



## Brief note on *psenopsis cyanea*

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### DESCRIPTION

Suitability of *psenopsis cyanea*, a deep sea fish caught on board Fishery Oceanographic Research Vessel FORV *sagar sampada* from a depth of 350 m off Cochin for processing into canned product was studied. The fish having high fat content around 52% and white attractive meat renders itself well for canning yielding a product good in organoleptic characteristics. Fish suffers around 8% fat loss during skinning. Fish canned in natural style and in brine have better organoleptic characteristics initially. On storage they develop slight rancidity. Fish canned in oil maintains the characteristics over a longer period.

The cruises of Fishery Oceanographic Research Vessel *sagar sampada* have thrown light on many species of fish that may be commercially available from deeper waters. Exploitation of such fish necessitates simultaneous identification and development of suitable processing technology for their economic utilization. One such species of fish identified as needing development of appropriate technology is *Psenopsis cyanea*. This is a fatty fish which occurs in shoals irregularly distributed off the east and west coasts of India. Perigreen et al. (1988) studied the freezing characteristics of *psenopsis cyanea* and reported a limited shelf life of 28-32 weeks at  $-22 \pm 1^\circ\text{C}$ . Being a fish high in fat content like sardine *psenopsis cyanea* may yield a more stable product when canned. No previous work has been reported on the canning characteristics of this fish. The present investigations were, therefore, undertaken to assess the suitability of *psenopsis cyanea* for canning and also to work out the detailed processing requirements.

*Psenopsis cyanea* was collected on board Fishery Oceanographic Research Vessel FORV *sagar sampada* from a depth of 350 m off Cochin. Immediately after catch the fish was washed well, packed in polythene bags in lots of 1 kg each and quick frozen at  $-40^\circ\text{C}$ . The frozen fish stored at  $-23^\circ\text{C}$  on board the vessel was brought

to the laboratory in a week's time and used for the studies. The frozen fish was thawed in the bags in running water at room temperature, dressed and used for canning. Meat separated from thawed fish was analysed for moisture, fat, protein and ash as per the Association of Official Analytical Chemists AOAC (1975) methods. Skinning was done by gently agitating the fish in an aqueous solution of lactic acid at room temperature for 15 minutes. Afterwards the fish was thoroughly washed to remove the acid. Natural style canned fish was made as per the method suggested by Unnikrishnan Nair (1974). The dressed fish was cold blanched in a solution containing 15% sodium chloride, 1% alum and 1% citric acid for 15 min. The fish after draining when was packed 250 g each in 7 OzSR lacquered cans, exhausted for 10 min in flowing steam, seamed and heat processed for 60 min in steam at  $1.00 \text{ kg/cm}^2$  pressure. For canning in oil or brine, the process reported by Madhavan et al. (1970) was adopted with slight modification. The fish after cold brining in a 15% solution of sodium chloride was filled in cans and precooked in steam at  $0.35 \text{ kg/cm}$  pressure for 40 min keeping the cans inverted over a grid. After adding hot refined groundnut oil or 2.5 % sodium chloride solution the cans were exhausted, seamed and heat processed in steam at  $1 \text{ kg/cm}^2$  pressure for one hour. used in the studies had average weight 50 g and length 16 cm. In contrast to its dark grey colour of skin the fish has white meat rich in fat and has a palatable taste on cooking. The proximate composition of the meat canning of *psenopsis cyanea* in natural style yielded a product very good in organoleptic characteristics. The overall appearance was not good on account of the dark colour. Further, slight detachment of the dark coloured skin was noticed. Extent of separation of skin was found to increase with storage. The loose fragments of skin became admixed with the contents presenting a bad appearance. Therefore it was necessary to skin the fish prior to canning.