NOTES

On the Vertical Distribution of Seers and other Commercially Important Fishes in the Surface Drift Nets

Amongst the various factors considered while designing a suitable gill net the swimming height of the fishes to be caught assumes paramount importance. Studies on this aspect have been made by Parrish (1963) Berst & Mcombie (1963), and Sulochanan & Rao (1964) for perches and pomfrets. This communication highlights the authors' attempts to determine the vertical height for catching seers and other commercially important fishes off Kakinada coast.

For a detailed description of the net attention is drawn to the paper on mesh selectivity studies for spotted seer (Sreekrishna *et al.* 1972). The fishing height of the net was kept constant at 6 m. To determine the swimming height of the fishes, the nets were divided horizontally into six sections by passing coloured twines at every 1 m interval. Twenty shots of nets were operated on all fishing days.

The number of *Scomberomorus commerson, S. guttatus, Parastomatous niger, Euthynnus affinis, Hilsa toli* and Sharks

recorded from each 1 m division of the net together with statistical significance are presented in Table 1. Out of 247 *S. guttatus* and 87 *S. commerson* caught, majority were found to be in 0–3 m depth of the net with maximum at 1–3 m. The chi-square (X^2) test indicated (Table 1) that the number of fishes caught in the different sections of the net were significantly different. It was 1% level for *S. commerson* and *H. toli* and 0.1% in *S. guttatus, P. niger* and sharks. For *S. guttatus* and sharks 1–3 m, for *S. commerson* 1–2 m, for *P. niger, H. toli* and tuna, 0–3 m gave significantly higher catch over the other sections. Berst & Mcombie (1968) observed abundance of perches and sucker fish towards the foot rope of the net while Sulochanan & Rao (1964) emphasised the superiority of the first quarter of the net of 467 cm depth in catching silver pomfrets.

The results of the present studies confirm the view that of the 6 m depth of the net, 0 to 3 m is most efficient, 3 to 5m also contribute substantially to the total catch, while 5 to 6 m is least effective for catching different species of fish investigated.

Table 1. *Vertical distribution of fishes in experimental gill nets*

Species	Distance from head rope (m)						Total	Observed chi-square value	D.F.	Level of significance
	0–1	1–2	2–3	3–4	4–5	5–6				
S. guttatus	42	73	74	33	18	7	247	93.83	6	0.1%
S. commerson	9	39	19	10	10	—	87	18.34	4	1%
P. niger	134	199	135	56	49	8	581	259.49	5	0.1%
H. toli	10	22	12	6	1	1	52	11.78	3	1%
E. affinis	57	93	69	29	22	6	276	115.73	5	0.1%
Shark	52	100	108	52	45	11	368	108.38	5	0.1%

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