

The trapeziid crabs (Brachyura) of Guam and Northern Mariana Islands, with the description of a new species of *Trapezia* Latreille, 1828

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Abstract—Twenty species of trapeziid crabs symbiotic with hermatypic corals are recorded from Guam and the Northern Mariana Islands. Of these, fourteen belong to *Trapezia* (one of which is new to science), four to *Tetralia*, and two to *Tetraloides*. Five previously described species are new records for the region.

Introduction

All members of the family Trapeziidae are symbionts of hermatypic corals throughout the Indo-West Pacific and eastern Pacific regions and hence important members of coral reef ecosystems. Several collections of trapeziids from the Mariana Islands exist in museums but except for the report of Takeda et al. (1994) on the brachyuran crabs of the Northern Marianas and records by Odinetz (1984), Galil (1986, 1988), Galil & Takeda (1986), and Castro (1998a, 1999b), there are no published lists of trapeziids from the Mariana Islands.

Three species generally included in the subfamily Domeciinae Ortmann, 1893 of Trapeziidae are also known from the region. Galil & Takeda (1986: 165) recorded *Jonesius triunguiculatus* (Borradaile, 1902) from Guam, and Takeda et al. (1994: 288) two species of *Domecia* Eydoux & Souleyet, 1842 from the Northern Marianas. These two morphologically related genera, however, should be removed from the Trapeziidae and are therefore excluded from this list.

Material and Methods

The following abbreviations are used to refer to museums where the material examined is deposited: BPBM (Bishop Museum, Honolulu, Hawaii), BMNH (Natural History Museum, London, United Kingdom), CBM (Natural History Museum and Institute, Chiba, Japan), LACM (Los Angeles County Museum of Natural History, Los Angeles, California), MMUS (Macleay Museum, University of Sydney, Sydney, Australia), MNHN (Muséum National d'Histoire Naturelle, Paris), MZUF (Museo di Zoologia "La Specola," Università di Firenze, Florence, Italy), SMF (Forschungsinstitut Senckenberg, Frankfurt am Main, Germany), UG I (Marine Laboratory, University of Guam), USNM (National Museum of

Natural History, Smithsonian Institution, Washington, D.C), and ZRC (Zoological Reference Collection, Raffles Museum, National University of Singapore). The following abbreviations are also used: cl = carapace length, cw = carapace width.

List of Species

Quadrella sp.

There are no known records of *Quadrella* Dana, 1851 from the Mariana Islands other than specimens of an unidentified species that were collected from a black coral in Guam (L. Eldredge, personal communication). Unfortunately, the specimens seem to be lost. Five species of *Quadrella* are known from the western Pacific, including southern Japan (Castro 2000: 66), so most if not all of these species should be present in the Mariana Islands.

Tetralia cinctipes Paul'son, 1875

For synonymy see Castro (1997a: 64).

Material Examined: 1 male, 1 female, Guam, Pago Bay, G. Paulay coll., 1 May 1997 (UGI); 1 male, Guam, Pago Bay, 2-4 m, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26927).

Remarks: A male collected live by the author (SMF 26927) had the characteristic blue band across the anterior border of the carapace (see Castro 1997b: 65) as well as two blue spots along the anterolateral border distal to the band. Very unusual of this specimen was the absence of the banding pattern on the walking legs that is also characteristic of the species. The specimen otherwise showed the other characters diagnostic of the species (*i.e.*, tuberculate, dark-brown propodi of chelipeds and slightly concave endopods of first maxillipeds; see Castro 1997a: 65). This is the first record of the species from the Mariana Islands.

Tetralia fulva Serène, 1984

For synonymy see Castro (1997a: 65).

Material Examined: 1 male, 1 female, Saipan, north Mathuis Beach, P. Cloud coll., 12 Dec. 1948 (USNM); 1 female, Saipan, Unai, Finauchuluga, P. Cloud coll., 30 Jan. 1949 (USNM).

Remarks: The author found no live specimens in Guam and there are no color notes for the three specimens that were examined. The identification of the specimens is therefore only tentative, being based only on morphology and not on the color pattern. There are no previous records from the Mariana Islands. The species is known from locations across the Indo-West Pacific region (Castro 2000).

Tetralia rubridactyla Garth, 1971

For synonymy see Castro (1999b: 41).

Material examined: 1 male, Guam, Tumon Bay, R.H. Baker coll., 10 Oct. 1945 (USNM); 2 males, 1 female, Guam, Pago Bay, on *Acropora* spp., 2-4 m, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26282); 1 male, 1 female, Saipan, A.H. Banner coll., 1945 (USNM).

Remarks: Recorded from Saipan by Galil (1988: 65). Castro (1999b: 43) gave color notes of live specimens collected from Guam.

Tetralia vanninii Galil & Clark, 1988

For synonymy see Castro (1997b: 113).

Material examined: 1 male, 1 female, Guam, Pago Bay, fore reef, 20-25 m, G. Paulay coll., 1 May 1997 (ZRC), 1 male, 1 female, 15-18 m (ZRC); 3 females, Guam, Pago Bay, 2-4 m, on *Acropora* spp., July? 1997 (SMF 26928); 2 males, 1 female, Guam, Pago Bay, 2-4 m, on *Acropora* spp., P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26929); 1 male, 2 females, Guam, Hanum Bay, 10 m, on *Acropora* spp., P. Castro & E. Santiago coll., 15 Sept. 1997 (SMF 26930).

Remarks: This is the first time the species is recorded from the Mariana Islands. Specimens shared morphological and most color characteristics with material previously collected in French Polynesia (Castro 1999b: fig.1). Diagnostic for this species are tuberculate cheliped propodi, thick and short fingers on the largest cheliped, small and pointed teeth along the anterior margin of the cheliped meri, concave endopods of the first maxillipeds, a black band bordered by blue or blue-green along the anterior border of the carapace that extends into the eyestalks, red fingers, and a red tubercle on each dorsal, proximal border of the cheliped propodi. Specimens collected in Guam agreed with those collected in French Polynesia and the Seychelles as well as with part of the type material of *T. vanninii* (BMNH 1986: 1037) and some of the specimens examined by Galil & Clark (1988) as part of their description (BMNH 1986: 1043 and 17 specimens deposited at MZUF), all from East Africa. The live color of the type material was not given and the color pattern of specimens from the type locality is still unknown.

Three specimens freshly collected in Guam (SMF 26929) had a light-gray carapace with a black band (bordered by a thin, blue line) across the anterior border of the carapace. A wide, yellow band extended below the blue line into each anterolateral border of the carapace. Elongate blue spots extended from the edge of the orbits into the yellow band. The fingers were red, the inner margin of the cheliped propodi were light gray, the distal upper margin yellow (absent in a large male), and the remaining portion of the propodi and the carpi and meri brownish gray. The somites of the brownish-gray walking leg had a thin, red-brown or red-orange band along the distal edges. Three smaller specimens collected from another location in Guam (SMF 26930) had a similar color pattern but the carapace was white. Three additional specimens that had been kept for at

least two months in corals kept alive in a tank supplied with running seawater (SMF 26928) had a blue to tan carapace and a gray band (bordered by light blue) along the anterior border of the carapace that was followed by a broad gray band. It is possible that this last variation in the color pattern was due the confinement of the specimens to abnormal conditions. The variation of the color pattern and the fact that the color of specimens in the type locality is unknown does not assure us that all of these specimens belong to only one species.

Tetraloides heterodactyla (Heller, 1861)

For synonymy see Castro (1997a: 71).

Material examined: 2 females, Saipan, W.A. Bartos coll. (USNM).

Remarks: This is the first record from the Mariana Islands. The species is otherwise known from throughout the Indo-West Pacific region (Castro, 2000).

Tetraloides nigrifrons (Dana, 1952)

For synonymy see Castro (1997a: 72).

Material examined: 1 male, 1 female, Guam, Naval Medical Research Unit coll. (USNM); 1 male, Guam, Pago Bay, fore reef, on *Acropora valida* or *A. diversa*, 2-3 m, G. Paulay coll., 1 May 1997 (ZRC); 4 males, 2 females, Guam, Pago Bay, 1-3 m, on *Acropora* spp., P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26284); 1 male, 1 female, 1 juv., Saipan, A.H. Banner coll., 1945 (USNM); 1 female, Saipan, lagoon, north Mathius Beach, P.E. Cloud coll., 12 Dec. 1948 (USNM).

Remarks: Specimens from Guam and Saipan identified by Galil (1986) as *Tetraloides nigrifrons* before its separation from *T. heterodactyla* indeed belong to the former species. Specimens from the Northern Marianas identified by Takeda et al. (1994: 288) as *Tetralia glaberrima obscura* Patton, 1966 can either be *Tetraloides nigrifrons* or *Tetralia nigrolineata* Serène & Dat, 1957.

Trapezia cymodoce (Herbst, 1801)

For synonymy see Galil & Clark (1990: 378).

Material examined: 1 male, Guam, Sano coll., 15 Jan. 1968 (SMF 25171); 1 female, Guam, 10 m, on *Pocillopora elegans*, O. Odinetz coll., 1981 (MNHN-B 9696).

Remarks: Recorded from Guam by Odinetz (1984: 438, as *T. coerulea* Rüppell, 1830). This is a widespread Indo-West Pacific species (see Castro 2000).

Trapezia digitalis Latreille, 1828

For synonymy see Serène (1984: 277).

Material examined: 1 female, Guam, Pago Bay, 1-3 m, on *Pocillopora verrucosa*, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26285).

Remarks: Recorded from Maug Islands., Northern Marianas by Takeda et al. (1994: 288).

Trapezia ferruginea Latreille, 1828

For synonymy see Serène (1984: 273).

Material examined: 1 male, 1 female, Guam, Tumon Bay, 35 ft., L. Eldredge coll., 20 Feb. 1966 (LACM); 2 males, 1 female, Guam, Asinile Beach, on *Pocillopora damicornis*, L. Eldredge coll., 6 April 1967 (LACM); 1 male, 1 female, Guam, west of Cocos I., 10-14 m, on *Stylophora mordax*, P. Castro coll., 8 July 1974 (BPBM-S 11880); 1 male, 1 female, southeast of Cocos I., 27-30 m, on *Pocillopora* sp., P. Castro coll., 8 July 1974 (BPBM-S 11881); 1 male, 1 female, Guam, 10 m, on *Pocillopora* sp., O. Odinetz coll., March 1981 (MNHN-B 9676), 1 male, 1 female, 5 m, on *P. elegans* (MNHN-B 9677), 1 male, 1 female, 20 m, on *P. verrucosa*, June 1981 (MNHN-B 9678); 1 male, 1 female, Guam, Pago Bay, on *P. verrucosa*, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26283); 2 males, 2 females, Guam, Hanum Bay, 10 m, on *Pocillopora* sp., P. Castro & E. Santiago coll., 15 Sept. 1997 (SMF 26289); 4 males, 2 females, Saipan, A.W. Herre coll., 7 Oct. 1933 (USNM); 1 male, Saipan, A.H. Banner coll., 1945 (USNM); 1 female, Saipan, Mañagaha I., P.E. Cloud coll., 20 June 1949 (USNM); 1 female, Asuncion I., west coast, 3 m, T. Pitlick coll., 1 June 1992 (CBM 1280); 1 female, Asuncion I., 1-6 m, P. Schaupp coll., 7 June 1992 (ZRC); 1 male, Maug East I., stn. B, 3 m, T. Kurozumi coll., 5 June 1992 (CBM 1367).

Remarks: Recorded from Guam by Odinetz (1984: 433; as *T. cymodoce*). Color notes of live specimens collected on the island were given by Castro (1999b: 48). Takeda et al. (1994: 288) recorded it from two locations in the Northern Marianas under its correct name (CBM 1280) and as *T. cymodoce* (Herbst) (part) (CBM 1367).

Trapezia flavopunctata Eydoux & Souleyet, 1842

For synonymy see Galil & Lewinsohn (1985a: 210).

Material examined: 1 male, Guam, south of Orote Pt., 5 m, G. Paulay & A. Catalano coll., 30 Aug. 1999 (ZRC); 1 male, Maug Islands, 18 m, P. Schupp coll., 3 June 1992 (ZRC).

Remarks: Recorded from Maug Islands, Northern Marianas by Takeda et al. (1994: 288).

Trapezia formosa Smith, 1869

For synonymy see Castro (1998a: 178).

Material examined: 3 males, 5 females, Guam, Pago Bay, on *Pocillopora verrucosa*, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26286); 1 female, Maug East I., stn. B, 3 m, T. Kurozumi, 5 June 1992 (CBM 1363), 1 male (CBM 1365).

Remarks: Recorded from Guam (Pago Bay) by Castro (1998a:178). Takeda et al. (1994: 288) recorded the species from Maug Islands, Northern Marianas (CZC 1363, as *T. speciosa*; CZC 1365, as *T. ferruginea*).

Trapezia garthi Galil, 1983
(Figure 1)

For synonymy see Castro (1999b: 49).

Material examined: 2 males, 3 females, Guam, Pago Bay, 2-4 m, on *Pocillopora verrucosa* & *P. elegans*, P. Castro & E. Santiago coll., 10-11 September 1997 (MNHN-B 26132), 1 male, 1 female (MNHN-B 26133); 2 males, 2 females, Saipan, A.H. Banner coll., 1945 (USNM), 1 male, 2 females (USNM), 2 males, 2 females (USNM).

Remarks: Color notes of live specimens from Guam were given by Castro (1999b: 49). Figure 1 shows the color pattern, published in color for the first time.

Trapezia guttata Rüppell, 1830

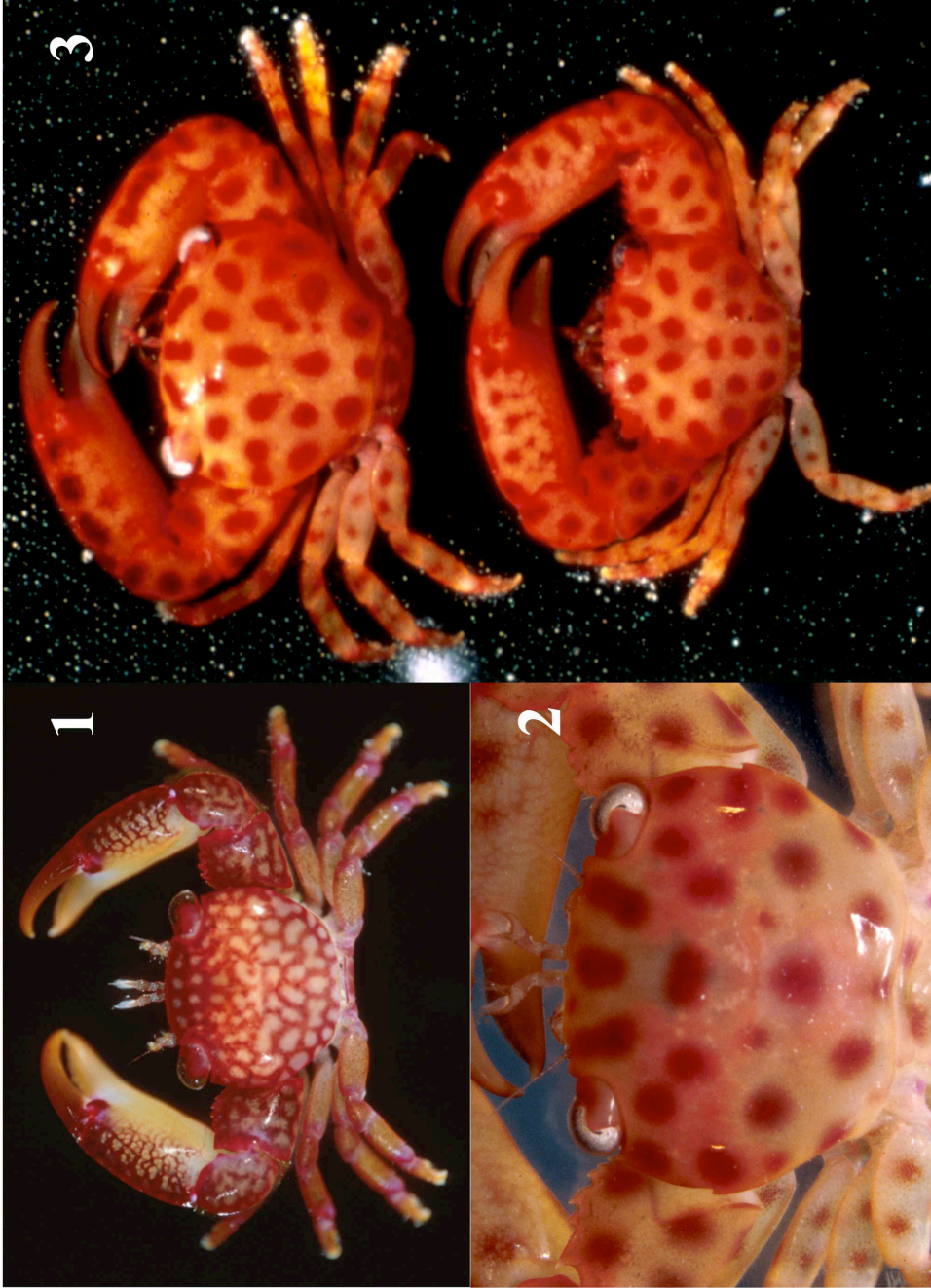
For synonymy see Galil & Clark (1990: 381).

Material examined: 2 males, 1 female, Guam, Naval Medical Research Unit coll., 1 April 1945 (USNM); 3 males, 2 females, Agaña Bay, Guam, Naval Medical Research Unit coll., 20 May 1945 (USNM); 1 female, Guam, Tumon Bay, J.L. Gressitt coll., 1945 (USNM); 3 males, 6 females, Guam, Asinile Beach, on *Pocillopora damicornis*, L. Eldredge coll., 6 April 1967 (LACM); 1 female, Guam, Sano coll., 15 Jan. 1968 (SMF 25201); 9 males, 9 females, Guam, Agat Bay, 20-25 m, Spring 1975 (UGI 2607); 4 males, 7 females, Guam, O. Odinetz coll., 1982 (MNHN-B 9704); 3 males, 1 female, Saipan, on *Acropora leptocyathus*, P.E. Cloud coll., 2 July 1949 (USNM); 1 male, 2 females, Saipan, A.H. Banner coll., 1945 (USNM), 1 female (USNM); 2 males, 2 females, Saipan, Unai, P.E. Cloud coll., 30 Jan. 1949 (USNM), 1 female (USNM); 2 males, 1 female, Saipan, A. Davis coll., 20 April 1949 (USNM); 1 male, 2 females, on *P. damicornis*, Saipan, Mañagaha I., P.E. Cloud coll., 20 June 1949 (USNM), 3 males, 2 females (USNM); 1 male, 1 female, Saipan, Tauapaq Harbor, L. Eldredge coll., 3 Feb. 1976 (UGI 2603).

Remarks: Recorded from Guam by Odinetz (1984: 443).

Trapezia lutea Castro, 1997

For synonymy see Castro (1997a: 84).



Figures 1-3. 1. *Trapezia garthi* Gail, 1983. Male, Kenting Islands, Taiwan (Photo: M.-S. Jeng); 2. *Trapezia neglecta* n.sp. Holotype, female (cl 6.7 mm, cw 8.5 mm; SMF 26290), on *Pocillopora* sp., Janum Bay, Guam: dorsal surface of carapace. (Photo: P. Castro); 3. *Trapezia neglecta* n. sp. Male and female, on *Pocillopora verrucosa*. Guam. (Photo: P. Glynn)

Material examined: 1 male, 1 female, Guam, H. Hornsbostel coll., 1923 (BPBM-S 1629); 1 female, Guam, Agaña Bay, R.H. Baker coll., 20 May 1945 (USNM); 1 male, Guam, J.L. Gressitt coll., Oct.-Nov. 1945 (USNM); 1 male, 1 female, Guam, Pago Bay, on *Pocillopora verrucosa*, P. Castro & E. Santiago coll., 10-11 Sept. 1997 (SMF 26287); 1 male, Guam, Hanum Bay, on *Pocillopora* sp., P. Castro & E. Santiago coll., 15 Sept. 1997 (SMF 26288); 1 male, Saipan, A.H. Banner coll., 1945 (USNM); 1 female, Saipan, P.E. Cloud coll., 19 April 1949 (USNM); 1 juv., Saipan, P.E. Cloud coll., 13 May 1949 (USNM); 1 male, 1 female, Saipan, Mañagaha I., P.E. Cloud coll., 20 June 1949 (USNM); 2 females, Saipan, W.A. Bartos coll. (USNM); 2 males, 1 female, Maug East I., stn. B, 3 m, T. Kurozumi coll., 5 June 1992 (CBM 1377).

Remarks: Color notes of live specimens from Guam were given by Castro (1999b: 53). Takeda et al. (1994: 288) listed specimens from the Maug Islands (CBM 1377) as *T. cymodoce* (Herbst) (part). Both species have been confused but are easily separated by morphological details and color (see Castro 1997a).

Trapezia neglecta n. sp.
(Figures 2-4)

Trapezia danai – Garth 1964: 140, 142. Not *T. danae* Ward, 1939 (= *T. tigrina* Eydoux & Souleyet, 1842).

Trapezia tigrina – Garth et al. 1987: 246, 259 (part). Not *T. tigrina* Eydoux & Souleyet, 1842.

Trapezia rufopunctata maculata – Garth et al. 1987: 246, 259 (part). Not *T. tigrina* Eydoux & Souleyet, 1842.

Trapezia intermedia – Castro 1998b: 74 (part); 2000: 66 (part). Not *T. intermedia* Miers, 1886.

? *Trapezia tigrina* - Takeda et al. 1994: 288.

Type material: 1 female holotype (cl 6.7 mm, cw 8.5 mm), Guam, Hanum Bay, 10 m, on *Pocillopora* sp., P. Castro & E. Santiago coll., 15 Sept. 1997 (SMF 26290), 1 male syntype (cl 8.0 mm, cw 9.5 mm) (SMF 26926); 1 male (cl 7.9 mm, cw 9.5 mm), 1 female (cl 8.0 mm, cw 9.8 mm), paratypes, Guam, southeast of Cocos I., 27-30 m, on *Pocillopora* sp., P. Castro coll., 8 July 1974 (BPBM-S 12156); 1 male (cl 7.9 mm, cw 9.6 mm), 4 females (cl 8.2, 4.9, 3.6 mm, cw 11.0, 6.0, 4.6 mm), paratypes, Marshall Islands, Enewetak Atoll, Parry I., 1.5 m, on *Pocillopora* sp., D. Stokes coll., 26 June 1965 (BPBM-S 12157); 1 male (cl 8.4 mm, cw 10.1 mm), 1 female (cl 10.0 mm, cw 12.5 mm), 1 juv. female (cl 3.5 mm, cw 4.5 mm), paratypes, Marshall Islands, Enewetak Atoll, J. Knudsen coll., 21 July 1967 (LACM-CR 19673351).

Additional material examined: 1 male, 1 female, Wake I., J. Kauanui coll., 11 June 1958 (LACM); 1 male, Marshall Islands, Enewetak Atoll, Parry I., F. Ziesenhane coll., 19 July 1959 (LACM), 1 male, 1 female, Engebi I., 21 July 1959 (LACM); 1 male, Enewetak Atoll, Japtan I., E. Reese coll., 20 Jan. 1960 (LACM); 3 juv., Enewetak Atoll, stn. 22, J. Knudsen coll. (LACM), 1 male, stn.

112 (LACM), 3 males, 3 females, 4 juv., stn. 164 (LACM), 2 males, 1 female, stn. 172 (LACM), 3 females, stn. 173 (LACM), 3 males, 2 females, stn. 175 (LACM), 4 males, 4 females, stn. 196 (LACM), 2 males, 5 females, stn. 197 (LACM), 1 female, stn. 384, 4 Aug. 1967 (LACM), 6 males, 3 females, 1 juv., stn. 390, 5 Aug. 1967 (LACM), 1 female, stn. 407, 8 Aug. 1967 (LACM), 1 female, stn. 411, 9 Aug. 1967 (LACM); 1 male, 1 female, Marshall Islands, Bikini Atoll, Prayer I., outer reef, F.M. Bayer coll., 19 July 1947 (USNM), 5 males, 4 females, Enar I., stn. 4, outer reef, 21 July 1947 (USNM), 9 males, 11 females, Namu I., outer reef, 6 Aug. 1947 (USNM), 1 male, 2 females, Enyu I., outer reef, on *P. verrucosa*, 1 Aug. 1947 (USNM), 1 male, 2 females, on *P. verrucosa*, 24 July 1947 (USNM), 2 males, 3 females, stn. 6, 25 July 1947 (USNM), 2 males, 2 females, stn. 7, 31 July (USNM), 1 female, on *Stylophora pistillata*, 3 Aug. 1947 (USNM), 4 males, 4 females, 4 Aug. 1947 (USNM), 1 male, 3 females, stn. 5, on *P. verrucosa*, 4 Aug. 1947 (USNM), 5 males, 5 females, some on *S. mordax*, 8 Aug. 1947 (USNM), 3 males, 2 females, some on *S. mordax*, 14 Aug. 1947 (USNM), 1 male, 5 females, 16 Aug. 1947 (USNM), 4 males, 6 females, 17 Aug. 1947 (USNM); 1 male, 2 females, Marshall Islands, Rongrik Atoll, Latoback I., some on *S. mordax*, F.M Bayer & F.C. Zimmerman coll., 18 Aug. 1947 (USNM), 4 males, 5 females, Bock I., outer reef, some on *P. verrucosa*, 19 Aug. 1947 (USNM), 1 male, 19 Aug. 1947 (USNM), 4 males, 20 Aug. 1947 (USNM), 3 males, 2 females, 21 Aug. 1947 (USNM); 1 male, Marshall Islands, Kwajalein Atoll, Gegewe I., S. Witherow coll., 8 Feb. 1946 (LACM); 1 male, 2 females, Johnston Atoll, outer reef, F.M. Bayer coll., 28 Aug. 1947 (USNM); 1 male, Johnston Atoll, stn. 9, on *P. eydouxi*, S. Coles coll., 19 June 2000 (BPBM-S 12158).

Description of holotype: Carapace smooth, shiny, glabrous, slightly convex dorsally. Anterolateral borders of carapace slightly convex (Figs.2, 4a). Epibranchial teeth acute, directed upward. Postorbital angles obtuse. Inner suborbital teeth subacute. Frontal border wide, arched, cut into two rounded supraorbital angles, two slightly convex submedian lobes, two narrow, rounded median lobes. Submedian lobes with several small teeth along outermost edges. Suture between second and third thoracic sternites (sternal suture 2/3) partially as scar. Third maxillipeds subrectangular. Ischia of endognaths granular; dorsal margins with microscopic teeth.

Chelipeds massive, slightly unequal. Meri with broadly triangular teeth; carpi without distinctive teeth. Short tomentum of simple, few plumose setae, along dorsal surface, outer margin of meri, carpi, propodi, proximal portions of dactyli. Outer margins of propodi slightly keeled; lower margins cristate, armed with broadly triangular, nearly microscopic tubercles. Fingers slender, slightly curved. Dactyli with few broad teeth; immovable fingers each with distinct cutting edge.

Meri of walking legs laterally flattened, with cristate dorsal margins. Outer margins of carpi, propodi, dactyli with many long, simple setae. Distal ends of dactyli curved with horny ridges at tip; inner (posterior) margins with thick, corneous setae, transverse rows of setae present proximally.

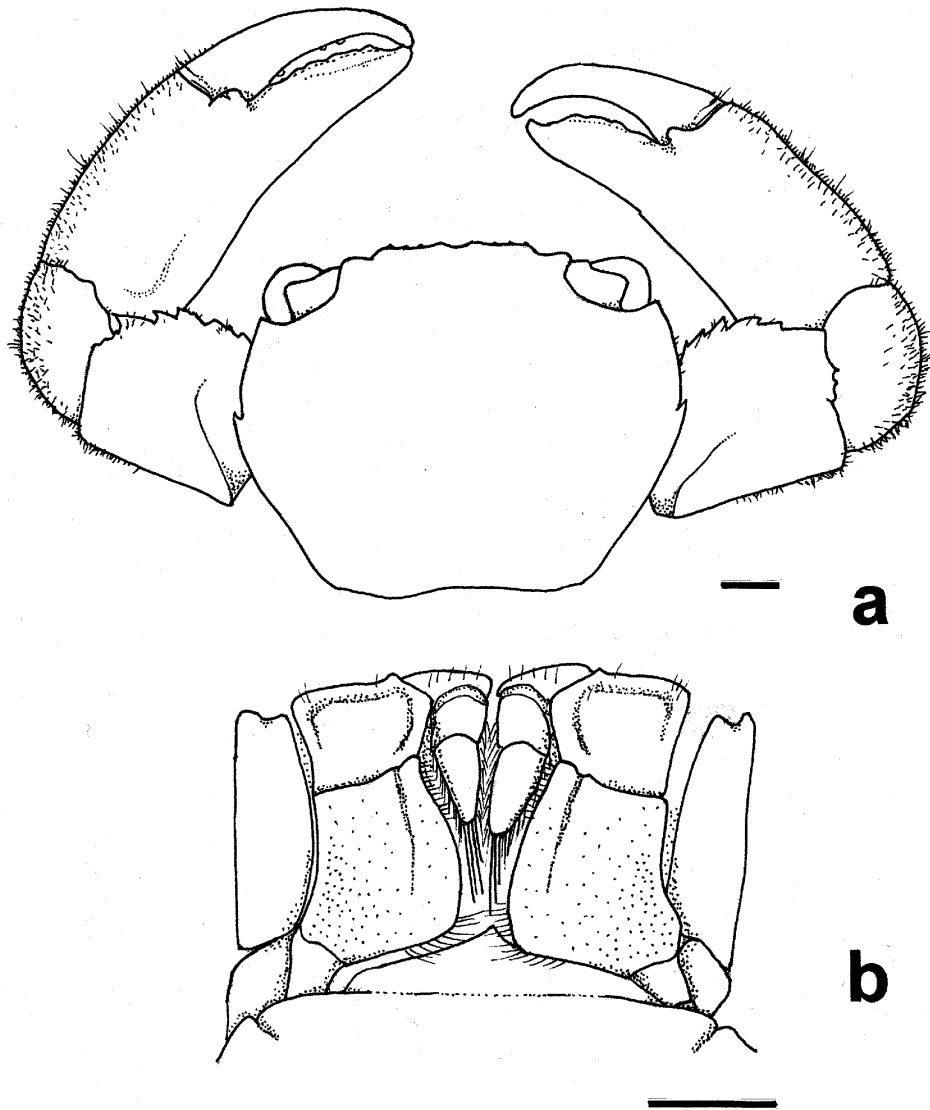


Figure 4. *Trapezia neglecta* n.sp. Holotype, female (cl 6.7 mm, cw 8.5 mm; SMF 26290), on *Pocillopora* sp., Hanum Bay, Guam: a, dorsal surface of carapace; b, anterior sternal region and third maxillipeds. Each scale bar represents 1 mm.

Color: The carapace of live specimens is orange with large red to brown-red spots, typically 24-26 on the dorsal surface of the carapace of fully-grown specimens (Figs. 2, 3). Outer, dorsal surfaces of propodi of chelipeds with large red to brown-red spots; middle, dorsal surfaces with irregular reticulations of

same red color. Anterior margins of meri, carpi, and propodi of chelipeds orange-red. Fingers brown. Walking legs with similar but smaller spots. Eyes light gray.

Morphological Variation: The anterolateral sides of the carapace become increasingly convex with larger size. The anterolateral teeth are acute but may become obtuse in large specimens, as in the case of the male syntype. The acute tooth on the inner margin of each anterior margin of the cheliped meri in small specimens decreases in size until it disappears in the larger individuals. There is substantial variation in the distribution of tomentum on the chelipeds, being shorter and sparser in larger specimens. It is very dense on the chelipeds and the dorsal margin of walking legs in the male paratype from Enewetak (cl 7.9 mm, cw 9.6 mm; BPBM-S 12157). It may even vary between the chelipeds of the same specimens.

As in other species of *Trapezia*, the male first pleopods are long, slightly sinuous, and slender; the apex is slender and symmetrical.

Etymology: From the Latin verb *neglere* (from *nec*, not, *legere*, to gather), to ignore or neglect, in reference to the fact that the author neglected to recognize it as a distinctive species, even if he had collected it live in Guam in 1974 and 1997, and had specimens from the Marshall Is. in his possession since 1965. Other investigators similarly failed to recognize it as a different species.

Geographic distribution: Known from the central Pacific from Guam to Johnston Atoll, including Wake I. and the Marshall Is. It is not yet known from the Hawaiian Archipelago.

Remarks: *Trapezia neglecta* can be easily confused with other spotted species of *Trapezia*. In *T. tigrina* Eydoux & Souleyet, 1842 the spots are much smaller and more numerous than in *T. neglecta* (see Galil & Lewinsohn 1984: fig. 1; Serène 1984: pl. 39, figs. C, D). There are more than 50 spots on the dorsal surface of the carapace of fully-grown *T. tigrina* in contrast to 24-26 in *T. neglecta*. The background color is light orange or cream in *T. tigrina* but darker orange in *T. neglecta*. Furthermore, the chelipeds always lack a tomentum in *T. tigrina*, regardless of their sizes. Takeda et al. (1994: 288) recorded nine specimens of *T. tigrina* from Maug Islands, Northern Marianas. Although this species is widely distributed across the Indo-West Pacific region, it has never been recorded from the Mariana Islands so it is very possible that their specimens actually also belong to *T. neglecta*.

Two other spotted species are found in Guam and throughout the Indo-West Pacific region. In *T. rufopunctata* (Herbst, 1799) the spots are small, red, and variously distributed on a light-orange or cream background (see Serène 1984: pl. 39, figs. A, B [B as *T. maculata* (Macleay, 1838)]; Galil & Lewinsohn 1985a: figs. 1-6; Castro 1997b: pl. 5, fig. B). Spots, however, show much variation in their number. Diagnostic are the presence of conspicuously triangular teeth along the anterior border of the carapace and two rows of thick, teeth-like tubercles along the inner (ventral) margins of the cheliped propodi. In *T. flavopunctata* Eydoux & Souleyet, 1842 the spots are yellow on a red background. The teeth along the anterior border of the carapace are rounded and there are two rows of

teeth-like tubercles along the inner margins of the cheliped propodi. Both *T. rufopunctata* and *T. flavopunctata* attain a large size, but even small specimens similar in size to the largest specimens of *T. neglecta* show the characters diagnostic for these two species. *T. neglecta* is a small-sized species, the largest specimen examined or known is a female paratype, cl 10.0 mm, cw 12.5 mm (LACM-CR 19673351).

T. maculata (Macleay, 1838) is a junior subjective synonym of *T. rufopunctata* (see Ng & Ahyong, 2001). The holotype of Macleay's species, *Grapsillus maculatus* (MMUS-C 2924) was examined by the author.

Specimens of *T. neglecta* from Enewetak, Marshall Is. in the Allan Hancock Foundation (now at LACM) were identified as *T. danae* Ward, 1939 by J.S. Garth and as *T. intermedia* Miers, 1886 by B. Galil. Two USNM specimens from Enewetak were similarly identified as *T. danae* by R. Serène. *T. danae*, which was described from Samoa, is clearly a junior subjective synonym of *T. tigrina* Eydoux & Souleyet, 1842, as is evident from Ward's photographs (Ward 1939: figs. 17 & 18). Galil & Lewinsohn (1984) had examined the type material of *T. danae* and reached the same conclusion. Garth et al. (1987) followed Galil & Lewinsohn and placed the Enewetak's material of *T. neglecta* (originally referred to as *T. danae*) under *T. tigrina*. Garth identified two lots of *T. neglecta* from Enewetak as *T. cymodoce maculata* Macleay, a name that had been used for *T. tigrina*. Garth et al. (1987), however, refer to it as *T. rufopunctata maculata* in their list of Enewetak decapods. *T. tigrina* has been collected in the Marshall Is. and Galil & Lewinsohn (1984) correctly identified all the material belonging to this species at LACM. One lot of *T. tigrina* was initially identified as "*Trapezia* aff. *danai*" by R. Serène. *T. tigrina* is known from the central Pacific (from Ifalik, Federated States of Micronesia to the Marshall Is. and Samoa) (Galil & Lewinsohn 1984, Castro unpublished data), the Hawaiian Archipelago (Galil & Lewinsohn 1984, Castro 1998), Johnston Atoll, French Polynesia, and southwestern Polynesia (Galil & Lewinsohn 1984, Castro 1997b). It has never been recorded from the Mariana Islands.

Specimens of *T. neglecta* that have been preserved in alcohol for several decades may show very faint dots, especially the three (rarely four) along the anterior border of the carapace between the eyes and several along the outer margin of the cheliped propodi. Specimens that have been preserved for several decades and only show vague or indistinct spots or no spots at all closely resemble *T. intermedia*, a species thus far known only from the Hawaiian Archipelago. An incomplete specimen from Palmyra Atoll previously identified as *T. intermedia* (BPBM-S 11361; Castro 1998b: 74) does not belong to the latter or to *T. neglecta* but may be *T. ferruginea* Latreille, 1848. Specimens from Wake I. similarly identified as *T. intermedia* (BPBM-S 1438; Castro 1998b: 74) could not be examined but they most probably belong to *T. neglecta*. Both species share the presence of a short to very short tomentum along the outer margins of the chelipeds (although the character is highly variable in *T. intermedia*, being often present only on the merus, sometimes only along one cheliped or altogether

absent in many large individuals); slightly convex to almost straight submedian lobes of the anterior border of the carapace; shallow but noticeable punctae on the ischium of the third maxillipeds and on the pterygostomial regions of the carapace; very slight, pointed tubercles along the inner (ventral) margins of the cheliped propodi. Live specimens of *T. intermedia* can be easily distinguished from *T. neglecta* by the presence of irregular, faint, light-brown spots on the dorsal surfaces of the carapace and chelipeds, unlike the red, well-defined spots of *T. neglecta*. The markings of *T. intermedia* may remain in preserved specimens for several years (Edmondson 1962: fig. 31a, Preston 1973: fig. 1(1), Serène 1984: pl. 39, fig. F) but are eventually lost, particularly those on the carapace. *T. intermedia* is also distinguished in having anterolateral borders of the carapace that are straight in small and medium-sized specimens that are similar in size to those of *T. neglecta* known so far. The anterolateral borders become slightly rounded as in *T. neglecta* in the large specimens. The anterolateral teeth are acute in most specimens of *T. neglecta* and small *T. intermedia* but are always obtuse and reduced in size in larger *T. intermedia*. There is a suture between the second and third thoracic sternites (suture 2/3) in most specimens of *T. neglecta* and small *T. intermedia* but the suture is incomplete or absent in the larger specimens of both species.

The description of *T. neglecta* raises the number of described species of *Trapezia* from the twenty-two given by Castro (2000) to twenty-three.

Trapezia plana Ward, 1941

For synonymy see Castro (2002).

Material examined: 1 male, 1 female, Saipan, W.A. Bartos coll. (USNM 260835); 1 juv., Agrihan I., 8 m, P. Schupp coll., 30 May 1992 (ZRC).

Remarks: Recorded from Saipan by Castro (1999b: 53; as *T. punctipes* Castro, 1997).

Trapezia rufopunctata (Herbst, 1799)

For synonymy see Galil & Lewinsohn (1985a: 209).

Material examined: 1 female, west off Cocos I., on *Stylophora mordax*, 10-14 m, P. Castro coll., 8 July 1974 (BPBM-S 11879); 1 female, Guam, southeast off Cocos I., on *Pocillopora eydouxi*, G. Paulay coll., 17 Aug. 1999 (ZRC); 1 male, 1 female, Saipan, E.R. Tinkham coll., Apr.-May 1945 (LACM); 1 male, Saipan, W.A. Bartos coll. (USNM).

Remarks: This is the first published record from the Mariana Islands.

Trapezia septata Dana, 1852

For synonymy see Galil & Lewinsohn (1985b: 288).

Material examined: 1 male, Guam, Naval Medical Research Unit coll. (USNM); 1 male, Guam, on *Pocillopora elegans*, O. Odinetz coll., 1981 (MNHN-B 9714).

Remarks: Recorded from Guam by Odinetz (1984: 444) as *T. reticulata* Stimpson, 1858, a junior subjective synonym. The specimens from Maug Islands, Northern Marianas identified by Takeda et al. (1994: 288) as “*T. ‘areolata’* sensu Forest et Guinot, 1991” that were examined by the author (CBM 1293, 1303, 1310, 1313, 1322, 1325, 1327, 1328, 1336, 1340, 1355, 1359) could not be identified since they were very small and the color pattern was not visible.

Trapezia serenei Odinetz, 1984

For synonymy see Castro (1997b: 128).

Material examined: 3 males, 2 females, Guam, Agaña Bay, Naval Medical Research Unit coll., 20 May 1945 (USNM), 1 female, 0.5 fath., Jan.-April 1945 (USNM); 1 male, 1 female, Guam, Pago Bay, reef flat, 0.5 m, on *Pocillopora damicornis*, 13 Sept. 1971 (BPBM-S 11878); 1 male holotype, Guam, 1-3 m, on *P. damicornis*, O. Odinetz coll., 1981 (MNHN-B 9681); 1 male, 2 females, on *P. elegans* (MNHN-B 9682), 1 male, 1 female, on *P. verrucosa* (MNHN-B 9684), 2 males, 2 females, on *P. damicornis* (MNHN-B 9683), 1 male, 1 female (MNHN-B 9685).

Remarks: The holotype was collected from Guam (Odetz 1984: 441; MNHN B-9681).

Trapezia speciosa Dana, 1852

For synonymy see Castro (1999a: 114).

Material examined: 1 male, 2 females, Guam, Naval Medical Research Unit coll. (USNM); 4 males, 1 female, Saipan, A.H. Banner coll., 1945 (USNM).

Remarks: *Trapezia speciosa* may be easily confused with *T. garthi* Galil, which is not uncommon in Guam. Takeda et al (1994: 288) recorded it from Maug Islands but the specimens examined by the author (CBM 1292, 1307, 1326, 1370, 1374) were very small and the color pattern was not visible. Their identity cannot be ascertained.

Discussion

Of the 20 species recorded here, 15 are widely distributed across the Indo-West Pacific region (including three also found in the eastern Pacific; see Castro 2000), four (*Trapezia garthi*, *T. plana*, *T. septata*, and *T. serenei*) are restricted to the western Pacific but extend their distribution to the eastern Indian or south Pacific oceans, and one (*T. neglecta*) is thus far endemic to the central Pacific. The total number of species of Trapeziidae treated here is similar to the number in Indonesia (22) and French Polynesia (23) (see Castro 2000). The number

should be higher since it does not include species of *Quadrella*, which are undoubtedly found in the region. This surprisingly large number of species may be explained by the location of the Mariana Islands close to the highly diverse Indo-Malay region and yet isolated enough to include a species endemic to the Central Pacific.

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