

## New records of *Champsodon nudivittis* and *Champsodon snyderi* (Fam: Champsodontidae) from the Indian EEZ

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*Champsodon* genus belonging to the family Champsodontidae are constituted by bottom dwelling fishes at great depths (400 - 1000 m) in the oceans and are commonly referred to as gapers. These are characterized by a large head and mouth, an elongate compressed body densely covered with small denticulate scales, pre-opercle with a prominent postero-ventral spine bearing small serrations on the ventral side, a short spinous dorsal fin, small pectoral fins, unusually large pelvic fins and a complex acoustic-lateralis system that consists of two horizontal lateral lines interconnected by vertical rows of sensory papillae. The scale patterns on the chin, breast and abdomen regions; the vertebral structure especially in the caudal region, the arrangement of dorsal sensory papillae on the head, patterns of scales between the two horizontal lateral lines and the gill raker counts are the most important characters used to differentiate among the thirteen species currently valid, which is given in the taxonomic revision of the family by Nemeth (1994). The specimens of *C. nudivittis* and *C. snyderi* were obtained during an exploratory deep-water survey conducted on-board FORV *Sagar Sampada* (cruise 313) by using an EXPO model trawl net at a depth of 282 - 393 m in the northeast Arabian Sea (19° - 21° N latitudes). These are first records of the two species in the western



*Champsodon nudivittis*

Indian Ocean as they have been reported from the Indo-Pacific region only previously. The distinguishing characters of the two species were as follows:

*C. nudivittis* (Ogliby 1895): Chin and belly area naked, area between pectoral and pelvic fin bases naked, breast with only a small central patch of scales, naked chin spotted with small melanophores, maxilla extending beyond posterior margin of eye; five to eight sensory papillae between the parallel bony ridges on dorsal surface of the head extending from snout to inter-orbital. The vertical rows of sensory papillae between the two horizontal lateral lines are not closely surrounded by scales.

*C. snyderi* Franz (1910). Chin and belly area naked, triangular patch of scales between pectoral and pelvic fin bases, breast fully scaled, four to seven sensory papillae between the parallel bony ridges on dorsal surface of the head extending from snout to inter-orbital, each row often with unequal numbers. The vertical rows of sensory papillae between the two horizontal lateral lines are not closely surrounded by scales.

The species reported to occur in the Indian Ocean (FAO Fishing Areas 51 and 57) are *C. capensis*, *C. omanensis*, *C. pantolepis*, *C. sagittus* and *C. sechellensis* while *C. nudivittis* and *C. snyderi* reported above are occurring in the Indo-Pacific region. Among the two species recorded from the exploratory survey in the north-east Arabian Sea, *C. snyderi* has been earlier reported only from the seas off Japan and Australia while *C. nudivittis* occurs in seas off Madagascar, Philippines, Indonesia and Australia and has recently been reported from the Red Sea as well as the Mediterranean Sea. The



*Champsodon snyderi*

observations from exploratory survey indicate an extended distribution for *C. nudivittis* in the north eastern Arabian sea which is a part of the Indian Ocean region. Oceanographic studies have indicated that there is mixing of the Indian Equatorial water mass found between the 200 -2000 m depth zone with Red Sea water resulting in the formation of a unique intermediate deep-water mass in the Arabian Sea. In recent years several fishes found in the Red Sea have also been reported from the west coast of India as range extensions. The spurt in off-shore fishing activities has resulted in several hitherto locally unrecorded species becoming available in the fish landings and adding to the documentations on the fish diversity of the region.

The size range of the specimens of *C. nudivittis* was 55 - 105 mm with the 75 - 85 mm size group

dominating. Females outnumbered males with a ratio of 3: 1 and gonads were found to be in early stages of maturation by the time they reached a size of 60 mm in total length. The Length at first maturity ( $L_m$ ) in females, when 50% of the numbers assessed have gonads in ripe condition, was estimated to be 70 mm. Very little information on the biology of the champsodontids is available as indicated in FishBase. They are reported to occur in large shoals and exhibit vertical migration. *Champsodon* species do not form target fisheries but are probably important in the food web dynamics of the extended benthic - mesopelagic realm, as they exhibit diurnal vertical migration patterns and therefore are available either as prey or predator in this realm, at any point of time. Several commercially important fishes including the bregmacerotid fishes, pandalid and sergestid shrimps were recorded in the guts of *C. nudivittis* during the present study indicating their importance as predators in the marine ecosystem. Thereby their possible role as one of the regulators of the natural mortality rate and recruitment variations of these commercially important fishes from the north west coast of India is also highlighted.