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REVISION OF THE FAMILY PARDALISCIDAE WITH DIAGNOSIS OF GENERA, DISTRIBUTION OF SPECIES AND BIBLIOGRAPHY

(XLIII CONTRIBUTION TO THE KNOWLEDGE OF THE AMPHIPODA)

REVIZIJA OBITELJI PARDALISCIDAE SA DIJAGNOZAMA RODOVA, RASPROSTRANJENOST VRSTA I BIBLIOGRAFIJA

(XLIII PRILOG POZNAVANJU AMPHIPODA)

GORDAN S. KARAMAN

SPLIT 1974

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REVIZIJA OBITELJI *PARDALISCIDAE* S DIJAGNOZAMA RODOVA, RASPROSTRANJENOST VRSTA I BIBLIOGRAFIJA (XLIII PRILOG POZNAVANJU AMPHIPODA)

Gordan S. Karaman

Biological Institute, Titograd

ABSTRACT.

A revision of the family *Pardaliscidae* is presented, including 17 genera and nearly 51 species. Two new genera, *Caleidoscopsis,* n. gen. with the type species *C. copal* (J. Barnard 1957) and *Rhynohalicella,* n. gen. with the type species *R. halona* (J. Barnard 1971) are described.

The genus *Pardisynopia* J. Barnard is merged into the genus *Halice* Boeck, and all species of genus *Halicoides* (sensu auct., except the type species *H. anomalus* which must be reexamined), are removed to the genus *Halice.* The bibliography, synonymy and distribution of all species of the *Pardaliscidae* family are provided. The diagnosis of all genera as well as the key for determination of the genera of the *Pardaliscidae* family is presented.

INTRODUCTION.

During the last few years numerous new species of *Pardaliscidae* family have been described, which were very difficult to place in the existing genera because the differences between the genera are not clear.

Because of that reason, I decided to reexamine all the genera of the *Pardaliscidae* family to establish a diagnosis for each of them, as well as the distribution of each species, bibliography and synonymy.

I am thankfull for the aid of Dr. S. Ruffo from the Museo Civico di St. Naturale Verona (Italy), Dr. W. Vader from the Biologisk Stasjon Blomsterdalen (Norway) and Dr. D. Bellan-Santini from the Station Marine d'Endoume et Centre d'Ocean. Marseille (France).

THE PROBLEM OF THE PARDALISCIDAE GENERA.

The family *Pardaliscidae* represents one very heterogenesis group of genera, more or less adapted to life in deeper sea's bottoms. Unfortunatelly, our knowledge of the species of this family is still weak, because of the difficulty of collecting *Pardaliscidae* at great depths (up to 10.000 metres).

We know now 17 genera and nearly 51 species of the *Pardaliscidae* family. Among those genera there are several groups of congenial genera: one group with reduced uropods towards uropod 3 *(Parpano, Tosilus),* a group of suckling

mode of existence genera *(Halicella, Rhynohalicella),* a group of genera *Halice--Synopioides-Halicoides-Pardisynopia* (sensu auct.) etc.

The genus *Halice* Boeck described in 1871 for *H. abyssi (H. grandicornis* is synonymous of *abyssi).* Later Chevreux (1912) described *H. aculeata;* K. H. Barnard described *H. anacantha* (1925) and *H. profundi* (1932); Birstein et Vinogradov described *H. quarta* and *H. shoemakeri* (1955), *H. subquarta* and *H. rotundata* (1960) and *H. tenella* (1962).

J. L. Barnard described *H. cocalito* (1964) and *H. ulcisor* (1971).

J. Barnard described the genus *Pardisynopia* (1961) with the type species *P. tambiella,* based on slender and segmented proximal flagellar portion of antenna 1, weakly developed elevation on urosomites 1—2 and very dilated articles 4—5 of pereopods 3 and 4. Later J. Barnard described *P. synopiae* (1962) and *P. lolo* (1971), and he assigned the species *Halicoides nana, Halicoides indica, Halice tertia* and *Halice anacantha* provisionally to the genus *Pardisynopia* (1969a), because all those species have a segmented proximal flagellar portion of antenna 1.

Ledoyer described *Halicoides walkeri* (1972), and we redescribed this species from the Adriatic and Mediterranean Seas (1973).

J. L. Barnard (1969a) separates the genus *Pardisynopia* from the genus *Halice* by segmented proximal flagellar portion of antenna 1 and by vestigal teeth on urosomites 1—2.

The value of these two characters is very doubtful because in the genus *Halice* (sensu B a r n a r d 1969a) there are species with strong teeth on urosomites 1—2 *(H. abyssi)* and species with vestigal teeth *(H. rotundata, H. walkeri).*

Concerning antenna 1, we can see all transitions from completely segmented proximal portion of flagellum of antenna 1 *(H. indica, H. nana),* over semisegmented *(H. abyssi)* to the conjoint this proximal portion *(H. quarta, H. rotundata).* There exist a difference in the shape and segmentation of the proximal flagellar portion of antenna 1 between the males (enlarged, conjoint) and females (slender, segmented) of the same species as well as between different species of *Pardisynopia-Halice-Halicoides* complex.

The majority of *Halice* species have slightly dilated or not dilated pereopods 3 and 4 *(H. rotundata, H. subquarta),* but several species have more dilated *(H. seconda, H. ulcisor)* or strongly dilated pereopods 3 and 4 *(H. cocalito, H. walkeri).*

The length of the third palpar article of the mandible is variable, from very short *(H. abyssi)* up to as long as second article *(H. macronyx, H. anacantha)* (see B i r s t e i n et V i n o g r a d o v 1962, p. 250).

J. Barnard mentioned in 1971 the following differences between the genera *Halice* and *Pardisynopia:*

Halice: »Telson deeply cleft; pereopod 7 (= 5 in his nomenclature) as long as 6 (= 4); urosome with dorsal teeth; article 1 of primary flagellum on antenna 1 conjoint and elongate; inner plate of maxilliped vestigal; gnathopods slender, article 6 slinghtly longer than 5«.

Pardisynopia: »Telson deeply cleft; pereopod 6 (= 4) longer than 7 (= 5 in his nomenclature); urosome with weak or no dorsal teeth; article 1 of

primary flagellum on antenna 1 scarcely elongate, not distinctly conjoint; inner plate of maxilliped vestigal; gnathopods slender, article 6 slightly longer than 5«.

Unfortunately, these combinations of characters are contradictory, because several species of each of these genera (sensu Barnard 1971) have combination of characteristics of two genera:

Telson: by *Halice abyssi, H. subquarta,* telson is cleft near to the basis; by *H. quarta* about 60 percent of telson's length; by *H. shoemakeri, H. aculeata,* about 50 percent, by *H. rotundata* 35 percent only.

Articles 5 and 6 of gnathopods 1 and 2; by majority of *Halice* species, the articles 5 and 6 are more or less slender, and article 5 is slightly shorter than 6; (but by several species articles 5 and 6 of gnathopods 1 and 2 are subequal in length *(H. shoemakeri);* by *H. subquarta* gnathopod 2 has article 5 longer than 6, and gnathopod 1 has articles 5 and 6 subequal (based on figures); by *H. aculeata* gnathopod 2 has articles 5 and 6 subequal, and gnathopod 1 has article 5 longer than 6 (at figures of Birst. et Vin. 1960).

Length of pereopods 6 and 7: *by Halice ulcisor, H. abyssi* and *H. walkeri,* pereopod 6 is slightly longer than pereopod 7 (in Barnard's key: pereopod 6 as long as 7 in Halice; pereopod 6 longer than 7 in *Pardisynopia).*

Evidently, the above characters mentioned by Barnard in 1971 are not sufficient for separating the species into two well distinguished genera.

Several species of *Halice* genus have dilated pereopods 3 and 4 (their articles 4 and 5 are subequal in length), urosomites 1—2 lacking dorsal teeth (only with one short protuberance with one long seta): *synopiae, tambiella, indica, nana, lolo, tertia, anacantha)* and at first glance it seem to be one good isolate genus or group of species *(Pardisynopia),* but there are species found between genera *Halice* and *Pardisynopia* (sensu auct.). So *H. ulcisor* has broad pereopods 3 and 5 (their articles 4 and 5 are subequal in length), and urosomites 1—2 with a strong dorsal tooth each. By *H. lolo* the urosomites 1—2 are stark smooth, lacking dorsal setae on urosomite 2, and pereopods 3—4 are with broad segments.

The length of article 4 of pereopods 3 and 4 is variable: it can be much shorter than article 5 *(aculeata, abyssi),* almost as long as article 5 *(subquarta, nana)* or as long as article 5 *(walkeri, tambiella).*

In this light, the genus *Pardisynopia* can not be maintained as one separate genus, but instead as a member of the genus *Halice,* and all species of genera *Pardisynopia* (sensu auct.) are removed to genus *Halice.*

Genus *Synopioides* was established by Stebbing in 1888 for two new species, *S. macronyx* (type species) and *S. secunda.* Later Stephensen described *S. tertia* (1931).

Birstein et Vinogradov (1955) removed this genus to genus *Halice* as synonym. The type species of *Synopioides, S. macronyx,* differ from other species of family *Pardaliscidae by Pseudotiron* — like shape of head, but the most numerous characters of *S. macronyx* are identical with the characters of *Halice* genus(*S. macronyx* differ from *Halice* by setose inferior margin of dactyl on gnathopods 1—2 and the shape of the head).

Genus *Halicoides* was described by Walker in 1896 for new species *H. anomalus,* one species lacking (or scale-like) accessory flagellum. The

scale-like segment is on article 2 of peduncle of antenna 1, it can be an error or anomaly, because the accessory flagellum is not on the second, but on the third peduncular article of antenna 1.

All other characteristics like those os the genus *Halice*. This species must be reexamined. Provisionally until the reexamination of the type species, the genus *Halicoides* figures as one separate genus, but all the other species of this genus (sensu auct.), *Halicoides nana, H. indica* (described by Birst, et Vinogradov 1960, 1964) and *Halicoides walkeri* described by Ledoyer 1972 are removed to the genus *Halice* because of their *Halice*-genus characteristics.

The genus *Pardaliscella* described Sars (1895) for *P. boeckii* Malm. Later, he described *P. axelii* (1906); Gurjanova described *P. lavrovi* (1934) and *P. malygini* (1936), and J. L. Barnard described *P. symmetrica* (1959), *P. simplignathia* (1962) and *P. yaquina* (1971).

J. Barnard in diagnosis of genus *Pardaliscella* wrote (1969a): »telson cleft only halfway, dactyl (of gnathopods) with one spine«, but his *P. symmetrica* (1959) has dactyl of gnathopods with numerous teeth at inferior margin.

Pardaliscella lavrovi and *P. malygini* have telson cleft more than 50 percent of its length; *P. lavrovi* has a mandible as *Pardaliscella* (strong teeth). Both species are insufficiently described and it is difficult to establish their exact generic status. I leave *P. lavrovi* in genus *Pardaliscella* and *P. malygini* remove in *Halice* genus.

The genus *Pardaliscella* allied very much to genus *Halice,* differs from it only by several characteristics: — strongly toothed distal margin of mandibular-body (by *Halice* usually lacking distal teeth, but *H. ulcisor* has mandible weakly toothed, between *Halice* and *Pardaliscella),*

— slightly stouter gnathopods 1 and 2 (articles 5 and 6 stout, article 5 prevalently longer than 6). *Halice aculeata* has by gnathopod 1 article 5 longer than 6, but both articles are slender.

— toothed inner margin of dactyl of gnathopods 1 and 2 (bear one or more teeth). By several *Halice* species at the place of this single tooth appears one seta.

— expanded distal portion of palp of maxilla 1.

The genus *Pardaliscopsis* described by Chevreux in 1911 as new species *P. tenuipalpa.* Later J. L. Barnard described two new species, *P. copal* and *P. tikal* (1967).

Type species, *P. tenuipalpa* very allied to genre *Pardaliscella* (stout gnathopods 1 and 2, slender lobes of maxilla 2, toothed mandible, etc.), differs from it only by the very asymmetrical upper lip (labrum) and by smooth dactyl of gnathopods 1 and 2 (lacking spines or setae at inferior margin).

The genus *Pardaliscopsis* differs from *Halice* by a toothed mandible, by very asymmetrical labrum and by stout gnathopods 1 and 2. The labrum must be reexamined in all species of family *Pardaliscidae* to establish its real value for taxonomic study, because it seems that it has only limited importance in taxonomic studies. Provisionally, we leave the genus *Pardaliscopsis* as a separate genus up to the deep study of its mouthparts.

The species *Pardaliscopsis(?)copal* and *P.(?)tikal* differ from the complex genera *Halice-Pardaliscella, Pardaliscopsis, Synopioides-Halicoides,* by short and broad lobes of maxilla 2. From *Pardaliscopsis* it differs as well by longer

coxae 1—4 (coxae longer than broad) and by longer article 4 of pereopods 3 and 4. These two species are saparated in a new genus *Caleidoscopsis* n. gen.

The genus *Halicella* described by Schellenberg in 1926 for new species *H. parasitica*, one suckle-form species with styliform mouthparts, but all mouthparts are still developed.

J. L. Barnard described in 1971 *Halicella halona*, one other suckle-form species with the mouthparts much more reduced (lacking inner lobe of maxilla 1, palp only uniarticulate; maxilla 2 presented by only one lobe-body, very short maxillipedal palp; mandibular palp vestigal, represented by one very short tubercle with 2 setae. In our opinion, this is the subsequent degree in evolution of the adaptation to the suckling mode of existence, and we separate this species in a new genus *Rhynohalicella*, n. gen. Maybe it can be *Halicella* and *Rhynohalicella* two opposite extremes of one genus.

TAXONOMIC PART

Family PARDALISCIDAE

Subfam. *Pardaliscinae* A. Boeck 1871, p. 150

Fam. *Pardaliscidae* Sars 1882, p. 28; ibid., 1895, p. 401; Stebbing 1906, p. 220; Chevreux et Fage 1925, p. 151; J. Barnard 1969a, p. 397.

DIAGNOSIS: Mouthparts projecting conically or quadrately. Rostrum developed, prominent, distoanteral part of lateral cephalic lobes rarely produced *(Tosilus)* or head like to *Pseudotiron* genus *(H. macronyx)*. Antennae 1—2 well developed, proximal flagellar segments occasionally coalesced *(Halice,* part.), accessory flagellum present, segmented. Labrum rounded or bilobe, symmetric or asymmetric. Labium with inner lobes free or coalesced. Maxilla 1: inner lobe (plate) present or absent, outer lobe well developed, palp 1—2 articulate. Maxilla 2: both lobes well developed, occasionally very short or absent inner lobe (?). Maxilliped: inner lobe very short or absent, outer lobe and 4-articulate palp developed. Mandible: lacking molar, mainly assymmetrical, palp absent to 3-articulate.

Coxae 1—4 short, occasionally longer than broad. Gnathopods 1—2 simple, gnathopod 2 rarely subchelat *(Arculfia)*. Pereopods 3—7 normal developed, rarely prehensile *(Parahalice)*. Uropods developed, occasionally partially reduced. Uropod 3 biramous. Telson of medial size, cleft, rarely entire (Parpano, Eperopeus).

Free living, rarely semiplanctonic (?Parahalice) species. There are known 17 genera i. e. 51 species.

KEY TO THE GENERA OF PARDALISCIDAE

1. Mouthparts forming a cone-like bundle 2
   — Mouthparts not forming a cone-like bundle, more or less quadratiform in lateral view 3

2. Palp of maxilla 1 biarticulate, mandibular palp 3-articulate, maxillipedal palp exceeding 1/2 of outer lobe, maxilla 2 composed of 2 lobes . . . . . HALICELLA
   — Palp of maxilla 1 uniarticulate, mandibular palp vestigal, represented by one very short tubercle with 2 setae; maxillipedal palp not exceeding outer lobe; maxilla 2 composed of one lobe RHYNOHALICELLA
3. Telson entire 4
   — Telson cleft 5
4. Article 5 of gnathopods 1—2 shorter than article 6 PARPANO
   — Article 5 of gnathopods 1—2 broad and longer than article 6 EPEROPEUS
5. Gnathopod 2 subchelat, palm well developed ARCULFIA
   — Gnathopod 2 simple, lacking palm 6
6. Pereopods 3—7 prehensile . . . . . PARAHALICE
   — Pereopods 3—7 non prehensile, simple 7
7. Maxilla 2 vestigal, composed of two tiny lobes provided with one seta each . . . . . NECOCHEA
   — Maxilla 2 well developed, composed of two separated lobes . . 8
8. Antenna 1 lacking (or scale-like?) accessory flagellum . . . . . (HALICOIDES)
   — Antenna 1 with well developed accessory flagellum, composed of several articles 9
9. Peduncular article 2 of antenna 1 longer than article 1 PARDALISCOIDES
   — Peduncular article 2 of antenna 1 shorter than article 1 . . . 10
10. Lateral cephalic lobes shightly produced anteroventrally TOSILUS
   — Lateral cephalic lobes non produced anteroventrally 11
11. Lobes of maxilla 2 short, dilated . . . CALEIDOSCOPSIS
   — Lobes of maxilla 2 longer and slender 12
12. Palp of maxilliped very long, more than 2 times as long as inner edge of outer lobe . . . . . PRINCAXELIA
   — Palp of maxilliped shorter, nearly as long as inner edge of outer lobe 13
13. Labium with inner lobes separated . . . PARDALISCA
   — Labium with inner lobes coalesced 14
14. Palp of maxilla 1 non dilated distally . . HALICE
   — Palp of maxilla 1 dilated distally 15
15. Dactyl of gnathopods 1—2 smooth at inferior margin PARDALISCOPSIS
   — Dactyl of gnathopods 1—2 with one or more teeth or spines at inferior margin 16

16. Article 5 of gnathopods 1—2 very short, with long narrow posterior lobe . . . . . NICIPPE
— Article 5 of gnathopods 1—2 longer, lacking long posterior lobe PARDALISCELLA

ARCULFIA J. L. Barnard

Arculfia J. L. Barnard 1961; J. L. Barnard 1969a.

TYPE SPECIES: *Arculfia trago,* J. L. Barnard 1961 (original designation).

DIAGNOSIS: Mouthparts not forming a conelike bundle; eyes absent. Labrum symmetric, rounded distally, not inised. Labrum: inner lobes coalesced. Maxilla 1: lobes developed, palp 2-articulate, appears non dilated. Maxilla 2: lobes slender, inner lobe scarcely shorter. Maxilliped: lobes present, palp 4-articulate. Mandible: incisor smooth, palp 3-articulate.

Coxae 1—4 nearly quadratiform. Antenna 1: peduncular articles 1>2>3, proximal flagellar articles conjoint, accessory flagellum present. Gnathopod 1: simple, slender, articles 5 and 6 subequal. Gnathopod 2 subchelat, with palm. Pereopods 3—7 simple (article 4 of pereopod 4 elongated). (Urosomites toothed), uropods normal, telson longer than broad, cleft.

SPECIES: *trago.*

Arculfia trago J. L. Barnard 1961

Arculfia trago J. L. Barnard 1961, p. 77, fig. 47; J. L. Barnard 1969a, p. 401.
Loc typ.: Tasman Sea (S. W. Pacific), 42°10' S, 170°10' E, 610 m depth.
Distribution: Tasman Sea (J. Barnard 1961).

CALEIDOSCOPSIS n. gen.

TYPE SPECIES: *Pardaliscopsis* copal, J. L. Barnard 1967

DIAGNOSIS: Mouthparts not forming cone-like bundle. Labrum symmetric or slightly asymmetric; labium with inner lobes coalesced. Maxilla 1: inner lobe »not discovered« or present, outer lobe developed, palp biarticulate, dilated distally. Maxilla 2: lobes short and broad, with several setae each. Maxilliped: inner and outer lobe short (outer lobe not reaches to the end of a first palpar article), palp 4-articulate. Mandibles asymmetric with incisor poorly crenellated or toothed, palp 3-articulate.

Coxae 1—4 longer than broad. Gnathopods 1—2: articles slightly stout, article 5 slightly shorter than 6, dactyl smooth (shape of gnathopods like to *Pardaliscella* or *Pardaliscopsis).* Pereopods 3—4 simple, with article 4 long (as long as article 5 or longer), pereopods 5—7 simple. Uropods of medium size, slender, telson longer than broad, cleft (urosomites toothed).

SPECIES: *copal, tikal.*

REMARKS: Differs from *Pardaliscopsis* and *Pardaliscella* by longer coxae 1—4 and by shorter and broader lobes of maxilla 2.

Caleidoscopsis copal J. L. Barnard 1967

Pardaliscopsis(?) copal, J. L. Barnard 1967, p. 126, figs. 61, 62.

Loc typ.: Cedros Trench, Baja California (E. Pacific): 27°24'00" N, 115°12'15" W, 2398—2475 m depth (J. Barnard 1967).

Distribution: Cedros Trench, Baja California.

Caleidoscopsis tikal J. L. Barnard 1967

Pardaliscopsis(?) tikal, J. L. Barnard 1967, p. 129, figs. 63, 64.

Loc typ.: Cedros Trench, Baja California (E. Pacific): 27°54'25" N, 115°40'00" W, 1720—1748 m depth (J. Barnard 1967).

Distribution: Cedros Trench, Baja California.

EPEROPEUS Mills

Eperopeus, Mills 1967.

TYPE SPECIES: *Eperopeus abyssicola* Mills 1967 (monotypy).

DIAGNOSIS: Head lacking rostrum. Labrum asymmetrically incised, labium unknown. Maxilla 1: inner and outer ramus developed, palp 3(?)-artikulate, non dilated distally. Maxilla 2 with slender lobes. Maxilliped: inner lobes short, outer lobe developed, palp 4-articulate (distal two articles slender). Mandible: incisor with several sharp teeth, molar absent, palp 3-articulate (second article expanded).

Coxae 1—4 very short, much broader than long. Antenna 1: peduncular articles 1>2>3, flagellar articles separate (femeles and males), accessory flagellum present. Gnathopods 1—2 simple, stout, like to each other, their article 5 broad and longer than article 6; articles 6—7 slender, article 7 with teeth at inferior margin. Pereopods 3—7 simple, uropods well developed, telson entire. Urosome smooth.

SPECIES: *abyssicola.*

Eperopeus abyssicola Mills 1967

Eperopeus abyssicola Mills 1967, p. 352, fig. 2.

Loc typ.: N. Atlantic: 37°27' N, 68°41' W, depth 4435 m.

Localities cited: Woods Hole Bentic Sta. (loc. typ.); 37°13.1' N, 68°39.6' W, depth 4540 m; 35°35' N, 67°25' W, depth 4977 m; Bermuda: 32°15' N, 64°32.6' W, depth 2500 m.

Distribution: Western North Atlantic, depth 2500—4977 m.

Remarks: Mills does not write anything about maxilla 1 in the diagnosis of this species; only at the fig. 2, F the palp of maxilla 1 is 3-articulate (error?).

HALICE Boeck

Halice Boeck 1871; Stebbing 1906; Birstein et Vinogradov 1962; J. L. Barnard 1969a.

Synopioides Stebbing 1988; 1906.

Pardisynopia J. L. Barnard 1961; J. L. Barnard 1969.

Halicoides (auct., part.) Birstein et Vinogradov 1960; Birst. et Vinogradov 1964; Ledoyer 1972.

TYPE SPECIES: *Halice abyssi* Boeck 1871 (selected by Boeck 1876).

DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum incised, symmetric or slightly asymmetric(?). Labium with coalesced inner lobe(?). Maxilla 1: inner and outer lobes developed, palp biarticulate, distally not dilated. Maxilla 2: lobes slender, inner lobe somewhat shorter. Maxilliped: inner lobe short, outer lobe developed, attached at a short or medial long segment, palp 4-articulate. Mandibles asymmetric, incisor smooth or poorly crenellated, rarely with teeth, palp 3-articulate, third article of different length.

Coxae 1—4 short, broader than long. Antenna 1: peduncular articles 1>2>3; proximal flagellar articles coalesced or segmented (coalesced articles are expanded, mainly in the males), accessory flagellum well developed. Gnathopods 1 and 2 simple, with relatively slender articles, article 5 lacking posterior lobe; article 6 mainly slightly longer than 5, rarely subequal or slightly shorter than 5; dactyl smooth at inferior margin (or with only one seta). Pereopods 3—4 simple, with slender or expanded articles; pereopods 5—7 simple; uropods 1—3 of medium size, slender; telson cleft; urosomites with strong or vestigal dorsal teeth, rarely smooth.

SPECIES: *abyssi, aculeata, anacantha, cocalito, indica, lolo, macronyx, maligini(?), nana, profundi, quarta, rotundata, secunda, shoemakeri, subquarta, synopiae, tambiella, tenella, tertia, ulcisor, walkeri.*

Halice abyssi Boeck 1871

Halice abyssi Boeck 1870 (1871) (♀), p. 72 (152); Boeck 1876, p. 488, pl. 10, fig. 2; Sars 1886, p. 59; Pfeffer 1890, p. 86; Della Valle 1893, p. 661, pl. 59, figs. 69—71; Sars 1891—95, p. 412, pl. 145, fig. 2; Stebbing 1906, p. 229; Grieg 1909, p. 549; Broch et Koefoed 1909, p. 110; Stephensen 1912a, p. 536; Stephensen 1926, p. 77; Stephensen 1928, p. 197, fig. 40 (1—6); Stephensen 1931, p. 216, fig. 64; Stephensen 1932, p. 363; Chevreux 1935, p. 90; Stephensen 1938, p. 193; Stephensen 1940, p. 33; Stephensen 1944, p. 63; Enequist 1949, p. 389; Gurjanova 1951, p. 513, fig. 336; Birstein et Vinogradov 1955, p. 243 (in key); J. L. Barnard 1958, p. 109; J. L. Barnard 1959, p. 38; Oldevig 1959, p. 51; Birstein et Vinogradov 1962, p. 252; Gurjanova 1964, p. 290; J. L. Barnard 1969a, p. 402; Brunel 1970, p. 33; Ledoyer 1970, p. 13; Karaman, G. et Schiecke 1972 V, P. 155, figs. 4—6.

Halice grandicornis Boeck 1970 (1971) (♂), p. 73 (153); Boeck 1876, p. 490.

Loc. typ.: Hardangerfjord (present selection).

Localities cited: Coast of Norway: Hardangerfjord, Christianiafjord, 200 fathoms; Risvaer, Nordland, 200—400 fathoms; Skraaven, 200 fath., (Boeck, 1871, 1876); whole coast of Norway from Christianiafjord to Vadso (Sars 1895); Trondheimsfjord, Tautra, 230 m (Oldevig 1959); Oslofjord (Stephensen 1928), Herdla Fjord (Enequist 1949).

Skagerrak: S. of Tvesten, 460 m; E.S.E. of Jongfruland (Stebbing 1906, Oldevig 1959), Koster Channel, Open Skagerrak (Enequist 1949).

Greenland: Stormburgt, 10—20 fathoms; 76°6' N, 13°26' W, 100—125 fathoms (Stephensen 1912) East Greenland between 75°58 N, 14°08' W and 75°59' N, 14°59' W, 300 m (Broch et Koeford 1909); N.E. Greenland, Ishavet (Stephensen 1928); W. Greenland, 66°35' N, 56°38' W, 600 m, East Greenland, West Greenland, 600 m (Stephensen 1944).

Danmark: between Gange and Skagerrak, 250—660 m (Stephensen 1928).

Iceland: Iceland (Grieg, 1909), S. of Iceland, 63°46' N, 22°56' W, 150 m; N.E. of Iceland: 66°23' N, 8°52' W, 1090 m (Stephensen 1931, 1940), N.E. Iceland: 64°44' N, 10°0' W, 630 m; 66°42' N, 26°40' W, 550 m (Stephensen 1940).

N. of the Faroe Islands: 63°26' N, 7°56' W, 887 m (Stephensen 1931); St. 952 of Expedition in 1898 — Chevreux 1935;

Arctic Polar basin: 62°44' N, 1°48' E, 753 m; 71°59' N, 11°40' E, 2030 m (Sars 1886); Arctic Ocean, N. Atlantic, N. Sea (Stebbing 1906, Stephensen 1944); Murman Coast: island Jeretik, Port Wladimir (Pfeffer 1890); Kara Sea, Kattegat, Denis Canal, Barentz Sea (Gurjanova, 1951, 1964).

Mediterranean Sea: E. of Corsica island, 360—440 m (Ledoyer 1970), Golfo di Napoli (Ischia, 100—110 m). Southern Adriatic depth 400 m (Karaman, G. et Schiecke 1972);

Canada: Atlantic coast: Sanguenay fjord, St. Lawrence Bay (Brunel 1970).

Distribution: Mediterranean Sea, Adriatic, Nord Atlantic's European coast (Norge, Danmark, Skagerrak, Kattegat) and Nord American coast (Canada), Atlantic's part of Arctic region, Kara Sea, West part of Barentz Sea, Greenland, Island (Iceland), Faroes, Jan Mayen. This is one boreal element, on 18 to 2030 m depth.

Halice aculeata Chevreux 1912

Halice aculeata Chevreux 1912, p. 231 (1), figs. 1, 2; Chevreux 1935, p. 88, pl. 13, figs. 5, 10; Birstein et Vinogradov 1955, p. 243; Birstein et Vinogradov 1958, p. 238; Birstein et Vinogradov 1960, p. 210, fig. 23; Birstein et Vinogradov 1962, p. 253 (in key); Birst. et Vinogradov 1964, p. 167;

non *Halice aculeata* Shoemaker 1945, p. 195, figs. 6—7 (it is *H. shoem.)*

Halice aculeata → *H. secunda* Schellenberg 1955; p. 190; J. L. Barnard 1958a, p. 110; Dahl 1959, p. 231.

Synopioides aculeata J. L. Barnard 1959, p. 38.

Loc. typ.: Atlantic between Madeira island and coast of Maroc: 32°21'30" N, 12°31' W, 0—4000 m.

Localities cited: Atlantic: near Madeira island (loc. typ.) (Chevreux 1912, 1935);

Pacific: Kurile's — Kamtchatka depression (N.W. Pacific, 2200—8050 m) (Birst. et Vinogradov 1955); N.W. Pacific:

43°39' N, 149°24' E, depth 9170 m;
46°11' N, 154°55' E, depth 5125 m;
46°31' N, 154°22' E, depth 1820 m;
49°29' N, 158°41' E, depth 1800 m;
51°46' N, 161°48' E, depth 5830 m;
44°19' N, 170°04' E, depth 5116 m;
30°53' N, 153°09' E, depth 5930 m;
38°11' N, 143°56' E, depth 6560 m;
27°49' N, 130°37' E, depth 6590 m (Birstein et Vinogradov 1958).

Central Pacific: 30°53' N, 153°09' E, depth 5930 m;
27°49' N, 130°37' E, depth 6590 m, Rijukiu depression;
30°06' N, 141°51'E, depth 5650—9000 (4000—6500) m, S. of Idzu
6°17' S, 153°45' E, depth 8968 m, Bugenvil depression;
20°21' N, 186°36' E, depth 5240 m, S. W. of Hawaian islans;
11°49' S, 187°29' E, depth 4753 m, N. of Samoa island
14°49' S, 187°04' E, depth 7203 m, Tonga depression;
23°17' S, 185°14' E depth 10.437 m, Tonga depression;
5°02' N, 135°33' E, depth 4732 m, of Palau islands (Birstein et Vinogradov 1960).

Northern part of Indian Ocean:
19°09' S, 63°07' E, depth 3225 m;
26°20' S, 90°02' E, depth 4787 m;
3°11' N, 67°02' E, depth 3463 m;
16°07' S, 53°38' E, depth 4675 m;
15°11' N, 68°33' E, depth 3626 m (Birstein et Vinogradov 1964).

Distribution: Northern part of Indian Ocean, N. W. Pacific, subtropic N. Pacifis, on 1800—10.437 m depth.

Remarks: Schellenberg (1955) and Dahl (1959) mentioned that *H. aculeata* is synonymous of *H. secunda,* but Birstein et Vinogradov in 1962 have provided that *H. aculeata* and *H. secunda* are two valid species.

Halice anacantha K. H. Barnard 1925

Halice anacantha K. H. Barnard 1925, p. 347, pl. 34, fig. 12; J. L. Barnard 1958a, p. 109; Birstein et Vinogradov 1962, p. 253 (in key).

Halice anocantha Birstein et Vinogradov 1955, p. 244 (in key).

Synopioides anacantha J. L. Barnard 1959, p. 38.

Pardisynopia anacantha J. L. Barnard 1971, p. 63.

Loc. typ.: Cape Point, N. 89° E, 36 miles distant, 700 fathoms deep (South Africa) K. H. Barnard 1925).

Distribution: Cape Point.

Halice cocalito J. L. Barnard 1964

Halice cocalito J. L. Barnard 1964, p. 23, fig. 18.

Loc. typ.: Panama Basin, Gulf of Panama: latitude 7°25' N, longitude 79°23' W, depth 1749 m (J. L. Barnard 1964).

Distribution: E. Pacific (Gulf od Panama), on 1749 m depth.

Remarks: According J. L. Barnard 1964, *H. cocalito* may be conspecific with *H. tenella.*

Halice indica (Birst. et Vinogradov 1964)

Halicoides indica Birstein et Vinogradov 1964, p. 169, fig. 4.

Pardisynopia indica J. L. Barnard 1969a, p. 400.

Loc. typ.: Northern part of Indian Ocean: 12°58' S, 122°27' E, 980 m depth (Birst. et Vinogradov 1964).

Distribution: see loc. typicus.

Halice lolo (J. L. Barnard 1971)

Pardisynopia (?) lolo J. L. Barnard 1971, p. 63, figs. 40—41.

Loc. typ.: East Pacific, Oregon: 44°39,7' N, 124°58,0' W, depth 800 m (J. L. Barnard 1971).

Distribution: Transect of Oregon (East Pacific).

Halice macronyx (Stebbing 1888)

Synopioides macronyx Stebbing 1888, p. 1000, 1223, pl. 94A; Della Valle 1893, p. 852; Stebbing 1906, p. 226, fig. 60; Schellenberg 1926b, p. 225, fig. 17; K. H. Barnard 1932, p. 134; J. L. Barnard 1959, p. 38.

? *Synopioides macronyx* K. H. Barnard 1930, p. 363, fig. 34 (may be secunda); Pirlot 1934, p. 173, figs. 64—66.

non *Synopioides macronyx* Schellenberg 1926a, p. 336, fig. 47 (it is secunda).

Halice macronyx Birst. et Vinogradov 1955; p. 243 (in key); J. L. Barnard 1958a, p. 109; Birst. et Vinogradov 1962a, p. 253 (in key); Birst. et Vinogradov 1962b, p. 48, fig. 8; Birst. et Vinogradov 1964, p. 168.

Loc. typ.: S. Pacific: 38°7' S, 94°4' W, depth 2743 m.

Localities cited: loc. typ. (Stebbing 1888, 1906);

N. Atlantic: 24°43' N, 17°1' W, depth 2000—2480 m (Schellenberg 1926b); S. Atlantic: 31°21' S, 9°46' E, depth 3000—5283 m (Schellenberg 1926b); South Africa: 34°05' S, 16°00' E, depth 1000 m; 35°14' S, 6°49' E, depth 850—1100 m (K. H. Barnard 1932); Indian Ocean: 29°6' S, 89°39' E, depth 2500—3765 m (Schellenberg 1926b); 6°39' S, 126°36' E, depth 1873 m; 10°18' S, 110°23' E, depth 7219 m (Birst et Vinogradov 1964); Antarctic: 63°18' S, 135°14' E, depth 4040 m (Birst. et Vinogradov 1962b).

Uncertain localities: S. Pacific: Off Three Kings Islands (N. Zealand) (K. H. Barnard 1930); Indian Ocean: 6°49' S, 122°43' E, depth 2190 m (Pirlot 1934).

Distribution: North and South Atlantic, South West Pacific, Indian Ocean, Antarctic.

Halice malygini (Gurjanova 1936)

Pardaliscella malygini Gurjanova 1936, p. 149, fig. 3; J. L. Barnard 1958a, p. 110; Gurjanova 1964, p. 290.

Synopioides malygini J. L. Barnard 1959, p. 39.

Loc. typ.: Karsk Sea, depth 525 m (Gurjanova 1936).

Distribution: Karsk Sea (Subarctic)

Remarks: This species is removed to *Halice* genus based on the shape of gnathopods 1 and 2, but its systematical position is somewhat uncertain until the reexamination of this species. The shape of epimera 3 is very aberrant.

Halice nana Birstein et Vinogradov 1960

Halicoides (?) nana Birst. et Vinogradov 1960, p. 216, fig. 26; Birstein et Vinogradov 1962, p. 252.

Pardisynopia nana J. L. Barnard 1969a, p. 400.

Loc. typ.: Pacific: 42°17' N, 144°15' E, depth 1312 m Birst et Vinogradov 1960).

Distribution: Tropical part of Pacific (see sub loc. typ.).

Halice profundi K. H. Barnard 1932

Halice profundi K. H. Barnard 1932, p. 134; Birst. et Vinogradov 1955, p. 243 (in key); J. L. Barnard 1958a, p. 109; J. L. Barnard 1959, p. 38; Birstein et Vinogradov 1962, p. 253 (in key).

Loc. typ.: South Georgia: 16,5 miles N 39° E of Barff Point, on 240—150 m depth (present selection).

Localities cited: South Georgia: 2,7 miles S. 85° E of Jason Light, on 238—270 m; East Cumberland Bay, 88—273 m; off Livingston Island, South Shetlands, on 800 m depth, East Cumberland Bay, 110—60 m and loc. typ. — see over (K. H. Barnard 1932).

Distribution: South Georgia (S. Atlantic), 60—800 m depth, antiboreal element.

Halice quarta Birst. et Vinogradov 1955

Halice quarta Birstein et Vinogradov 1955, p. 243, fig. 18.; Birst. et Vinogradov 1958, p. 239, fig. 10; J. L. Barnard 1958a, p. 109;
J. L. Barnard 1959, p. 38; Birst. et Vinogradov 1960, p. 213; Birst. et Vinogradov 1962, p. 253 (in key).

Loc. typ.: Kuril's — Kamtchatka depression, on 6400—9000 m depth

Localities cited: N. W. Pacific: Kuril's- Kamtchatka depression, 6400—9000 m depth (Birst. et Vinogradov 1955);
N. W. Pacific: St. 2218: 43°48' N, 149°55' E, depth 9180 m;

St. 3176: 44°08' N, 150°22'E, depth 8900 m; St. 3490:29°59' N, 142°37' E, depth 9007 m; St. 3514: 27°55' N, 143°18' E, depth 9270 m (Birstein et Vinogradov 1958);

The Tropical Pacific: St. 3823: 23°17' S, 185°14' E, depth 10.437 m, in Tonga depression; St. 4002: 11°18' N, 142°17' E, depth 9940 m, in Marianskaja depression (Birst. et Vinogradov 1960).

Distribution: Tropical and N. W. part of Pacific, 6400—10437 m depth.

Halice rotundata Birst. et Vinogradov 1960

Halice rotundata Birstein et Vinogradov 1960, p. 212, fig. 24; Birst. et Vinogradov 1962, p. 253 (in key).

Loc. typ.: The tropical Pacific: 6°17' S, 153°45' E, depth 8968 m, in Bungenvil depression.

Localities cited: The tropical Pacific: 23°17' S, 185°14' E, depth 10.437 m, Tonga depression; 6°17' S, 153°45' E, depth 8968, Bugenvil depression (Birst. et Vinogradov 1960).

Distribution: The tropical Pacific.

Halice secunda (Stebbing 1888)

Synopioides secundus Stebbing 1888, p. 1224; Stebbing 1906, p. 227; J. L. Barnard 1959, p. 38;

Synopioides secunda Schellenberg 1926b, p. 224, fig. 16.

Synopioides macronyx Schellenberg 1926a, p. 336, fig. 47.
non *Synopioides macronyx* Stebbing 1888, p. 1000, 1223, pl. 94A.

Halice secunda Birstein et Vinogradov 1955, p. 244 (in key); Birst. et Vinogradov 1958, p. 239, fig. 11; J. L. Barnard 1958, p. 109; Dahl 1959, p. 231; Birst. et Vinogradov 1960, p. 216; Birst. et Vinogradov 1962a, p. 253 (in key); Birst. et Vinogradov 1962b, p. 48; Birst. et Vinogradov 1964, p. 167.

Loc. typ.: southern Pacific: lat. 39°4' S, long. 105°5' W, depth 3703 m.

Localities cited: Pacific: 10°13' N, 126°43' E, depth 10.150—10.190 m (Philippine Trench), 32°10' S, 177°14' W, depth 6960—7000 m (Kermadec Trench) (Dahl 1959); south Pacific, lat. 39°4, S, long. 105°5' W, depth 3703 m (Stebbing 1888); The tropical Pacific:

41°19' S, 177°44' E, depth 2973 m near New Zealand; 29°59' N, 142°37' E, depth 9007 m, Japan depression N of island Bonin; 25°27' N, 143°22' E, depth 4900 m, of island Volkano; 27°49' N, 130°37' E, depth 6590 m, Riukiu depression: 6°17' S, 153°45' E, depth 8968 m, Bugenvil depression; 20°21' N, 186°36' E, depth 5240 m, S.W. of Havaian islands: 23°17' S, 185°14' E, depht 10.437 m, Tonga depression; 28°55' S, 183°57' E, depth 9376 m, Kermadec depression; 32°0' N, 143°15' E, depth 5672 m, S.O. of Idzu islands (Birstein et Vinogradov 1960); N.W. Pacific: 29°59' N, 142°37' E, depth 9007 m; 25°27' N, 143°22' E, depth 4900 m; 27°49' N, 130°37' E, depth 6590 m; 39°43' N, 159°40' E, depth 5490 m (Birstein et Vinogradov 1958);

Northern part of Indian Ocean: 19°09' S, 63°07' N, depth 3225 m; 10°18' S, 110°23' E, depth 7219 m; 9°1' S, 105°30' E, depth 6456 m; 6°31' S, 100°07, E, depth 5199 m; 5°39' N, 82°30' E, depth 4116 m; 3°11' N, 67°02' E, depth 3463 m; 16°07 S, 53°38' E, depth 4675 m; 6°53' S, 53°38' E, depth 3879 m; 4°43' S, 46°50' E, depth 4720 m; 14°33' N, 56°54' E, depth 2779 m; 16°50' N, 62°21' E, depth 3861 m; 3°59' S, 77°00' E, depth 5101 m (Birstein et Vinogradov 1964);

Southern Atlantic: 31°21' S.Br., 9°46' O.L., depth 300—5283 m (Schellenberg 1926b).

Antarctic: 35°10' S, 2°33' E, depth 3000 m; 0°46' N, 18°59' W, depth 3000 m (Schellenberg 1926a); 62°55' S, 118°52' E, depth 3741 m.

Distribution: Antarctic, N.W. and tropical Pacific, S. Atlantic, northern part of Indian Ocean, at the depth of from 2779—10.437 m.

Halice shoemakeri Birst. et Vinogradov 1955

Halice shoemakeri Birstein et Vinogradov 1955, p. 243, fig. 17; Birst. et Vinogradov 1958, p. 239; J. L. Barnard 1958a, p. 109; Birst. et Vinogradov 1962, p. 253 (in key).

Halice schoemakeri Birst. et Vinogradov 1960, p. 216.

Halice aculeata(?) Shoemaker 1945, p. 195, figs. 6—7.

Synopioides shoemakeri J. Barnard 1959, p. 39.

Loc typ.: Kuril's-Kamtchatka depression, depth 2000 m.

Localities cited: Bermuda, depth 100—1000 m (Shoemaker 1945);

Pacific: Kuril's-Kamtchatka depression, depth 2000 m (Birst. et Vin. 1955). 23°35' N, 144°12' E, depth 7630 m, Volkano depression (Birst. et Vinogradov 1960); 48°25' N, 156°34' E, depth 7340 m; 49°29' N, 158°41' E, depth 1800 m; 44°08' N, 150°32' E, depth 9800 m; 23°35' N, 144°12' E, depth 7630 m (Birst. et Vinogradov 1958).

Distribution: Tropical and N.W. Pacific, N.W. Atlantic, on 100—9800 m depth.

Halice subquarta Birst. et Vinogradov 1960

Halice subquarta Birstein et Vinogradov 1960, p. 214, fig. 25; Birst. et Vinogradov 1962, p. 253 (in key).

Loc typ.: Tonga depression, Pacific: 23°17' S, 185°14' E, depth 10437 m.

Localities cited: Tropical Pacific: 28°55' S, 183°57' E, depth 9376 m, Kermadec depression; Tonga depression)see sub loc typ.) (Birstein et Vinogradov 1960).

Distribution: Tropical Pacific.

Halice synopiae (J. L. Barnard 1962)

Pardisynopia synopiae J. L. Barnard 1962b, p. 77, figs. 3—4; J. L. Barnard 1964c, p. 235; J. L. Barnard 1966b, p. 81; J. L. Barnard 1966a, p. 27; J. L. Barnard 1967, p. 132.

Loc. typ.: Off Laguna Beach, south California (st. 4873), E. Pacific.

Localities cited: West part of Baja California (Bahia de San Quintin: 30°14'35" N, 116°03'17" E, depth 132 m (J. Barnard 1964c);

Southern California: Coronado, depth 123 m, 177 m; Tanner 496 m; St. 2789 J. Barnard 1966a); Monterey Bay, California, 6 stations on depth 93—139 m (J. Barnard 1966a); St. 4873, off Laguna Beach, S. California (J. L. Barnard 1962d); Cedros Trench, Baja California: 27°54'25" N, 115°40'00" W, depth 1720—1748 m; 27°38'00" N, 115°16'16" W, 791—842 m, depth (J. Barnard 1967).

Distribution: E. Pacific (California), on 93—1748 m depth.

Halice tambiella (J. L. Barnard 1961)

Pardisynopia tambiella J. L. Barnard 1961c, p. 79, fig. 48; J. L. Barnard 1969a, p. 404.

Loc typ.: Tasman Sea: 42°10' S, 170°10' E, depth 610 m.

Localities cited: S. Pacific: Tasman Sea, depth 610 m (J. L. Barnard 1961c).

Distribution: see sub loc. typ.

Halice tenella Birst. et Vinogradov 1962

Halice tenella Birstein et Vinogradov 1962b, p. 49, fig. 9; Birst. et Vinogradov 1962a, p. 253 (in key); J. L. Barnard 1964, p. 23; Birst. et Vinogradov 1964, p. 168, fig. 3.

Loc. typ.: Antarctic, 64°03' S, 161°59' E, depth 0—3000 m.

Localities cited: Antarctic, see sub loc. typ. (Birst. et Vinogradov 1962b); northern part of Indian Ocean: 29°42, S, 89°58' E, depth 2785 m (Birst. et Vinogradov 1964).

Distribution: Antarctic, northern part of Indian Ocean, down to the depth of 3000 m.

Halice tertia (Stephensen 1931)

Synopioides tertia Stephensen 1931, p. 219, fig. 67; Stephensen 1932, p. 363; J. Barnard 1959, p. 38.

Halice tertia Birst. et Vinogradov 1955, p. 243 (in key); J. L. Barnard 1958, p. 110; Birstein et Vinogradov 1962, p. 253 (in key).

Loc typ.: W. Greenland, 66°35' N, 56°38' W, depth 600 m.

Localities cited: see sub loc. typ. (Stephensen 1931).

Distribution: N.W. Atlantic (Greenland).

Halice ulcisor J. L. Barnard 1971

Halice(?) ulcisor J. L. Barnard 1971, p. 54, figs. 33—34.

Loc. typ.: Transect of Oregon: 44°38,8' N, 124°59,9' W, depth 600 m.

Localities cited: see sub loc. typ (J. Barnard 1971).

Distribution: N.E. Pacific (Transect of Oregon).

Halice walkeri (Ledoyer 1972)

Pardisynopia walkeri Ledoyer 1972, p. 889, pl. 7—8.

Halicoides anomalus (Walker) Ledoyer 1972, p. 889.

Halice walkeri Karaman S. et Schiecke 1972, p. 160, figs. 7—9.

Loc. typ.: Marseille, Mediterranean Sea.

Localities cited: Marseille (Ledoyer 1972); Golfo di Napoli: N. of Capri, 120—130 m depth; Secca Lo Bianco, depth 140 m; Vervece, depth 70 m (Karaman, G. et Schiecke 1972).

Adriatic Sea: southern Adriatic, depth 400 m (coast of Crna Gora) (Karaman, G. et Schiecke 1972).

Distribution: Mediterranean Sea, Adriatic Sea.

HALICELLA Schellenberg

Halicella Schellenberg 1926a; J. L. Barnard 1969a.

TYPE SPECIES: *Halicella parasitica* Schellenberg 1926 (monotypy).

DIAGNOSIS: Mouthparts forming a cone-like bundle below head; labrum beaked, straight and pointed; labium: lobes »long and slender«; maxilla 1: inner lobe stunted, outer lobe with 6 apical spines, palp 2-articulate, appears slender and asymmetric (in ornamentation), with numerous distal spinules; maxilla 2: slender, inner lobe much shorter than outer, each with 2 spinules; maxilliped: inner lobe absent, outer lobe short and broad, attached to a very long article, palp short, 4-articulate, exceeding 1/2 of outer lobe; mandible; slender, lacking distal spines, palp 3-articulate, slender.

Antenna 1: peduncular articles 1>2>3, accessory flagellum present; coxae 1—4 broader than long; Gnathopods 1—2: simple, article 5 shorter than 6, dactyl smooth; pereopods 3—7 simple, slender; uropods of medium size, telson longer than broad, cleft.

SPECIES: *parasitica.*

Halicella parasitica Schellenberg 1926

Halicella parasitica Schellenberg 1926a, p. 334, fig. 46; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 38; J. L. Barnard 1969a, p. 402.

Loc. typ.: Gauss Station, Antarctic (Kaisser Wilhelm II Land).

Localities cited: Gauss station, Kaisser Wilhelm II Land, Antarctic (Schellenberg 1926a).

Distribution: Antarctic.

(HALICOIDES Walker)

Halicoides Walker 1896; Chevreux et Fage 1925; J. L. Barnard 1969a.

TYPE SPECIES: *Halicoides anomala* Walker 1896 (monotypy).

DIAGNOSIS: Mouthparts not forming a cone-like bundle (labrum and labium unknown); maxilla 1: inner lobe ?, outer lobe developed, palp 2-articulate (dilated?); maxilla 2: lobes slender; maxilliped: inner lobe ?, outer

lobe developed, palp 4-articulate. Mandible: incisor toothed, pulp 3-articulate, slender.

Coxae 1—4 short, nearly quadratiform. Antenna 1: peduncular articles 1>2>3, accessory flagellum? (scale-like article on segment 2, also is not accessory flagellum); proximal flagellar articles conjoint; gnathopods 1—2 simple, slender, their articles 5 and 6 appear subequal, dactyl smooth. Pereopods 3—7 simple, uropods 1—3 of medium size, slender, telson longer than broad, cleft.

SPECIES: *anomalus*

REMARKS: Except the accessory flagellum identic with *Halice* genus. On Walker's figure scale-like article is on second peduncular article, also it cannot be accessory flagellum but one error. If the accessory flagellum is present, this genus must be merged into the *Halice* genus.

Halicoides anomalus Walker 1896

Halicoides anomala Walker 1896, p. 344, pl. 16, figs. 7—8; Chevreux 1898, p. 479;

Halicoides anomalus Stebbing 1906, p. 221; Chevreux et Fage 1925, p. 151, fig. 151; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 38; J. L. Barnard 1969a, p. 402.

Loc. typ.: Bay of Biscay (Isle de Yeu), depth 31—58 m.

Localities cited: Bay of Biscay (Isle de Yeu) (Walker 1896, Chevreux 1898, Stebbing 1906).

Distribution: N. Atlantic.

NECOCHEA J. L. Barnard

Necochea J. L. Barnard 1962, 1969a.

TYPE SPECIES: *Necochea pardella* J. L. Barnard 1962 (original design.).

DIAGNOSIS: Mouthparts not forming a cone-like bundle; labrum and labium unknown. Maxilla 1: both lobes developed, palp 2-articulate, dilated distally. Maxilla 2: vestigal, composed of two tiny lobes each bearing a seta. Maxilliped: inner lobe obsolete, outer lobe broad, attached to a long article, palp 4-articulate.

Antenna 1: peduncular article 1>2 = 3, flagellum segmented, accessory flagellum present. Antenna 2 short. Coxae 1—4 slightly longer than broad. Gnathopods 1—2: simple, like to *Pardalisca,* article 5 longer than 6, dactyl with setae at inferior margin (coxa 5 much broader than 4, coxae 1—4 longer than broad). Pereopods 3—7 simple, uropods 1—3 of medium size, telson longer than broad, cleft (urosomites toothed).

SPECIES: *pardella.*

Necochea pardella J. L. Barnard 1962

Necochea pardella J. L. Barnard 1962a, p. 62, figs, 54, 55; J. L. Barnard 1969a. p. 402.

Loc. typ.: East Scotia Basin: 55°19' S, 37°57' W, 3725 m depth.

Localities cited: see sub loc. typ. (J L Barnard 1962).
Distribution: South Atlantic (East Scotia Basin).

NICIPPE Bruzelius

Nicippe Bruzelius 1859; Stebbing 1906; J. L. Barnard 1969a.

TYPE SPECIES: *Nicippe tumida* Bruzelius 1859 (monotypy).

DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum slightly bilobed, symmetric(?), labium with coalesced inner lobes. Maxilla 1: inner and outer lobe developed, palp biarticulate, dilated distally. Maxilla 2: lobes slender, inner slightly shorter than outer lobe. Maxilliped: inner lobe developed, outer lobe slender, palp long, 4-articulate. Mandibles asymmetric, incisor toothed, palp 3-articulate, slender.

Coxae short, much broader than long. Antenna 1: peduncular articles 1>2>3, flagellum segmented, accessory flagellum present. Gnathopods 1—2: article 5 short, lobed posteriorly, article 6 longer than 5, dactyl smooth with one spine-tooth near the basis, pereopods 3—7 simple, uropods of medium size, slender, telson longer than broad, cleft (urosomites toothed).

SPECIES: tumida, unidentata.

Nicippe tumida Bruzelius 1859

Nicippe tumida Bruzelius 1859, p. 99, pl. 4, fig. 19; Bate 1862, p. 374; Bate et Westwood 1868, p. 511; Norman 1868, p. 414, pl. 21, figs. 4—6; Boeck 1870 (1), p. 73 (153); Boeck 1876, p. 492; Sars 1886, p. 60; Hansen 1887, p. 143; Norman 1889, p. 119; Della Valle 1893, p. 658, pl. 59, figs. 66—67; Sars 1895, p. 410, pl. 144, pl. 145, fig. 1; Norman 1895, p. 488; Chevreux 1900, p. 64; Lo Bianco 1903; Stebbing 1906, p. 226; Holmes 1908 (9), p. 526; ? K. H. Barnard 1916, p. 161; Stephensen 1926, p. 76; Chevreux 1927, p. 82; Stephensen 1928, p. 198, fig. 40 (7—10); Stephensen 1929, p. 110, fig. 26 (165); Stephensen 1931, p. 215; Spehensen 1932, p. 363; Chevreux 1935, p. 88; Raitt, D. 1937, p. 250; Stephensen 1938, p. 193 (35—40); Stephensen 1940, p. 33; Enequist 1949; p. 325, 361, figs. 14—15; Gurjanova 1951, p. 509, fig. 333; Bulitcheva 1957, p. 97; J. L. Barnard 1958, p. 110; J. L. Barnard 1959, p. 39, figs. 1—2; Oldevig 1959, p. 51; Reys 1960, p. 82, 87, pl. 1, fig. 1; J. L. Barnard 1963, p. 237; J. L. Barnard 1966a, p 27; J. L. Barnard 1966b, p. 80; J. L. Barnard 1969a, p. 403; Ledoyer 1970, p. 13; Ledoyer 1972, p. 885, pl. 6; Karaman, G. et Schiecke 1972 (in press).

Loc. typ.: Drobak in Christianiafjord (N. Atlantic).

Localities cited: N.E.Atlantic: Drobak in Christianiafjord, Norway (Bruzelius 1859), Shetland Isles (Bate 1862), Skye (Norman 1868, 1889), Buknfjord, Hardangerfjord (Boeck 1871), Stavanger, Mosterhavn, Holmestrand, Hvidingsoerne, Skraaven, Christiansund (Boeck 1876); Greenland (Hansen 1887), whole south and west coast of Norway, as also in the Trondhjemsfjord, 60—300 fathoms; Lofoten islands (Sars 1895); Skagerrak and Arctic Ocean (Stebbing 1906); Gascogne Bay-Santander, 600—300 m; 44°5' N, 9°35' E; W. Africa (Cap Bajador, 25°39' N, 18°18' E, depth 698 m

(Chevreux 1927); from Greenland to Lofoten and Spain (Stephensen 1929);

W. Greenland: 66°35' N, 56°38' W, 600 m; S. of Greenland: 63°15' N, 22°23' W, 216—326 m; 62°00' N, 21°36' W, 1393 m; 63°18' N, 21°30' W, 178 m (Stephensen 1931); S. Iceland, 178—1393 m, from Lofoten to Skagerrak and Scotland, 160 m; Cape Finistere, 510—360 m (Stephensen 1938). Iceland: 63°15' N, 20°4' W, 216—326 m; 62°0' N, 21°36' W, 1398 m; 63°18' N, 21°30' W, 178 m (Stephensen 1940); Skagerrak: open Skagerrak, the Koster Channel, the Herdla Fjord, Trondheimfjord (Enequist 1949). Norway: Tautra, 200—230 m; Vanvik, 270 m, Gulosen, 250—300 m, Arendal, Halden, Skagerrak (S. of Tvesten, 130—150 m) (Oldevig 1959).

North Sea: Minch, S.E. Orkney, Moray Firth, N. of Viking Bank (Raitt 1937); »St. 960, Campagne de 1898, 394 m« (Chevreux 1935); Barents Sea (J. Barnard 1959).

N.W. Atlantic: Davis Straight (J. Barnard 1959).

N.W. Pacific: Ohotsk Sea, Japan Sea (Gurjanova 1951), Petar Veliki Bay, Japan Sea, 167—515 m (Bulitcheva 1957).

East Pacific: California's coast: Monterey Bay, 56—57 m fathoms (Holmes 1908), ibid. J. Barnard 1966a, on 75—107 m, at 5 stations, numerous localities in S. California (J. Barnard 1959); Baja California (Bahia de San Cristobal, 27°30'38" N, 114°43'55" O, 98 m; Bahia de San Ramon, 30°38'16" N, 116°17'10" E, 93 m (J. Barnard 1963);

Southern California: Santa Catalina Basin, Santa Cruz Basin (Mugu, 171 m; Dume 374 m; Coronado 177—344 m; San Pedro sea valley, 187—221 m; La Jolla 371 m; Redondo 346 m) (J. Barnard 1966b);

Deep Sea Transect of Oregon: 44°40,3' N, 124°59' W, 800 m; 44°39' N, 124°58' W, 800 m; 44°39,6' N, 124°58' W, 800 m; 44°39,3' N, 124°35,3' W, 200 m; 40°40,3' N, 124°57,9' W, 800 m; 44°39,3' N, 124°57' W, 800 m; 44°39,3 N, 128°57,4' W, 800 m; 44°39,3' N, 124°34,5' W, 175 m; 44°40' N, 124°58' W, 800 m; 44°39,1' N, 124°33,2' W, 150 m; 44°39,1' N, 124°35,7' W, 200 m; 44°45,5 N, 124°29,6 W, 150 m; 44°46,1' N, 124°29,7' W, 150 m; 44°40,1' N, 125°06,7' W, 800 m (J. Barnard 1971).

Mediterranean Sea: »Au large de Marseille, 43°2'57" N, 2°58'30" E, 555 m (Chevreux 1927, Ledoyer 1972); Lyon Bay, in the stomack of fish Trigla (Reys 1960); East of isle Korsika, 440 m; Monaco 220—530 m; Esterel 610 m (Ledoyer 1970); Golfo di Napoli: Secca Lo Bianco, 180—190 m; Vervece, 55—70 m; N.W. of Ischia Porto, 105 m;

Adriatic Sea: southern Adriatic, depth 400 m, coast of Crna Gora (Karaman et Schiecke 1972).

Uncertain localities: South Africa: Cape Point N.E. by distant 36 miles, 650 fathoms (K. H. Barnard 1916, 1932).

Distribution: A cosmopolitan species: N. Atlantic, N. Pacific, Mediterranean Sea, Adriatic, coast of South Africa.

Remarks: K. H. Barnard in 1916 recorded several small differences between south African specimen (one ovig. female) and north Atlantic specimens: accessory flagellum 5-articulate, inner margin of article 4 of maxillipedal palp is smooth (non spinose).

Stephensen in 1931, p. 216 mentioned that several specimens of *N. tumida* (males and females from »Ingolf« St. 32 and »Thor« St. 171 and 176) have only one, but large dorsal tooth on first urosomite (as by *N. unidentata).*

(Nicippe unidentata K. H. Barnard 1932)

Nicippe unidentata K. H. Barnard 1932, p. 133; Enequist 1949, p. 325; J. L. Barnard 1958, p. 110.

Loc. typ.: Palmer Archipelago: Schollaert Channel, 160—335 m and 278—500 m depth.

Localities cited: see sub loc. typ. (K. H. Barnard 1932).

Distribution: Antarctic (Palmer Archipelago).

Remarks: Distinguished from *N. tumida* by the single tooth on urosomite 1. Article 2 of pereopods 5—7 provided with 2—3 wery long plumose setae on posterior submargin.

Enequist (1949) suggested that *N. unidentata* is synonymous of *N. tumida* (as on variation) because he found in his material from Skagerrak two forms: one with urosomite 1 with one dorsal tooth, another with urosomite 1 provided with 2 dorsal teeth. The species *N. unidentata* must be reexamined for establishing its taxonomic validity.

PARAHALICE Birst. et Vinogradov

Parahalice Birstein et Vinogradov 1962; J. L. Barnard 1969a.

TYPE SPECIES: *Parahalice mirabilis* Birstein et Vinogradov 1962 (original designation).

DIAGNOSIS: Mouthpart field quadratiform from lateral view; labrum and labium unknown. Maxilla 1: lobes well developed, palp 2-articulate, distally dilated. Maxilla 2: lobes short and broad, inner one shorter than outer, poorly setose. Maxilliped: both lobes present, palp 4-articulate. Mandibles asymmetric, incisor non toothed, palp absent.

Antenna 1: peduncular articles 1>2>3, proximal flagellar articles coalesced, accessory flagellum present (antenna 2 with very short flagellum). Gnathopods 1—2: simple, slender (article 6 sligthly longer than 5, dactyl smooth), pereopods 3—7 prehensile; uropods slender (their unequal rami shorter than peduncle), telson slightly longer than broad, cleft (urosomites with keel).

SPECIES: *mirabilis.*

Parahalice mirabilis Birst. et Vinogradov 1962

Parahalice mirabilis Birst. et Vinogradov 1962, p. 254, figs. 1—2; Birst. et Vinogradov 1964, p. 171; J. L. Barnard 1969a, p. 403.

Loc. typ.: »Ob Station« 19°09' S, 63°08' E, depth 0—3300 m, Indian Ocean.

Localities cited: Northern part of Indian Ocean: 19°09' S, 63°08' E, »Ob« station, depth 0—3300 m (Birst. et Vinogradov 1962); 19°09,4' S, 63°07,5' O, depth 3225 m (Birstein et Vinogradov 1964).

Distribution: N. part of Indian Ocean.

PARDALISCA Kroyer

Pardalisca Kroyer 1842; Stebbing 1906; J. L. Barnard 1969a.

TYPE SPECIES: *Pardalisca cuspidata* Kroyer 1842 (monotypy).

DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum very asymmetric, labium with inner lobes separate. Maxilla 1: inner and outer lobe developed, palp biarticulate, dilated distally. Maxilla 2: lobes slender, almost subequal. Maxilliped: inner lobe short, outer lobe developed (medial edge of outer lobe nearly as long as palp), palp 4-articulate. Mandibles asymmetric, incisor smooth or toothed, palp 3-articulate, slender.

Antenna 1: peduncular articles 1>2>3, flagellar articles segmented, accessory flagellum present. Coxae relatively short. Gnathopods 1—2 simple, article 5 much longer than 6, dactyl spinose at inferior margin; pereopods 3—7 simple, uropods of medium size, telson longer than broad, cleft.

SPECIES: *abyssi, abyssoides, australiensis, cuspidata, magellanica, marionis, tenuipes, Pardalisca sp.* of J. Barnard 1967.

Pardalisca abyssi Boeck 1870(1)

Pardalisca abyssi Boeck 1870(1), p. 72 (152); Boeck 1876, p. 486; Stebbing 1888, p. 992, pl. 93; Sars 1895, p. 406, pl. 141, fig. 1; Stebbing 1906, p. 222, figs. 56, 57; Oldevig 1917, p. 20; Schellenberg 1924, p. 203; Stephensen 1926a, p. 76; Stephensen 1926b, p. 9; Stephensen 1928, p. 196, fig. 39 (14); Stephensen 1931, p. 214; Stephensen 1932, p. 362; Stephensen 1933a, p. 7; Schellenberg 1935, p. 25; Gurjanova 1935, p. 557; Chevreux 1935, p. 86, pl. 1, fig. 12; Stephensen 1944, p. 61 (14); Gurjanova 1951, p. 508, fig. 332; J. L. Barnard 1958a, p. 110; Oldevig 1959, p. 50; Gurjanova 1964, p. 289.

Pardalisca abyssi (part.) Della Valle 1893, p. 692, pl. 59, fig. 93.

Pardalisca (abyssi Boeck ?) Stephensen 1931, p. 215.

Pardalisca cuspidata Buchholz 1874, p. 306, pl. 1, fig. 3, pl. 2, fig. 1.
non *Pardalisca cuspidata* Kroyer 1842, p. 153.

Loc. typ.: Haugesund (Norway).

Localities cited: N. Atlantic and Arctic: Haugesund (Boeck 1870), N. Shannon, 60 m (Buchholz 1874), Mosterhavn (Boeck 1876), W. of Spitzbergen; south of Halifax: 43°3' N, 63°39' W, 85 fathoms (New Scotia, Canada) (Stebbing 1888); Arctic Ocean, Greenland (Stebbing 1906); N. Spitzbergen: Eis Sea, 20°30' E, 81°20' N, 100 m (Schellenberg 1924); Folden Fjord (Stephensen 1926b), W. Greenland: 63°30' N, 54°25' W, 1096 m or 63°51 N, 53°03' W, 260 m; Stormbugt. Iceland: 60°37' N, 27°52' W, 1505 m; 66°00' N, 11°41' W, 280 m; 64°36' N, 11°40' W, 445 m (Stephensen 1931); Kangerdlungssuaq, 100 m (Stephensen 1933). Franz Joseph Fjord area: Dusenfjord, 75—185 m; Vega Sund, N.W. of Scott Keltie Oerne, 190——250 m (Schellenberg 1935; Kara Sea: 73,5°—80¾ N, 62½°—90° E, 42——120 m. Laptew (Nordenskiöld) Sea: 77,5° N, 103° E, 200 m (Gurjanova 1935); S. of Bear Island, S.W. Greenland, 1096 m; S.W. and E. of Iceland, 280—1505 m, Skagerrak (Stephensen 1938, 1944); St. 1052 Campagne de

1899, depth 440 m (Chevreux 1935); Karsk Sea, Norge Sea, Barents Sea (Gurjanova 1951);

Norge: Trondheimsfjord, N. of Tautra, 80—445 m (Oldevig 1959); Eis Sea (Atlantic part), Laptev Sea, Kattegat to Bohuslen (Gurjanova 1964).

Uncertain localities: Greenland: 63°30' N, 54°25' W, 1096 m; Stormbugt Delesseria region, abt. 76¾° N, 19—38 m. W. of Iceland: 65°27' N, 27°10' W, 700—765 m (Stephensen 1931 sub cf. *P. abyssi* Boeck ?).

Distribution: N. Atlantic and Arctic, up to 1505 m depth.

Pardalisca abyssoides K. H. Barnard 1932

Pardalisca abyssoides K. H. Barnard 1932, p. 133; J. L. Barnard 1958a, p. 110.

Loc. typ.: Palmer Arhipelago, 90—130 m, Antarctic.

Localities cited: Palmer Archipelago, 90—130 m, Bismark Strait Antarctic (K. H. Barnard 1932).

Distribution: Antarctic.

Pardalisca australiensis K. H. Barnard 1931

Pardalisca australiensis K. H. Barnard 1931, p. 121; Sheard Keith 1937, p. 21; J. L. Barnard 1958a, p. 110.

?*Pardalisca cuspidata* (part.) Stebbing 1906, p. 221.

Loc. typ.: Outside Trinity Opening: 16°17' S, 146°2' E, Australia.

Localities cited: see sub loc. typ. (K. H. Barnard 1931).

Distribution: S. Pacific near Australia.

Pardalisca cuspidata Kroyer 1842

Pardalisca cuspidata Kroyer 1842. p. 153; Liljeborg 1850, p. 82; M. Sars 1858, p. 130; Bruzelius 1859, p. 101; Bruzelius 1862, p. —; Bate 1862, p. 159; Goes 1865, p. 13; Goes 1866, p. 529; Jarzynsky 1870, p. 2; Boeck 1870 (1), p. 71; Boeck 1876, p. 482, pl. 12, fig. 5 (not fig. 5 g); Schneider 1884, p. 109; Sars 1885 (86), p. 59; Koelbel 1886, p. 5; Stuxberg 1886, p. 70; Hansen 1887, p. 143; Vosseler 1889, p. 156; Sars 1895, p. 403, pl. 141, 142, fig. 1; Whiteaves 1901, p. 225; Norman 1902, p. 482; Rathbun 1905, p. 64; Brüggen 1905, p. 221; Stebbing 1906, p. 223; Brüggen 1907, p. 227; Stappers 1911, p. 52; Stephensen 1912a, p. 536; Stephensen 1912b, p. 94; Stephensen 1913, p. 190; Derjugin 1915, p. 445; Schellenberg 1924, p. 203; Stephensen 1926, p. 76; Schneider 1926, p. 40; Grieg 1926, p. 23; Stephensen 1928, p. 196, fig. 39 (1—10); Derjugin 1928, p. 276; Shoemaker 1930, p. 271 (53); Stephensen 1931, p. 213; Gurjanova 1931, p. 198; Stephensen 1932, p. 363; Schellenberg 1935, p. 25; Raitt 1938, p. 97; Stephensen 1938, p. 191; Stephensen 1940, p. 32; Stephensen 1944, p. 62; Gurjanova 1951, p. 507, fig. 330; Dunbar 1954, p. 737; Bulitcheva 1957, p. 96; J. L. Barnard 1958a, p. 110; Oldevig 1959, p. 50; Gurjanova 1964, p. 289; J. L. Barnard 1969a, p. 403; Brunel 1970, p. 35.

Pardalisca cuspidata (part.) Della Valle 1893, p. 692, pl. 59, fig. 92.
non *Pardalisca cuspidata* Kr., Buchholz 1874, p. 306, pl. 1, fig. 3, pl. 2, fig. 1 (it is *P. abyssi).*

Loc. typ.: Godthaab (Greenland).

Localities cited: Atlantic and Arctic; Godthaab, Greenland (Kroyer 1842). Bohuslän (Bruzelius 1859), Bergen (Bruzelius 1862), W. Spitzbergen, Bell Sound (Goes 1865), White Sea (Jarzynsky 1870, Derjugin 1928), Odvaer (Norway), W. coast of Norway (Boeck 1870, 1876), Matotchkin shar (Novaja Zemlja, Tchirakina, Byelouju Bay (Stuxberg 1886), Vesteraalen: 69°18' N, 14°32' E; Spitzbergen: 78°02' N, 9°25' E, depth 761 m (Sars 1885), Jan Mayen, 20 m (Koelbel 1886), coast of Finmark, 10—30 fathoms; Varangerfjord, Vadso, Kvaenangenfjord, Tromso, Christiansund (Sars 1895); Klosterelfjord, Bokfjord (Norway, 10—20 m) (Norman 1902), Cap Bon Ami, Gaspe (S. E. of Anticosti), Canada 40—50 fathoms (Whiteaves 1901); Skagerrak (Stebbing 1906), Icefjord, Green Harbour (Brüggen 1907), Porte de Kara, Arctic: 70°25' lat., 57°56' long, 66 m (Stappers 1911); Stormbugt (E. Greenland, 5—20 fathoms) (Stephensen 1912), Kola bay (Derjugin 1915), Ryk Ys Islands (Spitzbergen, 60—80 m) (Schellenberg 1924), N. of Cheticamp islands (40—50 m); Gulf of St. Lawrence, coast of New England, Canala (Shoemaker 1930); eastern Murmansk coast (Portchnicka Bay) (Gurjanova 1931); Iceland: Skagestrand 100—120 m, Seidisfjord 90 m, Breidalsvik 26 m (Stephensen 1931), Herschelhus 83—85 m (Franz Joseph Fjord area) (Schellenberg 1935), Arctic deep basin and numerous localities in Norway (Stephensen 1938), Iceland (Raitt 1938), Seidisfjordur, 90 m, Breiddalsvik, 26 m (Stephensen 1940), Lindenows fjord, 25—30 m (Greenland); off the mouth of Rhedins Fjord, 25—30 m (Franz Joseph Fjord area) (Stephensen 1944); East Arctic, Barenz Sea (Gurjanova 1951), Ungava Bay (St. 234, 40 m, Canadian Eastern Artic), Faeroes (Dunbar 1954), Kattegat Karskie Vorota, Laptev Sea, Karsk Sea, Novosibirsk region, Proliv Šolanskog (Gurjanova 1964); Spitzbergen (Vezlenhoeck) 80 m; Mossel Bay, 50 m; Liefde Bay, 10 m; Hakluyts Headland, 35 m; Fairhaven, 35 m; Bell Sound, 70 m; Waijgat islands, 50 m; Hope island-Beeren Island, 80 m; Vitza (Kola peninsula); Finmarken, Karlsö, 37 m; Kvaenangen, Nordbotn, 35—50 m (Norway), Bohuslän (Sweden) (Oldevig 1959); Baie des Chaleurs (Saint Laurent Bay, Canada) (Brunel 1970).

W. Pacific: pacific coast of Kurilen Islands (Gurjanova 1964); Petar Veliki Bay, Japan Sea, 100—955 m (Bulitcheva 1957).

Distribution: N. Atlantic and N. Arctic basin with adjoining seas, N. W. Pacific, depth 10—761 m.

Pardalisca magellanica Schellenberg 1931

Pardalisca magellanica Schellenberg 1931, p. 127; J. L. Barnard 1958a, p. 110.

Loc. typ.: Puerto Harris (Falkland islands).

Localities cited: Puerto Harris (Falkland islands) (South Atlantic) (Schellenberg 1931).

Distribution: Southern Atlantic (P. Harris).

Pardalisca marionis Stebbing 1888

Pardalisca marionis Stebbing 1888, p. 996, pl. 94; Chevreux 1912, p. 83; Schellenberg 1926a, p. 402; J. L. Barnard 1958a, p. 110.

Pardalisca cuspidata (part.) Della Valle 1893, p. 692.

Loc. typ.: Marion island, 100 fathoms (Southern Indian Ocean).

Localities cited: see sub loc. typ. (Stebbing 1888).

Distribution: Southern part of Indian Ocean.

Pardalisca tenuipes Sars 1895

Pardalisca tenuipes Sars 1895, p. 404, pl. 142, fig. 2; Stebbing 1906, p. 223; Stephensen 1912a, p. 536; Stephensen 1913, p. 190; Schellenberg 1924, p. 203; Stephensen 1926, p. 76; Gurjanova 1927, p. 29, 37; Stephensen 1928, p. 195, fig. 39 (11—13); Shoemaker 1930, p. 54 (272); Stephensen 1931, p. 213, chat. 37; Stephensen 1932, p. 363; Stephensen 1938, p. 191; Enequist 1949, p. 389; Gurjanova 1951, p. 508, fig. 331; J. L. Barnard 1958a, p. 110; Oldevig 1959, p. 50; J. L. Barnard 1962, p. 77; Gurjanova 1964, p. 290.

Pardalisca (tenuipes G. O. Sars?) Stephensen 1944, p. 62.

Loc. typ.: Trondhjemsfjord, Norway, 50—100 fathoms.

Localities cited: N. E. Atlantic and Norway: Trondhjemsfjord (Sars 1895), Stavangerfjord, Oslofjord near Tonsberg, 50 m (Stephensen 1931), Storfossen-Tarva; Gulosen 250, 300 m (Oldevig 1959);

Skagerrak: 58°54' N, 10°37' E, 246 m (Stephensen 1931); Open Skagerrak, Koster Channel, Herdla fjord (Enequist 1949), S. of Nevlunghavn, 250—300 m (Oldevig 1959); Sweden: Bohuslän, Kosterfjord, 180 m (Oldevig 1959); Greenland: Stormbugt, 20 fathoms (Stephensen 1912), Lindenows Fjord, 32 m (Stephensen 1944); Omanak, 450 m (Oldevig 1959); S. W. of Faroes islands (Stephensen 1938, 1944); Eis Sea, N. Spitzbergen 20°30' E, 81°20' N, 1000 m (Schellenberg 1924); N. of Lofoten Isles (Enequist 1949); Kola fjord (Gurjanova 1927), Waide Guba, 15 m (Murman) (Oldevig 1959), Barents Sea, East Arctic region near Novosibirsk's islands (Gurjanova 1951, 1964).

North West Atlantic: Off Cheticamp island, Gulf of St. Lavrence, 91 m, (Canada) (Shoemaker 1930, Stephensen 1930).

East Pacific: Southern California: San Pedro Sea valey, California, 102 fathoms (J. L. Barnard 1962).

Distribution: N. Atlantic and eastern Arctic region, W. Pacific.

Pardalisca sp.

Pardalisca sp. J. L. Barnard 1967, p. 124, figs. 59—60.

Loc. typ.: Cedros Trench, Baja California: 27°54'25" N- 115°40'00" W, depth 1720—1748 m.

Localities cited: see sub loc. typ. (J. L. Barnard 1967).

Distribution: Pacific (California).

PARDALISCELLA Sars

Pardaliscella Sars 1895; Stebbling 1906; J. L. Barnard 1969a.

TYPE SPECIES: *Pardalisca boeckii* Malm 1871 (monotypy).

DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum weakly incised, asymmetrical of symmetrical. Labium with inner lobes coalesced; maxilla 1: inner lobe developed, rerely obsolete, outer lobe developed, palp biarticulate, dilated distally. Maxilla 2: lobes slender, inner slightly shorter than outer. Maxilliped: lobes developed, outer lobe attached at relatively short article, palp 4-articulate. Mandible asymmetric, incisor strong toothed, palp 3-articulate, slender.

Coxae 1—4 slightly broader than long. Antenna 1: peduncular articles: 1>2>3, flagellum segmented, accessory flagellum present. Antenna 2 short. Gnathopods 1—2 simple, articles stout, article 5 and 6 subequal, 5 lacking lobe, dactyl with one or more teeth at inferior margin; pereopods 3—7 simple. Uropods well developed, slender. Telson longer than broad, cleft.

SPECIES: *(axeli), boeckii, lavrovi, simplignathia, symmetrica, yaquina.*

(Pardaliscella axeli Stebbing 1906)

Pardaliscella axeli Stebbing 1906, p. 228; Oldevig 1933, p.; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 38.

Pardaliscella axelii Stephensen 1926, p. 77; Stephensen 1928, p. 200.

Pardalisca boeckii A. Boeck 1870 (1), p. 152 (172); Boeck 1876, p. 485, pl. 10, fig. 4.

Loc. typ.: Christianiafjord.

Localities cited: Christianiafjord, Karmöe (North Sea) (Stebbing 1906, Boeck 1876); Malm, Bohuslan (Boeck 1876).

Distribution: S. E. Atlantic.

Remarks: This is species dubia, may be synonymous of *P. boeckii.* Stebbing 1906 established this species based on the differences between the description and figures of Boeck 1876 and the living animals.

Pardaliscella boecki (Malmgren 1870 (1))

Pardalisca boeckii Malm. A. W. 1870 (1), p. 547, pl. 5, fig. 2.

non *Pardalisca boecki* Boeck 1871, p. 152 (72); Boeck 1876, p. 485, pl. 10, fig. 4 (it is P. axeli).

Pardalisca abyssi (part.) Della Valle 1893, p. 692.

Pardaliscella boecki Sars 1895, p. 408, pl. 143, fig. 2; Stebbing 1906, p. 228; Stephensen 1926, p. 77; Stephensen 1928, p. 199, fig. 40 (11—15); Stephensen 1932, p. 363; Stephensen 1933, p. 79; Oldevig 1933, p.; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 38; Karaman G. et Schiecke 1972 Vp. 149, figs. 1—3.

Pardaliscella boeckii Stephensen 1931, p. 220, fig. 68; Oldevig 1959, p. 51.

Loc. typ.: Bohuslän

Localities cited: Bohuslän (Malmgren 1871), Bohusia, Christianiafjord, Haugesund (Boeck 1871, 1876); Skagerrak (Bohuslän) (Steb-

bing 1906), Danmark: Gang N. W. of Hirtshals, 640 m (Stephensen 1928) W. Greenland: 63°06' N, 56°00' W, 2258 m; 63°30' N, 54°25' W, 1096 m; 66°35' N, 56°30' W, 600 m; Hvalöer in the Oslofjord (Stephensen 1931); Kosterfjord, Sweden (Oldevig 1959); Soon (Karaman, G. et Schiecke 1972).

Mediterranean Sea: Golfo di Napoli: Vervece (off), 85—100 m; Capri 120—140 m, N. O. of Secca di Ischia, 120 m; W. of Secca di Forio, 150 m (Karaman, G. et Schiecke 1972).

Distribution: N. Atlantic and Mediterranean Sea.

Pardaliscella lavrovi Gurjanova 1934

Pardaliscella lavrovi Gurjanova 1934, p. 126, fig. 3; Gurjanova 1951, p. 511, fig. 334; J. L. Barnard 1958a, p. 110.

Synopioides lavrovi J. L. Barnard 1959, p. 39.

Loc. typ.: Karsk Sea (Arctic), depth 27 m.

Localities cited: Karsk Sea, Arctic (Gurjanova 1934).

Distribution: see sub loc. typ.

Pardaliscella simplignathia (J. L. Barnard 1962)

Urothoe simplignathia J. L. Barnard 1962, p. 44, fig. 33.
Pardaliscella simplignathia J. L. Barnard 1969a, p. 251.
Loc. typ.: Angola Bassin: 5°53,5' S, 9°51,5' E, depth 3015 m.
Localities cited: see sub loc. typ. (J. L. Barnard 1962).
Distribution: S. Atlantic (Angola Bassin).

Pardaliscella symmetrica J. L. Barnard 1959

Pardaliscella symmetrica J. L. Barnard 1959, p. 40, figs. 3, 4; J. L. Barnard 1966 b, p. 80; J. L. Barnard 1971, p. 60.

Loc. typ.: Southern California, off Newport, depth 95 fathoms.

Localities cited: loc. typ. (J. L. Barnard 1959), South California: canyons: Tanner, 644 m; Coronado 177 m, La Jolla 121 m; San Nicolas Basin, 1670—1749 m (J. L. Barnard 1966 b); Deep Sea Transect of Oregon: 44°39,1' N, 124°36,3' W, 225 m; 44°39,1' N, 124°35,7' W, 200 m. (J. L. Barnard 1971).

Distribution: E. Pacific.

Pardaliscella yaquina J. L. Barnard 1971

Pardaliscella (?) yaquina J. L. Barnard 1971, p. 60, figs. 38—39.
Loc. typ.: Deep Sea Oregon Transect, 44°38,6' N, 125°50,0' W, 400 m.
Localities cited: see sub loc. typ. (J. L. Barnard 1971).
Distribution: E. Pacific.

PARDALISCOIDES Stebbing

Pardaliscoides Stebbing 1888; 1906; J. L. Barnard 1969a.
TYPE SPECIES: *Pardaliscoides tenellus* Stebbing 1888 (monotypy).

DIAGNOSIS: Mouthpart field not forming a cone-like bundle. Labrum and labium unknown. Maxilla 1:lobes (= plates) present, palp 2-articulate, distally dilated and provided with marginal elements. Maxilla 2:lobes slender, Maxilliped: inner lobe present, outer lobe short, palp 4-articulate (articles 2—3 elongate). Mandible: asymmetric, slightly toothed incisor, palp 3-articulate, slender.

Antenna 1: peduncular articles 2 longer than article 1, flagellum segmented, accessory flagellum present. Gnathopods 1—2: simple, article 5 much longer than 6 and dilated posteriorly, dactyl with short setae at inferior margin. Pereopods 3—7 simple. Uropods well developed. Telson longer than broad, cleft.

SPECIES: *fictotelson, longicaudatus, stebbingi, tenellus.*

REMARKS: Telson of *P. fictotelson* with apical emargination separating telsonic apices broadly.

Pardaliscoides fictotelson J. Barnard 1966

Pardaliscoides (?) fictotelson J. L. Barnard 1966b, p. 80, fig. 34.

Loc. typ.: Santa Cruz Canyon, California: 33°56'03" N, 119°52'03" W, depth 218 m.

Localities cited: see sub loc. typ. (J. Barnard 1966).

Distribution: Pacific (California).

Pardaliscoides longicaudatus Dahl 1959

Pardaliscoides longicaudatus Dahl 1959, p. 230, fig. 15; J. Barnard 1966b, p. 81.

Loc. typ.: Philippine Trench: 10°20' N, 126°41' E, depth 9820—10.000 m.

Localities cited: loc. typ.; Kermadec Trench, 32°09' S, 176°35' W, 6180 m (Dahl 1959).

Distribution: E. Pacific.

Pardaliscoides stebbingi Ledoyer 1970

Pardaliscoides stebbingi Ledoyer 1970, p. 14, fig. 3.

Loc. typ.: East of island Korsica, 530 m, Mediterranean Sea.

Localities cited: loc. typ. (Ledoyer 1970).

Distribution: Mediterranean Sea.

Pardaliscoides tenellus Stebbing 1888

Pardaliscoides tenellus Stebbing 1888, p. 1725; Stebbing 1897, p. 38, pl. 12; Stebbing 1906, p. 225; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 39; J. L. Barnard 1969a, p. 404.

non *Pardaliscoides tenellus* Stephensen 1931, p. 217, figs. 65, 66.

Pardalisca abyssi (part.) Della Valle 1893, p. 692.

Loc. typ.: South Pacific: lat. 37°29' S, long. 83°7' W, 1775 fathoms (= 3246 m).

Localities cited: loc. typ. (Stebbing 1888, 1897, 1906).
Distribution: Southern Pacific.
Remarks: Stephensen in 1931, p. 217 mentioned one *Pardaliscoides tenellus* with following characteristics: article 2 of peduncle of antenna 1 is shorter than article 1, shape of gnathopods 1—2 like *Pardalisca* or *Princaxelia,* dactyl of gnathopods is smooth and slender, palp of maxilla 1 is not dilated, outer lobe of maxilla 1 with 10 spines. It seem to be *Princaxelia stephenseni* Dahl 1959.

PARDALISCOPSIS Chevreux

Pardaliscopsis Chevreux 1911; J. L. Barnard 1969.
TYPE SPECIES: *Pardaliscopsis tenuipalpa* Chevreux 1911 (original designation).
DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum very asymmetric, labium with coalesced inner lobes. Maxilla 1: lacking inner lobe(?), outer lobe present, palp biarticulate, dilated distally. Maxilla 2: lobes subequal, slender. Maxilliped: inner lobe short, outer lobe attached to the medial long article, palp 4-articulate.
Coxae relatively short. Antenna 1: peduncular articles 1>2>3, flagellum segmented, accessory flagellum present. Gnathopods 1—2: simple, with very stout articles, articles 5 and 6 subequal or article 6 shorter, dactyl smooth. Pereopods 3—7 simple, uropods of medium size, slender; telson longer than broad, cleft.
SPECIES: *tenuipalpa.*

Pardaliscopsis tenuipalpa Chevreux 1911

Pardaliscopsis tenuipalpa Chevreux 1911, p. 7, figs. 4—5; Chevreux 1935, p. 86, pl. 12, fig. 12, pl. 13, fig. 6; J. L. Barnard 1958a, p. 110; J. L. Barnard 1959, p. 39; J. L. Barnard 1969a, p. 404.
Loc. typ.: Golfe de Gascogne, 46°17'30" N, 5°42' W, 4380 m.
Localities cited: loc. typ. (Chevreux 1911, 1935).
Distribution: O. Atlantic.

PARPANO Barnard J. L.

Parpano Barnard J. L. 1964a, 1969a.
TYPE SPECIES: *Parpano cebus* Barnard J. L. 1964 (original designation).
DIAGNOSIS: Mouthparts not forming a cone-like bundle, (eyes absent). Labrum incised, symmetrical or slightly asymmetrical. Labium with coalesced inner lobes. Maxilla 1: both lobes well developed, palp 2-articulate, dilated distally. Maxilla 2: lobes slender, each provided with 2 setae. Maxilliped: both lobes short, palp 4- articulate. Mandibular palp 3-articulate, slender. Coxae short (?).
Antenna 1: peduncular articles: 1>2>3, proximal flagellar portion segmented or unsegmented, accessory flagellum present. Gnathopods 1—2 as by Tosilus, simple, slender, article 5 very short, article 6 long, pereopods 3—7 simple. Uropods 1—3 progressively shorter towards posterior. Telson slightly pentagonal or subquadrate, entire. (US smooth or toothed).
SPECIES: *cebus, compostrus.*

REMARKS: Very like to *Tosilus* genus (the shape of uropods, gnathopods), but differs from former by entire telson.

Parpano cebus Barnard J. L. 1964

Parpano cebus Barnard J. L. 1964a, p. 23, fig. 19; J. L. Barnard 1969a, p. 404.

Loc. typ.: Northwest of Barranquilla, Carribean Colombia: 11°30' N, 75°50' W, depth 2866—2875 m. (W. Atlantic).

Localities cited: loc. typ. (J. L. Barnard 1964a). Uncertain locality. South Atlantic Ocean: 28°25' S, 8°28' E, depth 4986 m.

Distribution: W. Atlantic, South Atlantic.

Parpano compostrus Barnard J. L. 1964

Parpano compostrus Barnad J. L. 1964a, p. 24, fig. 20.

Loc. typ.: North of Puerto Rico Trench: 21°18,7' N, 65°13,4' W, depth 5451—5419 m (W. Atlantic).

Localities cited: loc. typ. (J. L. Barnard 1964a).

Distribution: W. Atlantic.

PRINCAXELIA Dahl

Princaxelia Dahl 1959; J. L. Barnard 1969a.

TYPE SPECIES: *Princaxelia stephenseni* Dahl 1959 (original designation).

DIAGNOSIS: Mouthparts not forming a cone-like bundle. Labrum incised, slightly asymmetrical, labium unknown. Maxilla 1: inner lobe small, with apical seta, outer lobe with 10 apical spines, palp biarticulate, dilated distally. Maxilla 2: both lobes slender. Maxilliped: inner lobe short, outer lobe reached to the end of first palpar article; palp 4-articulate, very long, more than 2 times as long as inner edge of outer lobe.

Antenna 1: peduncular articles 1>2>3, proximal portion of flagellum dilated and unsegmented (by male) or slender and segmented (by females). Accessory flagellum present. Gnathopods 1—2 simple, article 5 much longer than 6 and very expanded in the middle, article 4 short, dactyl simple, smooth. Pereopods 3—7 simple, slender. Uropods 1—2 with slender rami, uropod 3 with subequal foliaceous rami, telson cleft, narrow (urosomites with 1—2 dorsal teeth).

SPECIES: *abyssalis, stephenseni.*

Princaxelia abyssalis Dahl 1959

Princaxelia abyssalis Dahl 1959, p. 229, figs. 13, 14.

Loc. typ.: Kermadec Trench: 32°10' S, 177°14' W, depth 6960—7000 m.

Localities cited: Kermadec Trench: 35°16' S, 178°40' W, depth 8210—8300 m; 32°20' S, 176°54' W, depth 6620—6730 m; loc. typ. (Dahl, 1959).

Distribution: Pacific Ocean.

Princaxelia stephenseni Dahl 1959

Princaxelia stephenseni Dahl 1959, p. 228, fig. 12; J. L. Barnard 1969a, p. 405.

»?*Pardaliscoides tenellus*« Stephensen 1931, p. 217.

non *Pardaliscoides tenellus* Stebbing 1888, p. 1725.

Loc. typ.: S.W. of Iceland: 60°37' N, 27°52' W, depth 1505 m.

Localities cited: loc. typ. (Stephensen 1931, Dahl 1959).

Distribution: N. Atlantic.

RHYNOHALICELLA n. gen.

TYPE SPECIES: *Halicella halona* Barnard, J. L. 1971.

DIAGNOSIS: Mouthparts forming a cone-like bundle. Labrum incised, symmetric. Labium slender (non satisfactorily analyzed). (eyes absent). Maxilla 1: inner lobe absent (»except for broad lamella connecting maxilla 1 and 2«), outer lobe conical (with 5 hooks), palp uniarticulate, conical (with 7 distal spines). Maxilla 2: composed by only one (?) elongate body (with 2 apical spinules). Maxilliped: lacking inner lobe, outer lobe broad, relatively long, attached to a very long article (nearly twice as long as lobe), palp 4-articulate, short (not exceeding outer lobe). Mandible slender, incisor smooth, palp stunded, represented by one short tubercle with 2 setae.

Coxae 1—4 very short. Gnathopods 1—2 simple, slender, article 5 remarkably shorter than article 6. Pereopods 3—7 simple. Uropods well developed, slender. Telson longer than broad, cleft.

SPECIES: *halona.*

REMARKS: Differs from *Halicella* genus by the shape of upper lip, by the uniarticulate conical palp of maxilla 1, by the shape of maxilla 2 and the palp of maxilliped, by stunted mandibular palp represented by one stout tubercle only.

Rhynohalicella halona (J. L. Barnard 1971)

Halicella halona J. L. Barnard 1971, p. 56, figs. 35—37.

Loc. typ.: Transect of Oregon: 44°39,1' N, 124°36,3' W, depth 200 m.

Localities cited: loc. typ. (J. L. Barnard 1971).

Distribution: Eastern Pacific (California).

TOSILUS Barnard J. L.

Tosilus, J. L. Barnard 1966b.

TYPE SPECIES: *Tosilus arroyo* J. L. Barnard 1966b (original design.).

DIAGNOSIS: Lateral cephalic lobes slightly produced anteroventrally (see J. L. Barnard 1967, fig. 65). Mouthpart field not forming a cone-like bundle. Labrum incised, slightly asymmetric. Labium with coalesced inner lobes. Maxilla 1: lobes well developed, palp 2-articulate, dilated distally. Maxilla 2: lobes slender. Maxilliped: inner lobe obsolescent, outer lobe short, palp 4—articulate, long. Mandible asymmetric (?), incisor slightly toothed, palp 3-articulate, slender. Antenna 1: peduncular articles 1>2>3, flagellum seg-

mented, accessory flagellum present (peduncular article 3 of antenna 2 elongated).

Gnathopods 1—2 simple, slender, article 5 very short, article 6 long, dactyl smooth. Pereopods 3—7 slender, simple. Uropods 1—3 shortened towards posterior (uropod 3 with rami shorter than peduncle. Telson pentagonal, cleft (urosomites smooth, coxa 4 longer than broad).

SPECIES: *arroyo.*

Tosilus arroyo J. L. Barnard 1966

Tosilus arroyo J. L. Barnard 1966b, p. 82, fig. 35; J. L. Barnard 1967, p. 132, fig. 65.

Loc. typ.: La Jolla Canyon, southern California: 32°49'37" N, 117°35'12" W, depth 976 m.

Localities cited: Loc. typ. (J. L. Barnard 1966b); Cedros Trench, Baja California: 27°35'45" N, 115°08'30" W, depth 1095—1205 m (J. L. Barnard 1967).

Distribution: Eatern Pacific (California).

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REVIZIJA OBITELJI PARDALISCIDAE SA DIAGNOZAMA RODOVA, RASPROSTRANJENOST VRSTA I BIBLIOGRAFIJA (XLIII PRILOG POZNAVANJU AMPHIPODA)

Gordan S. Karaman

KRATAK SADRŽAJ

U radu je objavljena revizija obitelji *Pardaliscidae,* koja obuhvata 17 rodova sa približno 51 vrstom. Opisana su dva nova roda, rod *Caleidoscopsis* i rod *Rhynohalicella.*

Rod *Pardisynopia* J. Barnard je ukinut i vrste ovog roda su prebačene u rod *Halice* Boeck. Sve vrste roda *Halicoides* (sensu auct. osim tipične vrste koja treba biti ponovo proučena) prebačene su u rod *Halice.*

Iznesena je kompletna bibliografija, sinonimika i rasprostranjenje svih vrsta obitelji *Pardaliscidae,* kao i diagnoze svih rodova i ključ za njihovo određivanje.

Diagnoza roda *Caleidoscopsis,* n. rod:

Usni djelovi ne formiraju tijelo kupastog oblika. Gornja usna simetrična ili malo asimetrična. Donja usna sa sraslim unutrašnjim lobusima. Maksila 1: unutrašnji lobus »nije otkriven« ili postoji, vanjski lobus razvijen, palpus dvočlan, proširen distalno. Maksila 2: lobusi kratki i široki, svaki od njih nosi po nekoliko dlaka. Maksiliped: unutrašnji i vanjski lobus kratak, palpus 4-član. Mandibule asimetrične, sa incisorom slabo nazubljenim ili zubolikim, palpus 3-član. Kokse 1—4 su duže od svoje širine.

Gnatopodi 1—2: članci malo zdepasti, peti članak malo kraći od šestog, daktilus gladak. Pereopodi 3—4 su jednostavni, sa dugim četvrtim člankom, pereopodi 5—6 su jednostavni. Uropodi srednje dužine, tanki. Telzon je duži od svoje širine.

Vrste roda su: *C. copal* i *C. tikal.*

Diagnoza roda Rhynohalicella, n. rod:

Usni djelovi formiraju tijelo kupastog oblika. Gornja usna je usječena i simetrična. Donja usna uska (nedovoljno proučena). Maksila 1: unutrašnji lobus nije razvijen, vanjski lobus kupast, sa 5 kuka, palpus jednočlan, kupast, sa 7 vršnih trnova. Maksila 2: sastavljena je od jednog izduženog tijela koje nosi 2 vršna trna. Maksiliped bez unutrašnjeg lobusa, vanjski lobus širok, relativno dug, pričvršćen na vrlo dug članak, palpus 4-član, kratak. Mandibule tanke, incisor gladak, palpus ljuskast, sastavljen od kratkog tijela sa 2 dlake. Kokse 1—4 su vrlo kratke. Gnatopodi 1—2 su jednostavni, tanki, peti članak je kraći od šestog.

Pereopodi 3—7 su jednostavni. Uropodi dobro razvijeni, tanki. Telzon je duži od svoje širine, usječen.

Vrsta roda su: *H. halona.*

U Sredozemnom moru je do sada otkriveno 4 roda odnosno 5 vrsta iz obitelji *Pardaliscidae: Halice abyssi* Boeck 1871, *Halice walkeri* (Ledoyer 1972), *Nicippe tumida* Bruzelius 1859, *Pardaliscella boeckii* (Malm 1871) i *Pardaliscoides stebbingi* Ledoyer 1970.

Predstavnici obitelji *Pardaliscidae* su sve do nedavno bili nepoznati u Jadranskom moru. Prve, i do sada jedine nalaze predstavnika ove obitelji u Jadranu navode G. Karaman i U. Schiecke 1972 (1973) god. i to dva roda odnosno 3 vrste: rod *Halice* sa vrstama *Halice abyssi* i *Halice walkeri*, te rod *Nicippe* sa vrstom *Nicippe tumida*. Sve tri vrste su nađene u južnom dubljem dijelu Jadrana na morskom dnu na dubini od 400 metara (obala Crne Gore).

Kako su veće dubine Jadranskog mora vrlo slabo istražene, to se nastavljanjem istraživanja u tom dijelu Jadrana mogu očekivati i nalazi drugih dubinskih vrsta ove obitelji.