

New Bopyrids (Isopoda) from the Indian and Pacific Oceans

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Through the kindness of Dr. J. S. Garth of the University of Southern California, I was able to study 4 pairs of epicarid isopods received from the Indian and Pacific Oceans. All 4 proved to be new species; one was a new genus. The forms here described are:

Grapsicepon sinensis n. sp.

Hypercepon guamensis n. gen., n. sp.

Onychocepon seychellensis n. sp.

Trapezicepon domeciae n. sp.

Grapsicepon sinensis n. sp.

Grapsicepon Giard and Bonnier, 1887: 69.

Material: Pair of bopyrids.

Host: *Lissocarcinus orbicularis* Dana, female.

Site: Hong Kong.

Date: Believed to be 13 July 1968.

Collector: L. B. Trott.

Female: From the left branchial cavity of the host, which in turn was taken from the respiratory tree of *Holothuria argus* Jaeger. Color in preservative, yellow. Some twisting to the right. No pigment spots. 3.5 mm long, 3.0 mm wide.

Head: Shaped like a parallelogram, with the long axis transverse. Lateral portions actually the velum, which is not present in the mid-anterior area. No eyes. Antennae not visible from dorsum.

Thorax: Seven segments, II-III much heavier than the others. Post-lateral parts only slightly swollen on II-IV of long (left) side. Four pairs of pleural bosses on I-IV, much larger on the left than on the right side. No evident coxal plates. A mid-dorsal spine projecting sharply upwards from thoracomere VI and from VII. Last 3 segments narrow and strongly bent posteriorly. Seven pairs of similar pereopods. Marsupium high, completely covered, and filled with eggs.

Abdomen: Six segments, tubular and narrow; VI with pair of fimbriated-margined uropods which are the same lengths as pleomere V pleural appendages. Pleomeres I-V each with pleural plates and biramous pleopods. Pleopod endopodites smooth, small, linguiform; exopodites similar in appearance and length to the pleural plate prolongations, which are relatively narrow and digitated.

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Male: Yellowish in preservative. Pigment spots and streaks present on dorsal pereon. Length 1.0 mm, width 0.3 mm.

Head: Broad and rounded. Eyes present. Antennae barely visible from the dorsal aspect.

Thorax: Seven segments having irregularly placed pigment spots and streaks. Thoracomeres I-IV (V-VII slightly) swollen at their lateral terminations, giving the appearance of being doubled over. Seven pairs of fairly strong pereopods.

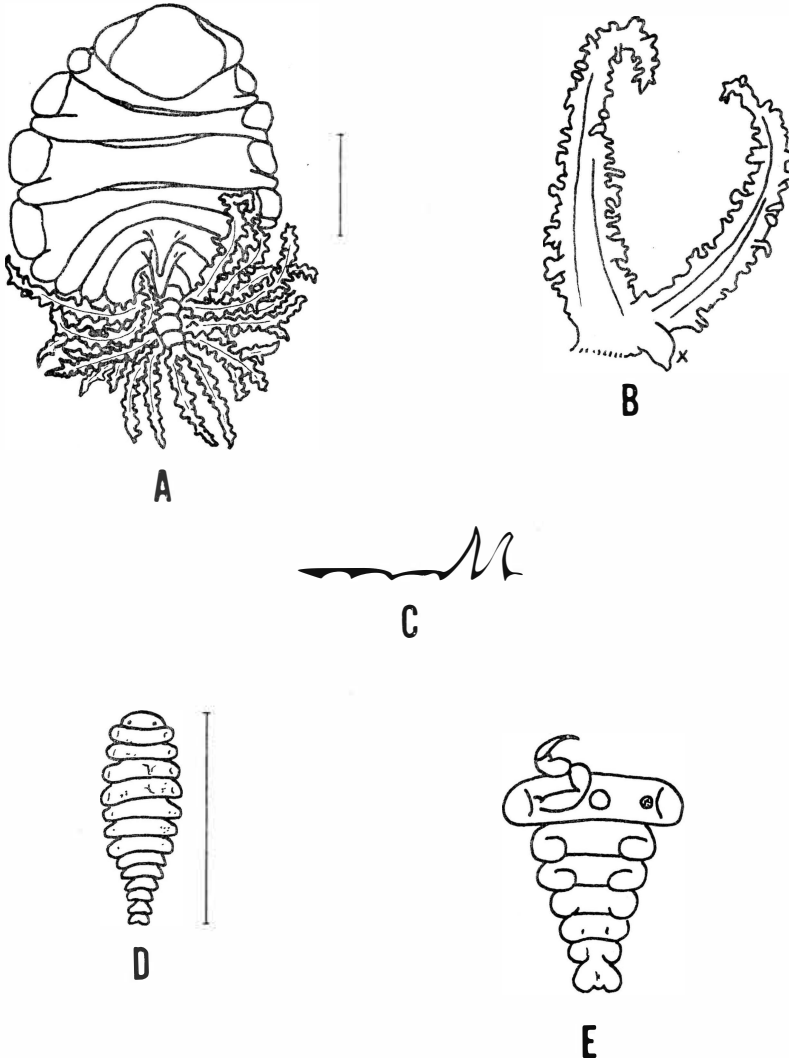


Fig. 1. *Grapsicepon sinensis* n. sp. A, dorsal aspect to female. B, ventral view of right appendages of female pleomere I. C, profile of female thorax. D, dorsal aspect of male. E, ventral pleon and thoracomere VII of male; left pereopod VII removed.

A mid-ventral circular boss on each thoracomere.

Abdomen: Six clearly separated segments, the last cordiform with a small mid-posterior projection. Five pairs of poorly delineated uniramous pleopods. Neither mid-ventral elevations nor uropods.

Remarks. In the cepon group of bopyrids, *Ergyne*, *Grapsicepon*, *Paracepon*, *Portunicepon*, and *Tylocepon* females have a mid-dorsal spine on thoracomere VI and on VII. *Tylocepon* is unique inasmuch as the spine of segment VI is trifid. *Paracepon* has relatively smooth edges on the pleon appendages, and therefore differs from the others listed. *Ergyne*, *Grapsicepon*, and *Portunicepon* males have (the usual condition) or do not have (*Ergyne rissoi*, *Grapsicepon choprae*) mid-ventral bosses on all thoracomeres and some pleomeres. Males of *Ergyne*, *Grapsicepon*, and *Portunicepon* usually have pleopods, but there are exceptions. Shiino (1934: 274) suggested that those with pleopods in the male of the *Portunicepon* type be retained in that genus, while those without male pleopods be placed into the *Ergyne* genus.

The pleopod endopodites of the female are well developed in *Ergyne* and *Portunicepon*, while they are usually smooth and rudimentary in *Grapsicepon* (those of *G. magnum* and *G. rotundum* are digitated). There are variations from the "2 mid-dorsal spines on pereon segment VI, VII of the female," ranging from 3 on thoracomeres V-VII (*Ergyne savignyi*, *E. cervicornis*), to 2 on thoracomeres V, VI, and one on pleomere I (*Portunicepon goeticii*). There may be differences of degree concerning subjective terms as applied to the pleopod endopodites, or to the construction terminology for the pleon appendages of the female. Thus it can be seen that considerable confusion may occur in the identification of these parasites. However, based primarily upon the small pleopod endopodite in the female, *Grapsicepon* would appear to be the correct genus for the new form.

There are 7 named species for *Grapsicepon*, of these, *G. fritzii* (nominal) and *G. messoris* are too poorly described or pictured to be of much taxonomic value. The original specimens of known forms are:

- Grapsicepon choprae* Nierstrasz and Brender à Brandis, 1925: 4. Caribbean, on *Liomera dispar* Rathbun.
- G. edwardsi* Giard and Bonnier, 1884: 44. Sargasso Sea and Gulf Stream, on *Planes minutus* (Linnaeus).
- G. fritzii* Müller, 1871: 68. Brazil, on *Pachygrapsus transversus* Gibbes.
- G. magnum* Shiino, 1936a:167-169. Japan, on *Schizophrys aspera* Stimpson.
- G. messoris* Kossmann, 1880:122. Red Sea, on *Metopograpsus messor* Forskal.
- G. micronesianum* Shiino, 1942: 447-450. Palau, on *Trapezia cymodoce* Herbst, *T. guttata* Rüppel, *T. ferruginea dentata* (McLeay), and *Tetralia glabberima* (Herbst).
- G. rotundum* Shiino, 1936a:169-172. Japan, on *Leptodius exaractus* (Milne Edwards).

♂	<i>choprae</i>	<i>edwardsi</i>	<i>magnum</i>	<i>micronesianum</i>	<i>rotundum</i>	<i>sinensis</i>
velum (lamina)	very wide	wide, squared	wide	center narrow	wide	none medially
pleural boss of thora- comere	II-IV flattened, triangular	I-IV, not very large	I-IV, oval, not large	I-IV, irregular, tuberculated, fused	I-IV, not large, round	I-IV, oval, not large, smooth edged
post-lateral part	II-IV, gigantic	I-IV, large	II-IV, very large	I-IV, very large	I-IV, large	I-IV, not large
pleon plate, +pleopod exopodite	lobed edges, broad, short	long, narrow, digitated	broad, short heavily digitated	long, wide, evenly digitated	wide, long heavily digitated	long, narrow, evenly digitated
pleopod endopodite	smooth, linguiform	smooth, irregular	broad, digitated	smooth, linguiform	short, digitated	smooth, short linguiform
♀						
ventral boss						
of pereon	none	I-VII	I-VII	I-VII	I-VII	I-VII
of pleon	none	I-III	I-III	I-III	I-II	none
pleopods (all on I-V)	small, rounded	small, rounded	large, elongated	lateral tubercles	round, minute	round, weak
uropods	bristles	bristles	none	rudimentary	none	none

Recently an immature female *Grapsicepon* sp. was described by me (1970:465) from Eniwetok Atoll on *Trapezia speciosa* Dana. Other hosts have been reported from more distant areas.

Superficially, *Grapsicepon sinensis* most nearly approaches *G. edwardsi*, from which it differs with respect to thoracomeres and uropods in the female, and by mid-ventral bosses and uropods in the male. For the 8 species, no coxal plates were specifically indicated, although "coxal plates+ovarian bosses" were described for *G. micronesianum*. All of the males seem to have eyes, only the females of *G. micronesianum* and *G. rotundum* are so listed. Uropods of the females vary greatly as to breadth and length, but this is too relative for any tabulation. The uropods of *G. choprae* are unique, since they are lobed instead of being digitated. The sixth abdominal segment of the males is uniformly cordate (with a mid-posterior point) except for that of *G. micronesianum*, which is elliptical. The lateral thoracomere terminations of the *G. sinensis* male are swollen, this cushion being evident from the dorsal as well as the ventral view, and does not appear to be related to the pereopod attachment. Other points of difference, and a comparison with known species, are given in the tabulation.

The female holotype and male allotype of *Grapsicepon sinensis* have been deposited with the Allan Hancock Foundation collection, as catalog numbers 686 and 686a, respectively.

Hypercepon, n. gen.

Female with greatly reduced evidence of abdominal segmentation; considerable widening of the pleon. Pleural plates of abdomen broad, heavily fimbriated, joined at their bases by the similar, but much reduced, pleopod exopodites. Pleopod endopodites rudimentary or missing. Uropods broad, short, with entire margins.

Pleomere terga of male totally fused to form a hollow abdomen. Neither pleopoda nor mid-ventral thoracic tubercles present.

The generic name is based upon the concept by Nierstrasz (1931: 123-128), which employed the degree of pleon fusion as the criterion for the determination of epicarid phylogeny. Using this approach, the nearest form to *Hypercepon* would be *Scyracepon*, wherein the male may have 2 or several pleomeres fused, even though the pleon of the female is still obviously segmented.

Hypercepon guamensis n. gen., n. sp.

Material: Pair of bopyrids.

Host: *Trapezia ferruginea* Latreille, female.

Site: Gun Beach, Tumon Bay, Guam.

Date: 20 February 1966.

Collector: L. G. Eldredge.

Female: From the left branchial chamber of the host, strongly compressed among the gills. Slightly yellowish in preservative; some twisting to the right. No pigment spots. 5.0 mm long, 4.0 mm wide.

Head: No evidence of a bilobed condition. No eyes. Nearly triangular cephalon, with slight velum on the middle two-thirds of the anterior surface. Antennae visible from the dorsal aspect.

Thorax: Vaulted, completely covered marsupium. No mid-dorsal elevations. Seven clearly defined thoracomeres. Pleural bosses on segments I-IV moderately

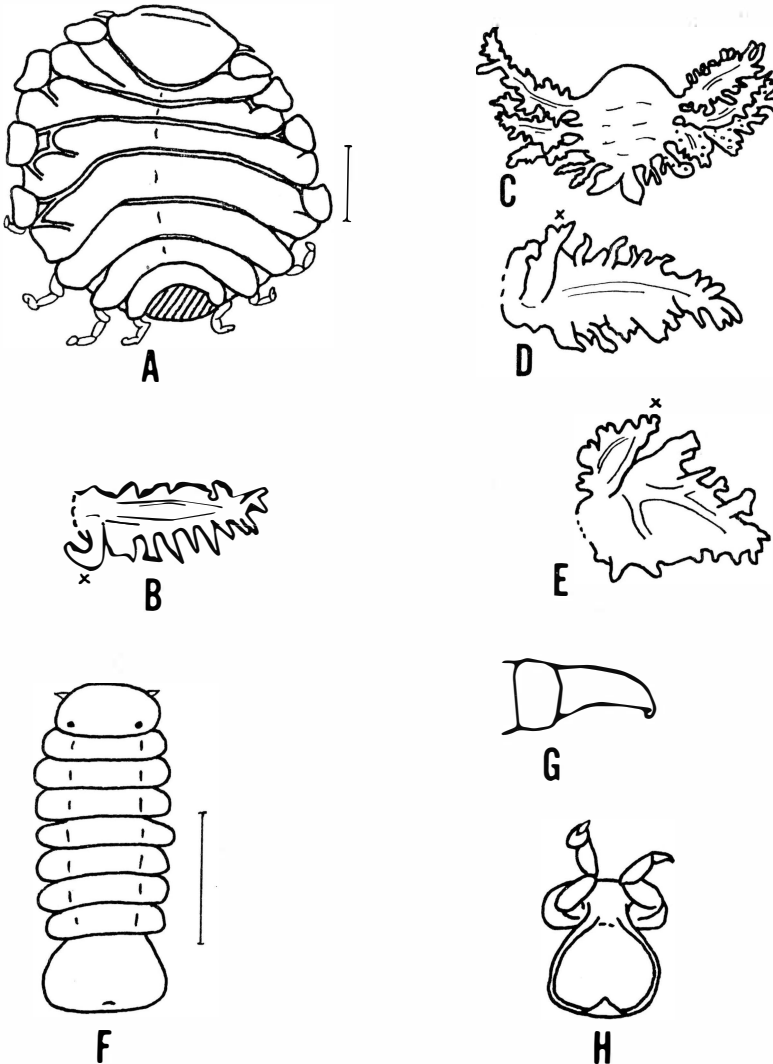


Fig. 2. *Hypercepon guamensis* n. g., n. sp. A, dorsal view of female; pleon removed. B, D, E, ventral appearance of right appendages of female pleomeres II, I and III (respectively); "x" designates the exopodite. C, dorsal pleon of female. F, dorsal aspect of male. G, lateral view of male pleon and thoracomere VII. H, ventral aspect of male pleon and thoracomere VII.

large, oval, and approximately the same size on both sides of the pereon. Post-lateral processes well developed on I–IV. Seven pairs of uniform pereopods.

Abdomen: A circular mass with pleomere delimitations missing or poor. Five pairs of widely foliaceous, digitated pleural plates forming a confusing mass on either side of the pleon. One pair of broad, short uropods with entire margins. Pleopods difficult to interpret, each apparently consisting of an exopodite similar to, but smaller than, and attached near the base of, the pleural plate. Endopodites, if present, rudimentary and hidden in the basal mass.

Male: Light yellow in preservative. No pigment spots. 2.5 mm long and 0.9 mm at widest point.

Head: Clearly evident eyes near posterior-lateral border. Antennae visible from the dorsal aspect. Mouthparts unpigmented.

Thorax: Seven obvious segments, each in contact with its neighbors for most of its width. Seven pairs of strong pereopods. No mid-ventral tubercles.

Abdomen: Totally fused, forming a hollow shell arched dorsally. Only feature a small "hook" on the mid-posterior rim, bent antero-ventrally. Width of pleon approximately the same as that of thoracomere VII.

Remarks. An interesting aspect of this bopyrid pair was the presence of an accessory male which was translucent yellow, 1.0 mm by 0.5 mm. There were reddish pigment spots on the dorsal pleon, and the most striking feature was the great antero-posterior compression. All segments were pushed into each other, and the cephalon was flattened until it formed a hood over thoracomere I. Were the animal to be extended, it would be nearly identical to the normal male. Aside from the pigment spots, the only difference was that the posterior pleon "hook" was just inside the hollow of the fused abdomen, rather than on the rim.

The totally fused male pleon, plus the nearly completely fused female pleon, make *Hypercepon guamensis* entirely different from previously-described related cepons. The broadened, irregular pleon plates and the lack of evident pleopod endopodites serve to further separate this interesting bopyrid from other known forms.

Dr. Lucius Eldredge of the University of Guam included a male crab with this female host, but no isopod was found in the male.

The female holotype and male allotype of *Hypercepon guamensis* have been deposited in the Allan Hancock Foundation collection as catalog numbers 665 and 665a, respectively.

Onychocepon seychellensis n. sp.

Onychocepon Pérez, 1921: 59–61.

Material: 1 pair of bopyrids.

Host: *Tetralia glaberrima* (Herbst), male.

Site: Station 14, Coral 31, Port Glaud, Mahé, Seychelles.

Date: 4 July 1966.

Collector: A. J. Bruce.

Female: From the left branchial area of the crab. Color yellow in preservative. Slightly twisted to the right. No pigment spots. 4.0 mm long by 3.0 mm wide.

Head: Large in proportion to the body, due to lateral swellings. Only slight indication of possible bilobed condition. Velum narrow and apparently in 3 parts. No eyes. Posterior-lateral laminae of head with a pair of short, digitate dactyli at each side. Antennae not evident in dorsal view.

Thorax: Seven obvious thoracomeres, with I very narrow medially. No mid-dorsal elevations on any segments. Pleural bosses weakly present on thoracomeres I-IV, coxal plates on same 4 segments. Coxal plates of left (larger) side oval, those of the right side triangular; first 2 on each side the smallest. Lateral terminations of thoracomeres V-VII noncontiguous, with slight anterior processes. Seven pairs of pereopods. Marsupium high, filled with eggs, and completely covered by the oostegites.

Abdomen: Six segments, the first 2 more or less fused into an obvious, whitish mass, from which arise the remaining 4 narrow pleomeres. Five pairs of elongate, narrow pleopods, strongly digitated, with the endopodites varying in length from very short to almost the same length as the exopodites. Endopodites definitely more yellow than are other abdominal appendages. Five lateral plates on each side of the abdomen, each plate almost identical in appearance to the exopodite of its pleopod counterpart, but somewhat longer. Pleural plate I of the pleon extends anteriorly to thoracomere IV on the long side; other abdominal appendages shorter, and massed against the abdomen. Segment VI with a pair of uniramous uropods, each very similar to pleomere plate appendages, and about the same length as those of V.

Male: White in preservative, with scattered pigment spots on the thoracomeres and pleomere I. Length 2.0 mm, width 0.6 mm.

Head: Elliptical, with antennae II clearly visible from the dorsal aspect. Eyes situated on the posterior-medial cephalon.

Thorax: Seven clearly separated thoracomeres, some having lateral pigment spots. First 3 segments transverse and round-ended, last 4 segments bending posteriorly, with more pointed ends. A midventral tubercle present on each thoracomere. Pereopods I, II very striking, as they are greatly enlarged and immediately evident from a dorsal view of the animal.

Abdomen: Six obvious segments, the first 5 with the pleural plate projecting ventrally and posteriorly, thus appearing to be a pleopod. Segment VI with similar lateral projections, but small. No pleopods apparently present. No mid-ventral projections on any pleomeres.

Remarks: Since the erection of the genus as *Onychocepon harpax* by Perez (1921: 59-61) on *Pinnotheres palaensis* Bürger at Amboina (Netherlands Indies), 2 other species have been named. *O. giardi* Nierstrasz and Brender à Brandis (1923: 81-83) on *Pinnotheres arcophilus* Bürger at Ceram (Netherlands Indies), and *O. resupinum* Shiino (1936a: 162-164) on *Pinnotheres purpureus* Alcock at Seto

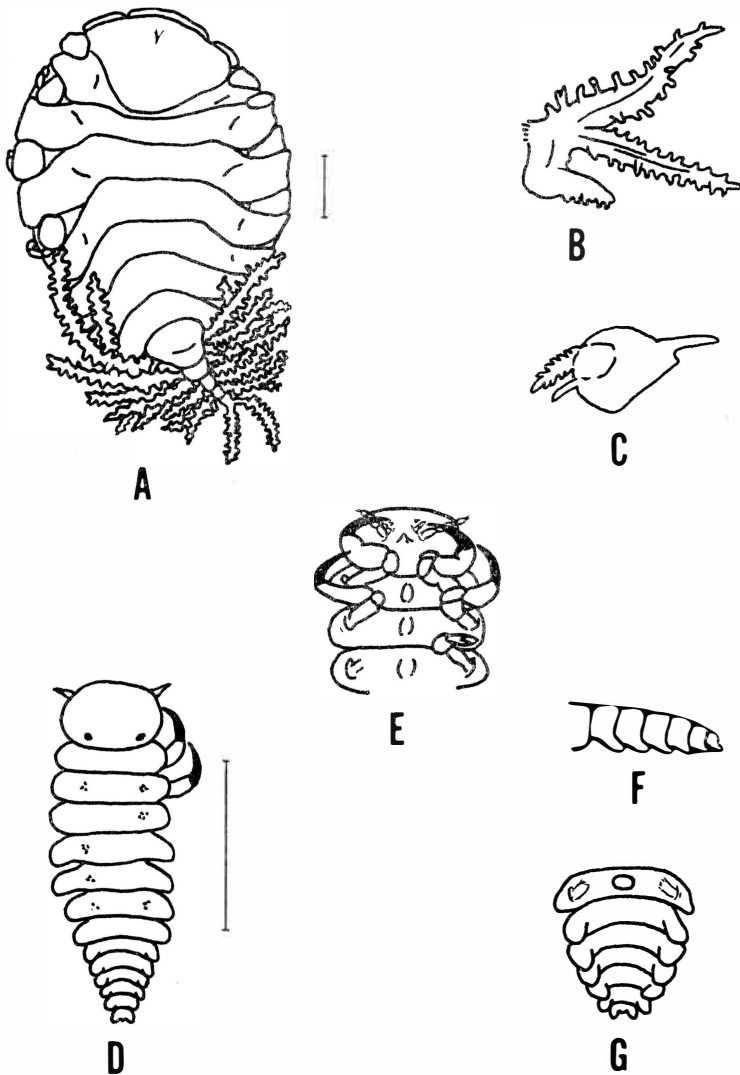


Fig. 3. *Onychocepon seychellensis* n. sp. A, dorsal view of female. B, ventral aspect of right appendages of female pleomere I. C, processes of posterior lamina of head. D, dorsal view of male; dactyli shaded. E, ventral appearance of cephalon and first 3 thoracomeres of male; dactyli shaded. F, lateral view of male pleon. G, ventral pleon and thoracomere VII of male.

(Japan). The new species is the first to be found on a host other than *Pinnotheres*, and is at a considerable distance from the western Pacific locale of the 3 other species.

Aside from differences expected in a new species, there are 2 areas of confusion regarding past descriptions of the genus. One deals with thoracomere I of the female. It is clearly evident in a few specimens and is obvious in *O. seychellensis*,

yet the absence of this segment was used by Nierstrasz and Brender à Brandis (1931: 178) as the isolating characteristic in their cepon key. The fact that the tremendous lateral swelling of the female cephalon may conceal thoracomere I is mentioned by Shiino (1936a: 164). Consequently this feature should not be used alone as an identification criterion.

The second confusing point is the abdomen of the male. The original drawing of *O. harpax* indicated pleopods, even though Pérez did not mention them in the description. An amplified delineation of the genus by Nierstrasz and Brender à Brandis (1923: 81) stated that neither pleopods nor uropods were present in the male. Shiino found pleopods but no uropods in *O. resupinum*. A careful study of *O. seychellensis* indicates to me that the lateral projections of the male pleomeres are plates, rather than pleopods.

Undoubtedly the most outstanding feature of the genus is the tremendous enlargement of pereopods I–II of the male. This condition is also found in the male of *Pleurocrypta megacephalon* Nierstrasz and Brender à Brandis (1929: 9–10), while pereopod I alone is enlarged in the male of *Pleurocrypta indica* Nierstrasz and Brender à Brandis (1929: 7–8); but other features and the females of each of these forms are entirely different from *Onychocepon*.

In comparing the females of the 4 known *Onychocepon* species, the head is bilobed in *O. harpax* and *O. resupinum*, but not in *O. giardi* and *O. seychellensis*; coxal plates are on thoracomeres I–IV in *O. resupinum* and *O. seychellensis*, on I–VI (and VII?) in *O. harpax*, and on II–VII in *O. giardi*. Pleomeres I–II tend to be enlarged and partially fused in *O. seychellensis*, but are separate and small in the other species. Pleopods are long in all except *O. resupinum*, and the uropod is the same length as pleopod V in *O. harpax* and *O. seychellensis*, whereas in *O. giardi* and *O. resupinum* it is longer. Posterior cephalic laminae processes are not known for *O. harpax*, are 1 pair for *O. giardi*, and are 2 pairs for both *O. resupinum* and *O. seychellensis*.

In comparing the males of the 4 species, thoracomeres I–VII have mid-ventral swellings in all of the male types except for *O. giardi*, where the swelling is only on II. Pleopods are present in *O. harpax* and *O. resupinum*, but not in *O. giardi* or *O. seychellensis*.

The female holotype and the male allotype of *Onychocepon seychellensis* are in the Allan Hancock Foundation collection as catalog numbers 666 and 666a, respectively.

Trapezicepon domeciae n. sp.

Trapezicepon Bonnier, 1900: 269.

Material: Pair of bopyrids.

Host: *Domecia glabra* Alcock, female.

Site: Station GA 64–37a, lot 3, from *Acropora*. Maldives.

Date: 21 April 1964.

Collector: J. S. Garth.

Female: From the right branchial chamber of the host. Color in preservative, yellowish. Slightly twisted to right. No pigment spots. 4.0 mm long by 3.0 mm wide.

Head: Narrow velum along entire anterior face of cephalon. No eyes. Antennae not visible from the dorsal aspect. Head wider than long. No evidence of a bilobed condition.

Thorax: No mid-dorsal elevations. Seven clearly delineated thoracomeres, I-IV each with obvious pleural bosses. Post-lateral parts of I-IV enlarged and slightly bent anteriorly. Considerable mid-dorsal gaps between adjacent segments. Marsupium vaulted and completely covered by the oostegites. Seven pairs of pereopods.

Abdomen: Six narrow segments, I-V with a pair each of pleural plates, lanceolate with digitate margins. Pleopods on I-V biramous, the exopodites similar in size and appearance to the pleural plates, the endopodites small, smooth-edged, linguiform structures. Segment VI with a pair of uropods which approximate the length and appearance of pleural plates V.

Male: Slightly twisted to left. Scattered pigment spots on dorsal pereon. Length 2.0 mm, width 0.6 mm.

Head: Eyes present. Antennae I 2-segmented, short. Antennae II 3-segmented, short.

Thorax: Seven contiguous segments, each with a pair of strong pereopods. Mid-ventral elevation on each thoracomere, slightly elongate on I-VI, circular on VII.

Abdomen: Six clearly separated pleomeres. Segments I-V with posteriorly-projecting disk-like lateral parts. Study under high magnification does not show any indication that these are pleopods. Segment VI small, relatively square, without uropods or bristles.

Remarks: It is quite possible that this bopyrid represents a new genus. Epicarid genera have been erected upon minor differences, or even upon isolated pieces of parasites in the past. Therefore, until added forms are found, I feel it best to consider the isopod in question as being *Trapezepon domeciae*.

Due to the reduced pleopod endopodites, the digitated margins of the abdominal plates, and the lack of mid-dorsal thoracic elevations in the female, the new specimen is closely related to 3 genera: *Apocepon*, *Leidya*, and *Trapezepon*. *Leidya* can be discounted at once, since the male has long uropods and odd-shaped pleopods, while the female has "disks" on its cephalon, mid-dorsal thoracic cushions, and possibly no pleopod endopodites. The new form has none of these characteristics. Because the specimen in hand has features of both *Apocepon* and *Trapezepon*, it would be well to explore the relevant relationships.

There are 2 known species of *Apocepon*, *A. pulcher* Nierstrasz and Brender à Brandis (1930: 9) on *Philyra pisum* de Haan from China, and *A. digitatum* Stock (1960: 31-32) on *Leucosia craniolaris* (Herbst) from Singapore. Also, Shiino (1934: 273; 1936b: 170; 1936c: 185, 1958: 68) reported *A. pulcher* from Japan on

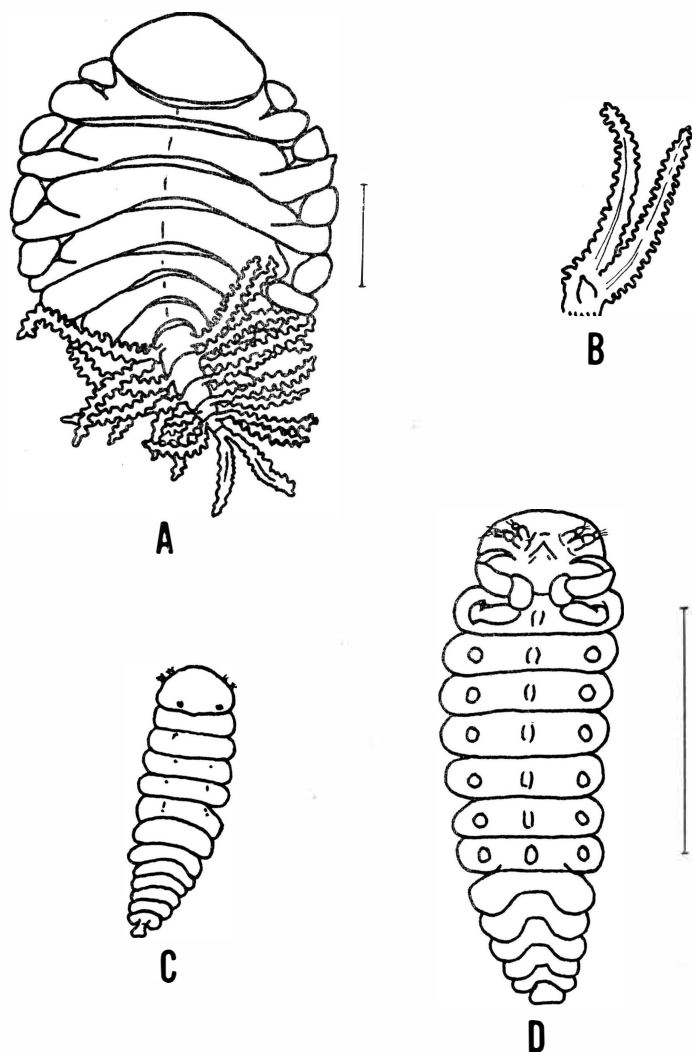


Fig. 4. *Trapezicepon domeciae* n. sp. A, dorsal aspect of female. B, ventral appearance of right appendages of female pleomere I. C, dorsal view of male. D, ventral aspect of male; pereopods II-VII removed.

Philyra pisum, and mentioned the presence of rudimentary coxal plates in thoracomeres I-IV. He indicated that the ovarian bosses described by Nierstrasz and Brender à Brandis might be portions of the post-lateral parts. According to Stock, the female of *A. digitatum* differs from *A. pulcher* because the pleon pleural plate and pleopod exopodite margins are ramified, complex digitations instead of being simple tubercles; the endopodites of the pleopods are tuberculated, rather than smooth; and the postlateral parts of thoracomeres II-III are notched. *Trapezicepon*

domeciae is therefore more similar to *A. pulcher* than to *A. digitatum*, since it has no notching in the post-lateral thoracomere parts, the endopodite is smooth-edged, and the pleural plates of the pleon are relatively regularly digitated.

The monospecific genus *Trapezicepon* was established by Bonnier (1900: 269), for the previously designated *Grapsicepon amicorum* Giard and Bonnier (1888: 45-46), which had been described from the Society Islands on *Trapezia cymodoce* (Herbst). *Trapezicepon amicorum* was also reported by Stebbing (1910: 114) from Amirante Island on *Actumnus tomentosus* Dana.

According to Nierstrasz and Brender à Brandis (1930: 7-8) *Trapezicepon amicorum* and *Apocepon pulcher* females cannot be separated except upon such subjective features as the size of the frontal lamina (velum), and the length of the pleopod exopodites. Despite this comment, I feel that there are 2 additional differences. The uropods of the former tend to lie medially, and only the tips separate, whereas those of the latter diverge from their inception. This may be only an incidental feature; however a more important difference is that the pleopod exopodites of *Apocepon* are frequently longer than their corresponding pleural plates, whereas in *Trapezicepon*, the exopodites are never longer than the plate of the same segment. This characteristic is not given as a generic stipulation for *Apocepon*, and apparently might be included.

The female of the new species approaches *Apocepon* with respect to velum size, pleural bosses, post-lateral parts of thoracomeres II-III, and pleopod endopodites. Thus the female is within the *Apocepon* generic limitations. The male of the new species approaches *Apocepon* in the absence of pleopods and uropods.

The female of the new species approaches *Trapezicepon* because the pleopod exopodites are similar to, but not longer than, corresponding pleural plates. The male of the new species approaches *Trapezicepon* by the presence of mid-ventral bosses on all segments of the pereon.

The female of the new species differs from both *Apocepon* and *Trapezicepon* because the cephalon does not show any indication of the partial or complete bilobed condition which is present in the others. The velum (frontal lamina) of *Trapezicepon domeciae* is narrow and crosses the entire anterior face of the cephalon. That of *A. pulcher* is missing, of *A. digitatum* is small and limited, and of *T. amicorum* is very large, especially laterally. The uropod of *T. domeciae* is relatively narrow and digitated, whereas that of the other forms is quite broad medially. Even though Nierstrasz and Brender à Brandis (1930: 9) indicate, "The chief differences with those genera lie in the male," the *T. domeciae* male has characteristics of each genus, and it is difficult to decide whether the absence of pleopods in *Apocepon* is more important than the presence of thoracic ventral bosses in *Trapezicepon*. Bonnier (1900: 271) indicated that there was also a mid-ventral boss on pleomere I of *Trapezicepon amicorum*, but Stebbing (1910: 114) found a specimen which had bosses only on thoracomeres I-III.

The male of the new species differs from both *Apocepon* and *Trapezicepon* in the presence of eyes (none was shown or mentioned for *T. amicorum*). The

last abdominal segment has a different shape in each species: *A. pulcher* is an inverted "V," *A. digitatum* is an inverted "U," *T. domeciae* is definitely squared, and *T. amicorum* is slightly cordate, with a central projection.

The foregoing comparison places the new species somewhat equally between *Apocepon* and *Trapezepon*, and with some misgivings I feel that the latter is the better choice. This is because the pleopod-exopodite: pleural-plate length ratio of the female, and the presence or absence of mid-ventral bosses in the male appear to be more critical and less labile criteria than the size of pleural bosses, an enlarged frontal lamina, or the presence of uropod bristles. As stated earlier, *T. domeciae* might belong in a new genus—hence this detailing of data for future use if another specimen is discovered.

I am grateful to Dr. Garth for allowing me to study this parasite, which he collected while working in the U.S. Program in Biology of the International Indian Ocean Expedition, funded by the National Science Foundation.

The female holotype and male allotype of *Trapezepon domeciae* have been deposited with the Allan Hancock Foundation collection as catalog numbers 642 and 642a, respectively.

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