

**NEW RECORDS OF TRAPEZIID CRABS (XANTHOIDEA, TRAPEZIIDAE)
FROM THE ANDAMAN SEA COAST OF THAILAND,
WITH NOTES ON THE TAXONOMIC STATUS OF *TRAPEZIA PLANA* WARD, 1941**

Peter Castro

*Biological Sciences Department, California State Polytechnic University,
Pomona, California 91768-4032, U.S.A.*

ABSTRACT

A small collection of trapeziid crabs, symbionts of reef corals and other colonial anthozoans, from Phuket Island, Andaman Sea coast of Thailand, has resulted in three new records for the region: *Quadrella coronata* Dana, 1852, *Q. maculosa* Alcock, 1898, and *Q. serenei* Galil, 1986. There are now ten species of trapeziids known from the region. A key to these ten species is provided. The taxonomic status of one of these species, *Trapezia plana* Ward, 1941, is reviewed. *Trapezia punctipes* Castro, 1997, is found to be a junior subjective synonym of *T. plana*.

INTRODUCTION

Our knowledge of the trapeziid crabs of the Andaman Sea is very much incomplete. Lundoer (1974: 7) recorded four species from Phuket: *Trapezia cymodoce* (Herbst, 1801), *T. septata* Dana, 1852 (as *T. areolata* Dana, 1852), an unidentified species of *Tetralia* (as *T. glaberrima* (Herbst, 1799), a name that used to include several species of *Tetralia*), and an unidentified species of *Quadrella*. Naiyanetr (1998: 87) added two species (*Trapezia ferruginea* Latreille, 1828 and *T. tigrina* Eydoux and Souleyet, 1842, as *T. wardi* Serène, 1970) to Lundoer's list. Castro (1999a) listed four additional species (*Tetralia fulva* Serène, 1984, *Trapezia guttata* Rüppell, 1830, *T. punctipes* Castro, 1977 [= *T. plana* Ward, 1941, see below], and *T. richtersi* Galil and Lewinsohn, 1983). The *T. ferruginea* record of Naiyanetr (1998) is highly questionable as this species has been confused with others. The record possibly resulted from the misidentification of *T. plana*. Three species of *Quadrella* (*Q. coronata* Dana, 1852, *Q. maculosa* Alcock, 1898, and *Q. serenei* Galil, 1986) are now added to the trapeziids known from the area, a total of ten species.

MATERIALS AND METHODS

The material examined is deposited in the Reference Collection of the Phuket Marine Biological Center (PMBC), Thailand; Zoological Reference Collection (ZRC) of the Raffles Museum, Nation University of Singapore; and the American Museum of Natural History, New York, N.Y., U.S.A. (AMNH).

LIST OF SPECIES

Quadrella coronata Dana, 1852

For synonymy see Galil, 1986: 282.

Material examined

PMBC 16194, 1 female, BIOSHELF St. A3, 09°33'N, 097°38'E, 83 m, triangular dredge, coll. S. Bussarawit and C. Aungtonya, 19.04.1996.

Host

Unknown. Previously collected from alcyonaceans, antipatharians, and gorgonians (Castro, 1999a: 96).

Remarks

Known from unspecified locations along the 'Indian coasts and islands' (Alcock, 1898: 226), the Maldive Islands (Borradaile, 1902: 266), and the Maldive Islands and Sri Lanka (Galil, 1986: 282). Also known from across the Indo-West Pacific region from the Red Sea to the western Pacific (see Castro, 1999a: 95–96).

Quadrella maculosa Alcock, 1898
(Fig. 1)

For synonymy see Galil, 1986: 285.

Material examined

ZRC 2001.2258, 1 females, Phuket fishing port, coll. Andaman Sea Fisheries Development Center, December 1998.

Host

Unknown but most probably from branching antipatharians (black corals), their only known host.

Remarks

Previously recorded from the Andaman Islands at depths of 7–18 m (Alcock, 1898: 227). Also known from the Maldive Islands (Garth, 1971: 188; Galil, 1986: 286), Sri Lanka (Galil, 1986: 285), and from locations across the Indo-West Pacific region from the Red Sea to Japan and French Polynesia (see Castro, 1999a: 96).

Quadrella serenei Galil, 1986
(Fig. 2 A, B)

For synonymy see Castro, 1999a: 96.

Material examined

PMBC 16195, 1 male, 1 female, ZRC 2001.2259, 1 female, Racha Noi Island, Phuket, 14.12.1998.

Host

The Phuket specimens were collected from antipatharians (black corals), their only known host.



Figure 1 *Quadrella maculosa* Alcock, 1898. Female, off Phuket Island fishing pier. Photograph by Peter K.L. Ng.



Figure 2 A, B *Quadrella serenei* Galil, 1986. Female, Racha Noi Island, Phuket Province. Photograph by Peter K.L. Ng.

Remarks

Previously known from the Nicobar Islands (Galil, 1986: 285, as *Q. lewinsohni*). It is known from the western Indian Ocean and from Japan to French Polynesia (see Castro, 1999a: 97).

This (Fig 2A) is the first colour photograph of the adult *Q. serenei*. The colour photograph given by Castro (1997: pl. 7, fig. B; as *Q. maculosa*) is of a juvenile. It shows close similarities to the colour pattern of *Q. maculosa*. The colour pattern of *Q. serenei* was discussed by Castro (1999a: 97).

Trapezia cymodoce (Herbst, 1801)

For synonymy see Galil and Clark, 1990: 378.

Material examined

ZRC 2001.2060, 1 male, reefs by PMBC, Cape Panwa, intertidal at low tide, coll. P.K.L. Ng and P. Davie, 04.12.1998; PMBC 16729, 1 female, reefs by PMBC, Cape Panwa, intertidal at low tide, coll. P.K.L. Ng and P. Davie, 04.12.1998.

Host

Pocillopora spp.

Remarks

Previously collected at Phuket Island (Castro, 1999a: 106).

Trapezia plana Ward, 1941

Trapezia plana Ward, 1941: 14, fig. 28.– Serène, 1968: 88.– Feinberg, 1971: 66.

Trapezia ferruginea.– Serène, 1984: 273 (part; not *T. ferruginea* Latreille, 1828).

Trapezia punctipes Castro, 1997: 87, figs 4A–C, pl. 2D; 1999a: 112; 1999b: 53; 1999c: 67; 2000: 204.

Material examined

Holotype: AMNH 8311, 1 male, Padada Beach, Mindanao, Gulf of Davao, Philippine Is., 2 males, coll. G.R. Oesch, 6–19 July 1936.

Host

Pocillopora spp.

Remarks

Examination of the male holotype of *T. plana* Ward (AMNH 8311; cl 8.1 mm, cw 9.3 mm) showed that it is identical to *T. punctipes* Castro. *T. plana* is known only from the holotype and four additional specimens, all of which were collected in the Gulf of Davao, Philippine Is. *T. punctipes* was described from Queensland, Australia (Castro, 1997) and specimens were eventually identified from several locations across southeast Asia and the western Pacific from the Andaman Sea (Phuket Island) to the Mariana Islands, New Caledonia, and Fiji (Castro, 1999a; 1999b; 1999c; 2000).

The characteristic colour pattern that was observed in live specimens of *T. punctipes* (light orange body, orange-red spots on the walking legs, blue-grey eyes) is obviously absent in the holotype of *T. plana* (collected in 1936). Ward (1941: 15) described its colour as ‘uniform pale yellowish brown’ with ‘faint traces of pale brown spots’ on the distal somites of the walking legs. Several diagnostic morphological characters, however, are shared by both species. The anterolateral margins of the carapace are only slightly rounded and almost parallel to each other, short but distinctive tubercles (referred to by Ward as ‘granules’) are present along the lower (ventral) margin of the chelipeds (Castro, 1999b: 53), and a cluster of small, short granules are present on the distal margin of the ischium of the endognath of the third maxillipeds (Castro, 1997: fig. 4B). Ward’s description lacks any particular, diagnostic features other than the shape of the anterolateral margins of the carapace (observed in his photograph) and the tubercles on the chelipeds.

Trapezia septata Dana, 1852

For synonymy see Galil and Lewinsohn, 1985: 288.

Material examined

ZRC 2001.2261, 1 male, reefs by PMBC Cape Panwa, coll. P. K.L. Ng and P. Davie, 04.12.1998.

Host	Remarks
<i>Pocillopora</i> spp.	Previously collected at Phuket Island (Castro, 1999a: 114).

**KEY TO THE SPECIES OF TRAPEZIID CRABS
OF THE ANDAMAN SEA COAST OF THAILAND**

1. Anterior border of carapace with conspicuous, V- or U-shaped median emarginations and two or more lobes. On antipatharians (black corals), gorgonians, or alcyonaceans (soft corals)2
- Anterior border of carapace with relatively small, rounded lobes or no lobes at all. On scleractinian reef corals4
2. Thoracic sternum crossed from side to side by suture (suture 2/3)3
- Thoracic sternum not crossed by complete transversal suture (suture 2/3) except in juveniles and small adults*Quadrella maculosa*
3. Posterior margin of dactylus of walking legs with teeth that conspicuously increase in size toward tip. Merus of chelipeds always armed with 7–12 long, spine-like teeth*Quadrella coronata*
- Posterior margin of dactylus of walking legs with teeth that are about the same size. Merus of chelipeds of adults armed for most of its length with short pointed or blunt (obtuse) tubercles, with only 2–3 distal ones conspicuous and tooth-like (only juveniles and small adults with short teeth along entire length of merus).....*Quadrella serenei*
4. Chelipeds very dissimilar in size. Male abdomen with six somites plus telson. On *Acropora**Tetralia fulva*
- Chelipeds only slightly dissimilar in size. Male abdomen with four somites plus telson. On *Pocillopora*, *Seriatopora*, and *Stylophora*5
5. Dorsal border of cheliped propodus with conspicuous tomentum that consists of many long setae; propodus with keel-like (subacute) upper border*Trapezia cymodoce*
- Dorsal border of cheliped propodus without conspicuous tomentum along entire length, although microscopic or visible but short setae may be present; propodus with rounded upper border6
6. Dorsal surface of carapace without coloured spots, dots, bands or lines other than very thin line along anterior border of carapace*Trapezia plana*
- Dorsal surface of carapace with distinctive coloured spots, dots, bands or lines that very often remain in preserved specimens (if anterior border of carapace is coloured differently from rest of carapace, it is as broad brown band, not very thin line)7

7. Dorsal surface of carapace white to orange-white without spots or dots, but with brown band across frontal border *Trapezia guttata*
 — Dorsal surface of carapace ornamented with interconnected lines, spots or dots 8
8. Carapace and chelipeds with honeycomb-like network of red-brown lines interconnected as pentagons or hexagons *Trapezia septata*
 — Carapace and chelipeds with red spots or dots 9
9. Carapace and chelipeds with small, not very numerous spots; epibranchial teeth acute; dorsal surface of cheliped propodus without irregular, red reticulations *Trapezia tigrina*
 — Carapace and chelipeds with very small and numerous dots and no well-defined spots; epibranchial teeth obtuse; dorsal surface of cheliped propodus with irregular, red reticulations *Trapezia richtersi*

DISCUSSION

Of the ten species of trapeziids so far known from the Andaman Sea, all but three are widespread Indo-West Pacific species (see Castro, 2000). The Andaman Sea is the easternmost location of *T. richtersi*, an Indian Ocean species, and the westernmost location of *T. plana*, a western Pacific Ocean species. A similar pattern of distribution is shown by *T. septata*, a western and central Pacific Ocean species that has Sri Lanka as its westernmost limit.

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