

## Unusual bumper catch of shrimps at Nochikuppam, near Chennai, east coast of India

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Sporadic occurrence of penaeid shrimps consisting exclusively of *Fenneropenaeus indicus* (Indian white shrimp – *Vella eral/Por eral*), *F. merguensis* (banana shrimp – *Vella eral/Sunnambu eral*), *Penaeus semisulcatus* (green tiger shrimp – *Valayampoota eral/motta eral/vari eral/flower*), *Penacus monodon* (giant tiger shrimp – *Kotteral/Kathamba eral/kara*) are usually recorded by indigenous gears like single-layer gillnet (*Pannu valai*) and three-layer trammel net (*Disco valai/Mani valai*). In these nets the shrimp catch rate vary from 2 to 5 kg/unit, while in the trawl net, shrimps form 10 to 15 % of the annual total fish along the Chennai coast. However, an unusual bumper catch of shrimps to a tune of 22.8 t was landed by trammel net at Nochikuppam Landing Centre near Chennai during 10<sup>th</sup> - 14<sup>th</sup> December.

### Shrimp catch

Trammel nets were operated from fibre glass boats in the depth range of 6 to 8 m, 1 km away from the shore off Nochikuppam. On 10<sup>th</sup> December 2008, shoals of shrimps were sighted which prompted the fishermen of that area to start the operation of trammel nets. Fishing continued up to 14<sup>th</sup> December 2008 and the catch was mainly of Indian white shrimp (*F. indicus*). The details of the catch are given in Table 1.

**Table 1. Catch details of shrimps**

Date	No. of units operated	Estimated catch (t)	Catch/unit (kg)	Estimated value in Rs. lakhs
10.12.08	150	9.2	61.33	27.6
11.12.08	130	6.8	52.31	20.4
12.12.08	180	4.0	22.22	12.0
13.12.08	140	2.4	17.14	7.2
14.12.08	110	0.4	3.64	1.2
Total	710	22.8	32.11	68.4

The number of units operated on 10<sup>th</sup> December (first day) was 150, which increased to 180 on 12<sup>th</sup> December (second day) and reduced to 110 on the last day (14<sup>th</sup> December) of operation. However, the shrimp catch was the highest (9.2 t) on the first day, which gradually decreased to the lowest of 0.4 t on the last day, which may be due to either capture of majority of shrimp population or the movement of shrimp shoals from the fishing ground. The recorded water temperature, salinity, dissolved oxygen and pH of surface water in the fishing area was 29.5 °C, 26.13 ppt, 3.716 ppm and 6.89 respectively. The catch per unit also showed a similar trend (highest – 61.3 kg on first day to the lowest – 3.64 kg on the last day). In the 5 day operation, a total of 22.8 t of shrimps with total value of Rs. 68.4 lakhs was realized.

### Species composition

The catch was exclusively penaeid shrimps, of which, *F. indicus* formed 95 % (Fig. 1 and 2), followed by *P. monodon* (3%) and *P. semisulcatus* (2%).

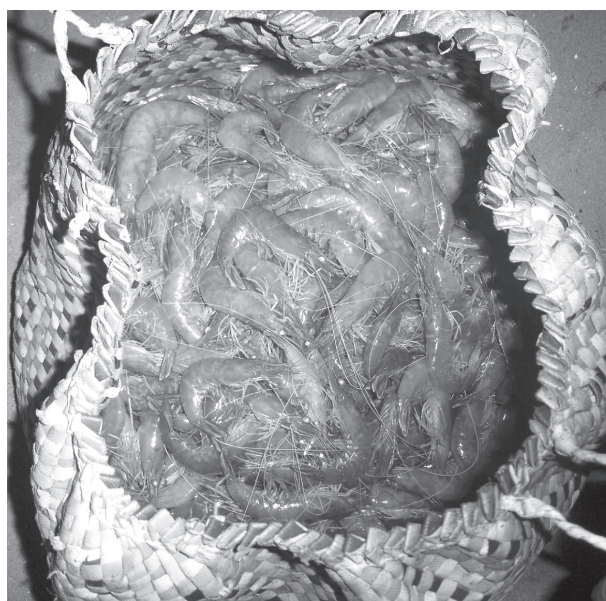


Fig. 1. Part of the bumper shrimp catch at Nochikuppam



Fig. 2. Close-up view of *F. indicus* catch

### **Biological observation on *F. indicus***

The catch was composed mainly of fairly large sized shrimps and the head-on count varied from 30 to 40 per kg for females and 35-45 per kg for males. The size (total length) ranged from 115-180 mm with the dominant modes at 141-145 mm and 161-165 mm for females and 131-175 mm with dominant

mode at 150-155 mm for males. Females dominated (60%) the catch. Most of the females were found with late maturing and matured gonads.

### **Remarks**

There are several reports on unusual bumper catches of penaeid shrimps off Maharashtra coast (Ramamurthy and Mestry 1983,1985; Jadav 1996; Rao 1998; Rao 2005); off Goa coast (Kulkarni *et al.* 1987); Karnataka coast (Kakati and Dinesh, 1991); Mohamed *et al.*, 1996; Arghekar, 2000); off Tamil Nadu coast (Kathirvel *et al.*, 1985; Sankaralingam, 1989) and off Paradeep coast in Orissa (Brar, 1995). Most of these observations were related to heavy landings of penaeid shrimps for shorter periods (4 to 7 days), either by indigenous or mechanised gears during post-monsoon months. The present observation on the bumper catch of Indian white shrimp (*F. indicus*) off Chennai during the post north-east monsoon period may be a part of moving shoals from north to south utilising the prevailing southerly water currents.