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Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

SHORT COMMUNICATION

FIRST RECORD OF TWO RARE BRACHYURAN CRABS:

DRACHIELLA MORUM ALCOCK, 1896 AND *QUADRELLA MACULOSA* ALCOCK, 1898 ALONG THE TAMIL NADU COAST, INDIA

Chinnathambi Viswanathan, Sampath Goutham, Vijay Kumar Deepak Samuel, Pandian Krishnan, Ramachandran Purvaja & Ramachandran Ramesh

26 August 2019 | Vol. 11 | No. 10 | Pages: 14358–14362

DOI: 10.11609/jott.3076.11.10.14358-14362



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ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

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FIRST RECORD OF TWO RARE BRACHYURAN CRABS: *DRACHIELLA MORUM* ALCOCK, 1896 AND *QUADRELLA MACULOSA* ALCOCK, 1898 ALONG THE TAMIL NADU COAST, INDIA

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Abstract: The present report describes the first record of two brachyuran crabs, *Drachiella morum* Alcock, 1896 and *Quadrella maculosa* Alcock, 1898 along the coast of Tamil Nadu, India. The morphological characters of the specimens are described and discussed. Among the two crabs, *Q. maculosa* was previously recorded only in the Andaman & Nicobar Islands.

Keywords: Crab, *Drachiella morum*, morphological characters, *Quadrella maculosa*.

In recent years, biodiversity research has gained significant momentum owing to the decline of flora and fauna worldwide. Reporting the occurrence of a rare species is, thus, very important in order to update the country's biodiversity database. The brachyuran crabs of the family Aethridae Dana, 1851 is a small group with 37 species under seven genera worldwide (Davie & Fransen 2015). Some members of the Aethridae (*Actaeomorpha* and *Drachiella*) have long been associated with the family

Leucosiidae (Ng et al. 2008). The family Trapeziidae Miers, 1886 are known as obligate commensals of corals throughout the Indo-Pacific and eastern Pacific regions (Castro et al. 2004). Trapeziidae has 43 species belonging to three subfamilies and seven genera (Davie & Türkay 2009). Both Aethridae and Trapeziidae are least studied from Indian waters since only three species of aethrids and nine species of trapezids are known from India. Previously, aethrids were reported in 1896 and 1934 (Alcock, 1896; Chopra, 1934); thereafter, no additional observation from the Indian coast has been made in the scientific reports, whereas a few trapezids were reported from Rameshwaram and Andaman Islands (Alcock 1898; Sankarankutty 1961, 1962, 1966; ZSI 2012).

In the present study, we report an Aethridae crab, *Drachiella morum* and a Trapeziidae crab *Quadrella maculosa* for the first time from Tamil Nadu, southeastern coast of India. The former was previously recorded in

DOI: <https://doi.org/10.11609/jott.3076.11.10.14358-14362> | **ZooBank:** urn:lsid:zoobank.org:pub:C723677B-544A-4EB9-A01A-D0D635337ACB

Editor: A. Biju Kumar, University of Kerala, Thiruvananthapuram, India.

Date of publication: 26 August 2019 (online & print)

Manuscript details: #3076 | Received 30 September 2016 | Final received 01 May 2019 | Finally accepted 31 July 2019

Citation: Viswanathan, C., S. Goutham, V.K.D. Samuel, P. Krishnan, R. Purvaja & R. Ramesh (2019). First record of two rare brachyuran crabs: *Drachiella morum* Alcock, 1896 and *Quadrella maculosa* Alcock, 1898 along the Tamil Nadu coast, India. *Journal of Threatened Taxa* 11(10):14358–14362. <https://doi.org/10.11609/jott.3076.11.10.14358-14362>

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Funding: National Centre for Sustainable Coastal Management, Ministry of Environment, Forest and Climate Change, Chennai.

Competing interests: The authors declare no competing interests.

Acknowledgements: The study was undertaken as a part of the National Project on Mapping Ecologically Sensitive Areas (ESA) in India, supported by the Ministry of Environment, Forest and Climate Change, Government of India. The authors thank Dr. R. Soundararajan, Scientific Consultant, National Centre for Sustainable Coastal Management, Chennai for reviewing the manuscript.



Odisha (Alcock 1896) and West Bengal (Chopra 1934) and the latter was reported only in the Andaman Islands (Alcock 1898; ZSI 2012).

MATERIALS AND METHODS

During the field survey, one crab belonging to the species, *D. morum* (female) from Kasimedu fishing harbour and two crab individuals belonging to the species, *Q. maculosa* (male, female) from Kottivakkam fish landing centre of Tamil Nadu, southeastern coast of India, were collected. The former was collected from a trawl bycatch while the latter was collected from a gill net. Species identification of the collected specimens was made by following the descriptions of Alcock (1896, 1898) and Galil (1986). The collected specimens were deposited in the Marine Biological Regional Centre (MBRC), Zoological Survey of India (ZSI), Chennai.

Order Decapoda Latreille, 1802

Family Aethridae Dana, 1851

Genus *Drachiella* Guinot, in Serène & Soh, 1976

Drachiella morum Alcock, 1896 (Image 1)

Synonyms: Holotype. *Actaeomorpha morum* Alcock 1896: 172–173. pl. VIII, fig. 3; Ihle, 1918: 308.

Actaeomorpha morum Chopra 1934: 480–481; Edmonson 1935: 20; Sakai 1937: 116, text-fig. 13, 1965: 35, pl. 15, fig. 3; Serene 1954: 458, pl. 7 and text-fig. 1,2; Zarenkov 1969: 16, fig. 1(1); Takeda & Miyake 1970: 218.

"Aff. *Oreophorus*" *morum*, Guinot 1966: 757.



Image 1. Dorsal view of *Drachiella morum*.

Oreophorus rugosus Yokoya 1933, not *O. rugosus* Stimpson 1858; *vide* Takeda & Miyake (1970).

Type locality: Ganjam coast, India (Alcock 1896).

Materials examined: MBRC/Reg No: D1-511, 07 September 2015, 1 female, from trawl net hauled at a depth of 20–30 m, and landed at Chennai Kasimedu fishing harbor, Bay of Bengal, Tamil Nadu, India, coll. Goutham Sampath.

Measurements: Carapace width 10.7mm; carapace length 8.6mm (details in Table 1).

Description: Carapace broader than long, quite oval. The entire surface of the body and appendages are closely covered with vesiculous granules. The carapace as a whole is segmented and isolated into regions from a broad marginal ring by sculptured grooves; a narrow bridge alone connecting the front to the gastric regions. The segmented regions are elegantly isolated from each other by a) two obliquely-longitudinal channels that cut off the acutely triangular gastro-cardiac region from the reniform branchial regions, and b) a transverse channel that cuts off the semi-oval intestinal region – the channels being all connected to the marginal ring. The orbits are spherical and are entirely closed out from the antennulary fossettes, the infra-orbital lobe being in close contact with the frontal lobes. The basal antennal segment is fused with the infra-orbital lobe, but the antennal flagellum is distinct. The chelipeds and legs are closely crowded with large granules. The carpus and propodus are covered with spiniform granules. Merus in the last pair of legs is also spiniform on the posterior region.

Colour: Orange brown colour in fresh specimen.

Distribution: India: Odisha and West Bengal (Alcock 1896), Tamil Nadu, India (present study); Japan (Yokoya 1933): Misaki (Sakai 1937), Sagami Bay (Sakai 1965), Kii Nagashima and Tosa Bay (Sakai 1976); East China Sea (Takeda & Miyake 1970a); South China Sea (Dai & Yang 1991); Vietnam, Thailand and Philippines (Serène & Vadon 1981; Chen 1989).

Remarks: *Drachiella morum* was first reported as *Actaeomorpha morum* by Alcock (1896). Later, Guinot (1966) removed the species from *Actaeomorpha* and classified it under *Oreophorus*. Serene & Sow (1976) however, included the species under *Drachiella* with clear illustrations. *Drachiella* was long associated with the family Leucosiidae (Ng et al. 2008).

Order Decapoda Latreille, 1802

Family Trapeziidae Miers, 1886

Genus *Quadrella* Dana, 1851

***Quadrella maculosa* Alcock, 1898 (Image 2)**

Synonyms: Holotype. *Quadrella coronata* var. *maculosa* Alcock, 1898: 226

Quadrella coronata var. *maculosa* Alcock & Anderson, 1899, figures 2, plate 38.

Quadrella maculosa Rathbun, 1911: 235; Guinot 1967: 285; Serene 1968: 89; Garth 1969: 188; Serene 1973a: 204, figures 4, 9, 20–22, plate 3; 1975: 513; Serene et al. 1974: 24; Serene 1984: 288, figure 194, plate 41, figure E; Galil 1986c: 285, figures 5 C–F; Galil and Clark 1990: 372; Allen & Steene 1994: 162; Colin & Arneson 1995: 214, figure 1007.

Quadrella cyrenae Ward 1942: 45, figures 5,6, plate 3; Michel 1964: 30; Guinot 1967: 275.

Type locality: The Andaman Islands, India (Alcock 1898).

Materials examined: MBRC/Reg No: D1-512, 04 January 2016, 1 male, and 1 female gill net, Kottivakkam fish landing centre, Bay of Bengal, Tamil Nadu, India, coll. Goutham Sampath.

Measurements: Carapace width 4.8mm (male), 4.5mm (female); carapace length 3.8mm (male), 3.9mm (female) (details in Table 1).

Description: Carapace hexagonal, slightly wider than long; anterior margin with conspicuous triangular, teeth-like lobes. Polygonal markings in carapace and propodus of chelipeds. Epibranchial spine prominent, projecting outward. Chelipeds are massive. Merus little shorter than the carapace, and strongly granulate



Image 2. Dorsal view of *Quadrella maculosa*.

Table 1. Morphometric characters of the identified crabs (mm).

Characters	<i>Drachiella morum</i> (n = 1)	<i>Quadrella maculosa</i> (n = 2)
Carapace length	8.6	3.8, 3.9
Carapace width	10.7	4.8, 4.5
Frontal width	1	2.1, 2.2
Posterior width of carapace	2.5	2.7, 2.9
Merus length	2.3	2.9, 2.8
Merus width	1.2	1.1, 1.3
Carpus length	1.1	0.8, 0.8
Carpus width	0.9	0.5, 0.5
Propodus length	2.8	5.4, 5.3
Propodus width	1.3	1.4, 1.5
Dactylus length	1.2	1.3, 1.3

on anterior margin; with eight lateral spines on each cheliped. Carpus short, rounded, prominent anterior spine on interior margin. Chelipeds 1.5x longer than carapace length, distended, tuberculate, tubercles increasing in size posteriorly, giving the posterior margin a serrate appearance. First ambulatory leg more than twice carapace's length. Fourth ambulatory dactyl with 16 triangular teeth on posterior margin, proximally diminishing in size. Propodus and dactylus are hairy on each walking leg.

Colour: Light brown in fresh specimen.

Distribution: Red Sea; Gulf of Aden; Kenya; Madagascar-Tuléar and south coast; Nosy Bé and Tuléar; Seychelles; Amirante Islands; Réunion; Mauritius; Cargados Carajos Islands; Maldives; Sri Lanka - Gulf of Mannar; Andaman Islands; Japan - Kuroshima, Yaeyama-retto; Taiwan; Philippines - Golo Island; Palau; Indonesia - Kepulauan Aru and Kai, Kepulauan Kai, Kepulauan Aru and Geelvinck Bay, New, Makassar Strait and Auri Island, Irian Jaya; Papua New Guinea - Madang; New Caledonia; Vanuatu; Marquesas Islands - Fatu Hiva (MSIP 2016).

Remarks: *Quadrella maculosa* can be differentiated from other species of *Quadrella* by a) having slender and long walking legs b) having a clear epibranchial spine that projects from each side of the carapace and c) merus of a cheliped that is armed with acute tubercles (Castro 1997).

DISCUSSION

The brachyuran crab, *Drachiella morum*, was first reported as *Actaeomorpha morum* by Alcock (1896). He recorded two females (10mm CW, 12mm CL) at 28 to 30 fathoms off the Ganjam coast, Bay of Bengal, India during the "Investigator" expedition. Later, a single

female (12.5mm CW, 10mm CL) specimen was recorded in the mouth of the Hoogly River, West Bengal, India at >20 fathoms (Chopra 1934). Thereafter, no additional observations from the Indian coast were made in any scientific reports. Like *D. morum*, *Q. maculosa* was also first reported by Alcock (1896) from the Andaman Islands. Later, in the 1980s, scientists from the Zoological Survey of India reported its presence from the same region (ZSI 2012). Until now, there are no records from the coasts of mainland India. The specimens collected in the present study agree well with the original descriptions and illustrations of both *D. morum* and *Q. maculosa*.

The present study reports *D. morum* for the first time on the Tamil Nadu coast, and its presence revealed that it has been reported after eight decades from the Indian coast. The crabs belonging to the genus *Quadrella* Dana, 1851 are commensal with anthozoans and were collected at a depth range between 20–150 m. They are mostly obtained by bottom trawling or dredging (Shih & Mok 1996). The present specimen, *Q. maculosa*, was taken from the trash of gill net hauled at 30m depth, and the specimens (a male and a female) were collected attached to gorgonians. The report of *Q. maculosa* from Tamil Nadu coast reveals that its distribution range extends from the Andaman Islands to the mainland coast of India.

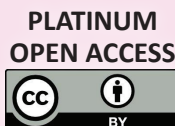
Though these species do not contribute towards commercial fishery, they might serve as food for other organisms and their larvae might also be consumed in the food web (Viswanathan et al. 2013). Moreover, *Quadrella* species have a commensal relation with soft corals where they feed on the lipid-rich coral mucus, and the crab reciprocates by cleaning and protecting the coral polyp from predators. Rediscoveries and extension of species distribution help in the biodiversity documentation for future monitoring and management practices.

REFERENCES

- Alcock, A.W. (1896). Materials for a Carcinological Fauna of India. No. 2. The Brachyura Oxystomata. *Journal of the Asiatic Society of Bengal* 65 2(2): 134–296.
- Alcock, A.W. (1898). The Brachyura Cyclometopa. Part 1. The Family Xanthidae. No. 3. Materials for a carcinological fauna of India, No. 3. *Journal of the Asiatic Society of Bengal* 67 2(1): 67–233.
- Allen, J.R. & R. Steene (1994). Indo-Pacific Coral Reef Guide. Singapore, Tropical Reef Research, 378p.
- Castro, P. (1997). Trapeziid crabs (Brachyura: Xanthoidea: Trapeziidae) of New Caledonia, eastern Australia, and the Coral Sea. In: RICHER DE FORGES B. editor. *Les fonds meubles des lagons de Nouvelle-Calédonie (Sédimentologie, Benthos)*. Etudes & Theses, volume 3, Paris: ORSTOM: 59–107.
- Chen, H. (1989). Leucosiidae (Crustacea, Brachyura), pp181–263. In: Forest, J. (ed.) *Résultats des Campagnes MUSORSTOM*, Volume 5. Mémoires du Muséum national d'Histoire naturelle, Paris, Series A. 144.
- Chopra, B.N. (1934). On a new Dromiid and a rare Oxystomous crab from the Sandheads, off the mouth of the Hooghly river. In: Further notes on Crustacea Decapoda in the Indian Museum - VI. *Records of the Indian Museum* 36: 477–481.
- Colin, P.L. & C. Arneson (1995). Tropical Pacific Invertebrates. Beverly Hills, California, Coral Reef Press: viii+ 1–296 pp., figures 1–1354.
- Dai, A. & S. Yang (1991). Crabs of the China Seas, I–IV, 1–608, figures 1–295, plates 1–74. China Ocean Press, Beijing and Springer-Verlag, Berlin Heidelberg New York Tokyo, English edition (Translation from Chinese original 1986).
- Davie, P. & C. Fransen (2015). Aethridae Dana, 1851. Accessed through: World Register of Marine Species at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=240916> accessed on 28 May 2016.
- Davie, P. & M. Türkay (2009). Trapeziidae Miers, 1886. Accessed through: World Register of Marine Species at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=106768> accessed on 31 May 2016.
- Edmonson, C.H. (1935). New and rare Polynesian Crustacea. *Bernice P. Bishop Museum Occasional paper* 10(24): 1–40, figures 78–148.
- Galil, B. & P.F. Clark (1990). Crustacea Decapoda: Notes on trapeziid crabs from New Caledonia including descriptions of two new species, pp. 369–388. In: Crosnier, A. (ed.) *Résultats des Campagnes MUSORSTOM*, volume 6. Mémoires du Muséum National d'Histoire Naturelle, Paris, series A, figures 1–6.
- Galil, B. (1986). *Quadrella* (Brachyura: Xanthoidea: Trapeziidae) review and revision. *Journal of Crustacean Biology* 6(2): 275–293.
- Garth, J.S. (1969). Borradaile's Maldivian collections revisited. *Journal of the Marine Biological Association of India* 11: 182–190.
- Guinot, D. (1966). Recherches préliminaires Sur Les Groupements Naturels Chez Les Crustacés Décapodes Brachyours. *Bulletin Du Muséum National D' Histoire Naturelle Paris*, 38(5): 759–761 (In French).
- Guinot, D. (1967). La faune carcinologique (Crustacea, Brachyura) de l'Océan Indien occidental et de la Mer Rouge, Catalogue, remarques biogéographiques et bibliographie. In: Réunion de Spécialistes C.S.A. sur les Crustacés, Zanzibar, 1964. *Mémoires de l'Institut d'Afrique Noire* 77: 237–352.
- Ihle, J.E.W. (1918). Die Decapoda Brachyura der Siboga-Expedition. III. Oxystomata. Calappidae, Leucosiidae, Aninidae. In: *Siboga-Expedition Monograph* 39 b2: 159–322, figures 78–148.
- MSIP (Marine Species Identification Portal) (2016). Available at <http://species-identification.org/> Accessed on 30 May 2016.
- Michel, C. (1964). Checklist of the Crustacea Brachyura (crabs) recorded from Mauritius. *Mauritius Institute Bulletin* 6: 1–48.
- Ng, P.K.L., D. Guinot, & P.J.F. Davie (2008). Systema Brachyurorum: Part I. An Annotated checklist of extant brachyuran crabs of the world. *The Raffles Bulletin of Zoology* 17: 1–286.
- Rathbun, M.J. (1911). The Percy Sladen Trust Expedition to the Indian Ocean in 1905. Vol. 3. XI. Marine Brachyura. *Transactions of the Linnean Society of London (Zoology)* 14: 191–261.
- Sakai, T. (1937). Studies on the Crabs of Japan III. Oxystomata. *Science Reports of the Tokyo Bunrika Daigaku*, Section B, Volume 3, Supplement 2: 67–192, figures 45, plates 10–19.
- Sakai, T. (1965). The Crabs of Sagami Bay, collected by His Majesty the Emperor of Japan, i–xvi, 1–206 (English text), figures 1–27, plates 1–100: 1–92 (Japanese text): 1–26 (references and index in English): 27–32 (Index in Japanese), 1 map. Maruzen Co., Tokyo.
- Sakai, T. (1976). Crabs of Japan and the Adjacent Seas. (In 3 volumes: (1) English text: i–xxix, 1–773, figs 1–379, (2) Plates volume: 1–16, plates 1–251, (3) Japanese text: 1–461, figures 1–2, 3 maps) Kodansha Ltd., Tokyo.
- Sankarankutty, C. (1961). On Decapoda Brachyura from the Andaman and Nicobar Islands. *Journal of the Marine Biological Association of India* 3(1&2): 101–119.
- Sankarankutty, C. (1962). On Decapoda Brachyura from the Andaman & Nicobar Islands: 2. Family Xanthidae. *Journal of the Marine Biological Association of India* 4(1): 121–150.

- Sankarankutty, C. (1966).** On Decapoda Brachyura from the Gulf of Mannar and Palk Bay. In: *Proceedings of the symposium on Crustacea*, Part 1, MBAI, 12–16 January 1965, Ernakulam.
- Serene, R. (1954).** Sur quelques especes de Brachyures (Leucosidae) rares de l'Indo-Pacifique. *Treubia*, 22(3): 453–499, figures 7, plates 4.
- Serene, R. (1968).** The Brachyura of the Indo-West Pacific Region. In: *Prodromus for a check list of the (non-planctonic) marine fauna of South East Asia*. UNESCO, Singapore, Special publication I: 33–112.
- Serène, R. (1973).** Observations sur les espkces des genres *Quadrella* Dana 1851 et *Sphenomerides* Rathbun 1898 (Decapoda-Brachyura). *Bulletin de la Société zoologique de France* 98(1): 191–209, figures 1–28, plates 1–5.
- Serene, R. (1975).** Note additionnelle sur les especes Indo-Pacifiques de *Quadrella* Dana, 1851 (Crustacea, Decapoda, Brachyura). *Bulletin de la Sociere Zoologique de France* 100: 509–521.
- Serène, R. (1984).** Crustacés Décapodes Brachyours de l'Océan Indien Occidental et de la Mer Rouge, Xanthoidea: Xanthidae et Trapeziidae. Avec un addendum par A. CROSNIER : Carpiliidae et Menippidae. *Faune tropicale*, 24: 1–349, figures A–C + 1–243, plates 1–48.
- Serene, R. & C.L. Sow (1976).** Brachyura collected during the Thai-Danish expedition (1966). *Phuket marine biological center, Phuket, Thailand, Research Bulletin* No. 12, pp. 37, figures 28, plates, 8.
- Serène, R. & C. Vadon (1981).** Crustacés Décapodes: Brachyours. Liste préliminaire, description de formes nouvelles et remarques taxonomiques. In: *Résultats des Campagnes MUSORSTOM*, 1. Philippines (18–28 mars 1976), vol. 1, no. 5. Mémoires ORSTOM, 91: 117–140, figures 1–3, plates 1–4 (In French with English summary).
- Serene, R., K. Romimohtarto & M.K. Moosa (1974).** The Hippidea and Brachyura collected by the Rumphius expedition. In: *Report on the Rumphius Expedition I. Oseanologia di Indonesia* I: 17–26.
- Takeda, M. & S. Miyake (1970).** Crabs from the East China Sea. IV. Gymnopleura, Dromiacea, Oxystomata. *Journal of the Faculty of Agriculture, Kyushu University* 16(3): 193–235, figures 1–6, plate 1.
- Viswanathan, C., T.V. Suresh, V. Elumalai, M. Pravinkumar & S.M. Raffi (2013).** Recurrence of a marine brachyuran crab, *Parapanope euagora* (Crustacea: Decapoda: Brachyura: Galenidae) from east coast of India. *Arthropods* 2(2): 75–79.
- Ward, M. (1942).** Notes on the Crustacea of the Desjardins Museum, Mauritius Institute, with descriptions of new genera and species. *Mauritius Institute Bulletin* 2: 49–113.
- Yokoya, Y. (1933).** On the distribution of Decapod Crustaceans inhabiting the continental shelf around Japan. *Journal of the College of Agriculture, Imperial University of Tokyo* 12(1): 1–226, figures 71.
- Zarenkov, A. (1969).** Leucosiidae, Ebaliinae, Iliinae *R.H.*, 10: 16–26, figures 1–8 (in Russian).
- ZSI (2012).** Fauna of Andaman & Nicobar Islands, State Fauna Series, 19 (Part-I). Zoological Survey of India, Kolkata, 236pp.





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ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

August 2019 | Vol. 11 | No. 10 | Pages: 14247–14390

Date of Publication: 26 August 2019 (Online & Print)

DOI: 10.11609/jott.2019.11.10.14247-14390

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