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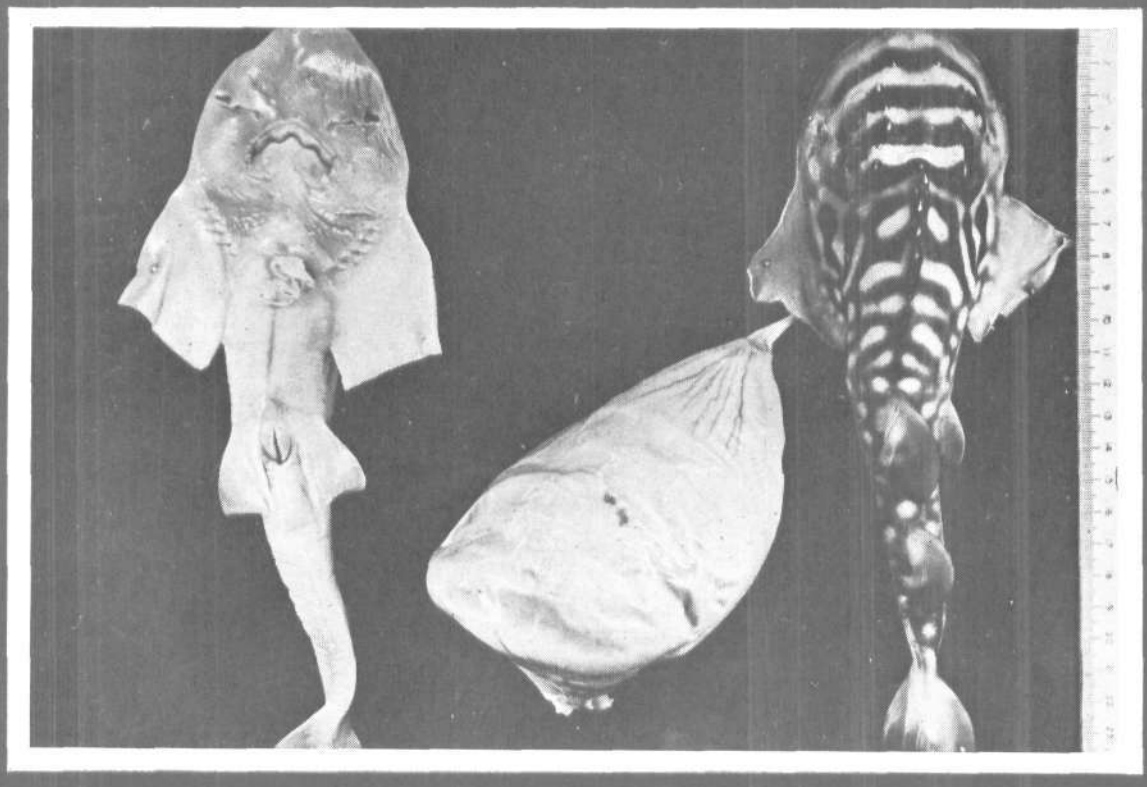

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THE PORTUNID CRAB, *CHARYBDIS (CHARYBDIS) FERIATUS* – AN EMERGING FISHERY RESOURCE OF MANGALORE COAST

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Introduction

The marine crab fishery by mechanised trawlers along the Mangalore coast is mainly supported by those belonging to the genera *Portunus* and *Charybdis* of the family Portunidae. Among the species, *Portunus (Portunus) sanguinolentus*, *Portunus (Portunus) pelagicus* and *Charybdis (Charybdis) feriatus* (previously known as *Charybdis cruciata*) grow to large size and commercially very important. Of these, until recently *P. (P.) sanguinolentus*, *P. (P.) pelagicus* together contributed to the bulk of the catch, while *C. (C.) feriatus* along with other crabs formed less than 10%. Over the years, there has been a sea change in the pattern of trawl fishing. From single-day, the fishing has been changed to multi-day fishing to facilitate long voyages to exploit the under-exploited/unexploited resources of the deeper waters upto a depth of 100 m. Coupled with this changed scenario in the fisheries sector, there has been sharp increase in the landing of *C. (C.) feriatus* along the Mangalore coast. A brief account of this emerging fishery resource is reported here.

C. (C.) feriatus fishery

The landings of *C. (C.) feriatus* by mechanised trawlers at Mangalore and Malpe combined for the fishing seasons 1992-'93 to 1995-'96 are presented in Tables 1-4. The annual catch increased from a minimum of 64,659 kg (9.3% of total crabs) in 1992-'93 to a maximum of 3,29,479 kg which formed 60.5% of the total crab landings in 1995-'96 at these centres.

Seasonal abundance

Although trawling started by late August and extended upto May end, the catch of this crab occurred only for a short duration i.e., from February to May during 1992-'93 season (Table 1). However, during the following season (1993-'94), the fishery for this species was extended from December to May (Table 2). More recently, (during 1994-'95 and 1995-'96), this crab was caught from October to May, fairly in large quantities resulting in steep increase in its landings (Tables 3-4). The catch was so high that this species dominated the crab landings relegating the traditional species such as, *P. (P.) sanguinolentus*

TABLE 1. *Landings (in kg) of* C. (C.) feriatus *by mechanised trawlers at Mangalore & Malpe centres during the period 1992-'93*

Parameters	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
Units	805	5,447	8,181	5,145	7,424	9,714	9,394	8,312	9,362	8,862	72,646
Total crab catch	626	3,167	19,554	9,948	61,027	3,09,435	97,610	59,898	72,084	63,228	6,96,577
C. (C.) feriatus	0	0	0	0	0	0	13,294	7,821	27,232	16,312	64,659
Catch/unit (kg)	0	0	0	0	0	0	1.4	0.9	2.9	1.8	0.9
% in total crabs	0	0	0	0	0	0	13.6	13.1	37.8	25.8	9.3

TABLE 2. *Landings (in kg) of* C. (C.) feriatus *by mechanised trawlers at Mangalore & Malpe centres during the period 1993-'94*

Parameters	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
Units	695	2,776	4,616	6,482	10,471	8,974	7,062	8,171	8,597	7,341	65,185
Total crab catch	594	3,320	3,614	10,292	35,229	86,040	43,076	57,600	99,624	74,029	4,13,418
C. (C.) feriatus	0	0	147	0	6,719	30,486	15,785	21,777	29,820	34,551	1,39,285
Catch/unit (kg)	0	0	0.0	0	0.6	3.4	2.2	2.7	3.5	4.7	2.1
% in total crabs	0	0	4.1	0	19.1	35.4	36.6	37.8	29.9	46.7	33.7

TABLE 3. *Landings (in kg)* C. (C.) feriatus *by mechanised trawlers at Mangalore & Malpe centres during the period 1994-'95*

Parameters	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
Units	340	1,522	4,438	7,977	9,150	7,878	7,876	9,217	8,882	8,671	65,951
Total crab catch	60	748	3,421	607	22,440	73,650	49,779	49,426	57,114	73,435	3,30,680
C. (C.) feriatus	0	0	3,376	196	14,416	50,006	33,965	30,563	37,042	38,292	2,07,856
Catch/unit (kg)	0	0	0.8	0.0	1.6	6.3	4.3	3.3	4.2	4.4	3.2
% in total crabs	0	0	98.7	32.3	64.2	67.9	68.2	61.8	64.9	52.1	62.9

TABLE 4. *Landings (in kg) of* C. (C.) feriatus *by mechanised trawlers at Mangalore & Malpe centres during the period 1995-'96*

Parameters	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
Units	161	3,076	4,252	9,016	7,548	9,514	10,005	9,780	9,810	9,397	72,559
Total crab catch	0	196	0	2,373	29,597	1,16,848	92,674	92,049	89,880	1,21,019	5,44,636
C. (C.) feriatus	0	0	3,376	1,450	24,398	78,595	47,541	54,397	46,249	76,849	3,29,479
Catch/unit (kg)	0.0	0.0	0.8	0.2	3.2	8.3	4.8	5.6	4.7	8.2	4.5
% in total crabs		0.0		61.1	82.4	67.3	51.3	59.1	51.5	63.5	60.5

and *P. (P.) pelagicus* to second and third positions respectively.

The monthly catch ranged from a minimum of 147 kg (4.1%) in October 1993 to a maximum of 78,595 kg (67.3%) in January 1996 (Table 4). The highest catch rate of 8.3 kg/unit was also realised in this month. It is interesting to note that the percentage contribution of *C. (C.) feriatus* was so high that it formed 98.7% of the crab landings in October 1994 (Table 3).

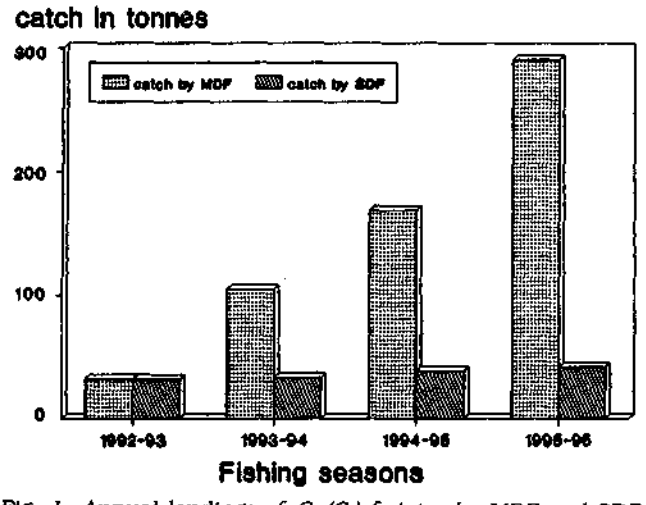

Fig. 1. Annual landings of *C. (C.) feriatus* by MDF and SDF at Mangalore and Malpe for the period from 1992-'93 to 1995-'96.

C. (C.) feriatus is mostly caught by multi-day trawlers operating beyond 25 m depth. Present study has revealed that the annual catch of this species obtained by multi-day fleets increased from 50.3% in 1992-'93 to 87.2% in 1995-'96 (Fig. 1). It is also noteworthy that the landings of this crab showed an upward trend over the recent years, although there was a fall in annual crab landings (Fig. 2).

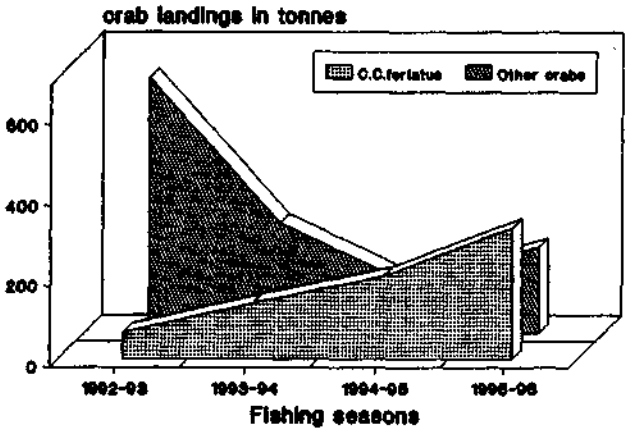

Fig. 2. Annual landings of *C. (C.) feriatus* and total crabs at Mangalore and Malpe for the period from 1992-'93 to 1995-'96.

Biology of *C. (C.) feriatus*

Unlike *P. (P.) sanguinolentus* and *P. (P.) pelagicus*, *C. (C.) feriatus* is exclusively a marine species. The size ranged from 41 to 145 mm carapace width (C.W.) for males and from 36

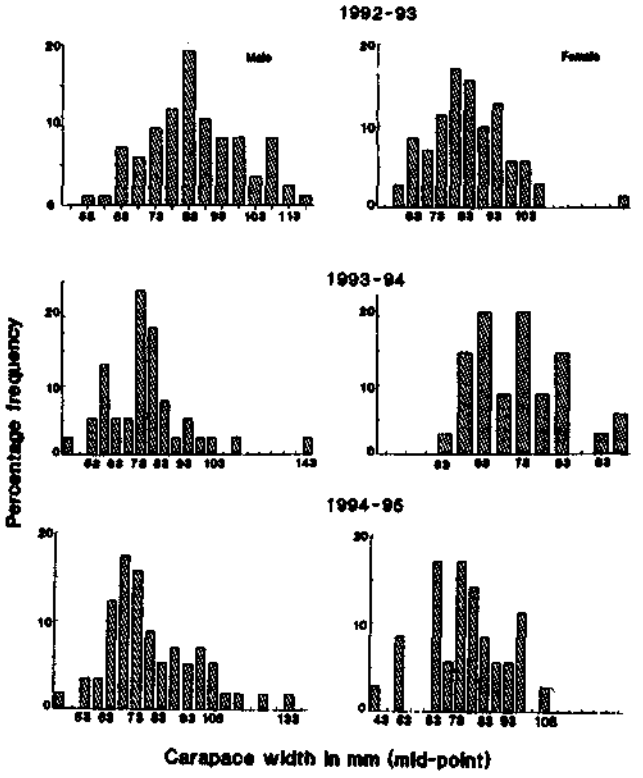

Fig. 3. Annual size frequency distribution of *C. (C.) feriatus* from 1992-'93 to 1994-'95.

to 140 mm (C.W.) for females (Fig. 3). Sex ratio studies indicated that males outnumbered females. It was observed that most of the females were with immature or maturing ovary. Crabs with fully matured ovary were seldom found. However, berried crabs were available from January to May (in fewer numbers) indicating spawning during this period. Smallest ovigerous female measured was 65 mm C.W.

Remarks

With the unprecedented heavy landings of this species, the recent years have witnessed the emergence of *C. (C.) feriatus* as a predominant constituent of the crab resources exploited by mechanised trawlers off Mangalore coast. With the expansion of mechanised trawl fishery coupled with the introduction of more sophisticated fish finding equipments as fishing aids in a large number of units, it is possible that the landings of this species may further increase in the years to come.