

Papéis Avulsos de Zoologia

THE FIRST RECORD OF *TRACHIPTERUS* IN THE ATLANTIC COAST OF SOUTH AMERICA (PISCES, TRACHIPTERIDAE)

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Two large specimens of a "very strange fish" were brought to the Instituto de Pesca da Secretaria da Agricultura at Santos, São Paulo, by the fishermen of the boat "Eliete III". According to the fishermen, the fishes were caught about 200 miles from the coast of the State of Rio de Janeiro, on longline gear 80 meters below the surface. Realizing they had a rare fish, the Instituto de Pesca sent one specimen to the collection of this Museum (MZUSP 8013) to be identified.

Upon examination, the specimens seem to belong to the species *Trachipterus nigrifrons* described by Smith (1956) from East London, South Africa. The present occurrence is of great interest because it represents the first record of the genus in Eastern South America and the first record of the species in Atlantic waters. The way the fishes were captured, on the other hand, provides additional data to the knowledge of the natural history of the species of this widely distributed genus.

The specimen now deposited in our collection is in fairly good condition except for the pectoral and dorsal fins, which are slightly damaged, and for the caudal fin, broken near the base. The specimen at the Instituto de Pesca arrived without a large portion of the tail. Both are ripe adult females.

In body shape and other morphological characters our examples agree well with Smith's description although minor differences can be detected. He gives a total of about 170 dorsal rays, 1 tooth on the vomer, 1 tooth on the palatine and 3+8 gill rakers. We found 184 rays, 1-2 teeth on the vomer, 0-2 teeth on the palatine, and 3-4 + 7-9 gill-rakers (table 1). The ground color of our specimens (preserved in formalin) is light brown, contrasting with the small white dots of the skin bony tubercles. There are several black oval shaped blotches distributed along both sides of the fishes (Fig. 1) but these do not seem to be natural marks. A close examination of each "blotch" reveals that the skin in this region is modified, without bony tubercles, probably due to local abrasion. I am inclined to believe that these "blotches" are marks left by the sucking discs of remoras. In some of the "blotches" vestiges of discal laminae of the sucking discs can be almost surely identified. Smith does not mention such marks and refers to his specimen as being yellowish. The most distinguishing color feature of *T. nigrifrons* is what Smith describes as "A jet black acutely triangular area with apex at the base of the dorsal, broadening forwards over the interorbital to snout tip, covering the whole of

the front of the head, also the front of the lower jaw". This character is quite obvious in our specimens.

Counts and measurements of the two specimens are given in table 1. Data of Smith's specimen were introduced for comparison. The differences in some characters (dorsal rays, teeth and gill rakers) we found comparing our specimens with Smith's are probably irrelevant. Counts of rays and teeth are difficult to make in specimens of *Trachipterus* due to the fragility of these structures, which rarely arrive in the laboratory intact. The figures of these counts given by many authors are estimates of the real numbers. These and other characters seem to vary within the species. A simple look at table 1 reveals differences between two examples of the same species, which being collected at the same time and in the same locality, undoubtedly belong to the same breeding population.

Table 1: Counts and measurements (mm) of the known specimens of *Trachipterus nigrifrons* (Smith). Smith's metric data recalculated from percentage body proportions. (a) MZUSP 8013 (b) specimen at the Instituto de Pesca (c) Smith's specimen.

	a	b	c
dorsal rays	184	-	170
pectoral rays	15	14	-
gill rakers (left side)	3+9	4+7	3+8
gill rakers (right side)	3+9	3+7	3+8
teeth (upper jaw)	10-12	10-12	12
teeth (lower jaw)	10	-	10
teeth on vomer	2	1	1
teeth on palatine	2	-	1
length	2190	-	1210
head length	300	270	133.1
depth (at nape)	310	280	-
interorbital width	50	54	24.2
orbital diameter	90	81	31.4
snout length	120	110	48.4
maxillary length	100	105	43.5
maximum maxillary width	60	60	26.6
predorsal length	240	270	-
caudal peduncle depth	10	-	-

Examination of the literature shows that the only other species recorded from the Western Atlantic is *Trachipterus trachyurus* Poey, known from the type, caught off Cuba, and from another specimen taken off Florida in 1952 (Palmer, 1961: 328). Poey's species, however, differs from *T. nigrifrons* in having only 82 dorsal rays and a well developed ventral fin.

Early descriptions of trachipterids were mostly based on specimens found dead on the beach. This led many authors to think these creatures were inhabitants of the deep-sea which, occasionally reaching the surface in bad conditions, would be

washed by the waves on the beaches. This idea has changed and recent publications have brought new data on the natural history of many species. Walters (1963: 260) says that the natural environment of the trachipterid fishes is the mesopelagic and upper bathypelagic regions of the sea and Fitch (1964: 228) points out that in the Eastern Pacific Ocean many individuals are captured at night in purse seines together with pelagic species, or caught in otter trawls or still brought in by albacore trollers. He suggests for *T. fukuzakii* a diurnal migration since individuals which probably live at depths of 500 to 1,000 feet (found in the stomachs of deep-sea tunas) are taken by purse seines at night. Our fishes, as mentioned before, were caught with longline on hooks baited with salted sardines at day-time at depths of 80 meters, thus indicating they were active when fished. This and the vestiges left by the remoras strongly suggest that they are epipelagic fishes living in the upper layers of the ocean. Smith's specimen was found on the beach, near East London, in waters of the Indian Ocean adjacent to Atlantic waters. The occurrence of two specimens of the same species in Brazilian waters, indicates that *T. nigrifrons* is able to migrate through the South Atlantic.

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Est. 1: *Trachipterus nigrifrons* Smith (MZUSP 8013). Scale: 1 meter.

