim i tankim daktilusima. Pereopodi 5-7 sa široko ovalnim drugim segmentom i kraćim daktilusima. Uropodi tanki. Uropod 3 kratak, sa kratkom vanjskom granom sastavljenom od 2 segmenta, unutrašnji segment ljuskast. Telson kratak, duboko usječen, svaki lobus sa 3 apikalna i 0-1 bočnim trnom. Škrge se nalaze na II-VI tjelesnom segmentu, oostegiti na drugom do petom tjelesnom segmentu.

Vrsta *Niphargus kochianus melticensis* Dancau & Andreev, 1973. iz podzemnih voda sela Sokolov u regionu Loveč, Bugarska, postavljena je kao zasebna vrsta na osnovu taksonomskih karaktera koji je jasno odvajaju od nominalne vrste *N. kochianus kochianus* Bate, poznate iz Velike Britanije.

Obje vrste, *N. jugoslavicus* i *N. melticensis*, pripadaju grupi vrsta iz roda *Niphargus*, koji čine prelaz između *N. kochianus*-grupe i ostalih »normalnih« *Niphargus*-vrsta.

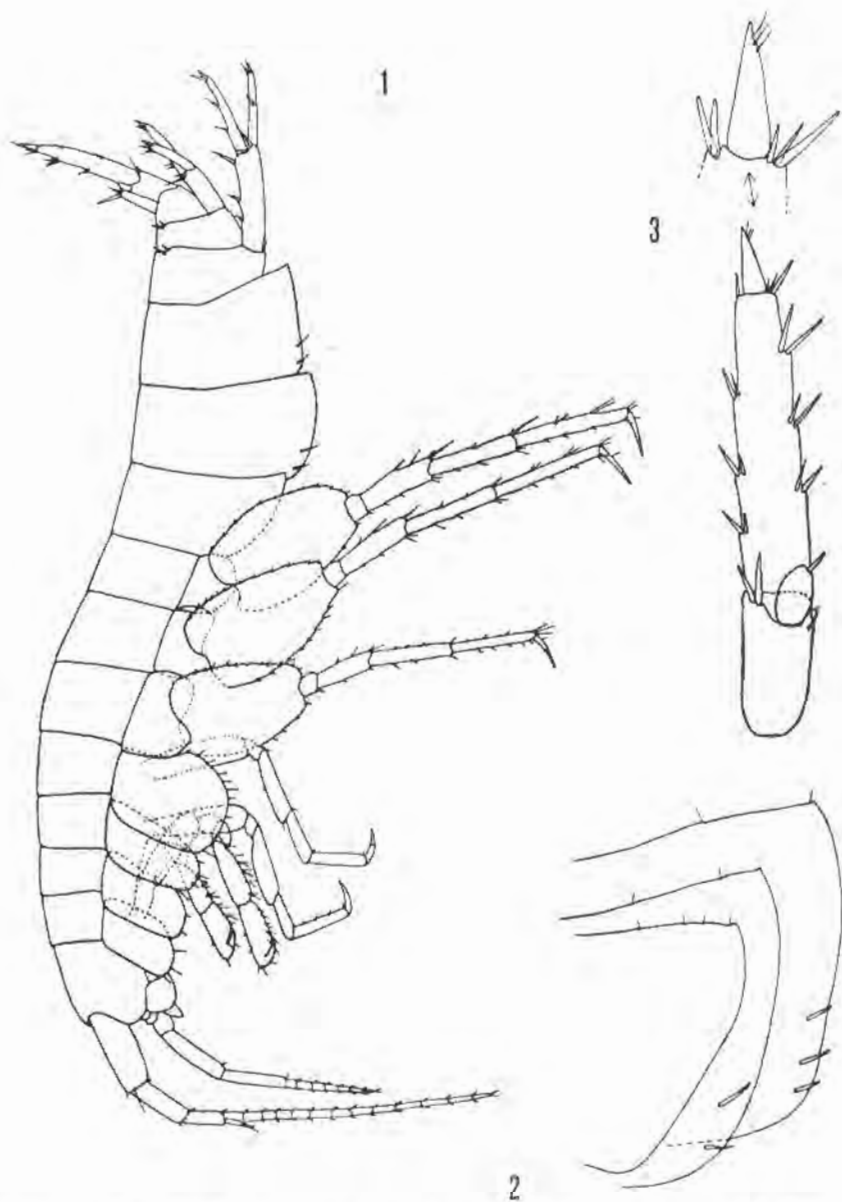


Fig. 1. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm: 1 = entire animal; 2 = epimeral plates; 3 = uropod 3.

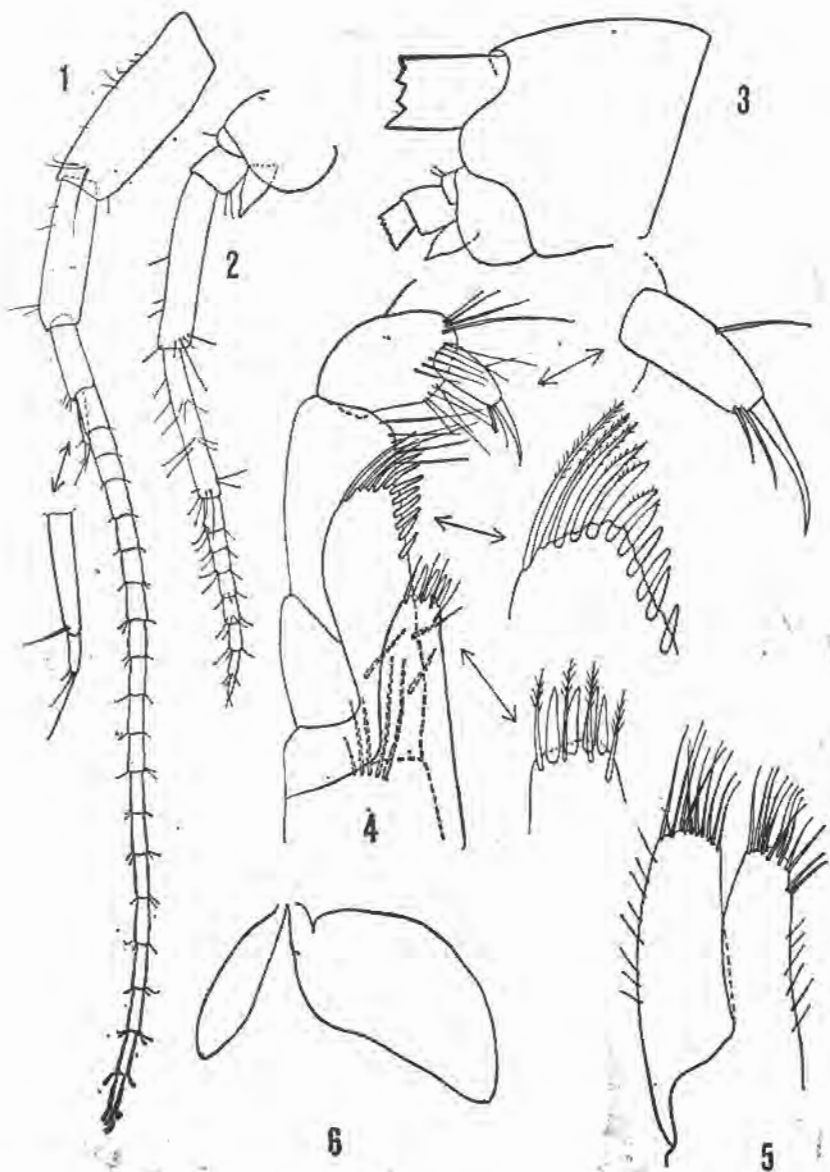


Fig. 11. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm: 1 = antenna 1; 2 = antenna 2; 3 = head; 4 = maxilliped; 5 = maxilla 2; 6 = gill with ostegyt.

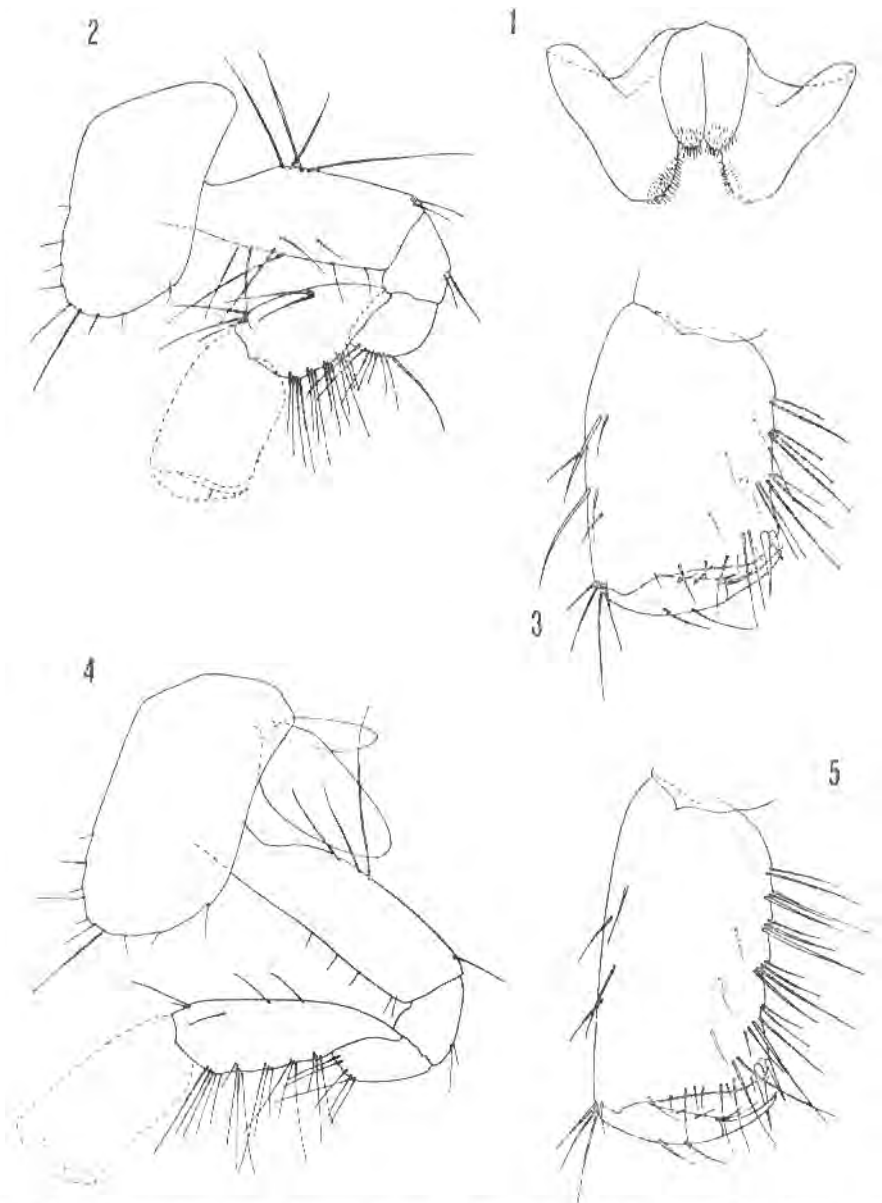


Fig. III. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm; 1 = labium; 2-3 = gnathopod 1; 4-5 = gnathopod 2.

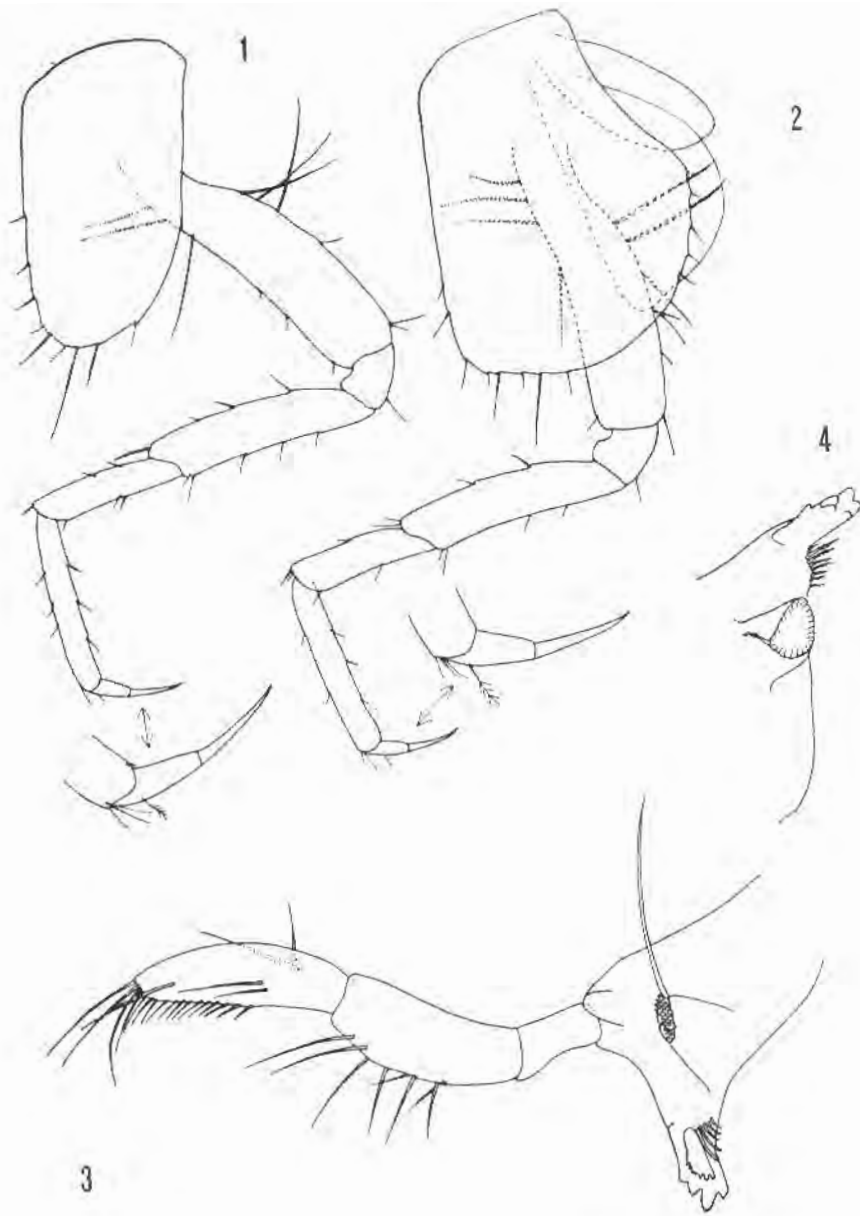


Fig. IV. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm: 1 = pereopod 3; 2 = pereopod 4; 3 = mandible; 4 = left molar of mandible.

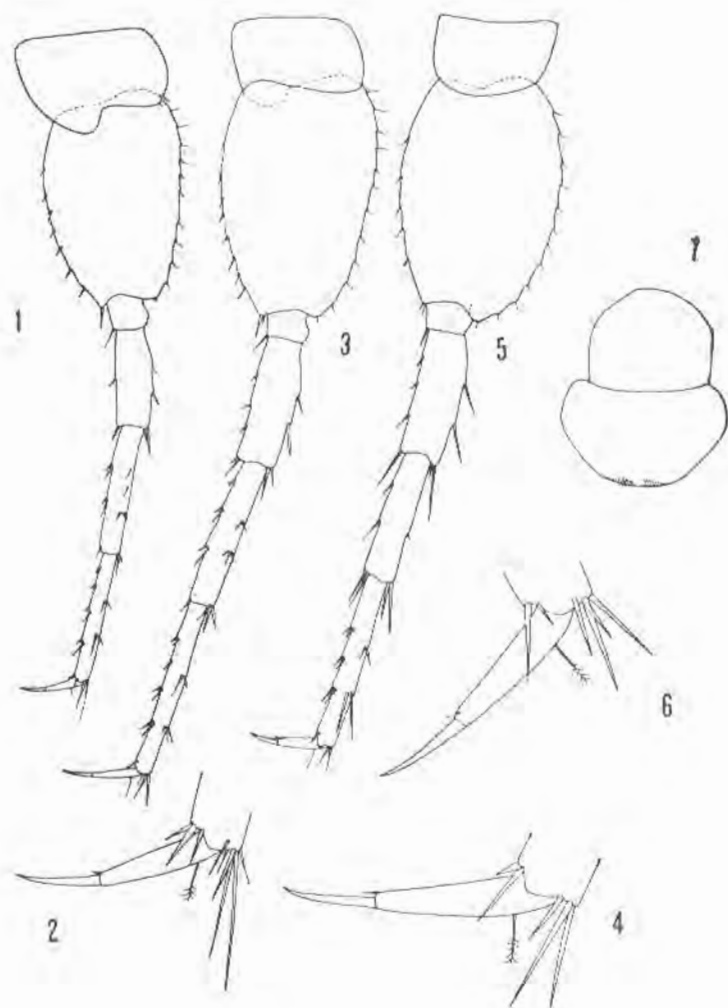


Fig. V. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm: 1-2 = pereopod 5; 3-4 = pereopod 6; 5-6 = pereopod 7; 7 = labrum.

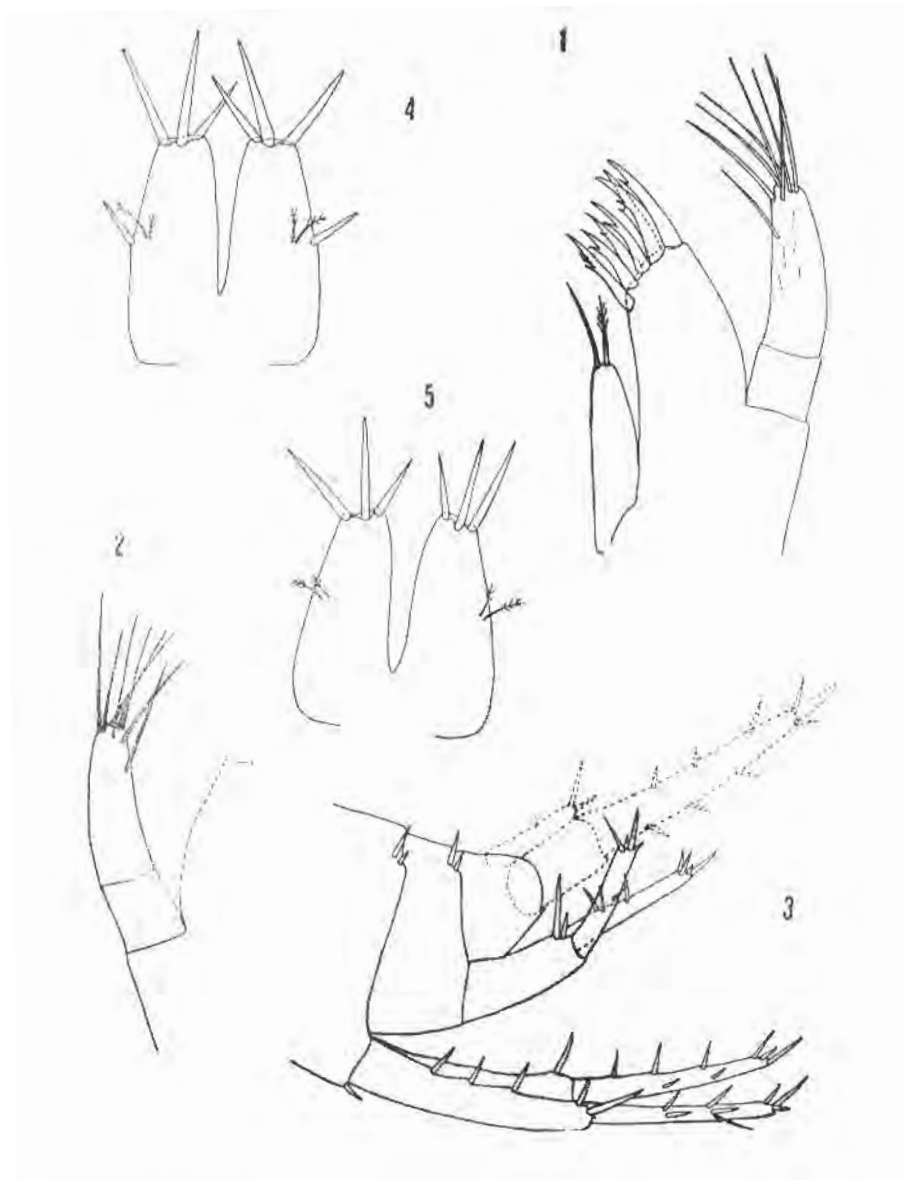


Fig. VI. *Niphargus jugoslavicus*, n. sp., Trgoviški Timok, female 4.8 mm: 1 = maxilla 1; 2 = palp of right maxilla 1; 3 = urosome with uropods 1-2; 4 = telson; 5 = telson of female 4.3 mm.