Article

The global science of crab biodiversity from Puducherry coast, south east coast of India

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Abstract
The marine organisms play an important role in biodiversity research. It is one of the basis of aquaculture and also the foundation of ecosystem services. Marine biodiversity data is urgently required, since the global warming is changing the distribution and diversity of many species. Marine environment provide habitats for a wide variety of organisms, it is also supplies many kinds of habitats that support marine life. Habitat loss, overharvesting has had the greatest effect on biodiversity. Suppose to starting hatchery and culture them in ponds knowledge about diversity is essential. Hence, the present study is aimed to know the biodiversity of crabs from Puducherry coastal environment. Totally 47 individual crab species were recorded belonging to 15 families. Maximum crab species were recorded belonging to the family Portunidae than others families.

Keywords decapods; crab species; distribution; aquaculture.

1 Introduction

India is a mega biodiversity country and supporting an estimated total of eight percentages of the globally documented species. It is experiencing increasing pressure on its bioresource and ecosystem services due to high demand of food (Kannupandi et al, 2003; Varadharajan et al, 2009). The food from land is so limited that it may not be able to satisfy even the basic requirement of the ever increasing population. To encourage the fishery is necessary for ever increasing demands for protein rich food to earn valuable foreign exchange (Varadharajan, 2012). Crustaceans are highly valuable commodities by virtue of their pivotal role in the seafood industry of the world. Many of the crabs are commercially important as a food source for people. They have developed a successful relationship between the environment and the biological mechanisms involved in evolutionary process. Out of about 640 species of marine crabs so far recorded from Indian waters only 15 species are edible, which inhabit the coastal waters and adjoining brackishwater environments, support commercial fisheries (Radhakrishnan, 1979; Varadharajan et al, 2009; Varadharajan, 2012). Biodiversity and abundance of decapod species have been carried out from different parts of the India by Radhakrishnan (1979) from the Parangipettai coast. Sethuramalingam (1984) from the Pitchavaram mangroves. Joel et al (1985) from the Pulicate Lake. Chakraborty and Choudhary (1992) from the Sunderbans. Jayabaskaran (1997) from the Gulf of Mannar. Venkataraman and Mohideen Wafar (2005) from the Indian waters. Gokul and Venkataraman (2008) from the Gulf of Mannar. Kathirvel (2008) from the Indian waters. Bandekar et al (2011) from the Karwar mangrove environment. Suthakar (2011) from the Cuddalore coast. Varadharajan et al (2009)

and Varadharajan (2012) from the Palk Strait. Hence the present study was carried out the biodiversity of crabs from Puducherry coastal environment.

2 Materials and Methods

The present study was carried out for one year from April- 2011 to March- 2012 from Puducherry coastal of India. The crabs were collected every month of the year by a regular visit was made in different fishing landing centres. The number of crabs that belonging to different species were recorded and identified up to species level using the taxonomic keys of Kathirvel (2008), Suthakar (2011) and Varadharajan (2012).

3 Results

In the present study totally 47 crab species were recorded in different station at Puducherry coast, which were represented by 15 families and 23 genera (Table 1). The families were in the following order; Portunidae (15) > Ocypodidae (8) > Grapsidae (4) > Macrophthalmidae (4) > Potamidae (3) > Sesarmidae (3) > Calappidae (2) >Matutidae (1) > Xanthidae (1) > Dromiidae (1) > Gecarcinidae (1) >Diogenidae (1) > Dorippidae (1) > Leucosiidae (1) > Dotillidae (1). The family Portunidae was represented by 5 genera (*Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*) consists of 15 species which includes (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, P. gladiator, Podophthalmus vigil, C. feriata, C.natator, C.*(*Goniosoma*) *lucifera, C.*(*Goniohellenus*) *truncata, C.granulata, C. variegata, Thalamita picta* and *T.chaptali*) and *T. crenata,* The family Potamidae was represented by 3 genera (*Potamon, Sartoriana* and *Spiralotelphusa* consists of 3 species *Potamon fluviatile, Sartoriana spinigera* and *Spiralotelphusa hyhrodroma.* The family Calappidae was represented by single genus consists (*Calappa*) of 2 species *Calappa lophos* and C. *gallus,* The family Matutidae was represented by single genus (*Matuta*) consists of a species *Matuta lunaris.* The family Xanthidae was represented by single genus (*Demania*) consists of a species *Demania baccalipes,* The family Grapsidae was represented by 3 genera (*Grapsus, Selatium* and *Metopograpsus*) consists of 4 species which includes *Grapsus albolineatus, Selatium brockii, Metopograpsus messor* and *M.maculatus.* The family Dromiidae was represented by single genus (*Dromia*) consists of a species *Dromia dormia,* The family Sesarmidae was represented by single genus (*Sesarma*) consists of 3 species which includes *Sesarma brockii, S. plicatum* and *S. tetragonum,* The family Ocypodidae was represented by 2 genera (*Uca* and *Ocypode*) consists of 8 species which includes *Uca annulipes, U. triangularis, U. vocans, U. inversa, Uca lactea, Uca perplexa, Ocypode ceratophthalmus* and *O. macrocera*. The family Macrophthalmidae was represented by single genus (*Macrophthalmus*) consists of 4 species which includes Macrophthalmidae (4), *Macrophthalmus depressus, Macrophthalmus brevis, Macrophthalmus convexus* and *M. erato,* The family Gecarcinidae was represented by single genus (*Cardisoma*) consists of a species *Cardisoma carnifex,* The family Diogenidae was represented by single genus (*Clibanarius*) consists of a species *Clibanarius clibanarius.* The family Dorippidae was represented by single genus (*Dorippoides*) consists of a species *Dorippoides facchino,* The family Leucosiidae was represented by single genus (*Arcania*) consists of a species *Arcania septemspinosa,* The family Dotillidae was represented by single genus (*Dotilla*) consists of a species *Dotilla myctiroides.* In the present study maximum crabs were collected during summer and monsoon than postmonsoon and premonsoon. The crabs belonging to the families *viz.,* Calappidae, Portunidae, Potamidae, Sesarmidae, Grapsidae and Ocypodidae were observed almost all the season of the year (Table 2).

At station I, Portunidae species was 30%, Potamidae 7%, Calappidae 6%, Xanthidae 3%, Grapsidae 6%, Dromiidae 3%, Sesarmidae 6%, Ocypodidae 19%, Macrophthalmidae 5%, Gecarcinidae 3%, Diogenidae 3%, Dorippidae 3%, Leucosiidae 3% and Dotillidae 3%. The Matutidae families species were not found in this

station (Fig. 1).

Table 1 Checklist of crab species recorded during the study in different stations.

S. No.	Species	Family	Stations				
			1	2	3	4	5
1	*Scylla tranquebarica* (Fabricius, 1798)	Portunidae	+	+	+	+	+
2	*S. serrata* (Forskal, 1775)		+	+	+	+	+
3	*Portunus sanguinolentus* (Herbst, 1783)		+	+	+	+	+
4	*P. pelagicus* (Linnaeus, 1758)		+	+	+	+	+
5	*P. gladiator* (Fabricius, 1798)		+	+	+	-	-
6	*Podophthalmus vigil* (Fabricius, 1798)		+	+	+	+	+
7	*Charybdis feriata* (Linnaeus, 1758)		+	+	+	-	-
8	*C.natator* (Herbst, 1794)		+	+	+	+	-
9	*C.*(*Goniosoma*) *lucifera* (Fabricius,1798)		+	+	+	-	-
10	*C.*(*Goniohellenus*) *truncata* (Fabricius, 1798)		+	+	+	-	-
11	*C.granulata* (De Haan, 1835)		+	+	+	-	+
12	*C. variegate* (Fabricius, 1798)		+	+	-	-	-
13	*Thalamita picta* (Stimpson, 1858)		+	+	+	-	-
14	*T.chaptali* (Audouin, 1826)		+	+	+	-	-
15	*T. crenata* (Ruppell, 1830)		+	+	-	+	+
16	*Potamon fluviatile* (Herbst, 1785)	Potamidae	+	+	+	+	+
17	*Sartoriana spinigera* (Wood Manson,1871)		+	+	+	+	+
18	*Spiralotelphusa hyhrodroma* (Herbst,1794)		+	+	-	-	-
19	*Calappa lophos* (Herbst, 1782)	Calappidae	+	+	+	-	-
20	*C. gallus* (Herbst, 1803)		+	+	-	-	-
21	*Matuta lunaris* (Forskal, 1775)	Matutidae	-	+	+	-	-
22	*Demania baccalipes* (Alcock, 1898)	Xanthidae	+	-	+	-	-
23	*Grapsus albolineatus* (Lamarck, 1818)	Grapsidae	+	+	+	+	-
24	*Selatium brockii* (De Man, 1887)		+	+	+	-	-
25	*Metopograpsus messor* (Forskal, 1775)		+	-	+	-	+
26	*M.maculatus* (Milne-Edwards, 1853)		-	+	+	+	+
27	*Dromia dormia* (Linnaeus, 1763)	Dromiidae	+	+	-	+	-
28	*Sesarma brockii* (De Man, 1887)	Sesarmidae	+	+	-	-	-
29	*S.*(*Parasesarma*) *plicatum* (Latreille, 1806)		+	-	+	-	+
30	*S. tetragonum* (Fabricius, 1798)		+	+	-	+	-
31	*Uca annulipes* (H. Milne Edwards, 1937)	Ocypodidae	-	+	+	-	+
32	*U. triangularis* (A. Milne Edwards, 1873)		+	-	+	+	+
33	*U. vocans* (Linnaeus, 1758)		+	+	-	-	+
34	*U. inversa* (Hoffmann, 1874)		+	+	+	-	-
35	*Uca lacteal* (De Haan, 1835)		+	+	+	-	-
36	*Uca perplexa* (H. Milne Edwards, 1852)		+	+	+	-	-
37	*Ocypode ceratophthalmus* (H. Milne Edwards,1852)		-	+	-	+	+
38	*O. macrocera* (H. Milne Edwards, 1852)		+	-	+	+	+
39	*Macrophthalmus convexus* (Stimpson, 1858)	Macrophthalmidae	+	+	+	-	-
40	*M. erato* (De Man, 1888)		-	+	-	+	+
41	*Macrophthalmus depressus* (Ruppell, 1830)		+	+	+	-	-
42	*Macrophthalmus (Macrophthalmus) brevis* (Herbst, 1804)		-	-	+	+	+
43	*Cardisoma carnifex* (Herbst, 1796)	Gecarcinidae	+	+	+	-	-
44	*Clibanarius clibanarius* (Herbst, 1791)	Diogenidae	+	+	+	-	-
45	*Dorippoides facchino* (Herbst, 1785)	Dorippidae	+	+	-	-	-
46	*Arcania septemspinosa* (Fabricius, 1787)	Leucosiidae	+	-	+	+	+
47	*Dotilla myctiroides* (H. Milne Edwards, 1852)	Dotillidae	+	-	+	+	+
	Total		**41**	**39**	**36**	**20**	**21**

+: present, and -: absent.

At station II, Portunidae species was 29%, Potamidae 8%, Calappidae 5%, Matutidae 4%, Grapsidae 6%, Dromiidae 4%, Sesarmidae 8%, Ocypodidae 12%, Macrophthalmidae 12%, Gecarcinidae 4%, Diogenidae 4%

and Dorippidae 4%. The Xanthidae, Leucosiidae and Dotillidae families species were not found in this station (Fig. 2).

At station III, Portunidae species was 13%, Potamidae 5%, Calappidae 7%, Matutidae 4%, Xanthidae 4%, Grapsidae 10%, Sesarmidae 4%, Ocypodidae 15%, Macrophthalmidae 7%, Gecarcinidae 5%, Diogenidae 5%, Leucosiidae 4% and Dotillidae 4%. The Dromiidae and Dorippidae families species were not found in this station (Fig. 3).

At station IV, Portunidae species was 15%, Potamidae 5%, Grapsidae 10%, Dromiidae 8%, Sesarmidae 21%, Ocypodidae 14%, Macrophthalmidae 9%, Leucosiidae 10% and Dotillidae 8%. The Calappidae, Matutidae, Xanthidae, Gecarcinidae, Diogenidae and Dorippidae families species were not found in this station (Fig. 4).

At station V, Portunidae species was 19%, Potamidae 12%, Grapsidae 12%, Sesarmidae 8%, Ocypodidae 21%, Macrophthalmidae 10%, Leucosiidae 8% and Dotillidae 10%. The Calappidae, Matutidae, Xanthidae, Dromiidae, Gecarcinidae, Diogenidae and Dorippidae families species were not found in this station (Fig. 5).

Table 2 The seasonally abundance of crabs in different family

S.No	Family	Summer	Premonsoon	Monsoon	Postmonsoon
1	Portunidae	+	-	+	+
2	Potamidae	+	-	+	+
3	Calappidae	+	+	+	+
4	Matutidae	+	-	+	+
5	Xanthidae	+	-	+	+
6	Grapsidae	+	+	+	-
7	Dromiidae	+	-	+	-
8	Sesarmidae	+	+	+	+
9	Ocypodidae	-	+	+	+
10	Macrophthalmidae	+	-	-	+
11	Gecarcinidae	-	+	+	-
12	Diogenidae	+	+	+	-
13	Dorippidae	+	-	-	+
14	Leucosiidae	+	+	+	-
15	Dotillidae	+	+	-	-

+: present, and -: absent.

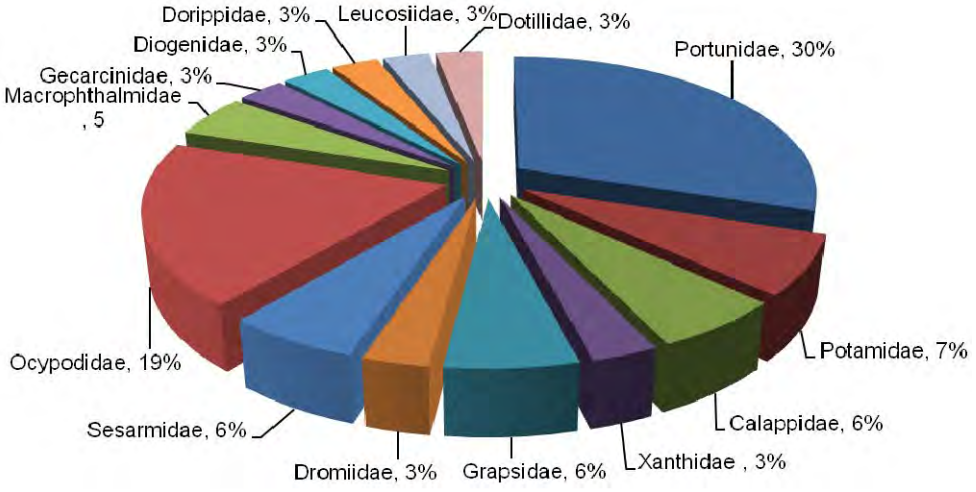

Fig. 1 Percentage composition of crabs at station I.

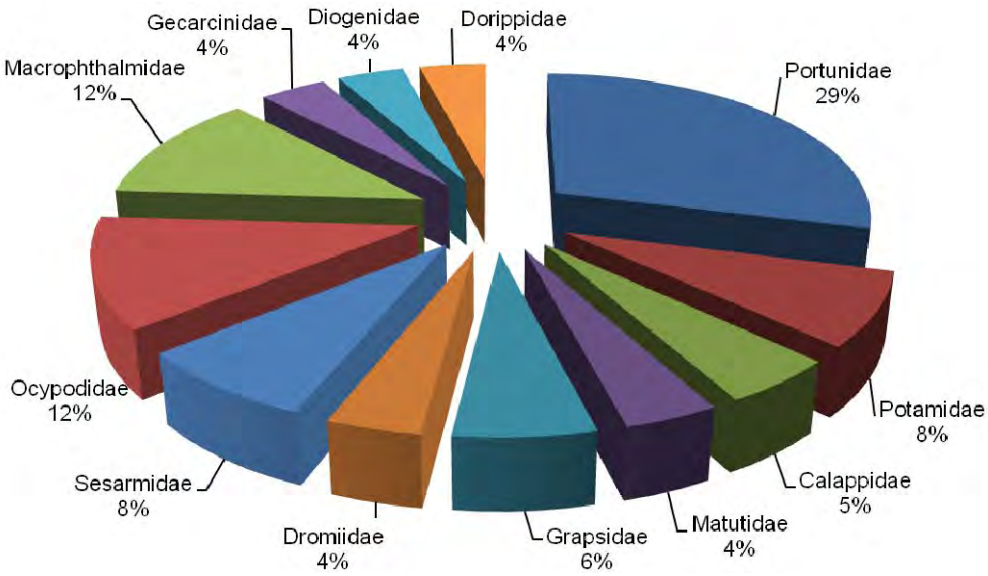

Fig. 2 Percentage composition of crabs at station II.

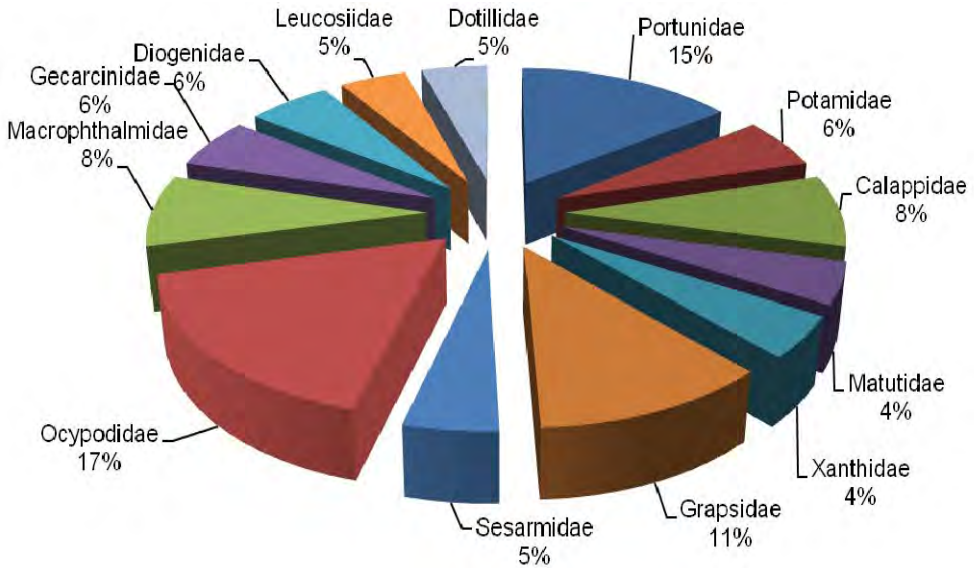

Fig. 3 Percentage composition of crabs at station III.

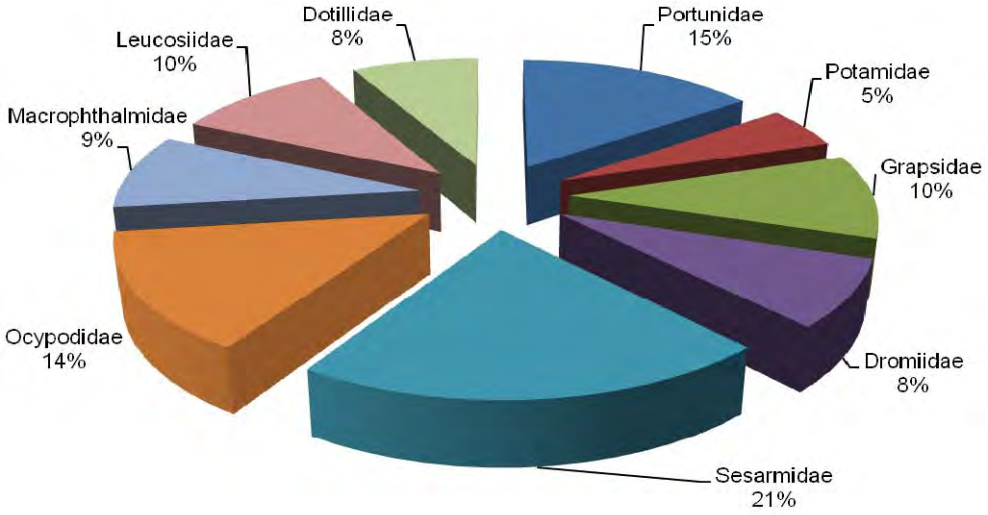

Fig. 4 Percentage composition of crabs at station IV.

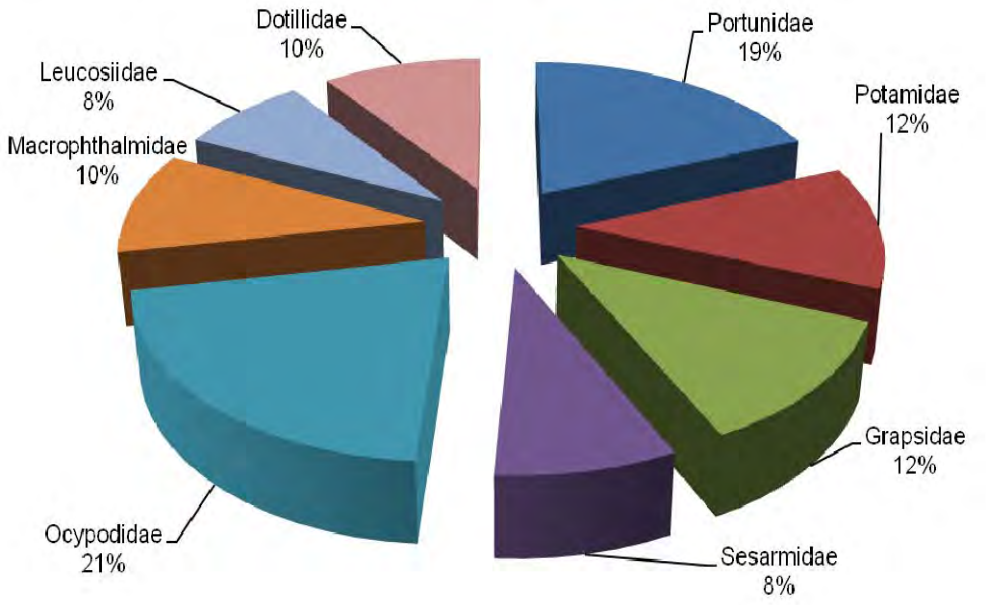

Fig. 5 Percentage composition of crabs at station V.

4 Discussion

The biodiversity is important for human survival and economic interests and for the environmental purpose and stability. India's marine and coastal ecosystems constitute an important natural resource, since millions of people dependent on them for their livelihoods. This rich biodiversity has a significant role in the maintenance of the ecosystem. Crustaceans are visibly a remarkable group of organisms with a long evolutionary history and prominent adaptability (Chopra and Das, 1937; Varadharajan, 2012). The decapod crabs are mostly active animals with complex behaviour patterns (Pillai and Nair, 1968). In the present study totally 47 crab species

were recorded in different station, which were represented by 15 families and 23 genera. Maximum crab species recorded in the present study was belonging to the family Portunidae than others families. Maximum 41 species were recorded in station 1 and minimum 20 species in station 4. The occurrence of crab species in different stations were in the following order; Station I (41) > Station II (39) > Station III (36) > Station V (21) > Station IV (20) (Table 1). Similar observations were made by Radhakrishnan (1979) recorded 68 crab species coming under 14 families along Parangipettai coast. Sethuramalingam (1984) reported 77 species of crabs from Pitchavaram mangroves. Joel et al (1985) studied the distribution and zonation of 29 crab species in the Pulicate Lake. Chakraborty and Choudhary (1992) recorded 18 crab species in virgin mangrove island of Sunderbans. A check list of 162 species of hermit crabs, 3 families, 40 genera and 705 brachyuran crabs (28 families, 270 genera) were reported by Venkataraman and Mohideen Wafar (2005). Gokul and Venkataraman (2008) noted 67 crab species in Gulf of Mannar. A total number of 990 species of marine brachyuran crabs belonging to 281 genera and 36 families were recorded in Indian waters by Kathirvel (2008). Soundarapandian *et al.* (2009) documented 36 species of crabs in Pichavaram mangroves. Suthakar (2011) have been reported 72 crab species from Cuddalore coast. Recently Varadharajan (2012) was reported crabs in Palk Strait. Totally 21 families coming under 79 crab species represented by Aethridae 1, Calappidae 4, Carpillidae 1, Dorippidae 3, Leucosiidae 2, Hymenosomatidae 1, Majidae 3, Parthenopidae 2, Pilumnidae 1, Portunidae 24, Potamidae 3, Trapeziidae 1, Xanthidae 4, Oziidae 1, Grapsidae 9, Sesarmidae 5, Ocypodidae 6, Macrophthalmidae 2, Gecarcinidae 1, Diogenidae 4 and Paguridae1.

At station I, 14 families in 41 species of crabs were observed, which comprise of 15 species (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, P. gladiator, Podophthalmus vigil, Charybdis feriata, C.natator, C. lucifera, C. truncata, C. granulata, C. variegata, Thalamita picta, T.chaptali* and *T. crenata*) belonging to family Portunidae with 5 genera *Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*, 3 species (*Potamon fluviatile, Sartoriana spinigera* and *Spiralotelphusa hyhrodroma*) to family Potamidae with 3 genera *Potamon, Sartoriana* and *Spiralotelphusa*, 2 species (*Calappa lophos* and *C. gallus*) to family Calappidae with a genus *Calappa*, 1 species (*Demania baccalipes*) to family Xanthidae with a genus *Demania*, 3 species (*Grapsus albolineatus, Selatium brockii* and *Metopograpsus messor*) to family Grapsidae with 3 genera *Grapsus, Selatium* and *Metopograpsus*, a species (*Dromia dormia*) to family Dromiidae with a genus *Dromia*, 3 species (*Sesarma brockii, S.* (*Parasesarma*) *plicatum* and *S. tetragonum*) to family Sesarmidae with a genus *Sesarma*, 6 species (*U. triangularis, U. vocans, U. inversa, Uca lactea, Uca perplexa* and *O. macrocera*) to family Ocypodidae with 2 genera *Uca, Ocypode*, 2 species (*Macrophthalmus depressus* and *M. convexus*) to family Macrophthalmidae with 1 genus *Macrophthalmus*, 1 species (*Cardisoma carnifex*) to family Gecarcinidae with a genus (*Cardisoma*), 1 species (*Clibanarius clibanarius*) to family Diogenidae with a genus *Clibanarius*, 1 species (*Dorippoides facchino*) to family Dorippidae with a genus *Dorippoides*, 1 species (*Arcania septemspinosa*) to family Leucosiidae with a genus *Arcania*, 1 species (*Dotilla myctiroides*) to family Dotillidae with a genus *Dotilla* were observed respectively. The order of species abundance in different families is Portunidae > Ocypodidae > Potamidae > Grapsidae > Sesarmidae > Calappidae > Macrophthalmidae > Xanthidae > Dromiidae > Gecarcinidae > Diogenidae > Dorippidae > Leucosiidae > Dotillidae (Table 1 and Fig. 1).

At station II, 12 families in 39 species of crabs were observed, which comprise of 15 species (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, P. gladiator, Podophthalmus vigil, C. feriata, C.natator, C. lucifera, C. truncata, C.granulata, C. variegata, Thalamita picta, T.chaptali* and *T. crenata*) belonging to family Portunidae with 5 genera *Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*, 3 species (*Potamon fluviatile, Sartoriana spinigera* and *Spiralotelphusa hyhrodroma*) to family Potamidae with 3 genera *Potamon, Sartoriana* and *Spiralotelphusa*, 2 species (*Calappa lophos* and *C. gallus*)

to family Calappidae with 1 genus *Calappa*), 1 species (*Matuta lunaris*) to family Matutidae with a genus *Matuta*, 3 species (*Grapsus albolineatus, Selatium brockii* and *Metopograpsus maculatus*) to family Grapsidae with 3 genera *Grapsus, Selatium* and *Metopograpsus*, 1 species (*Dromia dormia*) to family Dromiidae with a genus *Dromia*, 2 species (*Sesarma brockii* and *S. tetragonum*) to family Sesarmidae with a genus *Sesarma*, 6 species (*Uca annulipes, U. vocans, U. inversa, Uca lactea, Uca perplexa* and *Ocypode ceratophthalmus*) to family Ocypodidae with 2 genera *Uca* and *Ocypode*, 3 species (*Macrophthalmus convexus, M. erato* and *M. depressus*) to family Macrophthalmidae with 1 genus *Macrophthalmus*, 1 species (*Cardisoma carnifex*) to family Gecarcinidae with 1genus (*Cardisoma*), 1 species (*Clibanarius clibanarius*) to family Diogenidae with a genus *Clibanarius*, 1 species (*Dorippoides facchino*) to family Dorippidae with a genus *Dorippoides* were observed respectively. The order of species abundance in different families is Portunidae > Ocypodidae > Potamidae > Grapsidae > Macrophthalmidae > Calappidae > Sesarmidae > Matutidae >Dromiidae > Gecarcinidae > Diogenidae > Dorippidae(Table 1 and Fig. 2).

At station III, 13 families in 36 species of crabs were observed, which comprise of 13 species (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, P. gladiator, Podophthalmus vigil, Charybdis feriata, C.natator, C. lucifera, C. truncata, C.granulata, Thalamita picta* and *T.chaptali*) belonging to family Portunidae with 5 genera *Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*, 2 species (*Potamon fluviatile* and *Sartoriana spinigera*) to family Potamidae with 3 genera *Potamon* and *Sartoriana*, 1 species (*Calappa lophos*) to family Calappidae with a genus *Calappa*, 1 species (*Matuta lunaris*) to family Matutidae with a genus *Matuta*, 1 species (*Demania baccalipes*) to family Xanthidae with a genus *Demania*, 4 species (*Grapsus albolineatus, Selatium brockii, Metopograpsus messor* and *M. maculatus*) to family Grapsidae with 3 genera *Grapsus, Selatium* and *Metopograpsus*, 1 species (*S. plicatum*) to family Sesarmidae with a genus *Sesarma*, 6 species (*Uca annulipes, U. triangularis, U. inversa, Uca lactea, Uca perplexa* and *O. macrocera*) to family Ocypodidae with 2 genera *Uca, Ocypode*, 3 species (*Macrophthalmus convexus, Macrophthalmus depressus, Macrophthalmus brevis*) to family Macrophthalmidae with 1 genus *Macrophthalmus*, 1 species (*Cardisoma carnifex*) to family Gecarcinidae with 1genus (*Cardisoma*), 1 species (*Clibanarius clibanarius*) to family Diogenidae with a genus *Clibanarius*, 1 species (*Arcania septemspinosa*) to family Leucosiidae with1 genus *Arcania*, 1 species (*Dotilla myctiroides*) to family Dotillidae with a genus *Dotilla* were observed respectively. The order of species abundance in different families is Portunidae > Ocypodidae > Grapsidae > Macrophthalmidae > Potamidae > Calappidae > Matutidae > Xanthidae > Sesarmidae > Gecarcinidae > Diogenidae > Leucosiidae > Dotillidae (Table 1 and Fig 3).

At station IV, 9 families in 20 species of crabs were observed, which comprise of 7 species (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, Podophthalmus vigil, Charybdis natator* and *Thalamita crenata*) belonging to family Portunidae with 5 genera *Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*, 2 species (*Potamon fluviatile* and *Sartoriana spinigera*) to family Potamidae with 3 genera *Potamon* and *Sartoriana*, 2 species (*Grapsus albolineatus* and *Metopograpsus maculatus*) to family Grapsidae with 2 genera *Grapsus* and *Metopograpsus*, 1 species (*Dromia dormia*) to family Dromiidae with a genus *Dromia*, 1 species (*S. tetragonum*) to family Sesarmidae with a genus *Sesarma*, 3 species (*U. triangularis, Ocypode. macrocera* and *O. ceratophthalmus*) to family Ocypodidae with 2 genera *Uca, Ocypode*, 2 species (*Macrophthalmus erato* and *M. brevis*) to family Macrophthalmidae with a genus *Macrophthalmus*, 1 species (*Arcania septemspinosa*) to family Leucosiidae with1 genus *Arcania*, 1 species (*Dotilla myctiroides*) to family Dotillidae with a genus *Dotilla* were observed respectively. The order of species abundance in different families is Portunidae > Ocypodidae > Potamidae > Grapsidae > Macrophthalmidae > Dromiidae> Sesarmidae > Leucosiidae > Dotillidae (Table 1 & Fig 4).

At station V, 8 families in 21 species of crabs were observed, which comprise of

7 species (*Scylla tranquebarica, S. serrata, Portunus sanguinolentus, P. pelagicus, Podophthalmus vigil, Charybdis granulata* and *Thalamita crenata*) belonging to family Portunidae with 5 genera *Scylla, Portunus, Podophthalmus, Charybdis* and *Thalamita*, 2 species (*Potamon fluviatile* and *Sartoriana spinigera*) to family Potamidae with 3 genera *Potamon* and *Sartoriana*, 2 species (*Metopograpsus messor* and *M. maculatus*) to family Grapsidae with 1 genera *Metopograpsus*, 1 species (*S. plicatum*) to family Sesarmidae with a genus *Sesarma*, 5 species (*Uca annulipes, U. triangularis, U. vocans, Ocypode ceratophthalmus* and *O. macrocera*) to family Ocypodidae with 2 genera *Uca, Ocypode*, 2 species (*Macrophthalmus erato* and *M. brevis*) to family Macrophthalmidae with 1 genus *Macrophthalmus*, 1 species (*Arcania septemspinosa*) to family Leucosiidae with1 genus *Arcania*, 1 species (*Dotilla myctiroides*) to family Dotillidae with a genus *Dotilla* were observed respectively. The order of species abundance in different families is Portunidae > Ocypodidae > Potamidae > Grapsidae > Macrophthalmidae > Sesarmidae > Leucosiidae > Dotillidae (Table 1 and Fig. 5).

In the present study, the results showed that a number of decapod species found in a given area. Yet it is not often in low diversity areas that are in need of conservation. It is often in low diversity areas that productivity is highest and human exploit of these systems for food and other uses. Water quality is the important parameters that determine the life of crab species and also due to the plant ecosystems are important for fishery production (Tiwari, 2011; Zhang et al, 2011; Srinivasamoorthy et al, 2012; Wu and Zhang, 2012). They are serving as home, nursery, feeding and breeding grounds for many crustaceans. The disturbance activities of anthropogenic, overharvesting and habitat loss often occur simultaneously, as removal of a living being from its environment can have irreversible impacts on the environment itself. The biodiversity loss and degradation of ecosystem functions do not occur independently, but are highly interrelated to each other. The understandings of the relationships between biodiversity and ecosystem functions are thus essential for the conservation and sustainable management of coastal areas. This has resulted into ever increasing demand for timely discovery of and quick access to biodiversity data and information, as good data depicting the state of the biodiversity are vital to support responses to key issues related to biodiversity conservation and sustainable use of bioresearches.

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