

Checklist of the Porcellanidae (Crustacea: Decapoda: Anomura) of India

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ABSTRACT: Although the porcellanid fauna of Indian waters has been studied for more than 150 years, diversity of this family remains underestimated. In order to complement the knowledge on the porcellanid fauna of India, an annotated checklist is herein provided on the basis of published literature. A total of 30 species belonging to 11 genera are currently known from Indian waters. The distribution ranges of two porcellanids *Porcellanella haigae* and *Pseudoporcellanella manoliensis* indicate that they are endemic, as they are, so far, known only from their type locality (Gulf of Mannar, Tamilnadu). The list is arranged alphabetically by genus and species with information on species' distribution and ecology.

INTRODUCTION

The family Porcellanidae is distinguished from other anomuran families by a crab-shaped body with a flattened abdomen. This family includes 30 genera and about 280 species around the world, mainly known from tropical to temperate waters (Osawa and McLaughlin 2010). Species of Porcellanidae generally occur from shore to continental shelf edges (<200 m), being more common in the intertidal and shallow subtidal zones of rocky and coral reefs. The species living in intertidal areas occupy narrow spaces between rocks or dead coral blocks, or on muddy bottoms (Werding and Hiller 2004) whereas, sub-tidal species occasionally live in association with other invertebrates (Werding 1983; Hiller *et al.* 2004; Hiller *et al.* 2006; Osawa and Chan 2010).

The studies on the porcellanids in India have a long history, with the first local report by Heller (1862) from the Nicobar Islands. However, the porcellanid fauna in India has not been satisfactorily explored. Thus, the present initiative was taken to provide an updated checklist on porcellanids of Indian waters with the hope to further contribute to the knowledge on the diversity of this family.

MATERIALS AND METHODS

The present checklist is compiled based on the published records of porcellanids from India between the years 1862 and 2013. Species names mentioned in the checklist follow Osawa and McLaughlin (2010). The list is arranged alphabetically by names of genera and species, with literature on distributional and ecological information. A map of India with the localities cited in the checklist is shown in as Figure 1. The published records from Indian waters include 30 species in 11 genera. In the checklist, species with the mark * have the distribution restricted to the Indian subcontinent (Hiller *et al.* 2010), ** indicates that the species are endemic to type locality. Species with numbers in parentheses refer to additional remarks referring to taxonomic changes (see Table 1).

RESULTS

Additional Remarks

(1) Sankolli (1963a) assumed that *Pachycheles* sp. recorded from the Gulf of Mannar by Gravely (1927) probably belongs to his new species, *Porcellana gravelei*. Later, Haig (1978) established the genus *Ancylocheles* for the latter species.

(2) The records of *Porcellana ornatus* by Gravely (1927) and Sankolli (1968) are referred to those of *Enosteoides ornatus* (Stimpson, 1858), not *Petrolisthes ornatus* (Paulson 1875).

(3) Southwell (1906) firstly recorded this species as *Porcellana quadrilobata* from India. *Porcellana quadrilobata* now belongs to the genus *Lissoporcellana* Haig (1978) as the type species of the genus. Southwell (1909) also described *Porcellana gaekwari* from Gulf of Mannar, India, but it is now considered as a junior synonym of *L. quadrilobata*, which is an associate of sponges.

(4) Sankarankutty (1963) reported this species as *Petrolisthes ohshimai* (Miyake 1937). This species is now considered as a junior synonym of *Neopetrolisthes maculatus* (H. Milne Edwards 1837).

(5) Heller (1862) reported this species from the Nicobar Islands as *Porcellana barbata*.

(6) Gravely (1927) and Sankarankutty (1963) reported/misidentified this species as *Porcellana serratifrons* and *Pisidia spinulifrons* from Gulf of Mannar.

(7) Gravely (1927) reported this species as *Polyonyx tuberculosus* from the Gulf of Mannar.

(8) *P. splendidus* and *P. hendersoni* represented a distinct genus, but taxonomic revision was not undertaken (Werding, 2001).

(9) Only single species was recognized worldwide. Although the year of the issue was printed as "1961," there was a delay in publication and it was actually issued in October 1962 (Low and Ng 2012).

DISCUSSION

Compared to the very exhaustive works on Brachyura by Alcock (1899a, 1899b, 1901) and later workers (Gravely 1927; Chhapgar 1957; Sethuramalingam and Ajmal Khan 1991), Porcellanidae has been less studied as far as Indian region is concerned. Classical contributions

from India are those by Heller (1862, 1865) (6 species), Henderson (1893) (5 species), Gravely (1927) (8 species), Sankolli (1963a, b, 1965, 1968) (10 species) and Southwell (1906, 1909) (8 species) respectively. Recent studies on porcellanids of Indian waters reported 10 species from Goa (Hiller *et al.* 2010) and 4 species from Lakshadweep (Prakash *et al.* 2013). The published information on this family likely underestimates the biodiversity of the Indian Peninsula. The present checklist indicates that most of the species were collected from the intertidal area and extended up to the deeper waters of 180 m (see Table 1). Most porcellanids are associates of other invertebrates like corals, sponges, hydrozoans, anthozoans and ascidians etc.

From the biogeographical aspect a few species are endemic to the type localities. Two porcellanid species *Porcellanella haigae* and *Pseudoporcellanella manoliensis* as they are, so far, known only from the Gulf of Mannar, Tamilnadu (type locality) and there are certain endemics to Indian subcontinents such as *P. loimicola*, *P. splendidus* and *Raphidopus indicus* are considered to be endemic to the Indian subcontinents. Compared to the species, all genera are evenly distributed on east coast (Gulf of Mannar and Nicobar islands) and west coast (Gulf of Kutch and Okha) of India except *Neopetrolisthes*, *Porcellanella* and *Pseudoporcellanella*, which are restricted to the Gulf of Mannar only. Species richness is higher in the Gulf of Mannar (17 species) and it suggests that the same number of species or more may present from the other reef areas such as Andaman & Nicobar Island, Lakshadweep, Gulf of

Kutch and Ratnagiri due to the presence of similar habitats (rocky intertidal and coral reefs). The Nicobar Islands considered as one of the richest coral biodiversity hotspots (Venkataraman *et al.* 2004), but Heller (1862, 1865) only reported 6 species. A recent report on porcellanids from Goa (Hiller *et al.* 2010) included 10 species belonging to 6 genera collected from the rocky intertidal and sub-tidal shallow waters. Prakash *et al.* (2013) reported only 4 species of porcellanids under the genus *Petrolisthes* from Lakshadweep and the collection are confined to the rocky intertidal region.

Other crustaceans like brachyurans and parasitic isopods (Cymothoidae) have been widely studied and collected throughout the Indian waters (Dev Roy 2008; Trilles *et al.* 2011). Recent checklists on brachyurans from coral reefs and mangrove regions of India include 389 species, in which Andaman & Nicobar Islands holds a high diversity of 196 species followed by the Gulf of Mannar with 156 species, Lakshadweep with 107 species, Gujarat with 50 species and Goa with 17 species and it suggests that the diversity of true crabs is more in coral reefs compared to mangroves as far as Indian region is concerned (Dev Roy, 2008). The checklist on parasitic isopods of the family Cymothoidae includes 36 valid species throughout the Indian waters (Trilles *et al.* 2011). Hence, it is concluded that Porcellanidae has been quite explored and seems to the case for brachyurans and other crustaceans and in future it is necessary that more sampling is required because the diversity of porcellanids in India is probably underestimated.



FIGURE 1. Map of India showing the localities cited in the records of porcellanids.

FIGURE 1. Checklist of Porcellanids of Indian waters.

SPECIES NAME	DISTRIBUTION RANGE	ECOLOGY	LITERATURE SOURCE
<i>Ancylorhynchus graveli</i> (Sankolli, 1963a) (1)	Indian Ocean, Pakistan, Australia. India: Gulf of Mannar (Tamilnadu), West coast of India, Goa	Abundant in lower intertidal area, inhabits interstices of stones and rubbles overgrown by sponges and other fouling organisms	Gravelly 1927; Sankolli 1963a; Haig 1965; Siddiqui and Kazmi 2003; Hiller <i>et al.</i> 2010
<i>Enosteoides ornatus</i> (Stimpson, 1858) (2)	Pakistan, Bay of Bengal, Gulf of Thailand, through south China sea, Taiwan strait, Southern Japan and Australia. India: Goa, Gulf of Mannar, Ratnagiri (Maharashtra)	Intertidal to 54 m deep; under rocks, from dead coral bases and sponges	Gravelly, 1927; Sankolli, 1968; Haig 1981; Hiller <i>et al.</i> 2010
<i>Lissoporcellana quadrilobata</i> (Miers, 1884) (3)	Indo-west Pacific from Persian Gulf, east coast of Africa, from Indian Ocean to Malay peninsula and Australia. India: Gulf of Kutch and Gulf of Mannar	Shore to 128 m deep; sandy and muddy bottoms; found in association with corals and gorgonians	Southwell 1906, 1909; Osawa and Chan 2010;
<i>Neopetrolithes maculatus</i> (H. Milne Edwards, 1837) (4)	Circumtropical: East coast of Africa to Australia, Taiwan, Marshall and Ryukus islands. India: Gulf of Mannar	Shallow, subtidal water; coral and rocky reefs; associated with large sea anemones and often found in pairs	Sankarankutty 1963; Osawa and Chan 2010
<i>Pachycheles natalensis</i> (Krauss, 1843)	Western Indian ocean to Red sea, eastern Arabian sea, African coast, southward to Mozambique including Madagascar. India: Ratnagiri, Gulf of Mannar; Goa	Found in the deeper intertidal zone inhabiting interstices of stones and rubbles held together by sponges	Sankolli 1968; Hiller <i>et al.</i> 2010
<i>Pachycheles pisoides</i> (Heller, 1865)	Indian Ocean: Madagascar, Seychelles and Western Australia, Taiwan, Ryukus and Hawaiian islands. India: Nicobar Islands	Intertidal to 3.6 m deep; interspaces of branches of dead and living corals (<i>Acropora</i> , <i>Pocillopora</i> etc)	Heller 1865; Osawa and Chan 2010
<i>Pachycheles sculptus</i> (H. Milne Edwards, 1837)	Indo-west Pacific. Indian ocean from Seychelles, Mergui archipelago, Western Australia, Indonesia and Tuamato archipelago. India: Gulf of Mannar	Intertidal to 180 m deep; interspaces of branches of dead and living corals and sponges	Southwell 1906; Osawa and Chan 2010
<i>Pachycheles tomentosus</i> Henderson, 1893	Western Indian ocean, Pakistan, South Africa, Madagascar, Red sea, Gulf of Aden and Persian Gulf. India: Southern India, Western India	In holes and crevices of rocks near low water mark	Mustaqim 1972; Siddiqui and Kazmi 2003
<i>Petrolithes boscii</i> (Audouin, 1826)	Indo-west Pacific. Pakistan, Taiwan, Hong Kong, Gulf of Thailand, Japan, Australia, Red sea and Persian Gulf. India: Rameswaram, Gulf of Kutch, Gulf of Mannar, Okha Mandal, Goa	Shallow water to 18.3 m depth; from rocks, boulders and corals	Henderson 1893; Southwell 1909; Gravelly 1927; Sankolli 1968; Siddiqui and Kazmi 2003; Hiller <i>et al.</i> 2010
<i>Petrolithes coccineus</i> (Owen, 1839) (5)	Indo-west Pacific. Japan, south to Indonesia, eastern African, Tuamato archipelago and Hawaiian islands. India: Nicobar Islands, Goa, Lakshadweep Archipelago	Intertidal to 7.2 m deep; under the rocks and boulders	Heller 1862; Osawa and Chan, 2010; Hiller <i>et al.</i> 2010; Prakash <i>et al.</i> 2013
<i>Petrolithes hastatus</i> Stimpson, 1858	Indonesia, Malay archipelago, Singapore to Japan, New Caledonia, Fiji and Samoa. India: Nicobar Islands	Intertidal, under rocks	Heller 1862; Osawa and Chan 2010
<i>Petrolithes lamarckii</i> (Leach, 1820)	Indo-west Pacific, eastern African coast and Red sea and Tuamato island. India: Nicobar Islands, Rameswaram, Gulf of Mannar, Ratnagiri, Goa, Lakshadweep Archipelago	Intertidal, found under rocks	Heller 1865; Henderson 1893; Gravelly 1927; Sankolli 1968; Hiller <i>et al.</i> 2010; Prakash <i>et al.</i> 2013
<i>Petrolithes leptocheles</i> (Heller, 1861)	Pakistan, Somalia, Red sea, Gulf of Aden, Oman and Persian Gulf and India	Intertidal under large stones	Mustaqim 1972
<i>Petrolithes militaris</i> (Heller, 1862)	Indian ocean including Red sea, Japan, New Caledonia and Australia. India: Gulf of Mannar, Rameswaram, Nicobar Islands	Subtidal to 180 m deep; often associated with corals on shallower depths	Heller 1862; Henderson 1893; Southwell 1906; Gravelly 1927; Haig 1964, 1979; Siddiqui and Kazmi 2003
<i>Petrolithes moluccensis</i> (Man De, 1888)	Indian ocean: Somalia, Red sea, Persian Gulf, Seychelles, Mauritius and Australia. Pacific ocean: Indonesia, China, Ryukus and Chesterfield Islands, India: Lakshadweep Archipelago	Shallow water on coral reefs; rarely found in intertidal region	Osawa and Chan 2010; Prakash <i>et al.</i> 2013
<i>Petrolithes ornatus</i> Paulson, 1875	Pakistan, Sri Lanka, Comoro islands, Madagascar, Mozambique, Zanzibar, Red sea, Gulf of Oman and Persian Gulf. India: Gulf of Kutch	Intertidal under rocks	Mustaqim 1972; Siddiqui and Kazmi 2003
<i>Petrolithes rufescens</i> (Heller, 1861)	Indo-west Pacific, Eastern Africa, Madagascar, Red sea, Gulf of Aden, Somalia and Persian Gulf. India: Nicobar Island, Gulf of Kutch	Intertidal under rocks	Mustaqim 1972; Siddiqui and Kazmi 2003;
<i>Petrolithes tomentosus</i> (Dana, 1852)	Indo-west Pacific, Madagascar, Western Australia, Taiwan to New Caledonia, Chesterfield islands and Tuamato Archipelago. India: Nicobar Islands, Lakshadweep Archipelago	Lower intertidal to 11m deep. Found under rocks, on dead corals and bases of living corals	Heller 1865; Osawa and Chan 2010; Prakash <i>et al.</i> 2013

FIGURE 1. CONTINUED.

SPECIES NAME	DISTRIBUTION RANGE	ECOLOGY	LITERATURE SOURCE
<i>Pisidia dehaniai</i> (Krauss, 1843)	Indian ocean, South Africa, Pakistan, Bay of Bengal, Oman and Persian Gulf. India: Ratnagiri, Goa	Intertidal found among rocks and weeds. Also found in interstices of stones and rubble agglomerated by sponges in the lower intertidal	Sankolli 1968; Haig 1981; Siddiqui and Kazmi 2003; Hiller et al. 2010
<i>Pisidia gordoni</i> (Johnson, 1970)	Indian ocean: Mozambique, Madagascar and Pakistan. India: Goa	Under rocks in the lower intertidal to shallow water up to 50 m deep.	Haig 1966; Hiller et al. 2010
<i>Pisidia serratifrons</i> (Simpson, 1858) (6)	Yellow sea, Korean strait, Taiwan, China sea and Japan. India: Gulf of Kutch, Gulf of Mannar, Ratnagiri	Intertidal to 68 m deep; found on muddy bottom with sea weeds and among ascidians, oysters, dead corals and sheltering under crinoids	Southwell 1906, 1909; Gravely 1927; Miyake 1943; Sankarankutty 1963; Sankolli 1968; Haig 1981; Osawa and Chan 2010
<i>Polyonyx biunguiculatus</i> (Dana, 1852)	Seychelles, Sri Lanka, western Pacific ocean, east Indian Archipelago and Australia. India: Gulf of Mannar	Shallow water to 25.2 m deep	Southwell 1906; Haig 1965
<i>Polyonyx hendersoni</i> Southwell, 1909	Pakistan, Sri Lanka, Japan, Korea, Hong Kong and Australia. India: Gulf of Mannar, Pamban, Ratnagiri, Okha Mandal, Goa	Intertidal to 6 m deep; found in the water ducts of sponge (Demospongiae)	Southwell 1909; Gravely 1927; Sankolli 1968; Siddiqui and Kazmi 2003; Hiller et al. 2010
<i>Polyonyx loimicola</i> * Sankolli, 1965	Pakistan and Gulf of Mannar	Intertidal on muddy bottoms	Sankolli 1965
<i>Polyonyx obesulus</i> Miers, 1884 (7)	Indo-west Pacific, Persian Gulf to Japan, Philippines, Indonesia and Australia. India: Rameswaram, Gulf of Mannar, Okha Mandal	Shallow water to 55 m deep. Found in sponge and crevices of corals.	Henderson 1893; Southwell 1906; Southwell 1909; Gravely 1927; Haig 1965, 1979, 1992
<i>Polyonyx splendidus</i> * Sankolli, 1963b (8)	Ratnagiri (Maharashtra), Goa	Intertidal and associated to sponge	Sankolli 1963b; Hiller et al. 2010
<i>Porcellanella haigae</i> ** Sankarankutty, 1963	Gulf of Mannar	Intertidal and associated to sea pen	Sankarankutty 1963
<i>Porcellanella triloba</i> White, 1852	East coast of Africa and Persian Gulf, Australia, Japan, Zanzibar, Hong kong. India: Rameswaram, Gulf of Mannar	Intertidal to 72m deep; sand and mud bottoms; associated to sea pen	Henderson 1893; Sankarankutty 1961; Osawa and Chan 2010
<i>Pseudoporcellanella manoliensis</i> ** Sankarankutty, 1962 (9)	Gulf of Mannar	Intertidal under rocks	Sankarankutty 1962
<i>Raphidopus indicus</i> * Henderson, 1893	Maharashtra, Chennai	Intertidal to shallow water depths under boulders and rocks	Henderson 1893

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LITERATURE CITED

- Alcock, A. 1899a. The families Portunidae, Cancridae and Corystidae: The Brachyura Cyclometopa, Part II. Materials for a Carcinological Fauna of India, No. 4. *Journal of Asiatic Society of Bengal* 68(II: 1): 1-104.
- Alcock, A. 1899b. Materials for a Carcinological Fauna of India. No-IV. The Brachyura: Cyclometopa. Part II. A revision of the *Cyclometopa* with an account of the families Portunidae, Canceidae and Corystidae. *Journal of Asiatic Society of Bengal* 68 (2):1-104.
- Alcock, A. 1901. Materials for a Carcinological Fauna of India. No-6. The Brachyura: Catometopa or Grapsoidea. *Journal of Asiatic Society of Bengal* 69 (3): 279-486.
- Audouin, V. 1826. Explication sommaire des planches de Crustacés de l'Égypte et de la Syrie, publiées par Jules-Cesar Savigny, member de l'Institut; Offrant un exposé des caractères naturels des genres avec la distinction des espèces. Description de l'Égypte, ou recueil des observations et des recherches que ont été faites en Égypte pendant l'Expedition de l'armée française. *Histoire Naturelle* 1: 77-98.
- Chapparg, B. F. 1957. Marine crabs of Bombay State Part I & II. *Journal of Bombay Natural History Society* 54: 400-439.
- Dana, J.D. 1852-1853. Crustacea. *United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842, under the command of Charles Wilkes, U.S.N., 13: i-viii, 1-685 [1852], 686-1818 [1853]*. Philadelphia: C. Sherman.
- Dev Roy, M.K. 2008. An annotated checklist of Mangrove and Coral Reef inhabiting Brachyuran Crabs of India, India. *Records of Zoological Survey of India*. Occasional Paper 289: 1-212.
- Gravely, F.H. 1927. The littoral fauna of Krusudai Island in the Gulf of Mannar, orders Decapoda (except Paguridae) and Stomatopoda. *Bulletin of Madras Government Museum* 1: 135-155, pls. 19-26.
- Haig, J. 1964. Papers from Dr. Th. Mortensen's Pacific Expedition 1914-1916. 81. Porcellanid crabs from the Indo-West Pacific, Part I. *Videnskabelige Meddelelser Dansk Naturhistorisk Forening i Kjøbenhavn* 126: 355-386.
- Haig, J. 1965. The Porcellanidae (Crustacea, Anomura) of Western Australia with description of four new Australian species. *Journal of the Royal Society of Western Australia* 48: 97-117.
- Haig, J. 1978. Contribution toward a revision of the porcellanid genus *Porcellana* (Crustacea: Decapoda: Anomura). *Proceedings of the Biological Society of Washington* 91: 706-714.
- Haig, J. 1979. Expédition Rumphius II (1975) Crustacés parasites, commensaux, etc. (Th. Monod et R. Serène, éd.). V. Porcellanidae (Crustacea, Decapoda, Anomura). *Bulletin d' Muséum National d' Histoire Naturelle. Paris* 4(A) 1: 119-135.
- Haig, J. 1981. Three new species of *Petrolisthes* (Decapoda, Anomura, Porcellanidae) from the Indo-West Pacific. *Journal of Crustacean Biology* 1: 265-271.
- Haig, J. 1992. Hong Kong's porcellanid crabs; p. 303-327 In B. Morton (ed.). The Marine Flora and Fauna of Hong Kong and Southern China III. *Proceedings of the Fourth International Marine Biological Workshop*. Hong Kong: Hong Kong University Press.
- Heller, C. 1861. Beiträge zur Crustaceen-Fauna des Rothen Meeres. Zweiter Theil. *Sitzungs-Berichte der Mathematisch-Physikisch Klasse der Kaiserlichen Akademie der Wissenschafte, Wien* 44: 241-295.
- Heller, C. 1862. Neue Crustaceen, gesammelt während der Weltumseglung der k. k. Fregatte Novara. Zweiter vorläufiger Bericht. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 12: 519-528.
- Heller, C., 1865. *Reise der österreichischen Fregatte «Novarra» um die Erde, in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorff-Urbair*. Zoologischer Theil, 2, part 3. Wien: Kaiserlich-königlichen Hof- und Staatsdruckerei. 280 p.
- Henderson, J.R. 1893. A contribution to Indian Carcinology. *Transactions of Linnaean Society of Zoology. London* 5: 325-458.
- Hiller, A., J.F. Lazarus, and B. Werding. 2004. New records and range extensions for porcellanid crabs in the eastern Pacific (Crustacea: Anomura: Porcellanidae); p. 127-138. In M.E. Hendrickx (ed.). *Contributions to the Study of East Pacific Crustaceans* 3. Mexico: Anales Del Instituto De Ciencias Del Mar Y Limnologia. UNAM.
- Hiller, A., H. Kraus, M. Almon and B. Werding. 2006. *Petrolisthes galathinus* complex: species boundaries based on color pattern, morphology

- and molecules, and evolutionary interrelationships between this complex and other Porcellanidae (Crustacea: Decapoda: Anomura). *Molecular Phylogenetics and Evolution*. 40: 547-569.
- Hiller, A., S. Harkantra and B. Werdling. 2010. Porcellanid crabs from Goa, eastern Arabian Sea (Crustacea: Decapoda: Porcellanidae). *Journal of the Bombay Natural History Society* 107(3): 201-212.
- Johnson, D.S. 1970. The Galatheididae (Crustacea: Decapoda) of Singapore and adjacent waters. *Bulletin of the National Museum Singapore* 35: 1-44.
- Krauss, F. 1843. *Die Südafrikanischen Crustaceen. Eine Zusammenstellung aller bekannten Malacostraca, Bemerkungen über deren Lebensweise und geographische Verbreitung, nebst Beschreibung und Abbildung mehrerer neuen Arten*. Stuttgart: E. Schweizerbart'sche Verlagsbuchhandlung, 68 p.
- Leach, W.E. 1820. Galatéadées, Galatéadae. (Crust.) ; p. 49-56 In F. Cuvier. *Dictionnaire des Sciences Naturelles, dans lequel on trait Méthodiquement des Différens êtres de la Nature, considérés soit en eux-mêmes, d'après l'état actuel de nos connoissances, soit relativement à l'utilité qu'en peuvent retirer la Médecine, l'Agriculture, le Commerce et les Arts. Suivi d'une biographie des plus Célèbres Naturalistes. Ouvrage destiné aux médecins, aux agriculteurs, aux commerçans, aux artistes, aux manufacturiers, et à tous ceux qui ont intérêt à connoître les productions de la nature, leurs caractères génériques et spécifiques, leur lieu natal, leurs propriétés et leurs usages*. Vol. 18. Strasbourg and Paris: F. G. Levrault et Le Normant.
- Low, M.E.Y. and P.K.L. Ng. 2012. The decapod crustaceans described by C. Sankarankutty, and a replacement name for *Jonesius* Sankarankutty, 1962 (Crustacea: Brachyura: Dromedidae), preoccupied by *Jonesius* Yamaguti, 1959 (Cestoda: Cyclophyllidae: Hymenolepididae). *Zootaxa* 3363, 59-62.
- Man, J.G. De. 1888. Bericht über die von Herrn Dr. J. Brock im indischen Archipel gesammelten Decapoden und Stomatopoden. *Archiv für Naturgeschichte* 53: 215-600, pls. 7-22, 22a.
- Miers, E.J. 1884. Crustacea; p. 178-322 In *Report on the zoological collections made in the Indo-Pacific Ocean during the voyage of H.M.S. 'Alert' 1881-2*. London: British Museum.
- Milne Edwards, H. 1837. *Histoire naturelle des Crustacés, comprenant l'anatomie, la physiologie et la classification de ces animaux*, 2: 1-532, atlas, 32 p., 42 pls. Paris: Librairie Encyclopédique de Roret.
- Miyake, S. 1943. Studies on the crab-shaped Anomura of Nippon and adjacent waters. *Journal of the Department of Agriculture*. Kyushu Imperial University 7: 49-158.
- Mustaquim, J. 1972. Species of porcellanid crabs from Karachi. *Pakistan Journal of Zoology* 4(2): 153-159.
- Osawa, M. and T. Y. Chan. 2010. Part III Porcellanidae (Porcelain crabs) ; p. 67-181 In T.-Y. Chan (ed.). *Crustacean Fauna of Taiwan: Crab-like Anomurans (Hippoidea, Lithoideoidea and Porcellanidae)*. Keelung: National Taiwan University, 197 p.
- Osawa, M. and P.A. McLaughlin. 2010. Annotated checklist of anomuran decapod crustaceans of the world (exclusive of the Kiwaiioidea and families Chirostylidae and Galatheididae of the Galatheoidea) Part II - Porcellanidae. *The Raffles Bulletin of Zoology* Supplement 23: 109-129.
- Owen, R. 1839. Crustacea; p. 77-92 In *The Zoology of Captain Beechey's voyage; compiled from the collections and notes made by Captain Beechey, the officers and naturalist of the expedition, during a voyage to the Pacific and Behring's Straits performed in His Majesty's ship Blossom, under the command of Captain F. W. Beechey, R.N., F.R.S., in the years 1825, 26, 27 and 28*. London: Henry G. Bohn.
- Paul'son, O. 1875. *Izsledovaniya rakoobraznykh krasnago morya s zametkami otnositel'no rakoobraznykh drugikh morei. Chast' 1. Podophthalmata i Edriophthalmata (Cumacea)*. Kiev: S.V. Kul'zhenko. 144 p. [Studies on Crustacea of the Red Sea with notes regarding other seas. Part I. Podophthalmata and Edriophthalmata (Cumacea)] English translation by the Israel Program for Scientific Translations, Jerusalem, 1961. National Science Foundation and Smithsonian Institution.
- Prakash, S., Ajith Kumar, T.T., Gopi, M. and T. Balasubramanian. 2013. First record of four species of *Petrolisthes* (Crustacea: Decapoda: Anomura: Porcellanidae) from Lakshadweep, India. *Marine Biodiversity Records* 6 (e47): 1-5.
- Sankarankutty, C. 1961. On the porcellanid crab, *Porcellanella triloba* White (Crustacea -Anomura) a commensal on sea pen, with remarks on allied species. *Journal of the Marine Biological Association of India* 3: 96-100.
- Sankarankutty, C. 1962. On a new genus of Porcellanidae (Crustacea - Anomura). *Journal of the Marine Biological Association of India* 3: 92-95.
- Sankarankutty, C. 1963. On three species of Porcellanids (Crustacea - Anomura) from the Gulf of Mannar. *Journal of the Marine Biological Association of India* 5(2): 273-279.
- Sankolli, K.N. 1963a. On a new species of the porcellanid crab (Decapoda, Anomura) from India. *Journal of the Marine Biological Association of India* 5: 280-283.
- Sankolli, K.N. 1963b. On a new species of porcellanid crab (Decapoda, Anomura) from India. *Journal of the Zoological Society of India* 15: 79-84.
- Sankolli, K.N. 1965. On a new species of commensal porcellanid crab, *Polyonyx loimicola* sp. nov., from India (Crustacea, Anomura, Porcellanidae). *Journal of the Bombay Natural History Society* 62: 285-291.
- Sankolli, K.N. 1968. *On the Porcellanidae (Crustacea: Anomura) of Ratnagiri along the west coast of India*. In: Proceedings of the Symposium on Crustacea held at Ernakulam from January 12 to 15, 1965. Part I. *Marine Biological Association of India. Symposium Series* 2: 295-313. [Imprint 1966 but published in 1968] [See Low and Ng (2012)].
- Sethuramalingam, S. and S. Ajmal Khan. 1991. *Brachyuran crabs of Parangipettai coast*. Parangipettai: CAS in Marine Biology publication, Annamalai University, 92 p.
- Siddiqui, F.A. and Q.B. Kazmi. 2003. A checklist of marine anomurans (Crustacea: Decapoda) of Pakistan, northern Arabian Sea. *Memoirs of Museum Victoria* 60(1): 87-89.
- Southwell, T. 1906. Report on the Anomura collected by Professor Herdman, at Ceylon, in 1902. *Report to the Government of Ceylon on the Pearl Oyster Fisheries of the Gulf of Mannar*. Supplementary report 5: 211-224.
- Southwell, T. 1909. Report on the Anomura collected by Mr. James Hornell at Okha Mandal in Kattiawar in 1905-6; p. 105-123, 1 pl In J. Hornell (ed.), *Report to the Government of Baroda on the marine ecology of Okha Mandal in Kattiawar*. Part I. London.
- Stimpson, W. 1858. Prodomus descriptionis animalium everttebratorum, quae in Expeditione ad Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit. Pars VII. Crustacea Anomura. [Preprint (December 1858)] from *Proceedings of the Academy of Natural Sciences of Philadelphia* 1858: 225-252.
- Trilles, J. P., S. Ravichandran and G. Ramesh Kumar. 2011. A checklist of the Cymothoidae (Crustacea, Isopoda) recorded from Indian fishes. *Acta Parasitologica* 56 (4): 446-459.
- Werdling, B. 1983. Kommensalische Porcellaniden aus der Karibik (Decapoda, Anomura). *Crustaceana* 45: 1-14.
- Werdling, B. and A. Hiller. 2004. Description of a new species of *Petrolisthes* from the western Pacific (Decapoda, Anomura, Porcellanidae). *Crustaceana* 77: 257-264.
- White, A. 1852. Descriptions of some apparently new species of *Annulosa* (collected by Mr. Macgillivray during the voyage of H. M. S. Rattlesnake); p. 387-395 In J. Macgillivray (ed.). *Narrative of the voyage of H. M. S. Rattlesnake during the years 1846-1850*, 2. London: T. & W. BOONE

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