

The Warty Dory, *Allocyttus verrucosus* New to the Fish Fauna of Canada

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In April 2010, a Warty Dory, *Allocyttus verrucosus* (Gilchrist, 1906), was captured during commercial fishing activities in the Labrador Sea. This is the first record for Canada and the northwest Atlantic Ocean.

Key Words: Warty Dory, *Allocyttus verrucosus*, deep-sea fish, range extension, Labrador Sea, Canada.

A Warty Dory, *Allocyttus verrucosus* (Gilchrist, 1906), was captured in April 2010 during commercial fishing activities descending to 1250 m depth, in the Labrador Sea east of Hamilton Bank (53°33.31'N, 52°11.29'W) (Figure 1). This is the first record of its capture in Canadian waters and the northwest Atlantic Ocean as Scott and Scott (1988) and Coad et al. (1995) do not record it. The Warty Dory is a member of the Oreosomatidae family of fishes, found typically throughout the southern hemisphere but also in the Gulf of Mexico and rarely in Europe (Karrer in Smith and Heemstra 1986; James et al. 1988; FAO Fisheries Department 1994; Gomon et al. 1994; Heemstra in Carpenter 2002). It is the second most northerly specimen on record after one caught off western Scotland at 58°40'N, 9°00'W (du Buit and Quéro 1993).

This species is edible and has an estimated life span up to 140 years. It occurs in large shoals on continental slopes and, as a bathypelagic species, this specimen may have been caught as the trawl was retrieved.

Data provided by Fisheries and Oceans Canada, from 60 observations recorded between 1931 and 2010 within a 75 km radius of the capture site at depths between 1000 and 1500 meters, indicate that the temperature and salinity were stable year round at 3.5°C and 34.91 psu, with standard deviations of 0.2 and 0.06 respectively.

The fish was caught during commercial Turbot (Greenland Halibut, *Reinhardtius hippoglossoides*) fishing operations using a bottom trawl. Crew member Gary Fisher, with more than 30 years of fishing experience, did not recognize the unusual fish and preserved it for identification. The frozen specimen was brought to the Northwest Atlantic Fisheries Centre, St. John's, Newfoundland and Labrador, for identification. The specimen is preserved in the Canadian Museum of Nature, Ottawa under CMNFI 2010-0034.

The specimen (Figure 2) is 25.4 cm in length (with the caudal peduncle and caudal fin lost, these parts estimated from illustrations to be about 28% of length, giving an approximate total length of about 35.5 cm). Literature records give 42.5 cm TL and 2.0 kg as maxima.

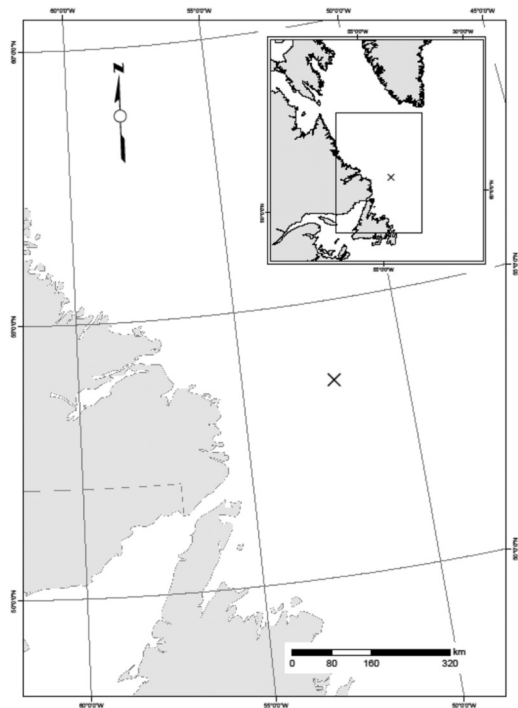


FIGURE 1. Distribution of the Warty Dory in the Labrador Sea at 53°33.31'N, 52°11.29'W.

The specimen is identified by having such generic characters as a predorsal profile not rising sharply before the dorsal fin, the pelvic fin origin at mid-belly with 6-7 soft rays and a spine not reaching the anal fin origin, and irregular rows of enlarged scales on the belly between the pectoral and pelvic fins. Species characters include strongly ctenoid scales, two rows of enlarged, horizontal belly scales, and distribution in respect to related species.

The fish has the following meristics and morphometry which agree with literature descriptions: Dorsal



FIGURE 2. Warty Dory, *Allocyttus verrucosus*, ca. 35.5 cm. CMNFI 2010-0034.

fin spines 7 (5-8 in literature), dorsal fin soft rays 25 (28-33; but the specimen is damaged at the end of the fin and the count is incomplete), anal fin spines 3 (2-3), anal fin soft rays 29 (26-31), pectoral fin branched rays 18 (17-21), pelvic fin branched rays 6 (6-7), total gill rakers 25 (24-28), and lateral line scales not countable because lost caudally (83-91).

The body is deep and compressed, rhomboidal in shape, with the predorsal profile straight to slightly convex, and not rising sharply to the dorsal fin. The operculum has bony ridges. The eye is large (45.2 mm bony orbit, longer than both the snout and the postorbital distance), the protrusible mouth is large and oblique, the upper jaw is longer than the snout, and jaws bear small conical teeth. Scales are firmly attached and ctenoid, and are also found on the cheek. The bases of the soft dorsal and anal fins bear slightly enlarged scales, with strong ctenii. Two irregular, horizontal rows of enlarged scales lie on the belly between the pectoral and pelvic fin levels, the lower row extending back to the anal fin level. The upper row has 3 obvious enlarged scales and the lower row 10 scales. The lateral line is wavy at mid-body and is arched anteriorly over the pectoral fin and opercular region. It is interrupted over the anterior anal fin level, beginning again 4 scale rows lower down on the midline of the body. The first dorsal fin spine is short with the second spine the longest. Overall colour is brown with black gill membranes, gill cavity and peritoneum. Fin membranes are black and fin rays light. Scales are paler in their centre with margins darker.

Range extensions for deep-sea fishes are not unexpected as fishery operations move into deeper waters not extensively sampled by research vessels. Deeper waters have fairly stable temperature and salinity lev-

els which facilitate world-wide distributions. The most dramatic evidence of this was the recent discovery of a Patagonian Toothfish (*Dissostichus eleginoides*, a member of the mainly Antarctic Notothenioidae) found off Greenland (Møller et al. 2003). Commercial fishing operations can make valuable contributions to our knowledge of Canadian fish biodiversity and fishery crews are encouraged to preserve unusual specimens for study and deposition in a museum.

Acknowledgements

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Literature Cited

- Carpenter, K. E., *Editor*. 2002. The living marine resources of the western central Atlantic. Volume 2: bony fishes part 1 (Acipenseridae to Grammatidae). Food and Agriculture Organization, Rome. vii + 602-1373.
- Coad, B. W., H. Waszczuk, and I. Labignan. 1995. Encyclopedia of Canadian Fishes. Canadian Museum of Nature, Ottawa and Canadian Sportfishing Productions, Waterdown, Ontario. viii + 928 pages. 128 colour plates.
- du Buit, M.-H., and J.-C. Quérou. 1993. Premier signalement en Atlantique nord-est, d'*Hoplostethus cadenati* (Beryciformes, Trachichthyidae) et d'*Allocyttus verrucosus* (Zeiformes Oreosomatidae). *Cybium*, 17(1): 81-82.
- Gomon, M. F., J. C. M. Glover, and R. H. Kuiter. 1994. The Fishes of Australia's South Coast. State Print, Adelaide. 992 pages.
- James, G. D., T. Inada, and I. Nakamura. 1988. Revision of the oreosomatid fishes (family Oreosomatidae) from the southern oceans, with a description of a new species. *New Zealand Journal of Zoology* 15: 291-326.
- FAO Fisheries Department. 1994. World review of highly migratory species and straddling stocks. Food and Agriculture Organization, Rome, Fisheries Technical Paper. 337: 70 pages.
- Møller, P. R., J. G. Nielsen, and I. Fossen. 2003. Fish migration: Patagonian toothfish found off Greenland. *Nature*, 421: 599.
- Scott, W. B., and M. G. Scott. 1998. Atlantic Fishes of Canada. Canadian Bulletin of Fisheries and Aquatic Sciences 219. 731 pages.
- Smith, M. M., and P. C. Heemstra. 1988. *Smiths' Sea Fishes*. MacMillan South Africa. Johannesburg. 1047 pages.

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