A NEW GENUS OF HIPPOLYTID SHRIMP (CRUSTACEA: DECAPODA: HIPPOLYTIDAE) FOR *THOR MALDIVENSIS* BORRADAILE

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A new genus *Thorina*, is designated to accommodate the hippolytid shrimp *Thor maldivensis* Borradaile 1915. The new genus is distinguished from *Thor* particularly by the short, unidentate rostrum and the absence of an appendix masculina from the male second pereiopod, with marked sexual dimorphism of the first pereiopods. First recorded from the Maldive Islands, the species is sparsely recorded throughout the Indo-West Pacific region and newly recorded from Tanganyika, Mauritius, Seychelle Islands, Western Australia, the Great Barrier Reef, Papua New Guinea, Tonga, Cook and Society Islands. □ *Natantia, Hippolytidae, Thorina , Indian Ocean, Pacific Ocean.*

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In his study of the hippolytid shrimps of the *Albatross* Expedition, Chace (in press) indicated the anomalous systematic position of *Thor maldivensis* Borradaile 1915. He clearly defined the characters of the genus *Thor* Kingsley s. str., and lists five major characters that distinguish *T. maldivensis* from all other species of the genus *Thor,* omitting it from his key to the species of that genus. A new monospecific genus for the reception of this species is here formally established. The original description of *Thor maldivensis* provided by Borradaile (1915) consisted of a brief diagnosis only but a short more detailed account with an illustration of a ♂ example was published in Borradaile (1917). This account remains the most detailed available of this species, which has been only infrequently recorded in the zoological literature.

Abbreviations used: CL, postorbital carapace length; MNHN, Museum national d'Histoire Naturelle, Paris; NTM, Museums and Art Galleries of the Northern Territory, Darwin; QM, Queensland Museum, Brisbane.

SYSTEMATICS

Class CRUSTACEA
Order DECAPODA
Suborder NATANTIA
Infraorder CARIDEA
Family HIPPOLYTIDAE

Thorina gen. nov.

DIAGNOSIS. Small hippolytid shrimps of subcylindrical body form. Rostrum very short, slender, acute, not exceeding proximal segment of antennular peduncle, with single small dorsal tooth only. Carapace without carinae; supraorbital, non-articulate antennal spines present, hepatic and pterygostomial spines absent. Antennular peduncle with proximal segment with moveable plate distally, upper flagellum brush-like. Scaphocerite mid-laterally unarmed. Eyes well-developed, cornea hemispherical. With elongate acute median process anterior to first thoracic sternite. Mandible without palp, with incisor process, maxillipeds with epipods and well developed flagella on exopods. Pereiopods without arthrobranchs, epipods or exopods. First pereiopod with fingers greater than 1/3 of palm length; fingers without interlocking terminal spines, merus with ventral teeth, chelae usually greatly hypertrophied in some ♂♂. Second pereiopod with carpus with 6 segments. Propods of last 3 pereiopods not multiarticulate. Abdomen non-carinate, without dorsal teeth, with anterior 3 pleura rounded, posterior 2 posteroventrally acute, 6th abdominal segment without articulated posteroventral plate. ♂ second pleopod without appendix masculina and appendix interna. Telson with 3 pairs of dorsal spines, 3 pairs of posterior spines.

TYPE SPECIES. *Thor maldivensis* Borradaile, 1915.

ETYMOLOGY. From *Thor*, a hippolytid generic name first used by Kingsley, 1878, and -ina (Latin), diminutive. Gender, feminine.

SYSTEMATIC POSITION. Closely related to *Thor* Kingsley, with which most generic characters are shared and emphasised by the presence of a triangular mobile plate on the distal segment of the antennular peduncle, a feature otherwise

found to occur only in *Thor*. Distinguished from *Thor* by the greatly reduced rostrum with only a single dorsal tooth, marked sexual dimorphism of first pereiopods, reduced sexual dimorphism of 3rd pereiopods, presence of 3 pairs of posterior telson spines instead of 1-2 pairs, and particularly, the complete absence of an appendix masculina and appendix interna on the ♂ 2nd pleopod. The strongly distolaterally spinose meri of the hypertrophied ♂ 1st pereiopods are also characteristic, but it may be noted that a single small articulated spine may be present in the West Atlantic species *Thor dobkini* Chace (1972). In *Thorina*, the spines are non-articulate denticular processes.

Thorina maldivensis comb. nov.
(Figs 1-6)

Thor maldivensis. Borradaile, 1915: 208-209; 1917: 401-402, pl. 56 fig. 6; Kemp, 1916: 391; Edmondson, 1925: 6; 1946: 252, 253, fig. 153d; Holthuis, 1953: 53-54; Bruce, 1976: 51; Kamezaki, et al., 1988: 81, col. pl.; Chace, in press.

MATERIAL EXAMINED. QMW19914, 1♂, 1 ovig. ♀, stn DF.37, Heron Island, Capricorn Islands, Queensland, 3.0m, 16 October 1976, coll. D.F. Fisk. QMW21438, 1♂, 1 ovig. ♀, stn AJB/162, Jadini, Kenya, 22 December 1972, c. 0.4m, lagoon, in *Acropora*, coll. A.J. Bruce. QMW21439, 1♂, Aldabra, Seychelle Islands, 3 November 1964, from coral in channel reef, intertidal, coll. A.J. Bruce. QMW21440, 2 spms, macerated, Ras Iwatine, Mombasa, Kenya, 8 February 1972, lagoon, in *Millepora*, coll. A.J. Bruce. QMW21441, 1♂, 1 ovig. ♀, stn 140, Kirwetu, Kenya, 3°46.7'S 39°50.9'E, low water spring tide level, 6 November 1971, coll. A.J. Bruce, reef flat, under dead coral. QMW21442, 4 ovig. ♀, Astove Island, Seychelle Islands, R.V. Manihine, Cr.312, 20 August 1970, reef flat, under dead coral, coll. A.J. Bruce. QMW21443, 3♂, 3 ovig. ♀ Farquhar Island, Seychelle Islands, R.V. Manihine, Cr.336, stn AJB/60, 26 February 1972, coll. A.J. Bruce. QM W21444, 2 spms (1 ovig. ♀), stn AJB/107, Ras Iwatine, Mombasa, Kenya, 4°01.3'S 39°44.0'E, 1m, 27 February 1971, lagoon, in *Stylophora*, coll. A.J. Bruce. QM W21445, 1 spm (♂?), stn AJB/99, Ras Iwatine, Mombasa, Kenya, 4°04.0'S 39°44.2'E, 0.5m, 1 January 1971, lagoon, in *Pocillopora*, coll. A.J. Bruce. QM W21446, 1 ovig. ♀, stn. AJB/157, Jadini, Kenya, 4°19.0'S 39°35.5'E, 2.0m, 19 March 1972, in corals, coll.A.J. Bruce. QM W21447, 1♂, 1 ovig. ♀, stn AJB/166, Bamburi, Mombasa, Kenya, 4°00.5'S 39°45.0'E, outer reef crest, 18 August 1973, coll. A.J. Bruce. QM W21448, 1♀, 2 juvs, stn AJB/119, Ras Iwatine, Kenya, 4° 01.15'S 39°43.8'E, 2m, 27 July 1971, edge of deep reef channel, in *Pavona*, coll. A.J. Bruce. QMW21449, 1♀, stn AJB/138, Jadini, Kenya, 4°21.5'S 39°34.5'E, 0-2m, outer lagoon, in coral, 3 November 1971, coll. A.J. Bruce. (author's collection), 1 spm, stn AJB/181a, Tamarind, Mauritius, intertidal pools, 24 May 1974, coll. A.J. Bruce. QMW21540, 1♂, 3 ovig. ♀, stn AJB/140, Vipengo, Kenya, 6 November 1971, reef flat, coll. A.J. Bruce. (author's collection), 2 spms, stn AJB/209, South Patch, Motupore Island, Papua New Guinea, 9°34.27'S 147°12.65'E, 10-20m, seaward reef slope, scuba, 6 November 1980, coll. J.M. Lowry. QMW21451, 1 ovig. ♀, stn AJB/141, Tutia Reef, Mafia Island, Tanganyika, 2m, 14 November 1971, coll. A.J. Bruce. NTMCr.009156, 1♂, stn RH 92-12, Cartier Reef, Western Australia, 12°32.6'S 123°32.2'E, 10-15m, 9 May 1992, coll. J.R. Hanley, B.C. Russell. NTMCr.004374, 1♂, 1 ovig. ♀, 2 juv., Masausi Bay, Tutuila, American Samoa, reef pool, 0.4m, 22 July 1986, 'Operation *Raleigh*', coll. M. Richmond. NTMCr.004375, 1♂, Omutu Landing, Mitiaro, Cook Islands, reef lagoon, 2-3m, 11 July 1986, 'Operation Raleigh', coll. M. Richmond. NTMCr.004376, 1 ovig. ♀, Oholei, Tongatapu, Tonga, reef lagoon, 1m, 14 August 1986, 'Operation Raleigh', coll. M. Richmond. MNHNNa-6627, 2♀ (1 ovig.), stn S-20, Tahiti, Society Islands, coll. O. Odinetz, 1982.

DESCRIPTION. Small hippolytid shrimp of moderately slender, subcylindrical body form. Carapace smooth, with short acute rostrum, reaching to midlength of proximal segment of antennular peduncle in dorsal view, without distinct dorsal carina, with single small acute tooth at about level of tip of inferior orbital angle in lateral view, ventral carina shallow, concave, lateral carinae broadly divergent, continuous with supraorbital margin, giving rostrum triangular appearance in dorsal view, with small acute supraorbital teeth, posterior to level of dorsal tooth; inferior orbital angle slightly produced, rounded, with small acute antennal spine ventrolaterally; hepatic and pterygostomial spines absent, branchiostegite with anterolateral angle broadly rounded.

Abdomen smooth, with 3rd segment slightly produced posterodorsally, non-carinate; 6th segment c. 1.33 times longer than maximal depth, c. 0.7 of carapace length in ♂, 0.55 in ♀, with posterolateral and posteroventral angles acute, posteroventral angle non-articulate; first 3 pleura broadly rounded, not markedly enlarged in ovigerous ♀♀, 4th and 5th posteriorly produced, posteroventral angles broadly acute.

Telson c. 1.5 times length of 6th abdominal segment in ♂, 1.3 times in ♀, subequal to carapace length in ♂, c. 0.75 in ♀, 2.6 times longer than anterior width, lateral margins sublinear, posteriorly convergent, posterior margin angular with acute median process, with 3 pairs of small dorsal spines at 0.4, 0.6 and 0.8 of telson length, posterior margin with 3 pairs of spines, lateral spines small, subequal to dorsal spines, interme-

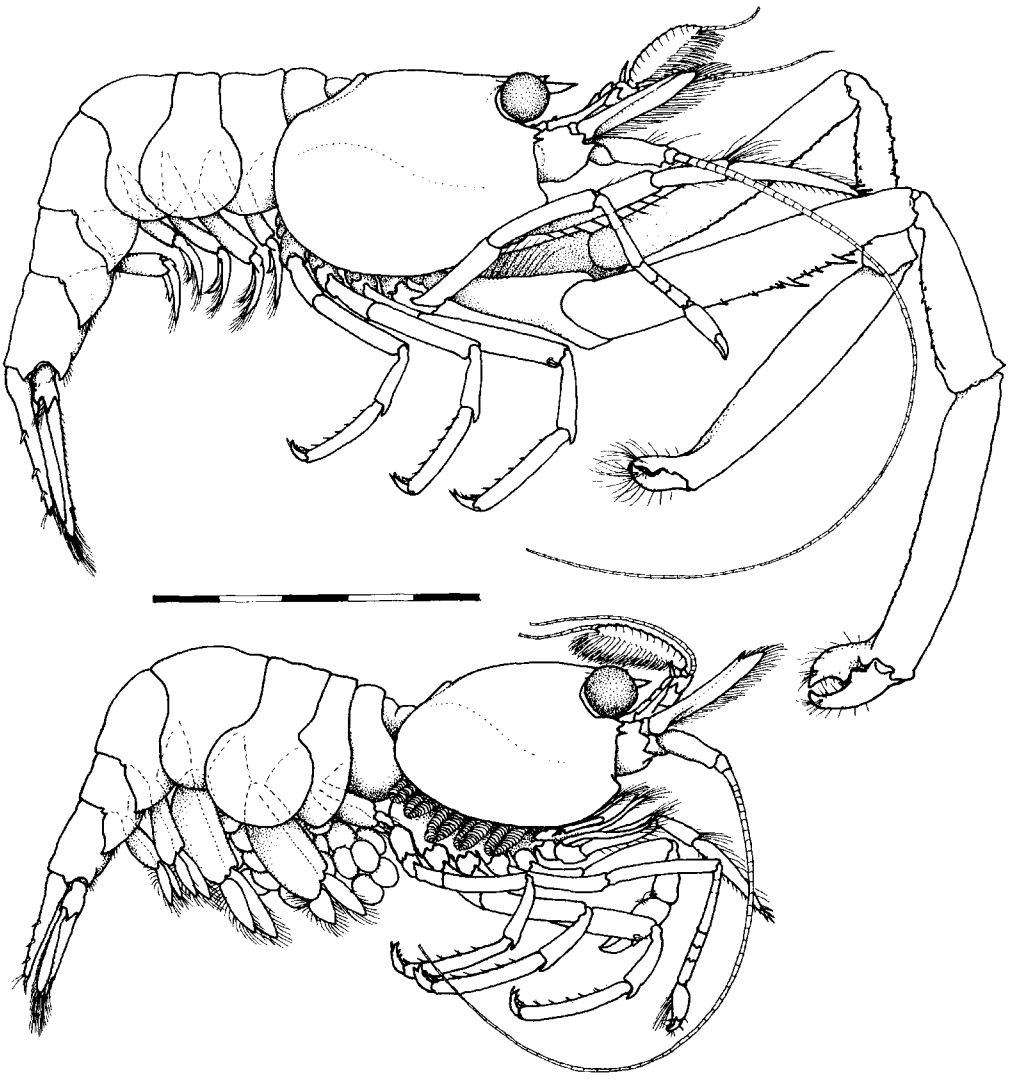

FIG. 1. *Thorina maldivensis* (Borradaile). ♂, Aldabra Island (upper) and ovigerous ♀, Heron Island (lower). Scale in mm.

diate spines c. 3.0 times as long as lateral spines, submedian spines slender, plumose, twice length of lateral spines.

Antennule with proximal segment broad, about as wide as long, with stout acute tooth at 0.6 of ventromedial margin, stylocerite elongate, acute, exceeding length of peduncle, with small anteroverted process proximodorsally; statocyst obsolete; intermediate segment short, broad, with acute non-articulated lateral process; distal segment short, broad, with articulated triangular plate dorsolaterally; upper flagellum with proximal 12-13 segments stout with dense tufts of aesthetascs dorsolaterally, distal flagellum with c. 5 slender segments; lower flagellum slender, with c. 20 segments.

Antenna with basicerite stout, with broad acute, ventrolateral tooth; carpocerite stout, subcylindrical, extending to about end of antennular peduncle, flagellum short, filiform c. 3.5 times

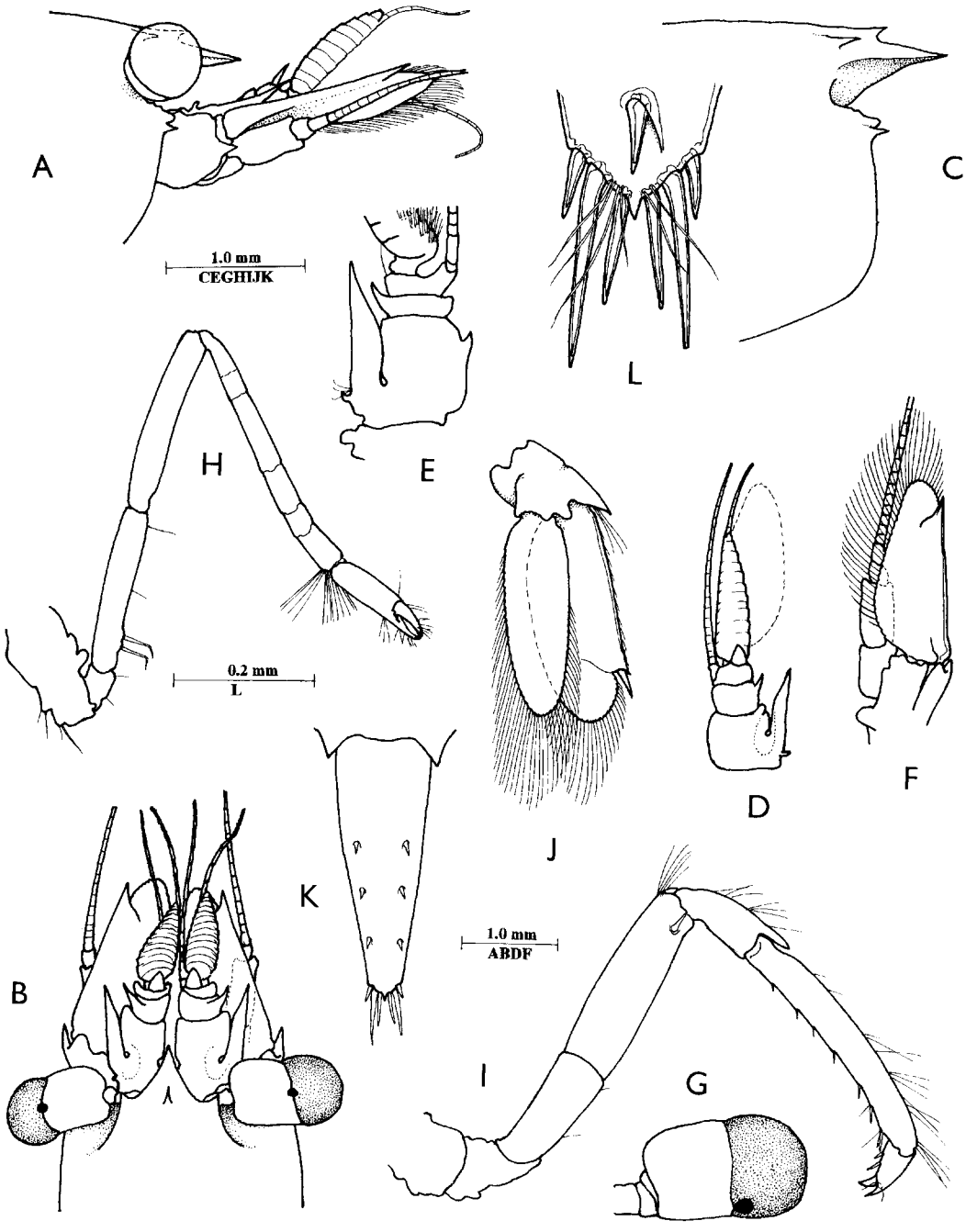

FIG. 2. *Thorina maldivensis* (Borradaile). Ovigerous ♀, Heron Island. A, anterior carapace and appendages, lateral; B, same, dorsal; C, rostrum and anterior carapace, lateral; D, antennule, dorsal; E, same, peduncle, ventral; F, antenna; G, eye, dorsal; H, 2nd pereiopod; I, 3rd pereiopod; J, uropod; K, telson; L, same, posterior spines, dorsal spine (inset).

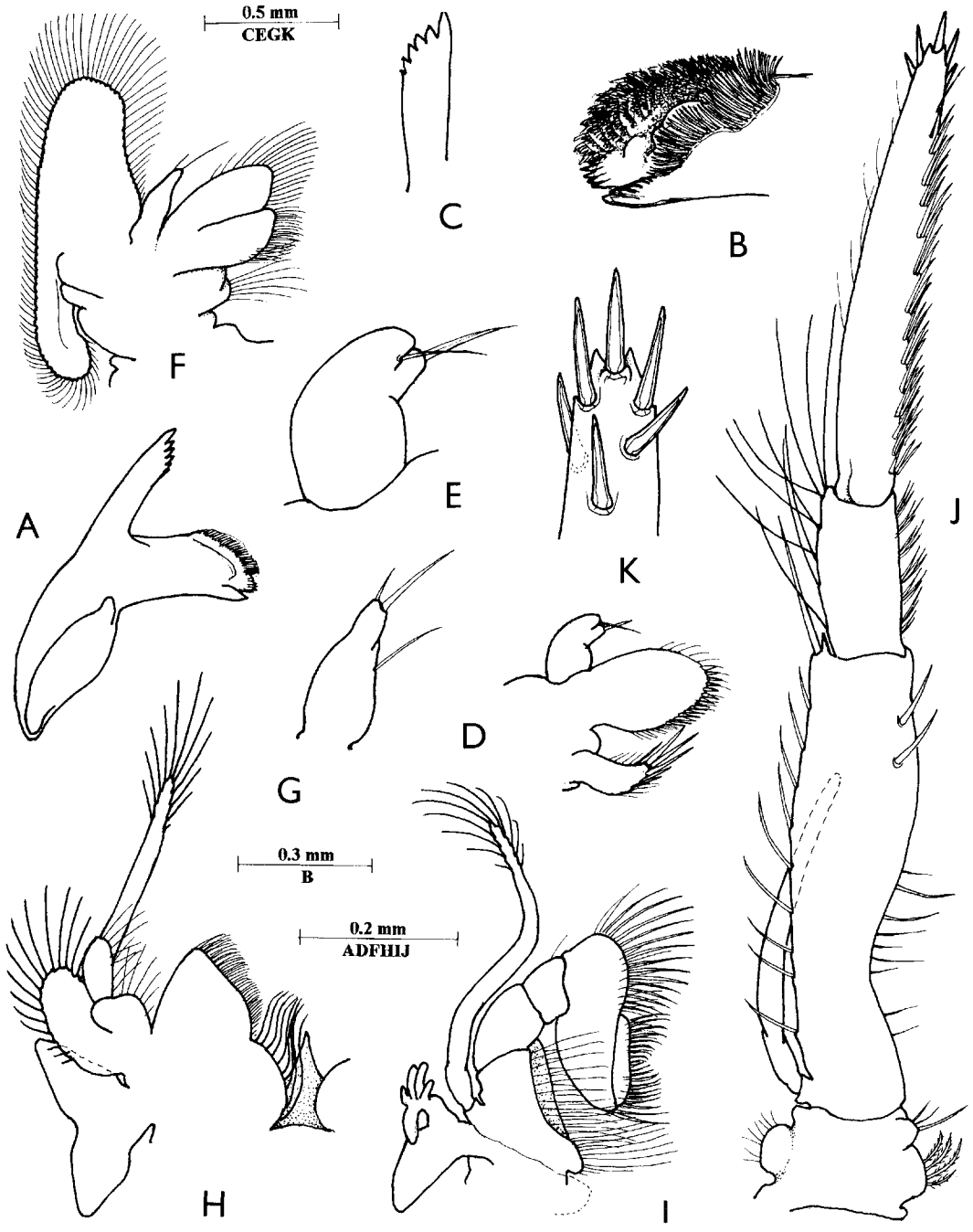

FIG. 3. *Thorina maldivensis* (Borradaile). Ovigerous ♀, Heron Island. A, mandible; B, same, molar process; C, same, incisor process; D, maxillula; E, same, palp; F, maxilla; G, same, palp; H, 1st maxilliped, median process of anterior sternite stippled; I, 2nd maxilliped; J, 3rd maxilliped; K, same, terminal spines of distal segment of endopod.

carapace length. Scaphocerite extending well beyond stout part of upper antennular flagellum, c. 2.5 times longer than maximal width, situated at c. 0.3 of length, tapering distally to rounded distal lamella, distinctly exceeding tip of stout distolateral tooth, situated at c. 0.8 of straight lateral margin length.

Eye well developed, with large well pigmented globular cornea, diameter c. 0.33 of carapace length in male, 0.4 in ♀, with conspicuous dorsal ocellus; stalk stout, compressed.

Mouthparts generally similar to those of *Thor* species. Large acute compressed transverse triangular median plate, anterior to 1st thoracic sternite, occluding space between coxal endites of first maxilliped. Mandible without palp; molar process stout, obliquely truncate distally, with marginal setae and small denticles; incisor process slender, distally oblique, with 6 small acute teeth. Maxillula with short, feebly bilobed palp, upper lobe with slender simple seta, lower lobe with stouter spiniform seta; upper lacinia larger, oval, with numerous short spines distoventrally; lower lacinia small, short, with several long spines distally. Maxilla with slender, tapering palp, with single spiniform terminal seta, short preterminal dorsal seta and medial seta; distal endite well developed, deeply bilobed, densely setose medially; proximal endite feebly developed, slightly bilobed, with few long setae. Scaphognathite well developed, c. 3.0 times longer than central width, posterior lobe small, anterior lobe large, with median margin slightly concave. First maxilliped with 2-segmented palp, distal segment c. 2.5 times longer than wide, sparsely setose medially, proximal segment broader than distal, medial border convex, sparsely setose; basal endite broad, angular, medial margin with dense short setae; coxal endite convex, medial margin with sparse, coarse, long plumose setae; exopod with well developed flagellum with numerous plumose setae distally, caridean lobe small, with numerous plumose marginal setae; epipod large, triangular, feebly bilobed. Second maxilliped with dactylar segment short, narrow, with numerous short stout spines, propodal segment large, broad, distomedial border with numerous long spines; carpus and ischiomerus normal; basis with medial margin excavate, dorsal and ventral medial borders with numerous long slender setae, exopod normal, coxa medially produced, laterally with small elongate epipod, bearing small podobranch anteriorly. Third maxilliped robust, exceeding carpocerite by about terminal and half penultimate segment in ♂ and terminal segment only in ♀. In ♀, terminal segment c. 7.5 times longer than central width, subcylindrical, slightly flattened ventrally with numerous transverse rows of short spines, distally obliquely truncate, with 6 stout spines; penultimate segment c. 0.3 of terminal segment length, twice as long as wide, with groups of short spiniform setae medially, long setae laterally; ischiomeral segment fused with basis, combined segment subequal to terminal segment length, moderately bowed, compressed proximally, expanded distally, lateral margin with c. 9 spiniform setae, distolateral angle with single long straight spine with short acute tooth medially; basis short. c. 0.2 of antepenultimate segment length, medial margin slightly bilobed, lateral border with small robust rounded epipod; without arthrobranch. ♂ third maxilliped similar to ♀, exceeding carpocerite by penultimate and terminal segments.

First pereiopods showing marked sexual dimorphism, small in ♀ ♀, greatly hypertrophied in some ♂ ♂. In ♀ ♀, exceeding basicerite by about carpus and chela; chela c. 0.5 of carapace length, with palm subcylindrical, slightly swollen proximally, with few short pectinate cleaning setae proximoventrally, feebly compressed distally, c. 2.4 times longer than proximal depth, smooth, fingers about 1/2 palm length, stout, tapering distally, with sharp medial cutting edges, dactyl with 4 stout non-cornified terminal teeth, fixed finger with 3, central tooth enlarged with laminar lateral expansion; carpus c. 0.4 of chela length, 2.5 times longer than distal width, tapered proximally, smooth, unarmed, with several cleaning setae distoventrally; merus c. 0.95 of chela length, widest at midlength, 2.8 times longer than central width, with acute ventrolateral tooth distally, proximal ventral margin with single small spiniferous tubercle; ischium c. 0.55 of chela length, compressed, 2.2 times longer than wide, slightly broader distally than proximally, with single small preterminal distoventral spinule; basis and coxa without special features; without exopod. Hypertrophic male chelae slightly unequal, similar, c. 0.25 of carapace length, with palm subcylindrical, without cleaning setae proximoventrally, subuniform, c. 5.5 times longer than central depth, ventromedially tuberculate, fingers c. 0.3 of palm length, stout, deflexed, with numerous long stiff setae, tapering distally, with sharp strongly concave cutting edges. with stout hooked tips crossing distally, dactylus with single large acute tooth proximally, fixed finger with smaller acute tooth more distally; carpus c. 0.5 of

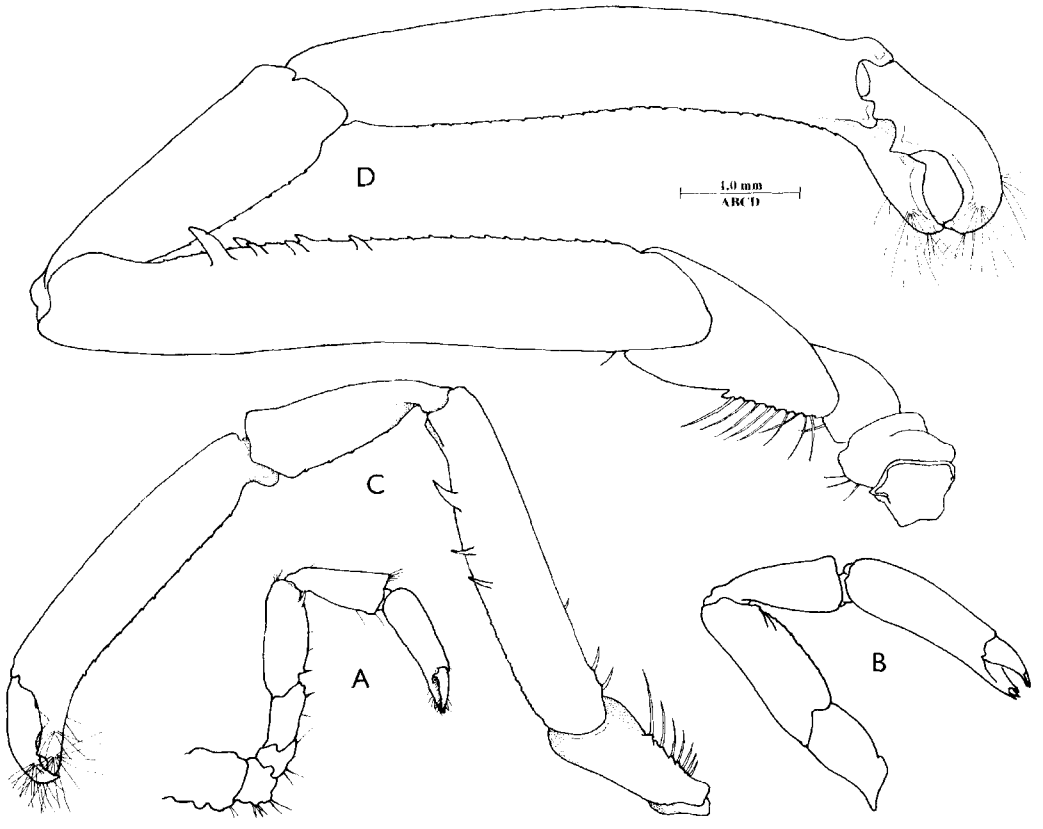

FIG. 4. *Thorina maldivensis* (Borradaile). First pereiopods. A, ovigerous ♀, Heron Island, CL 2.2 mm; B, ♂, Heron Island, CL 2.3mm; C, ♂, Aldabra Island, CL 2.2mm; D, ♂, Astove Island, CL 2.4mm.

chela length, 3.3 times longer than distal width, tapered proximally, feebly tuberculate ventromedially, unarmed, without cleaning setae distoventrally; merus c. 0.9 of chela length, subcylindrical, 6.0 times longer than central width, ventrolateral surface tuberculate, with numerous small acute distally directed tubercles, with several (3-6) large stout acute preterminal teeth distolaterally, distoventral angle rounded; ischium obliquely articulated with merus, c. 0.27 of chela length, compressed, distally expanded, 2.0 times longer than greatest width, dorsally carinate proximally with c. 8-9 denticles or tubercles and long stiff erect spiniform setae; basis and coxa robust, without special features; without exopod. Intermediate males with similar but smaller and less robust chelae, less spinose and tuberculate, more closely resembling ♀ chelae.

Second pereiopods slender, exceeding carpocerite by carpus and chela in ♀, by chela and 3 distal segments of carpus in ♂, chela with palm subcylindrical, c. 2.3 times longer that central width, with few setal tufts distally, fingers c. 0.6 of palm length, slender tapering, 3.0 times longer than proximal depth, cutting edges sharp, medial, tips with 3 acute spines on dactyl, 2 spines and short tooth on fixed finger; carpus 2.5 times chela length, 12 times longer than wide, 6-segmented, segments in ratio of 2: 1: 3.4: 1.9: 1.1: 1.6, first 2 segments poorly separated, distal segment with transverse row of long serrulate setae distoventrally, merus c. 1.75 times chela length, 6.3 times longer than central width, 6.0 times longer than wide, simple; ischium 0.9 of merus length, 5.3 times longer than wide, with 2 long simple spiniform setae proximoventrally; basis and coxa without special features.

Ambulatory pereiopods moderately robust, third pereiopods with slight sexual dimorphism. ♀ third pereiopod exceeding carpocerite by propod and dactyl; dactyl c. 0.27 of propod length, 2.6 times longer than proximal depth, stout, com-

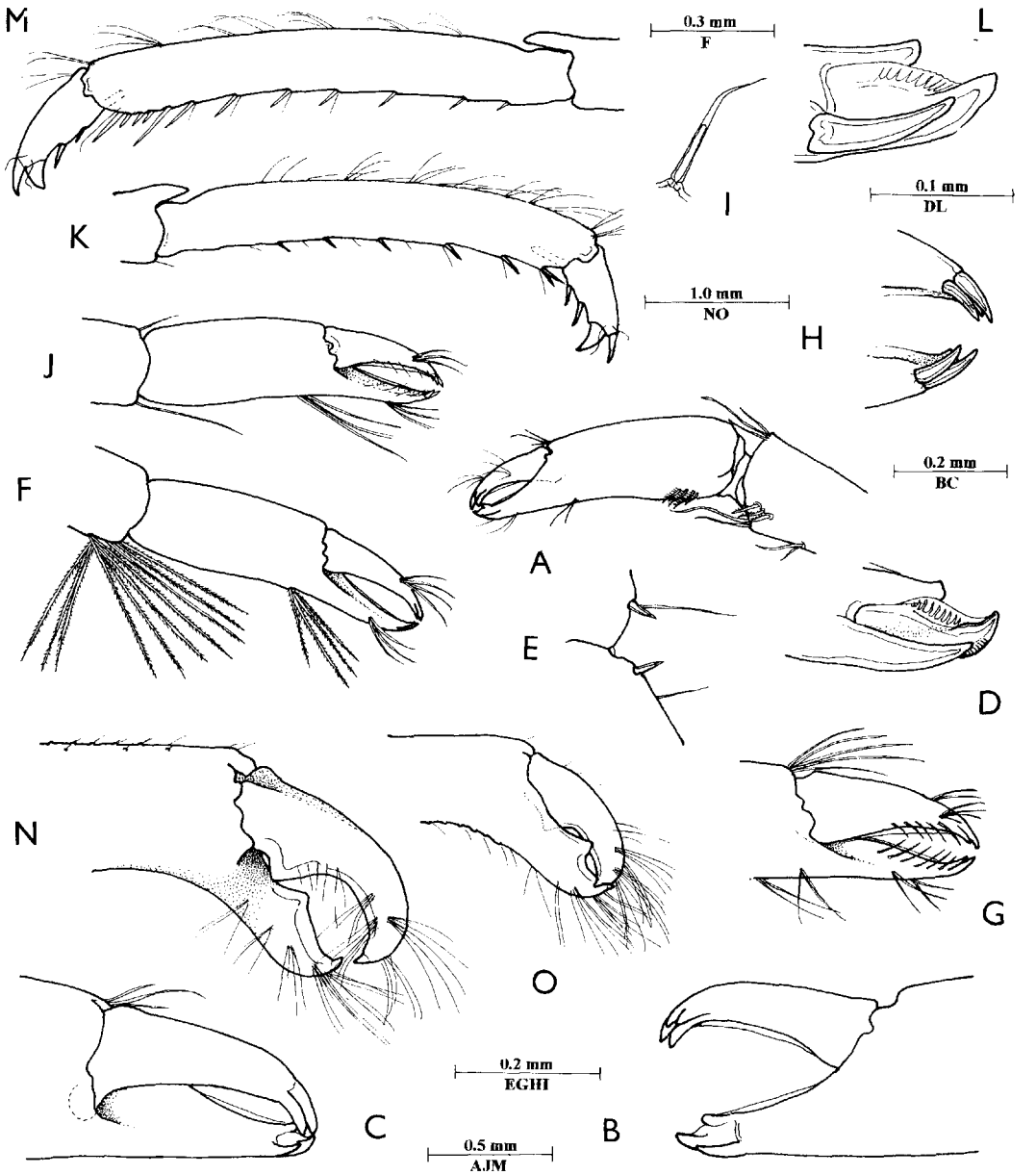

FIG. 5. *Thorina maldivensis* (Borradaile). Ovigerous ♀, Heron Island. A, first pereiopod chela and distal carpus; B, fingers of chela, lateral; C, same, medial; D, same, tip of fixed finger; E, same, medial ischiomeral spines; F, 2nd periopod, chela; G, same, fingers; H, same, distal fingers, dactyl above; I, same, medial ischial spine; J, 2nd pereiopod, chela. K, third pereiopod, propod and dactyl. ♂, Heron Island. M, 3rd pereiopod, propod and dactyl. N, major 2nd pereiopod, fingers. O, minor 2nd pereiopod, same.

pressed, distal end c. 0.6 of proximal depth, with smaller dorsal ungual spine and larger, stouter distoventral spine, each c. 0.3 of length of dorsal border of corpus, ventral margin with two spines; propod c. 0.8 of carapace length, 7.5 times longer than wide, uniform, slightly bowed, ventral border with 2 larger distoventral spines, 5 ventral spines, decreasing in size proximally, dorsal mar-

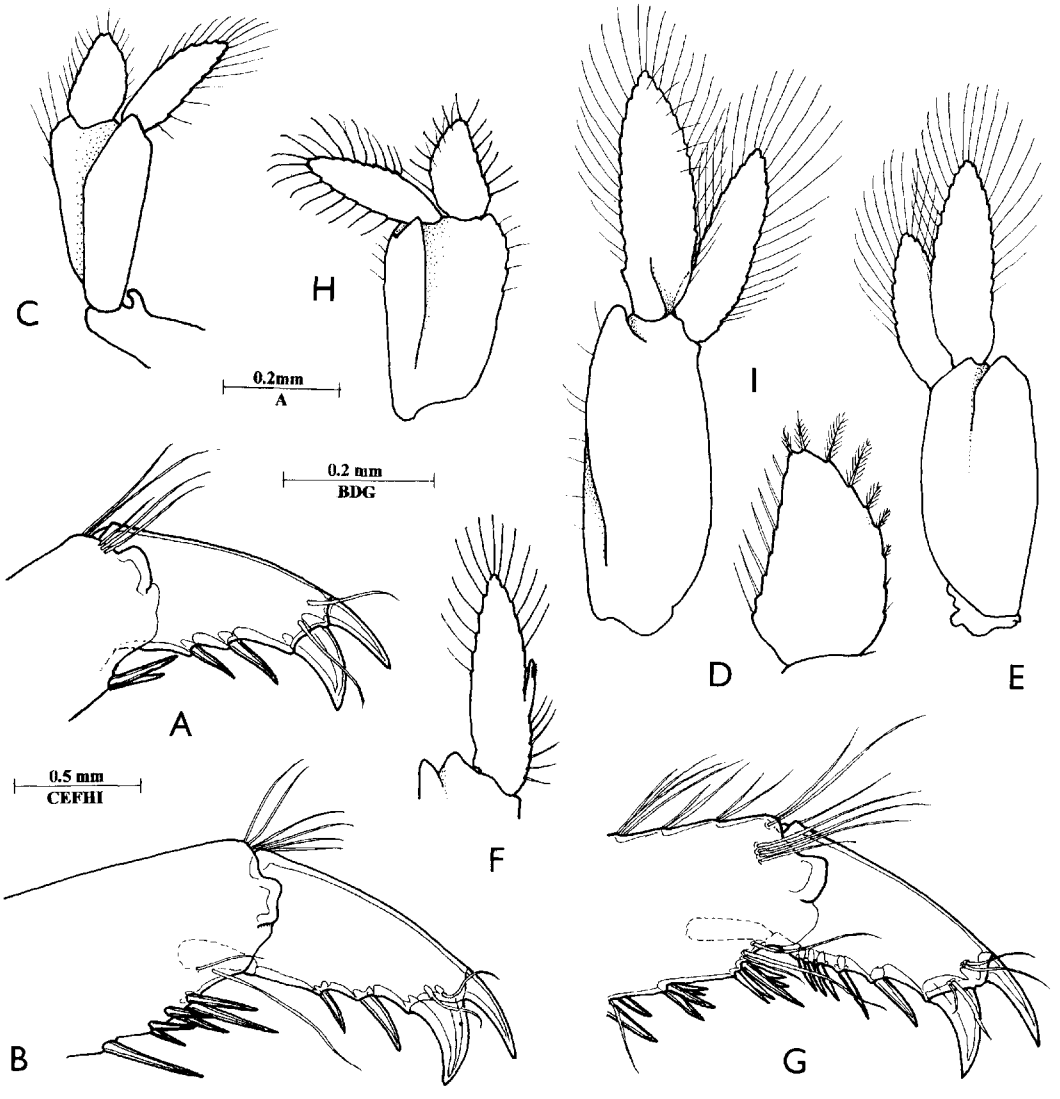

FIG. 6. *Thorina maldivensis* (Borradaile). Ovigerous ♀, Heron Island. A, 3rd pereiopod, dactyl. ♂, CL 2.3mm, Heron Island. B, 3rd pereiopod, dactyl. C, 1st pleopod. D, same, endopod. E, 2nd pleopod. F, 3rd pleopod, endopod. ♂, CL 2.4mm, Aldabra Island. G, 3rd pereiopod, dactyl. H, 1st pleopod. I, 2nd pleopod.

gin sparsely setose; carpus c. 0.36 of propod length, unarmed; merus robust, c. 0.72 of propod length, 3.2 times longer than central width, with articulated distolateral spine; ischium c. 0.68 of meral length, 2.5 times longer than distal width, narrower proximally, unarmed; basis and coxa robust, without special features; without exopod. 4th and 5th pereiopods similar to 3rd, propods slightly longer than 3rd pereiopod propod length, meri shorter and more slender, 4th c. 0.95 and 5th 0.85 of 3rd merus length. Male 3rd pereiopod exceeding carpocerite by propod and dactyl, with slight sexual dimorphism; propod slightly expanded distally in smaller specimen, with 3 pairs of distoventral spines, dactylus as in ♀, with 2 ventral spines; in larger ♂, propod scarcely expanded distally, with 2 groups of 4 and 5 distoventral spines, dactylus with 3 additional spines on proximal ventral margin.

Ovigerous ♀ pleopods without special features, basipodite enlarged and expanded, rami short, broadly expanded, 2nd to 5th endopods with appendix interna. Male 1st pleopod with basipodite robust, broad, ventromedially concave, coxopodite with uncinate distoventral process; endopod sublanceolate, c. 0.8 of exopod length, 1.6 times longer than proximal width, medial margin straight, setose, lateral margin convex, with short plumose setae; exopod c. 3.3 times longer than wide, with plumose marginal setae; 2nd pleopod larger, endopod c. 0.8 of exopod length, with plumose marginal setae, lacking appendix masculina and appendix interna, exopod normal; third pleopod normal, with appendix interna at c. 0.4 of medial margin length.

Uropod with protopodite with large acute lateral tooth; exopod c. 2.5 times longer than wide, lateral margin straight, sparsely setose, with small acute distal tooth, with large mobile spine medially; endopod 0.95 of exopod length, 3.0 times longer than wide.

TYPES. The type material is deposited in the collection of the Zoology Museum, Cambridge, United Kingdom. 3 lots of specimens are held (pers. comm., R.C. Preece, 16 August 1995), consisting of the following: (i) 1 specimen in reasonable condition, from Minikoi, Laccadive Islands; (ii) 1 specimen in reasonable condition, from Salomon Island. (iii) 2 specimens, with loose appendages, from Holulé Island, Malé, Maldive Islands. 2 lots of specimens, (i) and (iii), are noted as co-types. The specimens from Minikoi and Holulé, are noted on their record cards with 'Gardiner Colln. Ann. Mag. Nat. Hist. (8) XX, p. 208. Percy Sladen Trust. Exp. XXII pt 3. p 400'. The Salomon Island specimen is annotated only 'Gardiner Colln.' All have the accession number AR 3.1920.

MEASUREMENTS (mm). ♂, Astove Island: postorbital carapace length, 2.3; carapace and rostrum, 3.3; total body length, 12.5; major first pereiopod chela, 5.5; minor first pereiopod chela, 4.8; 3rd pereiopod propod, 1.8; same, merus, 2.3. Ovigerous ♀, Heron Island: postorbital carapace length, 2.2; carapace and rostrum 3.1; total body length, 11.8; 1st pereiopod chela, 1.2, 3rd pereiopod propod, 1.7; same, merus, 1.9.

COLOURATION. The Jadini, Kenya, specimen was noted to be an opaque white, except for the transparent posterior 4th, 5th and 6th abdominal segments and caudal fan; pereiopod bases also white, meri banded with white; antennule and antenna white, filiform flagella transparent. The Mitiaro specimens were noted by the collector as 'translucent, with pink and white mottled head and legs, green tinge to lower abdomen and tail' and 'translucent, with pink predominating, mottled white head and legs', the Tutuila specimens as 'transparent, with green tinge on lower abdomen, mottled green- pink head and legs', and the Tongatapu specimens as 'transparent, with pink tinge and pink mouthparts, red/white eggs, dark body organs'. A good colour photograph is provided by Kamizake et al. (1988). This shows a semi-translucent pale yellowish shrimp, heavily mottled with fine red speckling and scattered whitish patches, particularly at bases of pleopods and base and tips of caudal fan.

REMARKS. The exact habitat of *Thorina maldivensis* has not been established but most personally collected specimens have been obtained from shallow intertidal coral reef pools with a wide variety of corals and other coelenterates and algae. As many were collected by the use of poison, the precise niches occupied were not observed. Several specimens were collected from coral heads but these associations may have been accidental. Hayashi (1986) records this species from under coral blocks. The species appears to be generally uncommon, but Edmondson (1946) reported that in Hawaiian waters the species 'is common among brown seaweeds near the shore'. The colouration of the Jadini specimen does not appear cryptic and suggests a commensal lifestyle. Where several specimens were collected together the association is more likely to be genuine. The Papua New Guinea specimens from 10-20m represent the maximum bathymetric range for this species.

The ♂ specimen from Cartier Reef had only un-hypertrophied first pereiopods but the distal propod and dactylus of the 3rd pereiopods were distinctly sub-prehensile, the ventral dactylus with accessory spines. The ♂ from Tutuila possessed only part of a single first pereiopod, lacking the chela. The merus was rather feebly spinulate, with blunt spines, and the spiniform setae along the dorsal margin of the carpus were feebly developed, mostly short and slender, with only a single distal long spiniform seta.

The transverse triangular median sternal process that appears to lie anteriorly to the sternite of the first maxilliped appears unusual but it is rather difficult to discern its exact relationships. No similar feature seems to have been reported in other hippolytids but a similar, though much

smaller and narrower process, more antero-posteriorly orientated, is also present in *Thor amboinensis* (De Man).

DISTRIBUTION. Throughout most of the Indo-West Pacific region. Type localities: Malé Atoll, Maldive Islands; Minikoi, Laccadive Islands, and Salomon Island. Also known from Kenya, Tanganyika*, Mauritius*, Seychelle Islands*, Maldive Islands, Andaman Islands, Cartier Reef*, Great Barrier Reef*, Papua New Guinea*, Ryukyu Islands, Marianas Islands, Marshall Islands, Tonga*, Cook Islands*, Kiribati, Society Islands*, and Hawaiian Islands. (* = new localities). Tanganyika is used in its zoogeographical meaning and not in a political sense.

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