

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

PRELIMINARY DESCRIPTIONS OF ONE NEW GENUS,
TWELVE NEW SPECIES AND THREE NEW
SUBSPECIES OF SCYLLARID LOBSTERS
(CRUSTACEA DECAPODA MACRURA)

BY L. B. HOLTHUIS

Rijksmuseum van Natuurlijke Historie, Leiden

A study of the Scyllarid collections of the U. S. National Museum and some other institutions resulted in the discovery of a relatively great number of undescribed or unnamed taxa. As the publication of a proposed world-wide revision of the entire family containing full descriptions of these taxa will take some time, it was thought advisable to provide here preliminary descriptions of these new species and subspecies and of the new genus in order to make them known without delay.

***Ibacus ciliatus pubescens*, new subspecies**

This subspecies is very close to the typical *Ibacus ciliatus ciliatus* (Von Siebold, 1824), but differs in that the adult specimens have the dorsal surface of the carapace and the abdomen covered with a short and dense pubescence; in the typical form this surface is quite naked in the adults. Furthermore the number of posterolateral teeth of the carapace (i.e., the teeth of the lateral margin behind the cervical incision) varies between 11 and 13 in the new subspecies, being usually 12. In the typical subspecies this number varies between 10 and 12, being usually 11.

Distribution: The typical subspecies is known from Japan, China, Formosa, and the Philippines, the new subspecies has so far only been found in the Philippines (depth 52 to 391 m).

Holotype: A male specimen from "Albatross" Station D 5394, near Talajit Island, Philippines, 12° 00' 30" N, 124° 05' 36" E, 13 March 1909 (U.S.N.M. Cat. No. Crust. 104285).

***Parribacus caledonicus*, new species**

The rostrum bears a blunt dorsal tooth. The posterior of the two anterolateral teeth of the carapace is smaller than the anterior. The anterior part of the second to fifth abdominal somites (namely the part which

disappears under the previous somite when the abdomen is fully stretched) is provided with distinct tubercles which have a fringe of very short stiff hairs along the posterior margin. The transverse groove between the two halves of the abdominal somites is rather narrow and filled with short stiff hairs and tubercles. The median carina on the posterior half of the second to fifth abdominal somites is hardly if at all elevated above the level of the somite itself, at least in large specimens. The fourth segment of the antenna is usually provided with 7, seldom with 6, teeth on the outer margin (the final tooth of the segment not included). The pereopods are shorter and less slender than those of *Parribacus antarcticus* (Lund, 1793). The first abdominal somite shows dorsally in each half two large dark red lateral spots, which have an irregular outline and are partly fused anteriorly; a small red spot is present in the median line of the somite. All these spots are situated near the posterior margin; no other red spots are present on the somite.

Distribution: So far the species is only known from New Caledonia where it is found on the reefs, being rather common there.

Holotype: A female (c.l. 72 mm) from Ile des Pins, April-May 1960, leg. Dr. Merlet (Rijksmuseum van Natuurlijke Historie, Cat. No. Crust. D. 14506).

***Parribacus scarlatinus*, new species**

The rostrum bears a small sharp dorsal tooth. The posterior antero-lateral tooth of the carapace is slightly less strong than the anterior. The anterior part of the second to fifth abdominal somites is smooth and naked, showing at most a few inconspicuous reticular grooves. The transverse groove between the two halves of these abdominal somites is narrow and filled with short hairs and tubercles. The median carina of the second to fifth abdominal somites is hardly at all elevated in the adults. The fourth antennal segment bears usually 6, seldom 5, external teeth (the final tooth of the segment excluded). The pereopods are slender. The first abdominal somite shows dorsally five red spots on the posterior margin; no spots are placed in front of these five. The spots are irregular in outline, not sharply defined and without a dark ring.

Distribution: Kapingamarangi Atoll, Marshall, Gilbert, and Phoenix Islands.

Holotype: A male (c.l. 66 mm) from Enderbury Island, Phoenix Archipelago, 3° 08' 29.7" S, 171° 05' 34.4" W, 19 May 1939, L. P. Schultz (U.S.N.M. Cat. No. Crust. 100826).

***Parribacus japonicus*, new species**

The rostrum bears no dorsal tooth. The posterior of the two antero-lateral teeth of the carapace is only slightly smaller than the anterior. The anterior half of the second to fifth abdominal somites is practically smooth, sometimes with a few very shallow reticular grooves. The groove between the two halves of these somites is narrow and filled with short hairs and tubercles. The median carina of these somites is low and hardly

at all elevated above the surface of the somites. The fourth antennal segment has five external teeth (not including the final tooth of the segment). The pereopods are slender. The first abdominal somite shows dorsally one small median and on each half two large lateral dark colored spots.

Distribution: Japan.

Holotype: A male (c.l. 61 mm) from Kururi District, Tokyo Bay, March 1893, leg. F. Sakamoto (U.S.N.M. Cat. No. Crust. 18883).

***Scyllarus batei arabicus*, new subspecies**

This new subspecies is closely related to the typical *Scyllarus batei* *batei* Holthuis, 1946, but differs mainly in the following points. The branchial region of the carapace is inflated so that the branchio-cardiac groove becomes distinct. The transverse groove on the first abdominal somite is well developed and only narrowly interrupted by the narrow median carina.

The present new form has been reported upon under the name *Scyllarus orientalis* (Bate) by Ramadan (1938, Sci. Rep. John Murray Exped., 5(5): 126, Fig. 2) and under the name *Arctus orientalis* Bate by Alcock and Anderson (1894, Journ. Asiat. Soc. Bengal, 63(2): 165) and Alcock (1901, Descr. Catal. Indian Deep Sea Crust. Macr. Anom. p. 181).

Distribution: The typical subspecies is known from the Philippines. The new subspecies inhabits the Arabian Sea.

Holotype: A specimen from the Gulf of Aden (13° 16' - 13° 16' 36" N, 46° 20' 24" - 46° 14' E, depth 220 m, "John Murray" Expedition Sta. 194, 7 May 1934); the specimen forms part of the collection of the British Museum, London.

***Scyllarus modestus*, new species**

The material from Hawaii which Rathbun (1906, Bull. U. S. Fish Comm., 23(3): 896, pl. 18, Fig. 2) identified as *Scyllarus martensi* Pfeffer proved to be distinct from, but nevertheless closely related to that species. The Hawaiian form differs from *S. martensii* in that the longitudinal grooves on the first abdominal somite are curved and partly branched instead of being straight and unbranched. Furthermore the median carinae of the second to fifth abdominal somites are hardly raised. The anterior half of the second to fifth somites is smooth in the present species, while in *S. martensii* they bear a transverse ciliated groove. The distal antennal segment bears 7 teeth in *S. modestus*, 5 in *S. martensii*.

Distribution: Hawaiian Islands; 32-43, 43, and 53-220 fathoms.

Holotype: An ovigerous female (c.l. 14 mm) from Mokuhooniki Islet N.3 E., 16.6', Auau Channel, 12 April 1902, "Albatross" Sta. D. 3872 (U.S.N.M. Cat. No. Crust. 30263).

***Scyllarus aesopius*, new species**

This is another species related to *Scyllarus martensii* but differing in

certain respects. A small but distinct rostral tooth is present. The longitudinal grooves of the first abdominal somite are not straight, but curved and branched. The anterior half of the second to fifth abdominal somites shows two or more transverse rows of tubercles. The median ridge of the second and third abdominal somites are conspicuously higher than those of the fourth; the ridge of the third somite being highest. The distal antennal segment bears seven broad anterior teeth which have the anterior margin truncate.

Holotype: A male (c.l. 11 mm) from the Sulu Archipelago, Philippines, 4° 58' 20" N, 119° 50' 30" E, 9 or 18 fathoms, 24 February 1908, "Albatross" Sta. D. 5165 (U.S.N.M. Cat. No. Crust. 104528). No other specimens of this species have so far been examined.

***Scyllarus cultrifer meridionalis*, new subspecies**

The species *Scyllarus cultrifer* (Ortmann, 1897) needs to be divided into two subspecies. Ortmann's (1897, Zool. Jb. Syst., 10: 272) original description of *Arctus cultrifer* is a composite one, being based on its two subspecies and on *Scyllarus bicuspidatus* (De Man). By selecting the lectotype of *Arctus cultrifer* Ortmann from among the material collected by Döderlein from Tokyo Bay in 1880–1881, which material was reported upon by Ortmann, the Japanese form of the present species becomes the nominate subspecies. The southern subspecies is described here as new. This southern form in all probability is the one described by Bate (1888, Rep. Voy. Challenger, Zool., 24: 66, Pl. 9, Fig. 3) and Barnard (1926, Trans. Roy. Soc. S. Afr., 13: 122, Pl. 10) under the names *Arctus* or *Scyllarus sordidus* and later reported upon by Barnard (1947, Ann. Mag. Nat. Hist. (11)13: 382; 1950, Ann. S. Afr. Mus., 38: 577, Fig. 104a) as *Scyllarus cultrifer*.

The new subspecies *S. c. meridionalis* differs from *S. cultrifer cultrifer* in that the posterior part of the postrostral carina lacks squamiform sculpture but instead has a number of transverse hairy ridges. The posterior half of the first abdominal somite in *S. c. meridionalis* possesses more longitudinal grooves, every other pair of which is connected by transverse grooves. The fourth abdominal somite shows no median incision in the posterior margin. The anterior part of the sternum is wider than in *S. c. cultrifer* and is not gutter-like depressed, showing only a median longitudinal groove.

Distribution: If Bate's and Barnard's specimens belong to this form, it inhabits the Philippines, the Moluccas, and S. E. Africa.

Holotype: A female (c.l. 22 mm) from the Philippines, 11° 35' 12" N, 124° 13' 48" E, 114 fathoms, 15 March 1909, "Albatross" Sta. D. 5398 (U.S.N.M. Cat. No. Crust. 104525).

***Scyllarus timidus*, new species**

In discussing the material which he identified with *Scyllarus cultrifer* (Ortmann), Holthuis (1946, Temminckia, 7: 93, Pl. 8, Figs. c-e) mentioned several differences with the descriptions of Ortmann's species

given by previous authors. Actual comparison of the true *S. cultrifer* with Holthuis' form showed that the differences between the two are of a specific nature. The name *Scyllarus timidus* is proposed here for the form described and figured by Holthuis (1946). This species indeed is closest related to *S. cultrifer* but may at once be distinguished from it by lacking the sharp anteroventral tooth on the propodus of the third pereopod.

Distribution: Sulu Archipelago (Philippines), and Hawaii.

Holotype: A male (c.l. 18 mm) from Basilan Strait, Sulu Archipelago, 6° 58' N, 121° 52.5' E, depth 72–80 m, 5 September 1929, "Snellius" Expedition Sta. 60° (Rijksmuseum van Natuurlijke Historie, Cat. No. Crust. D. 14507).

Scyllarus nearctus, new species

The specimens reported under the name *Scyllarus arctus* from American Atlantic waters prove to be closely related to, but nevertheless distinct from the true European *Scyllarus arctus* (Linnaeus, 1758). These American specimens represent a new species for which the name *Scyllarus nearctus* is proposed here. The differences from the true *Scyllarus arctus* are the following: The rostral tooth of the carapace is directed forward and hardly at all upward. The cardiac tooth and the posterior postrostral carina are less conspicuous. The abdominal pleurae are more slender, the anterior margin of the pleuron of the second somite is less convex. The anterior margin of the antennular somite bears only two teeth and entirely lacks the two to four additional smaller teeth found in *S. arctus*. The teeth of the distal antennal segment have the tips more narrowly rounded and the spaces between them are wider. The color of preserved specimens is very pale cream with a darker color pattern.

Distribution: Atlantic coast of America from North Carolina (U.S.A.) to São Paulo State (Brazil); depth 30–100 fathoms.

Holotype: A female (c.l. 20 mm) from south of Dry Tortugas, Florida, 28 July 1932, W. L. Schmitt (U.S.N.M. Cat. No. Crust. 104502).

The specimen reported by Rathbun (1900, Proc. U. S. Nat. Mus., 22: 309) from Mazatlan, west coast of Mexico, proves to be a typical *S. arctus*, and is probably labelled incorrectly as to the locality.

Scyllarus ornatus, new species

Reexamination of material from off the Arabian coast (18° 03.5' N, 57° 02.5' E, depth 38 m) collected by the "John Murray" Expedition and reported upon by Ramadan (1938, Sci. Rep. John Murray Exped. 5(5): 126) as *Scyllarus arctus paradoxus* Miers, shows that it represents a new species. This species is indeed very close to *Scyllarus paradoxus* Miers but differs in certain points. *Scyllarus ornatus* is a rather small species (c.l. 7–8 mm). It differs from *S. paradoxus* by possessing a distinct rostral tooth. The anterior margin of the sternum shows a U- rather than a V-shaped emargination. The posterolateral angles of the thoracic sternum are not produced tooth-like in the male. In the pres-

ence of a strong pointed median tooth on the last thoracic sternite, the present species resembles *S. paradoxus* and differs from most other species of the genus.

Syntypes: The species so far is known only from the specimens which were collected by the "John Murray" Expedition at its Sta. 45, and at present are preserved in the collection of the British Museum, London.

***Scyllarus chacei*, new species**

Under the name *Scyllarus americanus* (Smith) two species have currently been confused. The true *Scyllarus americanus* is known to inhabit the Atlantic coast of the U.S.A. from North Carolina to Florida, and the eastern Gulf of Mexico, including Cuba; it has been found in depths between 0 and 19 (usually between 3 and 12) fathoms. The other species, for which the name *Scyllarus chacei* is proposed here, has a far wider range, which extends from North Carolina to northeastern Brazil and throughout the Caribbean area; it is found in greater depths (usually 19 to 31 fathoms).

Scyllarus chacei has been extensively described and well figured by Bouvier (1925, Mem. Mus. Comp. Zool. Harvard, 47(5): 448-450, Pl. 7, Fig 3), who identified his specimen as *Scyllarus americanus*, though he already noticed differences between it and a type specimen of *Scyllarus americanus*. Fenner A. Chace, Jr., Curator, Division of Marine Invertebrates, U. S. National Museum, was the first to draw my attention to the fact that the differences between this form and *S. americanus* are of a specific nature; it is therefore a great pleasure for me to dedicate this new species to him.

The main differences between *Scyllarus chacei* and *S. americanus* are the following: The pregastric tooth of the carapace (i.e., the first median tooth following the rostral tooth) is practically always bilobed in the latter species, while in *S. chacei* it is broadly rounded anteriorly, never being incised there. Between the posterior marginal groove of the carapace and the posterior margin there are two, seldom three, distinct parallel transverse grooves in *S. chacei*, whereas *S. americanus* usually has a single distinct groove. In *S. americanus* the first to fourth abdominal somites show a deep, narrow, median incision in the posterior margin; this incision is very shallow in *S. chacei*. The fourth abdominal somite is more or less ridge-like elevated in the median line in *S. americanus*; no such ridge is present in *S. chacei*.

Holotype: A female specimen (c.l. 10 mm) from north-northwest of the mouth of the Marowijne River, about 20 miles off the coast of Suriname, 29 April-3 May 1957, third voyage of the "Coquette" (Rijksmuseum van Natuurlijke Historie, Cat. No. Crust. D. 13169).

***Scyllarides astori*, new species**

The dorsal surface of the carapace is rather evenly arched, showing hardly any elevations or teeth; its grooves are wide and not very deep. The cervical incision of the lateral margin is absent or indistinct. There

is no median carina on the second to fifth abdominal somites, though there may be a median row of larger tubercles there. The basal part of the posterior margin of the pleura of the second abdominal somite is concave. The carpus of the first pereopod shows no dorsal carinae, and is not conspicuously swollen. The sternite of the first abdominal somite is serrate in the male, but the median incision is not deeper than the others. The eyes show longitudinal color stripes on the peduncle. The smooth area of the first abdominal somite has two large, almost circular lateral spots of a dark red color. The area between these spots is yellowish with numerous much smaller red spots, which are placed closest together in the median area but do not actually form a big spot there.

The species is closest to *Scyllarides aequinoctialis* (Lund) but may immediately be distinguished from that species by the shape of the carpus of the first leg, which is swollen basally in *S. aequinoctialis*, and by the different coloration of the first abdominal somite, which in that species shows a horseshoe-shaped median dark spot.

Distribution: The species proves to be rather common in the Galapagos Archipelago whence a fairly great number of adults and postlarvae have been collected. Apart from a postlarva found 200 miles north of Clipper-ton Island, the species is not known from outside the Galapagos.

Holotype: A male (c.l. 116 mm) from Post Office Bay, Charles Island, Galapagos Archipelago, 5 February 1933, Allan Hancock Expedition (U.S.N.M. Cat. No. Crust. 104557).

Scyllarides delfosi, new species

This species has been figured and discussed by Holthuis (1959, Zool. Verhand. Leiden 44: 127, Pl. 3, Fig. 2), who with some doubt identified his specimen as *Scyllarides americanus* Verrill, 1922. *Scyllarides delfosi* differs from the true *S. americanus*—the correct name of which is *Scyllarides nodifer* (Stimpson, 1866)—in the following points. The median carinae of the abdomen are absent in the new species. The fourth abdominal somite of juvenile specimens of *S. nodifer* forms a conspicuous hump, while such a hump is absent in the juvenile specimen of *S. delfosi* seen by me. The new species agrees with *S. nodifer*, and differs from other species in which the median carinae of the abdomen are absent, in that there is a longitudinal row of large pointed tubercles on the branchial region of the carapace.

Distribution: Off British and Dutch Guiana, South America; depth 23–44 fathoms.

Holotype: The male specimen (c.l. 63 mm) from off the Suriname coast (6° 41' N, 55° 26.5' W, depth 23 fathoms, bottom mud, shells, and coral) dealt with by Holthuis, 1959 (Rijksmuseum van Natuurlijke Historie, Cat. No. Crust. D. 12735).

The new species is named in honor of J. A. G. Delfos of the Rijksmuseum van Natuurlijke Historie, Leiden, in recognition of his excellent work in the interest of the division of Crustacea of the Museum.

Arctides, new genus

The body is rather highly arched and not depressed, resembling thereby that of *Scyllarides* Gill, 1899. The carapace shows a shallow cervical, but no postcervical incision in the lateral margin. The first abdominal somite bears an uninterrupted transverse dorsal groove. The following somites show complicated sculpture in the posterior half. The distal antennal segment bears many distinct teeth. The mouth parts and the branchial formula are identical with those of *Scyllarides*.

So far the species of this genus have been placed in the genus *Scyllarides*, which indeed is closely related, but which differs in the characters of the abdomen and antennae mentioned above.

Distribution: Atlantic (Bermuda, West Africa) and Pacific regions (Eastern Australia).

Type species: *Scyllarus guineensis* Spengler, 1799.

The only other species of this genus known so far is the following new species.

Arctides antipodarum, new species

Until 1922 both the Australian and Bermudan specimens of *Arctides* were generally referred to as *Scyllarus sculptus* Latreille. Then Verrill (1922, *Trans. Connecticut Acad. Arts Sci.*, 26: 30) pointed to differences between the two forms and described the Atlantic one as a new variety *bermudensis*. A comparison of the various descriptions with material of both species makes it clear that *Scyllarus guineensis* Spengler (1799), *Scyllarus sculptus* Latreille (1818) and *Scyllarides sculptus bermudensis* Verrill (1922) are all three based on the Atlantic form and that no name is available for the Australian form, for which the name *antipodarum* is now proposed.

An extensive, accurate, and illustrated description of *Arctides antipodarum* was provided by Whitelegge (1899, *Rec. Australian Mus.*, 3(6): 155-162, pl. 29) who indicated the species by the name *Scyllarus sculptus*. The differences between *Arctides antipodarum* and *A. guineensis* are slight. In *A. antipodarum* the teeth on the distal segment of the antenna are far smaller than in *A. guineensis*, especially those on the inner half; the difference in size between the inner and outer teeth is far less conspicuous than in the type species of the genus. The abdomen of *A. antipodarum* is more uniformly tuberculated than that of *A. guineensis*; because of this tuberculation the characteristic sculpture pattern of the abdomen is rather inconspicuous in the new species.

Distribution: East coast of Australia.

Holotype: A male (c.l. 102 mm) from off Malabar, New South Wales, Australia, depth 80 fathoms, March 1956, leg. A. A. Racek (Rijksmuseum van Natuurlijke Historie, Cat. No. Crust. D. 10648).