

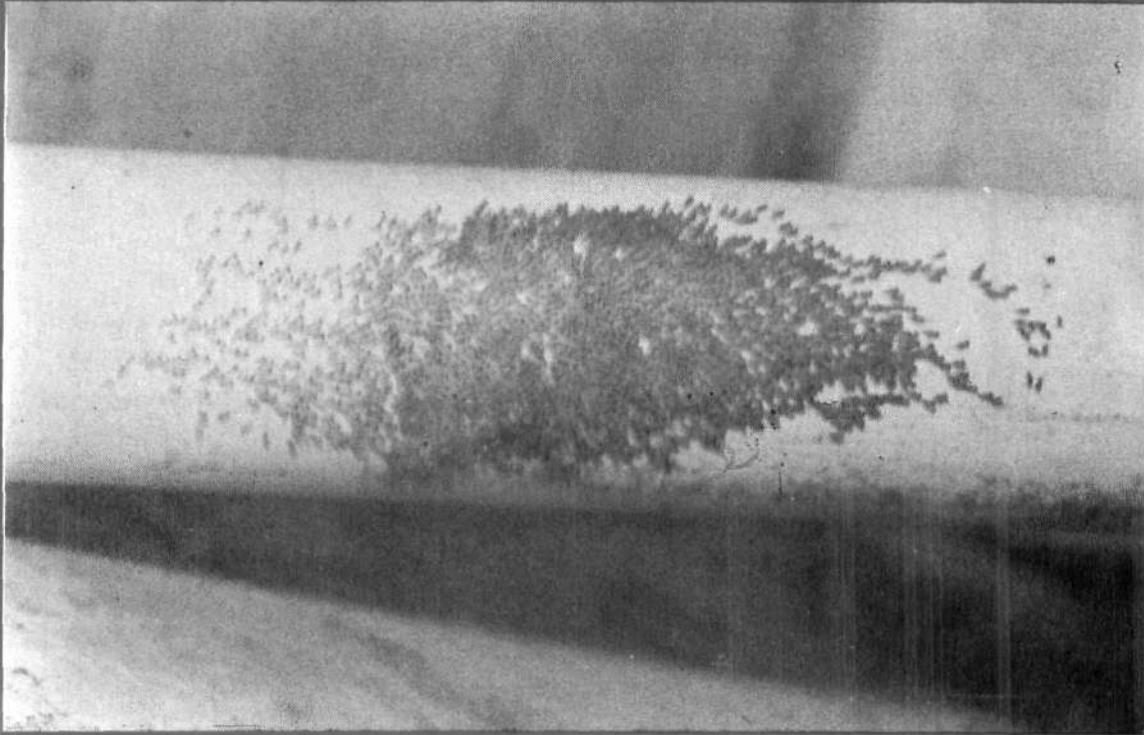
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**912 Occurrence of Indian Ruff, *Psenopsis cyanea* in shallow waters along Kakinada coast, an indication of upwelling**

*Psenopsis cyanea* (Alcock, 1890) (Fig. 1) belonging to the family Centrolophidae usually occurs in deeper waters between 250 to 300 m depth in schools. They are irregularly distributed off the east and west coasts of India and off Socotra and the mouth of the Gulf of Aden. Fishery for the species is not yet fully established. In India they are caught in deep sea trawlers especially off Quilon, Kerala in 250-300 m depth zone, where they are most abundant during November-April.

*P. cyanea* is known as "methapara" in Telugu, named so due to its smooth skin and soft and flabby body. The normal pattern of landings and species

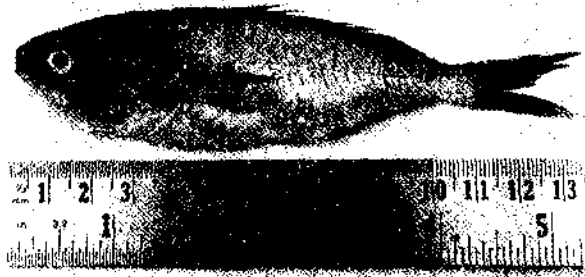


Fig. 1. The Indian ruff *Psenopsis cyanea*.

composition along the Kakinada coast changed complete by during the period due to the sizeable contribution of deep sea species in the catch. *P. cyanea* appeared in large shoals along the shallow coastal waters of 5-15 m depth along with the other deep water species such as *Priacanthus* sp. *Decapterus labl* and *Upeneus* sp. and were caught in large quantities by trawls and gillnets. The landing of deepwater groups lasted for about 12 days.

812 tonnes of *P. cyanea* and 35 tonnes of the other deep water species were landed (Figs. 2 & 3) by trawls and gillnets constituting 43.5 % of the total catch (Table 1). *P. cyanea* formed 39.4 and 78.4 % respectively in the total trawl and gillnet catch during the period.

Altogether *P. cyanea* constituted 95.9 % of the deep sea groups and the rest by other deep sea finfishes and shellfishes (Table 2)



Fig. 2. The Catch of the Indian ruff heaped on the deck of the boat.

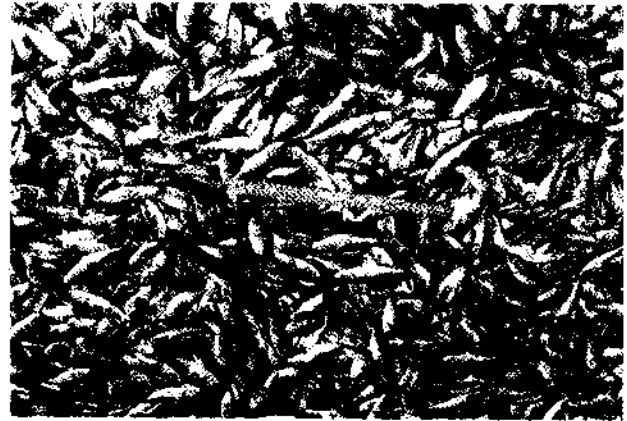


Fig. 3. A view of the catch of the Indian ruff.

TABLE 1. Landings of *Psenopsis cyanea* and other deepwater groups at Kakinada during upwelling

**a. Trawl**

Date	Effort (units)	Total catch (kg)	<i>P. cyanea</i> (kg)	Other deepwater group (kg)
24/4/98	197	1,73,569	94,400	7,400
25/4/98	248	3,59,415	1,92,027	16,420
28/4/98	201	93,521	75	-
29/4/98	251	1,60,093	69,170	4,830
04/5/98	53	79,409	24,900	1,200
05/5/98	70	1,83,288	51,335	1,730

Estimate for the period 1,654 18,36,640 7,24,096 31,580

CPUE = 437.8 kg of which. *P. cyanea* = 39.4 % and other deepwater groups = 4.1 %

**b. Gillnet**

Estimate for the period 312 112,548 88,200 3,380

CPUE = 283.7 kg of which *P. cyanea* = 78.4 %, and other deep water groups = 3.8 %.

Catches of *P. cyanea* were represented by 89-149 mm population with a mean size and weight of catch of *P. cyanea* represented by 89-147 mm population with a mean size and weight were 130.3 mm and 22.82 g respectively. The specimens examined were either with indeterminate or immature gonads. Males and females represented in the catch in almost 1:1 ratio. The gut contained a light yellowish

fluid and was totally devoid of any food items.

TABLE 2. *Species composition of deep sea groups landed by trawls*

Species	% composition
<i>Psenopsis cyanea</i>	95.87
<i>Priacanthus</i> Sp.	1.20
<i>Decapterus tabl</i>	1.30
<i>Acanthocephala</i> Sp.	0.40
<i>Muraenesox</i> Sp.	0.50
<i>Upeneus</i> Sp.	
<i>Metapenaeopsis</i> Sp.	} 0.73
<i>Charybdis callianassa</i>	
<i>Siganus</i> Sp.	
<i>Chelonodon</i> Sp.	
Gobids	

**Remarks:** *P. cyanea* and other species which usually occur in the deep cold water areas might have moved towards the shallow coastal region due to upwelling of the cold deeper water towards the surface, where they were caught by trawls and gillnets. The terrestrial winds prevailed during the period might be one of the reasons for upwelling by displacing the surface waters from the coastal region and thus allowing the cold water masses from the deeper layers to rise to the surface. These water masses would have brought the deep sea fish species to the surface. The present observations indicate the presence of a non-conventional potential resource of *P. cyanea* along the coast.

**Utilization:** There was no demand for the species for human consumption due to its soft, watery flesh. Catches were disposed at a rate of Rs.2.0-3.0 per kg for fish meal production.

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