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REVISION OF GENUS *IDUNELLA* SARS WITH DESCRIPTION OF NEW SPECIES, *I. SKETI,* N. SP. (FAM. LILJEBORGIIDAE)

(Contribution to the knowledge of the Amphipoda 102)

REVIZIJA RODA *IDUNELLA* SARS SA OPISOM NOVE VRSTE *I. SKETI,* N. SP. (OBITELJ LILJEBORGIIDAE)

(102. Prilog poznavanju Amphipoda)

Gordan S. Karaman

Biological Institute, Titograd

A revision of the genus *Idunella* Sars is presented, and a new species, *I. sketi,* n. sp. is described. The genus *Listriella* Barnard, J. (1959) is merged into genus *Idunella* Sars as synonym, because of existence of transitive species between both genera.

The genus *Sextonia* Chevreux 1920, merged by Barnard, J. (1959) into genus *Idunella* as synonym, is now reestablished because of characteristic shape of mandible and rostrum.

The diagnosis of both genera as well as the diagnosis, synonymy, bibliography and distribution of all 27 known species are provided. The key to the species of genus *Idunella* is given.

INTRODUCTION

The most number of *Idunella* species were described in last 20 years by several authors over the World. Recently I described one new *Idunella* species from the coast of the United States *(I. bowenae,* n. sp. 1979). A short time ago, prof. Dr B. Sket from the University of Ljubljana sent me several samples of amphipods from Bermuda Island, among them a few specimens of one *Idunella* with some transitive characters between genera *Idunella* and *Listriella.*

After detailed examination of these specimens, it was established that they belong to the new species, *Idunella sketi,* n. sp. At the same time, it was examined, through the literature, all known species of the genera *Idunella* and *Listriella* showing the existing of full transition of characters between both genera.

On the other hand, *Sextonia longirostris* Chevreux 1920, considered recently a synonym of *Idunella,* possess a different shape of mandible indi-

cating that it must be removed again to the distinct different genus, *Sextonia* Chevr. 1920.

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PROBLEM OF GENERA IDUNELLA SARS AND LISTRIELLA BARNARD

The genus *Idunella* established Sars (1895) for the single known species, *Liljeborgia aequicornis* Sars 1876. Later, many other species of this genus were described: *chilkensis* Chilton 1921, *picta* (Norman 1889), *dahli* Schell. 1938, *curvidactyla* Nagata 1965, *janisae* Imbach 1967, *pauli* Imbach 1967, *serra* Imbach 1967, *pirata* Krapp-Schickel 1975, *nagatai* G. Karaman 1979 and *bowenae* G. Karaman 1979.
man 1979.

Barnard, J. L. established (1959) a new genus *Listriella* for 5 new species, *L. goleta*, n. sp., *L. diffusa*, n. sp., *L. melanica*, n. sp., *L. eriopisa*, n. sp. and *L. albina*, n. sp. and he removed to this genus also species *Idunella dahli* Schell. 1938 and *I. picta* (Norman 1889). Later, many other species were described: *clymenellae* Mills 1962, *barnardi* Wigley 1966, *lazaris* Barnard, J. L. 1969, *similis* Rabind. 1971, *nana* Schiecke 1973, *excavata* Schiecke 1973, *lindae* Griff. 1974, *sinuosa* Griff. 1974, *saldanha* Griff. 1975.

Barnard, J. L. created this new genus *Listriella* based on the size of article 6 of gnathopods 1—2 in males and females (gnathopod 2 as large as or larger than gnathopod 1), article 5 of gnathopods 1—2 weakly produced, thick and blunt; uropod 3 with outer ramus composed of 2 articles, always in juveniles, occasionally fusing to a single article in adults.

Analyzing each of these characters regarding a very similar genus *Idunella* Sars, it was not possible to establish any distinct character to separate genus *Idunella* Sars from the genus *Listriella* Barnard, J.:

— Article 6 of gnathopods 1—2 alike in genera *Idunella* and *Listriella*, bearing short distoposterior corner without long lobe (in *Liljeborgia* with long produced lobe).

— Outer ramus of uropod 3: *Idunella aequicornis, I. pirata, I. pauli*, have 2-articulate outer ramus of uropod, 3, *I. chilkensis* has 1-articulate outer ramus of uropod 3; on the other hand, *Listriella excavata, L. barnardi, L. clymenellae* have 1-articulate outer ramus of uropod 3, and *L. melanica, L. goleta* and *L. diffusa* have 2-articulate outer ramus of uropod 3. Evidently, a full transition between 1- and 2-articulate outer ramus of uropod 3 exists among species of both genera.

— The size of article 6 of gnathopods 1—2: Based on recent taxonomy, the members of the genus *Idunella* have article 6 of gnathopod 1 larger than that of gnathopod 2 in males and females; members of the genus *Listriella* have article 6 of gnathopod 1 as large as or larger than that of gnathopod 2.

When we compare many species of genus *Idunella* and *Listriella* regarding their size ratio between article 6 of gnathopod 1 and that of gnathopod 2 (in males and females), the full transition can be observed: from article 6 of

gnathopod 1 smaller than that of gnathopod 2, over subequal length of article 6 of gnathopods 1 and 2 up to larger article 6 of gnathopod 1 that that of gnathopod 2 (in males as well as in females) (see Table. 1).

Table I. Length of article 6 of gnathopod 1 in percentage of length of article 6 of gnathopod 2 in genus *Idunella* (incl. *Listriella*):
0 — 99% = gnathopod 1 smaller than gnathopod 2
100% = gnathopod 1 = gnathopod 2
101—187% = gnathopod 1 longer than gnathopod 2

Female		Male	
Species	Percentage	Species	Percentage
L. eriopisa	55.3	*L. sinuosa*	64.2
L. clymenellae	66.5	*L. m. lazaris*	65.0
L. picta	78.9	*L. picta*	65.3
L. albina	79.3	*L. clymenellae*	66.6
L. excavata	82.3	*L. lindae*	69.3
L. diffusa	83.3	*L. melanica*	70.3
L. dahli	90.9	*L. barnardi*	70.3
L. barnardi	91.6	*L. saldanha*	78.5
L. m. lazaris	94.0	*L. goleta*	82.9
L. melanica	95.4	*L. diffusa*	85.1
L. nana	100.0	*L. albina*	86.3
I. sketi	100.0	(*L. nana*	100.0)
L. lindae	100.0	*I. bowenae*	140.6
I. aequicornis	111.1	*I. pirata*	141.9
L. similis	119.3	*I. aequicornis*	177.7
I. pauli	126.6	*I. serra*	187.8
I. bowenae	140.6		
I. curvidactyla	152.3		
I. chilkensis	156.5		

There are the species where the males and females have article 6 of gnathopods 1—2 of the same length *(I. nana, I. sketi)*, the species with males having gnathopod 1 smaller than gnathopod 2, and females having gnathopods 1—2 subequal long *(I. lindae)*, species with males and females having gnathopod 1 (article 6) smaller than gnathopod 2 *(I. goleta)* and species having gnathopod 1 (article 6) larger than gnathopod 2 in males and females *(I. aequicornis, I. picta)*.

In this light, it is not possible to divide the species of both genera. On the other hand, the females of many species of the genus *Idunella* and genus *Listriella* have similar gnathopod 2 with convex, entire palm; only in several cases shape of article 6 of gnathopod 2 in females likes that in males, although of smaller size *(L. clymenellae, L. eriopisa)*.

For these facts, it was not possible to find any distinct taxonomic character to divide the species of both genera to each other, and we merged genus *Listriella* Barnard, J. 1959 into genus *Idunella* Sars 1895 as synonym.

PROBLEM OF GENUS SEXTONIA CHEVREUX

Chevreux created (1920) a new genus *Sextonia* for the new species *Sextonia longirostris* Chevreux 1920. This genus was very similar to the genus *Idunella*.

Chevreux et Fage (1925) differ genus *Sextonia* from genus *Idunella* (in the key to the genera of *Liljeborgiidae*) by article 6 of gnathopod 1 larger than that of gnathopod 2 (subequal in *Idunella*).

Barnard, J. established (1959) that article 6 of gnathopod 1 in type--species of genus *Idunella, I. aequicornis,* is also larger than that of gnathopod 2, removing, based on this character, genus *Sextonia* to genus *Idunella* as synonym.

But, it was overlooked the fact that genus *Sextonia* has well developed, triturative molar of mandible (conical, non-triturative in *Idunella, Liljeborgia* and *Listriella*). Based on this generic character, (fig. 3M of Chevreux 1920, fig. 16M of Chevreux et Fage, 1925) and of long rostrum, we reestablished genus *Sextonia* as a valid genus again.

TAXONOMICAL PART

Genus IDUNELLA Sars

Idunella Sars 1895: 536; Stebbing 1906: 234; Chevreux et Fage 1925: 158; Barnard, J. 1959: 16; Barnard, J. 1969: 293; Bousfield 1973: 70.

Listriella Barnard, J. 1959: 16 (type-species: *L. goleta* Bar. J. 1959); Barnard, J. 1966a: 64; Wigley 1966: 267; Barnard, J. 1969: 294; Bousfield 1973: 71.

Type-species: *Liljeborgia aequicornis* Sars 1876 (orig. desig.).

DIAGNOSIS: Body laterally compressed, urosomites free. Coxae long, coxa 4 lobed, coxa 5 shorter than 4. Antenna 1 shorter up to longer than antenna 2, accessory flagellum present. Labrum incised distally (excavated), labium with poorly marked or undistinct inner lobes. Maxilla 1: inner lobe small, outer lobe with several (7) spines, palp 2-segmented. Maxilla 2 normal, inner lobe without dorsal oblique row of setae. Maxilliped: inner and outer lobe short, small; outer lobe with several setae along inferior margin, palp 4-segmented, strong, palp art. 3 not lobed. Mandible molar feeble, nontriturative, setose, conical; incisor toothed, palp 3-articulate, palp article 1 short or elongated.

Gnathopods 1—2 subchelate, of variable shape and size (gnathopod 1 smaller up to larger that gnathopod 2), article 5 of gnathopods 1—2 short, not produced posteriorly. Pereopods 5—7 normal, with article 2 lobed. Uropods 1—2 normal, biramous. Uropod 3 long, lanceolate, rami subequal or inner ramus longer and larger than outer one, outer ramus 1—2 segmented. Telson incised. Sexual dimorphism present (gnathopod 2, uropod 3, antennae).

SPECIES: *aequicornis, albina, barnardi, bowenae, chilkensis, clymenellae, curvidactyla, dahli, diffusa, eriopisa, excavata, goleta, janisae, lazaris, lindae, melanica, nagatai, nana, pauli, picta, pirata, saldanha, serra, similis, sinuosa, sketi.*

KEY TO IDUNELLA SPECIES

1. Body dorsally smooth 2
— Body dorsally serrate or with teeth 12
2. Article 6 of gnathopods 1—2 subequal (female) (telson incised 1/5 to 1/2 of its length, subequal rami of uropod 3 . . . . . *I. sketi*
— Article 6 of gnathopods 1 longer or shorter than that of gnathopod 2 3
3. Article 6 of gnathopod 1 longer than that of gnathopod 2 . . . 4
— Article 6 of gnathopod 1 shorter than that of gnathopod 2 . . . 5
4. Accessory flagellum 3-articulate. Dactyl of pereopod 7 distinctly shorter than 1/2 of article 6, outer ramus of uropod 3 hardly shorter than inner ramus . . . . . *I. pauli*
— Accessory flagellum 2-articulate. Dactyl of pereopod 7 reaching 1/2 of article 6, outer ramus of uropod 3 much shorter than inner one . . . . . *I. similis* (female)
5. Dactyl of pereopod 7 very short, reaching 1/6 to 1/8 of article 6 (epimeral plate 3 nearly subrounded or semiangular) 6
— Dactyl of pereopod 7 longer, reaching 1/4 to 2/5 of article 6 . . . 7
6. Eyes well developed. Peduncle of uropod 3 as long as or longer than outer one, outer ramus 1-articulate. Article 6 of gnathopod 2 in males poorly longer than broad . . . . . *I. clymenellae*
— Eyes difuse, poorly developed. Peduncle of uropod 3 distinctly shorter than outer ramus, outer ramus 2-articulate. Article 6 of gnathopod 2 in males 2 times longer than broad . . . . . *I. eriopisa*
7. Lobes of telson with 3—5 distal spines each 8
— Lobes of telson with 1—2 distal spines each 10
8. Article 6 of gnathopod 2 in males with transverse palm, without lobe in proximal part near dactyl . . . . . *I. saldanha*
— Article 6 of gnathopod 2 in males with oblique palm bearing lobe in proximal part near dactyl 9
9. Inner lobe of maxilla 1 with 3 setae. Eyes reaching or exceeding the diameter of peduncle of antenna 1. Lobes of telson with 3 spines each, epimeral plate 3 bisinuate . . . . . *I. goleta*
— Inner lobe of maxilla 1 with 2 setae. Eyes ovoid, shorter than 1/2 of diameter of peduncle of antenna 1. Epimeral plate 3 subrounded. Lobes of telson with 4—5 distal spines each . . . . . *I. sinuosa* (male)
10. Inner ramus of uropod 3 in males remarkably longer and larger than outer one . . . . . *I. albina*
— Uropod 3 in males with nearly subequal rami, inner ramus as large as or poorly larger than outer one 11
11. Dactyl of gnathopod 2 in males with proximal lobe and slender median and distal part, palm excavated in proximal part, uropod 3 with rami as long as peduncle in males . . . . . *I. barnardi*
— Dactyl of gnathopod 2 in males without proximal lobe and with stout median and proximal part, palm excavated medially. Peduncle of uropod 3 distinctly shorter than rami . . . . . *I. diffusa*

12. Mesosom- and metasomsegments smooth, urosomites 1—2 with dorsal teeth (access. flagellum 4-articulate) . . . . . *I. lindae*
— Some of mesosom- and metasomsegments serrate or with dorsal teeth 13
13. Article 6 of gnathopods 1—2 in males and females of the same length (accessory flagellum 2-articulate, dactyl of pereopod 7 exceeding 1/2 of article 6) . . . . . *I. nana*
— Article 6 of gnathopods 1—2 unequal in length 14
14. Article 6 of gnathopod 1 shorter than that of gnathopod 2 . . . 15
— Article 6 of gnathopod 1 longer than that of gnathopod 2 . . . 19
15. Metasomsegment 3 smooth (accessory flagellum 3-articulate) . *I. picta*
— Metasomsegment 3 toothed 16
I. dahli (female)
16. Last mesosomsegment and urosomite 2 toothed (coxae 1—3 notched) . . . . . *I. dahli* (female)
— Last mesosom segment and urosomite 2 smooth 17
17. Article 6 of gnathopod 2 in males tapering distally; palm oblique, concave, entire, its dactyl remarkably exceeding diameter of article 6 . *I. excavata*
— Article 6 of gnathopod 2 in males dilated distally; palm transverse, convex, short, excavated in proximal part, its dactyl poorly exceeding the diameter of article 6 18
18. Article 6 of gnathopod 1 in females strongly dilated distally, trapezoid . . . . . *I. melanica sazaris*
— Article 6 of gnathopod 1 in female not or poorly dilated distally . . . . . *I. melanica melanica*
19. Urosomites 1—2 smooth. Mandible-palp article 1 short 20
— At last urosomite 1 toothed or serrate. Mandible-palp article 1 elongated 21
20. Inner lobe of maxilla 1 with one seta. Article 6 of gnathopod 1 in males with palm deeply excavated, its dactyl remarkably exceeding the diameter of article 6 . . . . . *I. aequicornis*
— Inner lobe of maxilla 1 with 2 setae. Article 6 of gnathopod 1 in males with palm convex, bearing short median notch, its dactyl only reaching the diameter of article 6 . . . . . *I. pirata*
21. Metasomsegment 1 minutely serrate posteriorly 26
— Metasomsegment 1 smooth or with one tooth 22
22. Metasomsegment 3 minutely serrate posteriorly . . . *I. curvidactyla*
— Metasomesegment 3 smooth 23
23. Accessory flagellum 3-articulate (urosomites 1—2 with one tooth each) . . . . . *I. bowenae*
— Accessory flagellum 2-articulate 24
24. Inner ramus of uropod 3 as long as outer one, outer ramus 2-articulate . . . . . *I. janisae* (female)
— Inner ramus of uropod 3 nearly 80% longer than auter one, outer ramus 1-articulate 25

25. Antenna 2 much shorter than antenna 1 in males. Peduncle art. 1 of antenna 1 in both sexes shorter than ped. article 2 . . *I. chilkensis*
— Antenna 2 twice longer than antenna 1 in males. Peduncle art. 1 of antenna 1 in both sexes longer than peduncle art. 2 . . . *I. nagatai*
26. Epimeral plate 3 distinctly bisinuate. Uropod 3 auter ramus 1-articulate. Ursomal segments 1—2 each with 3 dorsal teeth . . . . *demersalis*
-- Epimeral plate 3 indistinctly bisinuate. Uropod 3 outer ramus 2-articulate. Urosomal segments 1—2 with several minute dorsal teeth . . . *serra*

Idunella aequicornis (Sars)

Liljeborgia aequicornis Sars 1876: 355; Sars 1882: 28, 106; Sars 1885: 192, pl. 16, fig. 2a; Sars 1886: 59, 88.

Idunella aequicornis Sars 1895; 537, pl. 190; Norman 1902: 483; Nordgaard 1905: 185; Stebbing 1906: 234; Stephensen 1931: 225; Gurjanova 1936: 150; Stephensen 1938: 198; Stephensen 1940: 34; Stephensen 1944: 64; Gorbunov 1946: 43; Gurjanova 1951: 517, fig. 339; Oldevig 1959: 52; Barnard, J. 1959: 14; Ledoyer 1968: 195; Barnard, J. 1969: 293, fig. 115.

Diagnosis: Metasomsegment 2 with one dorsal tooth, coxae 1—3 notched at distoposterior corner. Eyes present, access. flagellum 5-articulate, inner lobe of maxilla 1 with one seta, palpar article 1 of mandible short (not longer than broad), epimeral plate 3 bisinuate. Gnathopod 1 larger than gnathopod 2 in males and females; palm of gnathopod 2 in males very long, deeply excavated, article 6 tapering distally. Dactyl of pereopod 7 not reaching 1/2 of article 6; rami of uropod 3 subequal, outer ramus 2-segmented. Telson deeply incised, each lobe with 2 distal spines.

Type-locality: Northern Atlantic.

Distribution: N. Atlantic: East Greenland: Kap Hooker (Scoresbysund area), 67 m (Stephensen 1944), Jan Mayen, 100—120 m depth; S. of Jan Mayen (70°50'N, 8°29'W, depth 162 m; N. of Iceland (67°19'N, 15°52'W, depth 552 m; 66°50'N, 20°06'W, depth 367 m) (Stephensen 1931a). Greenland: Omanak, depth 450 m; Spitzbergen: Storfjord, depth 180—215 m; Beeren Island—Norway, depth 460 m; Siberian Arctic Ocean (75°40'N, 78°40'E, depth 47 m) (Oldevig 1959).

N. Norway: Varangerfjord, depth 200—235 m (Sars 1882, Norman 1902), Kvaenangen, depth 300—343 m (Nordgaard 1905).

Kara Sea (Gurjanova 1936c), Eastern Siberian Sea, N. part of Kara Sea (Gurjanova 1951), Eis Sea: 78°06'N, 149°32'E, depth 58 m (Gorbunov 1946), Jan Mayen, depth 128 m, Osthavet (Barents Sea, 73°25'N, 31°30'E, depth 360 m; Finmark (Sars 1886), off Storegen: 63°10'N, 5°03'E, depth 763 m, Jan Mayen; Barents Sea (Sars 1885).

Mediterranean Sea: Marseille (Ledoyer 1968).

Idunella albina (Barnard, J.)

Listriella albina Barnard, J. 1959: 25, fig. 11, 12; Barnard, J 1964b: 228; Barnard, J. 1971: 18.

Listriella albina, giant form, Barnard, J. 1966a: 65, fig. 12.

Diagnosis: Body smooth, eyes absent, accessory flagellum 2—3 articulate (?), coxae 1—3 nothed. Gnathopod 2 larger than gnathopod 1 in males and females; article 6 of gnathopod 2 in males with poorly inclinated palm, medially notched. Dactyl of pereopod 7 not reaching 1/2 of article 6, epimeral plate 3 bisinuate. Uropod 3: outer ramus much shorter and smaller than inner one (reaching 1/2 to 4/5 of inner ramus), 2-segmented. Telson incised 2/3 to 3/4, each lobe with 2 spines. Mouthparts unknown.

Type-locality: off Santa Barbara, California, depth 84 feet.

Distribution: Pacific: Conception to Ocean side, Santa Barbara shelf (Barnard, J. 1959), Bahia de Todos Santos, depth 266 m (Barnard, J. 1964b); Submarine canyons od southern California (Redondo; San Pedro sea valley; Santa Monica; Dume; Coronado; Mugu; Newport) (Barnard, J. 1966a); Oregon transect, depth 150—200 m (Barnard, J. 1971).

Idunella barnardi (Wigley)

Listriella barnardi Wigley 1966: 267, fig. 5—8; Bousfield 1973: 71, pl. 12, fig. 2.

Diagnosis: Body smooth, eyes present, coxae not notched, epimeral plate 3 bisinuate. Accessory flagellum 3-articulate. Inner lobe of maxilla 1 with 2—3 setae, article 1 of mandible-palp elongated. Gnathopod 2 larger than gnathopod 1 in males and females. Palm of article 6 of gnathopod 2 in males notched medially, dactyl with median tooth. Dactyl of pereopod 7 reaching 1/3 of article 6. Uropod 3: rami subequal long, hardly longer than peduncle in males, distinctly longer in female; outer ramus 1-articulate, sometimes hardly shorter than inner one. Telson cleft up to 1/2 of its length, with 2 spines on each lobe.

Type-locality: Lake Tashmoo (Massachusetts, USA).

Distribution: Massachusetts: Lake Tashmoo; Martha's Vineyard; Connecticut: Mystic River estuary (Wigley 1966); South side of Cape Cod and Southern New England to Georgia (Martha's Vineyard; Hadley Harbour; Buzzards Bay) (Bousfield 1973).

Remarks: This species is very similar to *I. diffusa.*

Idunella bowenae G. Karaman

Idunella bowenae G. Karaman 1979: 75, fig. 1—3

Diagnosis: Metasomsegment 2 with 3 dorsal teeth, urosomites 1—2 with one dorsomedian tooth each. Coxae 1—3 notched. Eyes present, antenna 2 longer than antenna 1. Inner lobe of maxilla 1 with 4 setae, outer lobe with 7 spines. Article 1 of mandible-palp elongated. Epimeral plate 3 bisinuate. Gnathopod 1 larger than gnathopod 2 in males and females; palm of gnathopod 1 convex, entire, dactyl without inferior tooth. Dactyl of pereopod 7 not reaching half of article 6. Rami of uropod 3 subequal long or inner ramus slightly longer and larger than outer one, outer ramus 2-segmented. Telson incised nearly to the basis, each lobe with 2 spines.

Type-locality: off Northern Maryland (atlantic coast of USA), depth 151 m.

Distribution: NE Atlantic coast of USA: off Northern Maryland; 39°22'N, 72°31'W, depth 128 m; 39°16.5'N, 72°30'W, depth 136 m (G. Karaman 1979).

Idunella chilkensis Chilton

Idunella chilkensis Chilton 1921: 525, fig. 1
nec *Idunella chilkensis* Nagata 1965: 166 (= *I. nagatai*)

Diagnosis: Metasomsegment 2 and urosomites 1—2 dorsally produced into minute teeth. Coxae 1—3 notched. Eyes?, access. flagellum 2-articulate. Mouthparts »like aequicornis«. Antenna 1 in males much longer than antenna 2, with main flagellum longer than peduncle. Gnathopod 1 larger than gnathopod 2 in males and females. Article 6 of gnathopod 1 in males with palm very inclinated, tapering distally, irregularly defined by 3—4 corner spines and bearing proximal finger. Outer ramus of uropod 3 reaching only 3/5 of inner one, 1-segmented. Telson incised nearly to the basis, each lobe with 2 spines. Telson is less than 2.5 times longer than broad.

Type-locality: Chilka Lake (Pat Sahanipur), depth 4.5—5.5 feet depth, muddy bottom (Chilton 1921).

Distribution: see sub type-loc.

Idunella clymenellae (Mills)

Listriella clymenellae Mills 1962: 159, fig. 1—2; Mills 1964: 4; Batcheller et Mills 1965: 398; Bousfield 1973: 72, pl. 12, fig. 1.

Diagnosis: Body smooth, eyes present, coxae 1—3 not notched. Accessory flagellum 2-articulate. Epimeral plate 3 only angular or subrounded, never bisinuate. Inner lobe of maxilla 1 with 2 setae. Article 1 of mandible-palp elongated. Gnathopod 2 larger than gnathopod 1 in males and females, its palm toothed medially, dactyl smooth. Article 6 of gnathopod 2 in females like that in males except the smaller size. Dactyl of pereopod 7 very short, almost not exceeding the diameter of article 6 (= cca 1/8 of article 6). Uropod 3 short in males and females, rami almost subequal, peduncle as long as or hardly shorter than rami, outer ramus 1-articulate. Telson incised 3/5, each lobe with one slender spine and 2 setae.

Type-locality: Barnstable Harbour (Massachusetts, USA).

Distribution: Cape Cod peninsula (Barnstable Harbour), Massachusetts, to Chesapeake Bay to southeastern states and northern Florida. Vineyard Sound, Hadley Harbour, Buzzards Bay, Massachusetts) (Bousfiled 1973), Barnstable Harbour, Mass. (Mills 1962, 1964).

Ecology: commensal in tubes of *Clymenella torquata.*

Idunella curvidactyla Nagata

Idunella curvidactyla Nagata 1965: 167, fig. 14.

Diagnosis: Metasomsegments 2—3 and urosomite 1 more or less minutely serrate at posterodorsal edge, eyes present, accessory, flagellum 2-articulate. Coxae 1—3 notched. Epimeral plate 3 poorly bisinuate, almost only weakly toothed. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible-palp elongated. Gnathopod 1 larger than gnathopod 2 in males and females. Palm of gnathopod 2 in males convex and partially straight, inclinated 1/2 of article 6, dactyl very recurved. Dactyl of pereopod 7 nearly 1/2 of article 6. Uropod 3: inner ramus longer and larger than outer one; outer ramus reaching 2/3 of inner one, 1—2 articulate. Telson incised 3/4 of its length, each lobe with 2 distal spines.

Type-locality: Eastern area of Suo Nada (Seto Inland Sea, Japan) depth 30—60 m.

Distribution: see sub Type-loc.

Idunella dahli Schellenberg

Idunella dahli Schellenberg 1938: 32, fig. 16.

Listriella dahli Barnard, J. 1959: 14.

Diagnosis: Last mesosomsegment and metasomsegments 1—3 and urosomites 1—2 with one dorsoposterior tooth each. Accessory flagellum 2-articulate. Coxae 1—3 notched, eyes present, round. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible-palp elongated. Epimeral plate 3 bisinuate. Gnathopod 2 larger than gnathopod 1, with convex entire palm (female). Dactyl of pereopod 7 unknown, that of pereopod 4 exceeding half of article 6. Uropod 3 with subequal rami, outer ramus 2-articulate. Telson incised 3/4, each lobe with 2 spines. Males unknown.

Type-locality: Bismarck Archipel, Balum, in sea algue, 4—10 m.

Distribution: known only from type-locality.

Remarks: Very similar to *I. nana* except unequal gnathopods 1—2.

Idunella demersalis Sivaprakasam

Idunella demersalis Sivaprakasam 1972: 308, fig. 1—2

Diagnosis: Mososomsegments smooth, metasomsegments 1—3 with dorsoposterior margin cut into minute teeth. Urosomites 1—2 darsally with 3 teeth (1 median strong and 2 lateral small). Access. flagellum 2-articulate. Coxae 1—3 notched. Maxilla 1 inner lobe with 2 setae, mandible palp article 1 elongated. Gnathopod 1 larger than 2. Dactyl of pereopod 7 shorter than half of segment 6. Epimeral plate 3 bisinuate, toothed. Uropod 3 outer ramus slightly exceeding half of inner ramus, 1-segmented. Telson lobes with 2 spines.

Type-locality: off Cochin, India (9°44.6' N, 76°6.5, E)

Distribution: loc. typ.; off Alleppey (9°21.2' N, 76°6.2' E) (Sivaprakasam, 1972).

Idunella diffusa (Barnard, J.)

Listriella diffusa Barnard, J. 1959: 18, fig. 3—5; Barnard, J. 1964 b: 228; Barnard, J. 1964 a: 108; Barnard, J. 1966 b: 22.

Diagnosis: Body smooth, eyes well developed, accessory flagellum 2-articulate (?). Epimeral plate 3 bisinuate. Coxae 1—3 notched (?). Mouthparts undescribed. Gnathopod 2 larger than gnathopod 1 in males and females. Article 6 of gnathopod 2 in males with poorly inclinated, excavated palm medially. Dactyl of pereopod 7 not reaching half of article 6. Uropod 3 with subequal or poorly inequal rami, outer ramus 1—2 articulate. Telson incised 3/4, each lobe with 1—2 distal spines.

Type-locality: Pacific: SW of San Mateo Pt., California.

Distribution: Pt. Conception to the Mexican Border; SW of San Mateo Pt., California (Barnard, J. 1959), Bahia de San Cristobal, Calif. (Barnard, J. 1964), Monterey Bay, Calif. (Barnard, J. 1966)

Ecology: on sandy bottom, on 12—172 m depth.

Remarks: This species is very similar to *I. barnardi.*

Idunella eriopisa (Barnard, J.)

Listriella eriopisa Barnard, J., 1959: 22, fig. 8—10; Barnard, J. 1964b: 228; Barnard, J. 1966a: 65.

Diagnosis: Body smooth, eyes poorly developed but present, accessory flagellum 2-articulate, epimeral plate 3 subrounded (adults) or poorly sinusoid (juv.). Coxae 1—3 not notched (?). Inner lobe of maxilla 1 with 3 setae. Article 1 of mandible-palp elongated. Gnathopod 2 much larger than gnathopod 1 in males and females; article 6 of gnathtpod 2 in females densely setose; article 6 of gnathopod 2 in males long, with bisinuate palm moderately inclinated. Dactyl of pereopod 7 reaching only 1/6 of article 6. Uropod 3 with outer ramus reaching 2/5 of inner one (adult females) or only 1/4 of inner ramus (small females), outer ramus 1—2 articulate. Telson incised 3/5, each lobe with one spine.

Type-locality: off Santa Barbara, California, depth 128 feet.

Distribution: Pacific: California: Pt. Conception to Oceanside, Santa Barbara shelf, Newport Canyon (Barnard, J. 1959), Bahia de Tortugas, Calif. depth 11 m (Barnard, J. 1964); submarine canyons of Southern California: Redondo, Santa, Monica, Hueneme, Newport, Coronado, San Pedro sea valley, La Jolla (Barnard, J. 1966).

Idunella excavata (Schiecke)

Listriella excavata U. Schiecke 1973: 33, pls. 8—11; Krapp-Schickel 1975: 458 (key).

Diagnosis: Metasomsegment 1 with 1 dorsal tooth, metasomsegments 2—3 and urosomite 1 with 3 dorsal teeth each. Coxae 1—3 notched. Accessory flagellum 2-articulate. Epimeral plate 3 sharply pointed, not bisinuate. Inner

lobe of maxilla 1 with 3 setae, article 1 of mandible palp elongated. Gnathopod 2 larger than gnathopod 1 in males and females. Article 6 of gnathopod 2 in males with palm inclinated less than 1/2 of article 6-length, proximal part of palm excavate, dactyl hardly dilated medially. Dactyl of poreopod 7 exceeding 1/2 of article 6. Rami of uropod 3 nearly subequal, outer ramus 1-articulate. Telson incised 5/6, each lobe with 2 distal spines.

Type-locality: Golfo di Napoli (Secca Lo Bianco).

Distribution: Mediterranean Sea: Golfo di Napoli, 140—190 m (U. Schiecke 1973).

Ecology: living on muddy or sandy bottom.

Idunella goleta (Barnard, J.)

Listriella goleta Barnard, J. 1959: 20, fig. 5—7; Barnard, J. 1964b: 229; Barnard, J. 1966a: 66; Barnard, J. 1966b: 22; Barnard, J. 1971: 18.

Diagnosis: Body smooth, eyes well developed, epimeral plate 3 bisinuate. Accessory flagellum 2-articulate (?). Inner lobe of maxilla 1 with 3 setae. Article 1 of mandible-palp elongated. Gnathopod 2 larger than gnathopod 1 in both sexes. Article 6 of gnathopod 2 very much inclinated, palm long, straight. Coxae 1—3 not notched (?). Dactyl of pereopod 7 not reaching half of article 6. Outer ramus of uropod 3 as long as inner one or shorter (reaching 5/6 of inner ramus), 2-segmented. Telson incised 3/4, each lobe with 3 distal spines.

Type-locality: off Newport, California, depth 1200 feet, sand.

Distribution: California: Pt. Conception to Mexican border, Newport Canyon, Santa Barbara shelf, Santa Catalina Island (Barnard, J. 1959), Bahia de San Cristobal; Bahia de San Quintin; Bahia de Todos Santos, depth 15—74 m (Barnard, J. 1964b); Submarine canyons of Southern California: Redondo; Newport, Monterey, Santa Cruz, La Jola (Barnard, J. 1966a), Monterey Bay (Barnard, J. 1966b), Oregon transect, depth 225 m (Barnard, J. 1971).

Ecology: living on depth of 12—459 m.

Idunella janisae Imbach

Idunella janisae Imbach 1967: 80, pl. 22.

Diagnosis: Antenna 2 much longer than antenna 1, accessory flagellum 2-articulate. Metasomsegement 2 with several minute dorsal teeth, urosomites 1—2 with one dorsal tooth each. Epimeral plate 3 bisinuate. Eyes present. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible-palp elongated. Coxae 1—3 notched. Gnathopod 1 larger than gnathopod 2, palm entire, convex (female). Dactyl of pereopod 6 retching 1/3 of article 6 (that of P7 unkown). Rami of uropod 3 subequal long, outer ramus 2-segmented. Telson incised 3/4, each lobe with 2 spines. Males unknown.

Type-locality: South China Sea: 12°17'25" N, 109°14'03" E, depth 110 m, muddy sand bottom.

Distribution: known only from type-locality.

Idunella lindae (Griffiths)

Listriella lindae Griffiths 1974a: 197, fig. 7; Griffiths 1975: 141.

Diagnosis: Urosomite 1 with one dorsal tooth, urosomite 2 with 2 dorsal teeth. Eyes well developed, accessory flagellum 4-articulate. Coxae 1—3 not notched. Epimeral plate 3 with »upturned small notch«. Gnathopod 2 in males larger than gnathopod 1, bearing article 6 long, palm very inclinated, with proximal palmar finger, dactyl with median tooth. Gnathopod 2 in females as large as gnathopod 1.

Uropod 3 with inner ramus slightly longer than outer one, outer ramus 2-segmented. Telson inscised 5/6, with 2 spines on each lobe.

Type-locality: South West Africa: 26°36' S, 15°06' E, depth 35 m, on fine sandy bottom.

Distribution: South West Africa, several localities (Griffiths 1974), South Africa: Lambert's Bay (Griffiths 1975).

Idunella melanica (Barnard, J.)

Listriella melanica Barnard, J. 1959: 16, fig. 1—2; Barnard, J. 1964a: 108, chart 8; Barnard, J. 1964b: 229; Barnard, J. 1966a: 66.

Diagnosis: Metasomsegment 3 (maybe metasomsegment 2 also) with dorsoposterior median tooth. Eyes well developed, accessory flagellum 2-articulate (?). Epimeral plate 3 bisinuate. Coxae 1—3 notched (?). Inner lobe of maxilla 1 with 2 setae. Article 1 of palp of mandible elongated. Gnathopod 2 larger than gnathopod 1 in both sexes. Article 6 of gnathopod 2 in males tapering distally, palm long, very inclinated, concave, with small finger in proximal part, dactyl with small tooth in proximal part. Dactyl of pereopod 7 reaching 1/4 of article 6. Rami of uropod 3 subequal, outer ramus 2-segmented. Telson incised 5/6, each lobe with 2 distal spines.

Type-locality: off Newport, California, depth 34 feet, sandy bottom.

Distribution: California: Pt. Conception to the Mexican border (Santa Barbara shelf) (Barnard, J. 1959); Bahia de San Quintin (Baja California) (Barnard, J. 1964a); Bahia de San Cristobal; Bahia de Tortugas; Bahia de Playa Maria (Bernard, J. 1964b), Mugu (submarine canyon of Southern California) (Barnard, J. 1966a).

Idunella melanica lazaris (Barnard, J.)

Listriella melanica lazaris Barnard, J. 1969: 214, fig. 26c-g.

Diagnosis: Like *Idunella melanica melanica* Barnard, J. 1959, but differing from it by distally expanded article 6 of gnathopod 1 in females.

Type-locality: Pacific: Bahia de los Angeles (Baja California).

Distribution: known only from type-locality.

Remarks: Maybe synonym of *I. melanica melanica.*

Idunella nagatai G. Karaman

Idunella chilkensis Nagata 1965: 166 (nec Chilton 1921)

Idunella nagatia G. Karaman 1979: 81.

Diagnosis: Like *Idunella chilkensis* Chilton 1921, but differing from it in several characters: Antenna 1 in females is a little shorter than antenna 2; antenna 1 in males is nearly twice shorter than antenna 2 (like that in *I. saldanha* Griff. 1975), with main flagellum shorter than peduncle; article 1 of antenna 1 in both sexes shorter than peduncle. Telson nearly 2.5 times longer than broad.

Type-locality: Eastern area of Suo Nada, Japan, depth 30—60 m.

Distribution: Seto Inland Sea, Japan (Nagata 1965).

Remarks: *I. saldanha* (Griff. 1975) has 3-articulate accessory flagellum, telson less than twice longer than broad.

Idunella nana U. Schieckel

Listriella nana U. Schiecke 1973: 36, fig. 12—15; Krapp-Schickel 1975: 459, fig. T2 (part.).

Diagnosis: Metasomsegments 1—3 and urosomites 1—2 with one dorsomedian tooth. Eyes present, coxae 1—3 notched. Accessory flagellum 2-articulate. Epimeral plates 1—3 sharply pointed posteriorly. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible-palp elongated. Gnathopods 1—2 subequal in length in males and females, article 6 of gnathopod 1 sightly more trapezoid, with palm entire, convex, dactyl smooth. Dactyl of pereopod 7 exceeding half of article 2. Uropod 3 with rami nearly subequal, outer ramus 2-articulate. Telson incised nearly 3/5, each lobe with one distal spine.

Type-locality: Golfo di Napoli.

Distribution: Vicinity of Napoli (cave near Lacco Ameno; Secca d'Ischia; Secca delle Formiche) (U. Schiecke 1973).

Remarks: *I. nana* is very similar to *I. dahli* Schell. *I. dahli* differs from *I. nana* by unequal gnathopods 1—2 (25:27), more quadrate art 6 of gnathopod 1, telson-lobes with 2 distal spines, smooth (?) article 2 of pereopod 5.

Idunella pauli Imbach

Idunella pauli Imbach 1967: 80, fig. 23

Diagnosis: Body smooth, epimeral plate 3 bisinuate. Coxae 1—3 not notched (?). Eyes present, antenna 2 much longer than antenna 1, accessory flagellum 3-articulate. Inner lobe of maxilla 1 with 2 setae. Article 1 of

mandible-palp elongated. Gnathopod 1 larger than gnathopod 2 in females and males. Dactyl of gnathopod 1 in males straight, entire, that in females convex, entire.

Article 2 of pereopod 7 without distoposterior lobe (with strong tooth), dactyl of pereopod 7 nearly 1/3 of article 6. Uropod 3 with outer ramus hardly shorter than inner one, 2-segmented. Telson incised 3/4, each lobe with 2 spines.

Type-locality: South China Sea: 12°15'23", 109°14'35" E, depth 15 m, sandy bottom.

Distribution: known only from type-locality.

Idunella picta (Norman)

Liljeborgia picta Norman 1889: 116, pl. 10, fig. 5—9; Chevreux 1900: 88.

Idunella picta Stebbing 1906: 235; Chevreux 1925: 301; Chevreux et Fage 1925: 158, fig. 158—159; Reid 1951: 232.

Listriella picta Barnard, J. 1959: 16.

Diagnosis: Metasomsegment 1 with one tooth, metasomsegment 2 with 5 teeth, metasomsegment 3 smooth, urosomites 1—2 with one dorsal tooth each. Eyes well developed, coxae 1—3 not notched, epimeral plate 3 bisinuate. Antenna 2 much longer than antenna 1, accessory flagellum 3-articulate. Inner lobe of maxilla 1?; article 1 of mandible-palp elongated. Gnathopod 2 larger than gnathopod 1 in both sexes; article 6 of gnathopod 2 in males with palm inclinated 1/2 of article 6-length, convex, entire, dactyl finely serrate at inferior margin. Dactyl of pereopod 7 reaching nearly 1/3 of article 6. Uropod 3 with rami nearly subequal or inner ramus slightly longer than outer one, outer ramus 2-segmented. Telson incised almost to the basis, each lobe with 1—2 distal spines.

Type-locality: Guernsey (N. Atlantic).

Distribution: Guernsey (Norman 1889), Rade de Palais (Belle-Ile) Saint-Lunaire (Côte-du-Nord), Quiberon, Saint-Jean de Luz (Chevreux 1900), Senegal (Chevreux 1925a), Roscoff, Baie de Concarneau, Baie de Quiberon, (Chevreux et Fage 1925), coast of West Africa (9°27' N, 14°48' W, depth 50 m, 9°57' N, 15°22' W, depth 25 m (Reid 1951).

Idunella pirata Krapp-Schickel

Idunella pirata Krapp-Schickel 1975, fig. 2 (part.), 3, 4, 5; G. Karaman 1975: 40, fig. 6—9.

Diagnosis: Metasomsegments 1—2 with dorsal tooth. Eyes undistinct, coxae 1—3 notched, epimeral plate 3 bisinuate. Accessory flagellum 3—4 articulate. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible palp short. Gnathopod 1 larger than gnathopod 2 in both sexes; article 6 of gnathopod 1 in males convex, excavated in proximal part of dactyl, dactyl with

proximal notch. Dactyl of pereopod 7 exceeding half of article 6. Uropod 3 with inner ramus slightly longer than outer one, outer ramus 2-segmented. Telson incised 3/4 to 4/5, each lobe with 2 distal spines.

Type-locality: Adriatic Sea: 42°15' N — 43°36' N, 15°05' E — — 17°10' E, (off Zlarin Island), depth 95—400 m.

Distribution: Adriatic Sea: off Zlarin island (Krapp-Schickel 1975), off Budva (G. Karaman 1975);
Mediterranean Sea: Golfo di Napoli: Vervece; NW. of Ischia Island, depth 100—110 m (Krapp-Schickel 1975).

Idunella saldanha (Griffiths)

Listriella saldanha Griffiths 1975: 141, fig. 13.

Diagnosis: Body smooth, eyes present, coxae 1—3 not notched, epimeral plate 3 pointed posteriorly. Antenna 2 much longer than antenna 1, accessory flagellum 3—4 articulate. Inner lobe of maxilla 1 ?; article 1 of mandible-palp elongated. Gnathopod 2 larger than gnathopod 1 in both sexes; article 6 of gnathopod 2 with palm transverse, sinusoid, dactyl with proximal tooth. Dactyl of pereopod 7 not reaching half of article 6. Uropod 3 with rami subequal long, outer ramus 2-segmented. Telson incised to the basis, each lobe with 3 distal spines.

Type-locality: Atlantic coast of Cape Province, South Africa: 33°01' S, 17°59' E, depth 12 m.

Distribution: Atlantic coast of South Africa: False Bay, Saldanha Bay (Griffiths 1975).

Idunella serra Imbach

Idunella serra Imbach 1967: 81, fig. 24.

Diagnosis: Metasomsegments 1—3 and urosomites 1—2 with several minute dorsal teeth. Antenna 2 longer than antenna 1, accessory flagellum 2-articulate (?). Eyes present, coxae 1—3 notched. Inner lobe of maxilla 1 ?. Article 1 of mandible-palp elongated. Gnathopod 1 with palm inclinated 3/5, concave, dactyl serrate, recurved. Dactyl of pereopod 7 reaching nearly 1/3 of article 6.
Epimeral plate 3 toothed, not distinctly bisinuate. Uropod 3 with outer ramus reaching 6/10 of inner one, 2-segmented. Telson incised more than 3/4, each lobe with 2 spines.

Type-locality: South China Sea: 12°11'25" N, 109°17'10" E, depth 13 m, fine sand.

Distribution: known only from type-locality.

Idunella similis (Rabindranath)

Listriella similis Rabindranath 1971: 483, fig. 1—3.

Diagnosis: Body smooth, eyes present, coxae 1—3 notched, epimeral plate 3 bisinuate. Accessory flagellum 2-articulate. Inner lobe of maxilla 1

with 2 setae. Article 1 of mandible-palp elongated. Gnathopod I larger than gnathopod 2 (female), palm of gnathopod 2 convex, entire. Dactyl of pereopod 7 reaching 1/2 of article 6. Uropod 3 with outer ramus much shorter than inner one, 2-segmented. Telson incised 3/4, each lobe with 2 spines.

Males unknown.

Type-locality: mouth of Kayamkulam Lake (west coast of India).

Distribution: known only from type-locality.

Idunella sinuosa Griffiths

Listriella sinuosa Griffiths 1974b: 306, fig. 13.

Diagnosis: Body smooth, coxae 1—3 not notched, epimeral plate 3 subrounded. Eyes small, present, antenna 1 much shorter than antenna 2, accessory flagellum 4-articulate. Inner lobe of maxilla 1 with 2 setae, article 1 of mandible-palp elongated. Gnathopod 2 much larger than gnathopod 1 (male), with article 6 bearing palm inclinated more than 3/4 of article 6-length, with one median lobe, dactyl with small median tooth. Dactyl of pereopod 7 reaching 1/3 of article 6. Rami of uropod 3 subequal, outer ramus 2-articulate. Telson incised 3/4, each lobe with 4—5 spines.

Females unknown.

Type-locality: Still Bay: 34°25' S, 21°28' E (South Africa, eastern Cape Province).

Distribution: known only from type-locality.

Idunella sketi n. sp.
figs. I—IV

Diagnosis: Female ovig. 2,0 mm: Body smooth, urosomites free (fig. I, 7). Coxae long, coxa 1 dilated distally (fig. IV, 1), coxa 4 with large distoposterior lobe (fig. II, 5), coxa 5 bilobe (fig. III, 1), coxae 6—7 entire (fig. III, 2—3). Coxae 1—4 with subrounded distal margin, bearing small distoposterior notch each.

Rostrum short, lateral cephalic lobes moderately produced, obtuse, ventroanterior sinus present (fig. II, 1), eyes not visible in preserved material.

Antennae 1—2 short, nearly subequal long. Antenna 1: penduncle strong, ped. articles 1—3 progressively shorter, ped. article 1 longer than ped. articles 2—3 combined (fig. I, 1); main flagellum 4-articulate, shorter than peduncle, poorly setose; some of flagellar articles with one aesthetasc longer than the article itself. Accessory flagellum 2-articulate, short, second article very short (fig .I, 2).

Antenna 2 strong, ped. article 3 short; ped. article 5 shorter than article 4, both poorly setose (fig. I, 2); flagellum 4-articulate, nearly as long as ped. article 5. Antennal gland cone short.

Mouthparts basic. Labrum broader than long, bilobed distally (fig. II, 2). Labium broad, outer lobe with distal fingers, inner lobes undistinct (fig. I, 3). Maxilla 1: inner lobe short, with 2 distal setae, outer lobe with 7 distal spines bearing O-2 lateral teeth each (fig. I, 4), palp 2-segmented, distal segment with setae.

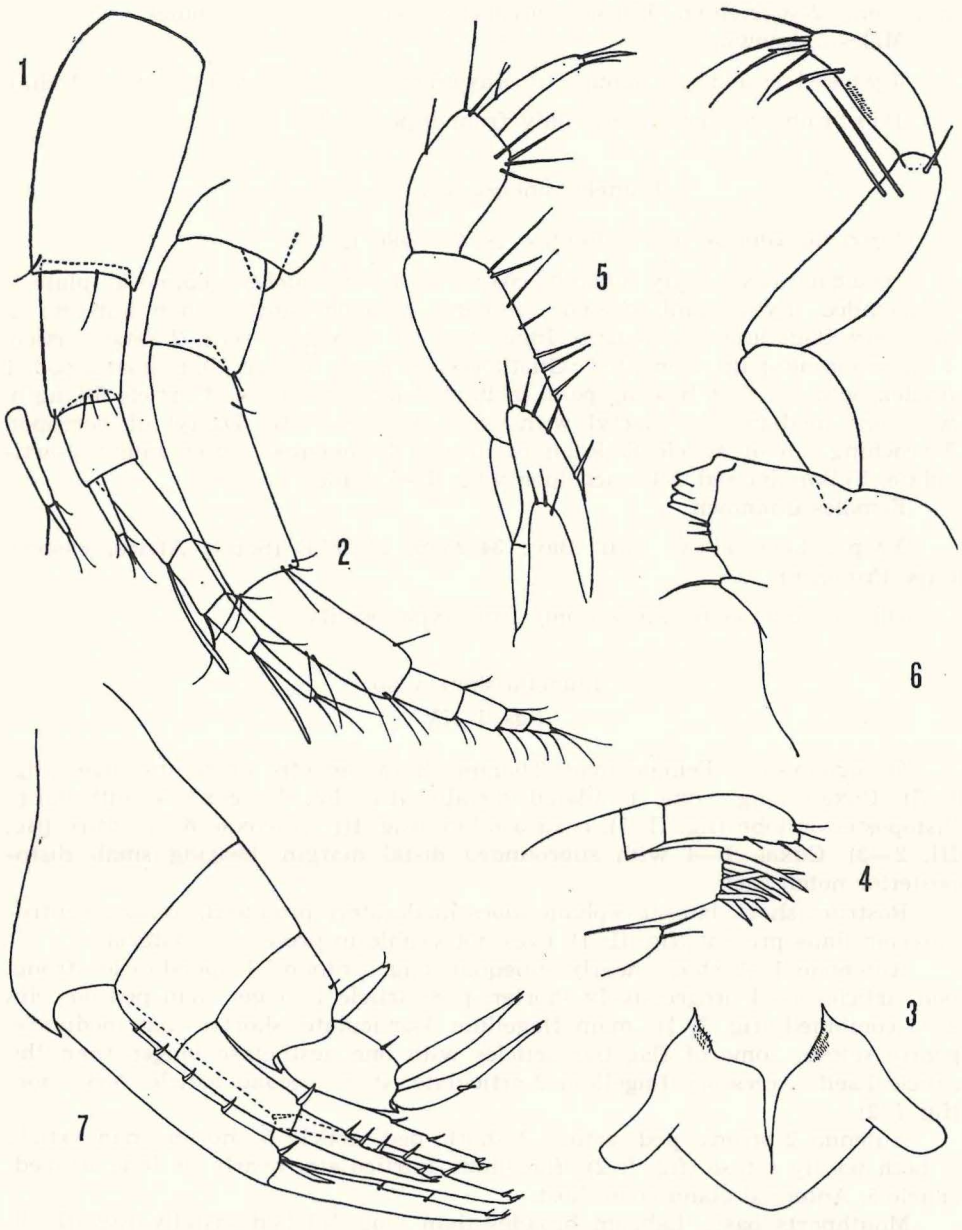

Fig. I. *Idunella sketi,* n. sp., Walsingham, Bermuda, female 2 mm: 1 = antenna 1; 2 = antenna 2; 3 = labium; 4 = maxilla 1; 5 = maxilliped; 6 = mandible; 7 = urosome with uropods.

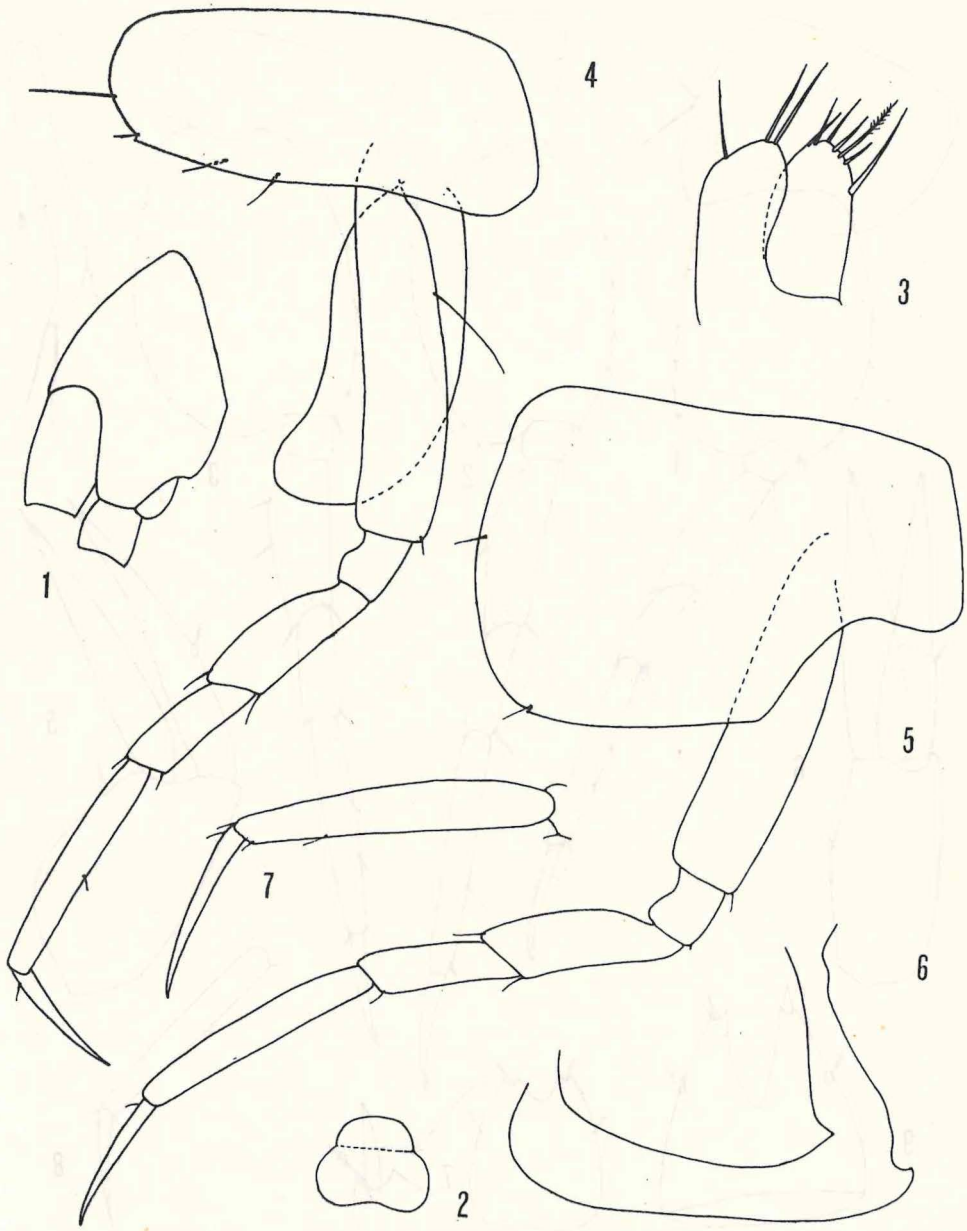

Fig. II. *Idunella sketi*, n. sp., Walsingham, Bermuda, female 2 mm: 1 = head; 2 = labrum; 3 = maxilla 2; 4 = pereopod 3; 5 = pereopod 4; 6 = epimeral plates 2—3; 7 = distal part of pereopod 3, female 1.9 mm.

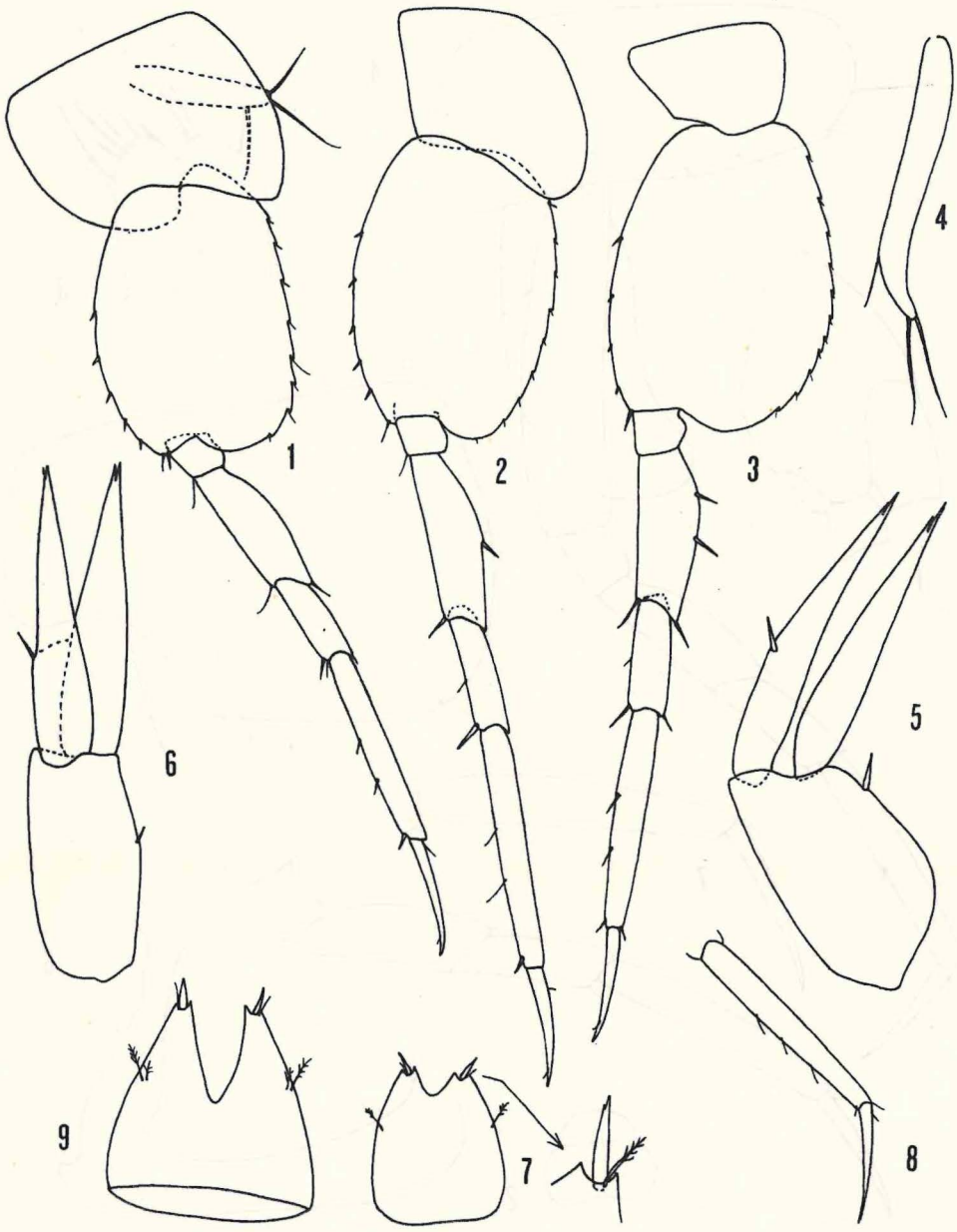

Fig. III. *Idunella sketi*, n. sp., Walsingham, Bermuda, female 2 mm: 1 = pereopod 5; 2 = pereopod 6; 3 = pereopod 7; 4 = oostegyt; 5—6 = uropod 3; 7 = telson; 8 = distal part of pereopod 7, female 1.9 mm; 9 = telson, female 1.9 mm.

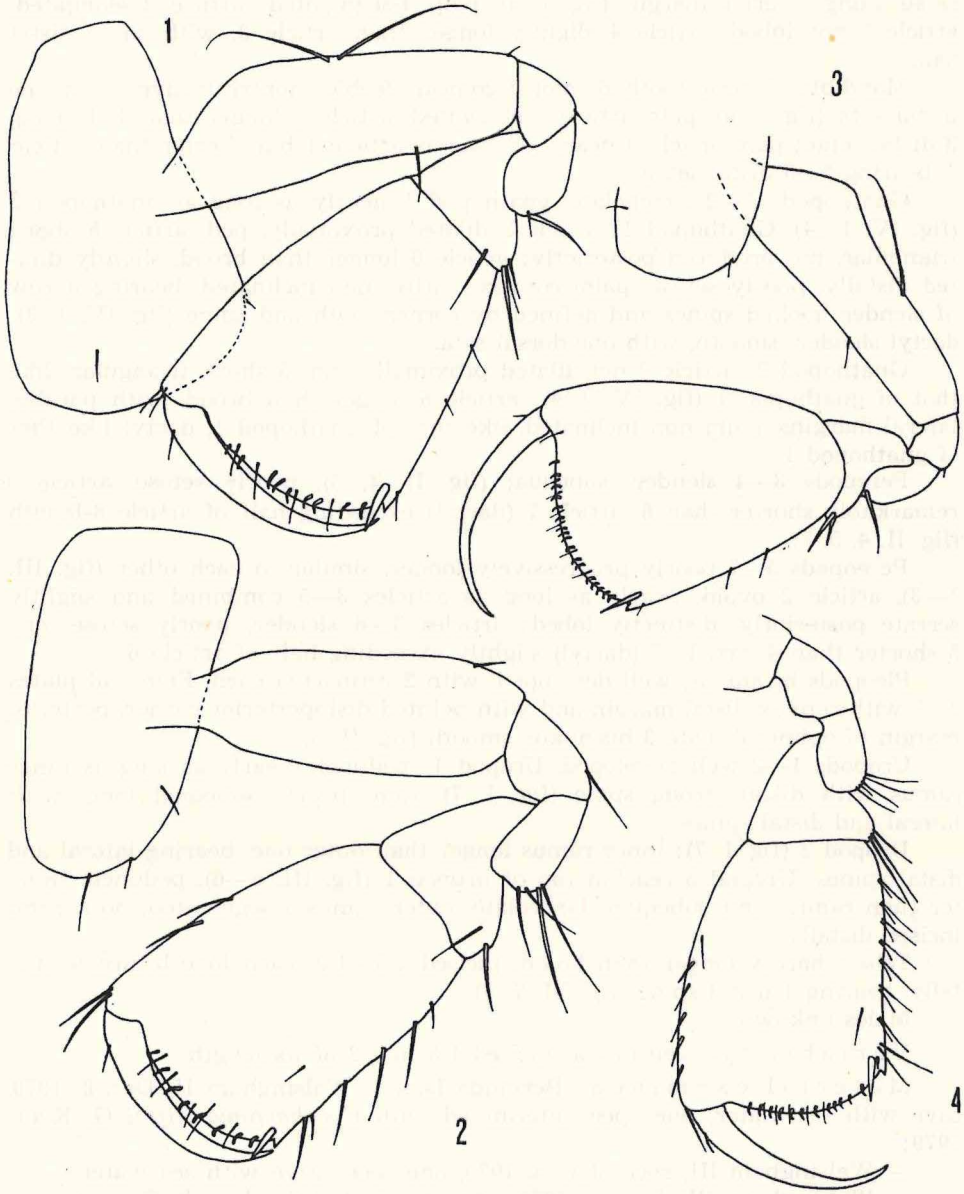

Fig. IV. *Idunella sketi*, n. sp., Walsingham, Bermuda, female 2 mm: 1 = gnathopod 1; 2 = gnathopod 2; 3 = gnathopod 1, female 1.9 mm; 4 = gnathopod 2, female 1.9 mm.

Maxilla 2: both lobes subequal, inner lobe without dorsal oblique row of setae (fig. II, 3). Maxilliped: inner lobe small, with 2—3 distal setae; outer lobe small, hardly exceeding outer tip of first palpar segment, provided with 5 setae along inferior margin (fig. I, 5), palp 4-segmented: article 2 elongated, article 3 not lobed, article 4 slightly longer than article 3, with short distal nail.

Mandible: incisor toothed, molar conical, feeble, nontriturative, with one distal seta (fig. I, 6), palp article 1 elongated, article 2 longer than 1, bearing 3 distal setae; palp article 3 nearly as long as article 1 but shorter than article 2, bearing 5—6 distal setae.

Gnathopods 1—2 subchelate, gnathopod 1 nearly as long as gnathopod 2 (fig. IV, 1—4). Gnathopod 1: article 2 dilated proximally, ped. article 5 short, triangular, not produced posteriorly; article 6 longer than broad, slightly dilated distally, poorly setose, palm convex, entire, non inclinated, bearing a row of slender hooked spines and defined by corner tooth and spine (fig. IV, 1, 3), dactyl slender, smooth, with one dorsal seta.

Gnathopod 2: article 2 not dilated proximally, art. 5 short, triangular, like that of gnathopod 1 (fig. IV, 2, 4); article 6 longer than broad, with parallel lateral margins, palm non inclinated, like that of gnathopod 1, dactyl like that of gnathopod 1.

Perepods 3—4 slender, subequal (fig. II, 4, 5), poorly setose, article 5 remarkably shorter than 6, article 7 (dactyl) exceeding half of article 6-length (fig. II, 4, 5, 7).

Pereopods 5—7 poorly progressively longer, similar to each other (fig. III, 1—3), article 2 ovoid, nearly as long as articles 3—5 combined and slightly serrate posteriorly, distinctly lobed; articles 3—6 slender, poorly setose, art. 5 shorter than 4, article 7 (dactyl) slightly exceeding half of article 6.

Pleopods biramous, well developed, with 2 retinacula each. Epimeral plates 2—3 with convex distal margin and with pointed distoposterior corner, posterior margin of epimeral plate 3 bisinuate, smooth (fig. II, 6).

Uropods 1—2 well developed. Uropod 1: peduncle nearly as long as inner ramus with distal strong spine (fig. I, 7), rami nearly subequal long, with lateral and distal spines.

Uropod 2 (fig. I, 7): inner ramus longer than outer one, bearing lateral and distal spines. Uropod 3 reachin top of uropod 1 (fig. III, 5—6), peduncle shorter than rami; rami subequal, lanceolate, outer ramus 1-segmented, both rami incised distally.

Telson hardly longer than broad, incised 1/5—1/2, each lobe bifurcate distally, bearing 1 distal spine (fig. III, 7, 9).

Males unkown.

Variability: Telson was incised 1/5 to 1/2 of its length.

Material examined: Bermuda Island: Walsingham II, Dec. 8, 1978, cave with sea water, one spec. intermixed with *Cocoharpinia iliffei* G. Kar. 1979;

— Walsingham III, rock, Jan. 5, 1979, one spec., cave with sea water;

— Walsingham III, Dec. 8, 1978, one spec. intermixed with *Cocoharpinia iliffei* G. Karaman 1979, cave with sea water (leg. Iliffe, T.)

Loc. typ.: Walsingham, cave with sea water, Bermuda Island.

Holotype: female 2 mm. Holotype is deposited in Karamans's Collection in Titograd, Yugoslavia.

Genus SEXTONIA Chevreux

Sextonia Chevreux 1920: 76; Chevreux et *Fage* 1925: 159;

Idunella (part.) *Barnard*, J. 1959: 16; *Barnard*, J. 1969: 293; Bousfield 1973: 70.

Type-species: *Sextonia longirostris* Chevreux 1920 (monotypy).

Diagnosis: Body like that of *Idunella*, urosomites free. Coxae 1—4 long, coxa 4 with large distoposterior lobe, coxa 5 much shorter than 4. Rostrum long, antenna 1 shorter than antenna 2, access. flag. present. Mouthparts like these of *Idunella* except mandible. Labrum bilobe distaly, labium without inner lobes, maxilla 1: inner lobe short, outer lobe with 7 spines, palp 2-segmented. Maxilla 2 normal, inner lobe without dorsal oblique row of setae. Maxilliped: both lobes small, setose, palp 4-articulate, normal. Mandible: incisor toothed, molar strong, triturative, palp 3-segmented, with art. 1 elongated.

Gnathopods 1—2 subchelate, with article 5 short, not produced posteriorly. Pereopods 5—7 normal, with article 2 lobed. Pleopods normal. Epimeral plate 3 bisinuate. Uropods 1—2 normal, biramous. Uropod 3 lanceolate, rami long, outer ramus 2-segmented. Telson incised, lobes bifurcate distally. Oostegyts narow. Sexual dimorphism present (antennae, gnathopods, uropod 3).

SPECIES: only type species is known.

Sextonia longirostris Chevreux

Sextonia longirostris Chevreux 1920: 77, fig. 2—4; Chevreux et Fage 1925: 159, fig. 152, 160, 161.

Idunella longirostris Barnard, J. 1959a: 14; Bousfield 1973: 71.

Diagnosis: Meso — and metasomsegments smooth, urosomites 1—2 with 3 dorsal teeth each. Coxae 1—3 notched, eyes well developed. Rostrum long. Antenna 2 much longer than antenna 1, access. flag. 5-segmented. Epimeral plate 3 bisinuate. Inner lobe of maxilla 1 with 4 setae. Dactyl of maxilliped with short nail. Gnathopod 1 larger than gnathopod 2 in both sexes, gnathopod 1 of female like that of male, but smaller, palm very inclinated, almost straight. Dactyl of pereopod 7 shorter than half of article 6. Uropod 3 with subequal rami (female) or outer ramus smaller than inner one (male), outer ramus 2-segmented. Telson incised deeply, with 2 distal spines (on each lobe?).

Type locality: Portrieux (Cotes du Nord, Atlantic, France).

Distribution: Atlantic: Saint-Lunaire (Ille-et Vilaine), Morgat (Finistère), Portrieux (Cote du Nord) (Chevreux 1920, Chevreux et Fage 1925).

CONCLUSION

Genus *Idunella* Sars (fam *Liljeborgiidae)* is very large genus including 26 known species living in the seas over the World. In the Adriatic Sea is known only one species, *Idunella pirata* Krapp-Schicle 1975. Genus *Lis-*

triella Barnard 1959 is removed to the genus *Idunella* as synonym beacuse of full transitive row of species between both genera. A new species, *Idunella sketi*, n. sp. from the Bermuda Island (Atlantic) is described. The species of *Idunella* are very variable regarding the shape of epimeral plates, uropod 3, telson ,antennae etc. Genes *Sextonia Chevreux* 1920 is removed again to the generic level because of the shape of the mandible.

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REVIZIJA RODA *IDUNELLA* SARS SA OPISOM NOVE VRSTE, *I. SKETI, N. SP. (FAM. LILJEBORGIIDAE)*

(102. Prilog poznavanju Amphipoda

Gordan S. Karaman

Biološki institut Titograd

KRATKI SADRŽAJ

Predstavnici roda *Idunella* Sars su isključivo stanovnici mora. Sada je poznato 27 vrsta iz cijelog svijeta. Iz Sredozemnog mora su poznate 3 vrste ovog roda, *Idunella nana* (Schiecke 1973), *I. excavata* (Schiecke 1973) i *I. aequicornis* (Sars 1876).

U Jadranskom moru je do sada poznat samo jedan predstavnik ovog roda, *Idunella pirata* Krapp-Schickel 1975 kojeg su gotovo istovremeno otkrili u Jadranu (1975) Krapp-Schikel (u području Zlarina) i Karaman, G. (u području Budve). U Jadranskom moru se očekuje nalaz i drugih vrsta ovog roda.

U radu je izvršena revizija roda *Idunella* Sars i dat je ključ za determinaciju svih poznatih vrsta ovog roda, kao i kratak opis (dijagnoza), kompletna sinonimika i distribucija svake vrste.

Opisana je nova vrsta za nauku, *Idunella sketi*, n. sp. iz obala otoka Bermuda u sjevernom Atlantiku. Rod *Listriella* Barnard 1959 je uvršten kao sinonim roda *Idunella* Sars, budući da je utvrđen potpuni kontinuirani prelaz karaktera (prelazne vrste) između oba roda.

Rod *Sextonia* Chevreux 1920, koji je bio sinonimiziran sa rodom *Idunella* 1959 godine (Barnard, J.), izdvojen je kao zasebni rod na osnovu građe mendibule, i data je dijagnoza ovog roda.