Himantolophid fishes from Chile (Pisces: Lophiiformes)

Peces himantolófidos en Chile (Pisces: Lophiiformes)

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RESUMEN

Tres especies de peces himantolófidos se registran para las costas de Chile. *Himantolophus groenlandicus* Reinhardt, 1837 e *Himantolophus sagamius* (Tanaka, 1918), ambas incluidas en el grupo de especies de *Himantolophus groenlandicus* se registran para la costa norte de Chile. *Himantolophus appelii* (Clarke, 1878) recolectado en aguas del sur de Chile se registra por primera vez para el Pacífico suroriental.

Palabras clave: *Himantolophus*, Pacífico suroriental, zoogeografía.

ABSTRACT

Three species of Himantolophid fishes are recorded from Chile. *Himantolophus groenlandicus* Reinhardt, 1837, and *Himantolophus sagamius* (Tanaka, 1918), both belonging to the *Himantolophus groenlandicus* species group are recorded from the northern area off Chile for the first time. One specimen of *Himantolophus appelii* (Clarke, 1878) captured off southern Chile, is the first record of this species from southeastern Pacific.

Key words: *Himantolophus*, southeastern Pacific, zoogeography.

INTRODUCTION

To the many species of oceanic, mid water and continental slope fishes from off Chile which have been recorded in the last 10 years (e.g. Nakamura 1986, Kong *et al.* 1988, Markle & Meléndez 1988, Stein *et al.* 1991, Kong & Meléndez 1991, etc.), three species of the Family Himantolophidae are here added. Pequeño (1989), has presented a new check-list of fishes from Chile, including a doubtful record of *Himantolophus groenlandicus* ?, from southern Chile. In 1984, one of us (IKU) received from local fisherman, a rare fish, not in good shape, which later turned out to be an himantolophid fish. In 1986, another specimen from southern Chile was captured and sent to the Chilean National Museum of Natural History, and was the base for the record by Pequeño (1989). Finally, in 1990, we got from off the Coquimbo bay area another himantolophid fish.

Bertelsen & Krefft (1988), presented a detailed world wide revision of the Himantolophidae, in which they described ten new species, and divided the known species in the following four groups, *H. groenlandicus*, *H. appelii*, *H. nigricornis*, and *H. albinaris*. Their only records of himantolophids from the southeastern Pacific Ocean are two specimens of *H. sagamius* (Tanaka, 1918) found in stomach of sperm whales caught off Ecuador. In discussion of the distribution of the Family, Bertelsen &

Krefft (1988:82), noted that this lack of information "...might be due to the relatively low relevant activity in this area...". However, Chirichigno (1968) reported one specimen of *H. azurlucens* Beebe & Crane, 1947 from a stomach content of a sperm whale captured off Paita, Northern Perú.

This paper reviews the Himantolophid fishes from Chile, and adds three new records of these fishes from the Southeastern Pacific Ocean.

METHODS

We follow Bertelsen & Krefft (1988) for abbreviations, measurements and meristics methods. Institutional acronyms follow Leviton *et al.* (1985).

RESULTS

Key to the adults females of species of *Himantolophus* from Chile (based on Bertelsen and Krefft 1988).

1a.- Anterior appendage (aa) present.....2

1b.- Anterior appendage absent.....*H. appelii*

2a.- Distal appendage (da) longer than 6.2 % SL in specimen longer than 100 mm SL.....*H. sagamius*

2b.- Distal appendage less than 4.2 % SL in specimen longer than 100 mm SL.....*H. groenlandicus*

Himantolophus appelli (Clarke, 1878)(Fig.1).

Synonyms only for Chilean records:

Himantolophus groenlandicus? (not of Reinhardt, 1837): Pequeño, 1989:43 (check-list)

Material examined. MNHNC P. 6671, a single female, 305 mm SL, 55° 53'-55° 36' S; 70° 20'-70°26'W; off Cook Island, Chile, 16 May 1986, 294-305 m depth, F/V Akebono Maru 75. Luis Contreras coll.

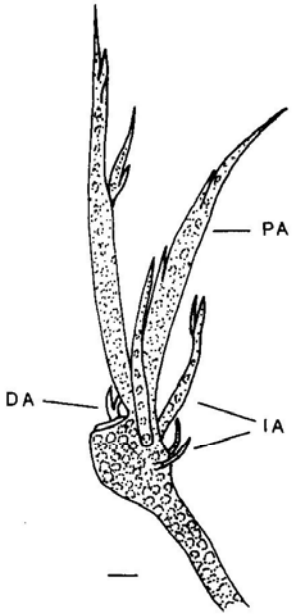

Figure. 1. *Himantolophus appelii,* (Clarke, 1878).esca in lateral view. MNHN P 6671. (DA: distal appendage. IA: Illicial or escal appendages. PA: posterior escal appendages) (bar = 5mm).

Description. Distal appendage 2.5 % SL, illicial stem 24.6 % SL, escal bulb length 5.1 % SL, escal bulb maximum diameter 4.1 % SL. Anterior appendage absent. Posterior escal appendage bifurcating near base, diameter of the branches 1.8 % SL, with two sidebranches on each main branch, each one with at least one or two transparent tips.

Distal parts of posterior escal appendages with three transparent tips. Distal appendages bifurcating near base, with two opposite sidebranch on half way of each main branch, and transparent tips distally. Base of distal appendage surrounded by 4 plain, not fleshy escal lobes. Four appendage at the base of the escal bulb, the upper two the largest 8.8 % SL. No illicium stem appendage. Papillae present on snout and chin. Body covered laterally and ventrally with dermal spines, more than 30 on each side of the body, 5-6 spines on each pectoral lobe. Body mainly gray, mouth and frontal area dark brown. D 5, A 4, P 16.

Distribution. According to Bertelsen & Krefft (1989), *H. appelii* is known only from the southern parts of the Atlantic, Indian and Western Pacific Oceans, between 27° and 43°S. Our record confirm the presence of *H. appelii* in the Southern Subtropical Convergence as was expected by Bertelsen & Krefft (1989) for the eastern area of the Southern Pacific Ocean, and extend the latitudinal range to 55°S, for this species.

Comments. This is the only known species of the *H. appelii* species group. Even though our specimen show the differences noted below from the diagnosis and description given by Bertelsen & Krefft (1988), based on 35 females, 20-300 mm SL, we believe that these differences are not of specific order but represent a greater intraespecific variation than previously observed. 1) The posterior appendage in our specimen is divided near base (vs "at base" acc. to Bertelsen & Krefft, 1988) in two stout main-branches but is clefted far deeper than in any member of the *H. groenlandicus* species group. 2) The distal appendages are shorter than in any of the large *H. appelii* listed by Bertelsen & Krefft (1988), and 3) the swelling surrounding distal appendages is divided in four lobes (vs "not distinctly divided in lobes" acc. to Bertelsen & Krefft 1988) but not as pronounced as in the members of the *H. groenlandicus* group.

Himantolophus groenlandicus Reinhardt, 1837.

Material examined. MNHNC P. 6847 , a single female, 340 mm SL, 23° 00'S, 70° 25' W, off Mejillones, Chile, captured near surface by commercial vessel, 6 June 1984.

Description. Illicial length 33.3 % SL, illicial stem 27.7 % SL, escal bulb length 5.5 % SL. Distal escal appendages small 1.2 % SL, no sidebranches, no transparent tips, same width in the whole length. All other escal appendages tapering with transparent, unpigmented tips. Anterior escal appendage simple, its length 26.0 % SL. Posterior escal appendage single, not bifurcating. Base of the escal bulb with two pairs of illicial appendages, those of the upper pair bifurcated, the external branch the largest 32.4 % SL, the lower pair simple. Dermal spines present on the body, six on pectoral lobe. Papillae on snout and chin. Body completely blackish. D 5, A 4, P 17.

Distribution. Bertelsen & Kreft (1988), indicated that *H. groenlandicus* is distributed in the Atlantic Ocean, and there is a possible record in the western Indian Ocean. Our record off the northern coast of Chile is the first to this species for this area.

Comments. Bertelsen & Kreft (1988), assumed that *H. sagamius* is the only species of the *H. groenlandicus* group to be found in the Pacific. However, our specimen fits the description given by Bertelsen & Kreft (1988) for *H. groenlandicus*, mainly in the length of the distal escal appendage 1.2 % SL., which is also the main character used by the above authors in distinguishing specimens

longer than 100 mm SL, from *H. sagamius*. Our record indicates that *H. groenlandicus* may have a world wide distribution rather than the distribution restricted to the Atlantic Ocean assumed by Bertelsen & Krefft (1988). More material from the Pacific Ocean is needed to examine the possibility that the characters by which *H. sagamius* is distinguished from *H. groenlandicus* might in fact represent only intraespecific variation within the latter species, as previously assumed by Regan (1926:41) and Bertelsen (1951:58).

Himantolophus sagamius (Tanaka, 1918)

Material examined. MNHNC P. 6848, a single female, 111 mm SL. off Coquimbo (29° 57'S; 71° 22'W), 1991.

Description. Esca with anterior appendage 14.8 % SL, distal appendage 6.3 % SL, posterior appendage 11.7 % SL, illicial length 44.4 % SL, illicial stem 36.1 % SL, diameter of escal bulb 8.7 % SL. Anterior appendage well developed, simple with transparent tip. Distal appendages bifurcating near base, each branch with opposite sidebranch with transparent tips, distally ended in two laterally transparent tips. Posterior appendage not bifurcating with transparent tip. Three pairs of illicial stem appendages. The upper pair the largest, with one sidebranch. The lower two pairs not ramificated, the lowest one the shorter, all of them with transparent tips. Base of distal appendage surrounded by four blunt distal lobes. Papillae present mainly above the mouth. Body covered with dermal spines, mainly on the trunk, with 16 to 20 spines on each side, and three or four spines on pectoral fin base. Body mainly gray, with darkest areas around the mouth, nasal and frontal bones, and caudal peduncle. D 5, A 4, P 19.

Distribution. According to Bertelsen & Krefft (1988), *H. sagamius* is found on both sides of the North Pacific, and off Ecuador in the Southeastern Pacific. Our record is the first of this species to Chilean waters, and extend its range in the Eastern South Pacific.

Comments. Bertelsen & Krefft (1988), resurrected *H. sagamius*, which was included in the *H. groenlandicus* group. The same authors noted that the only observed difference from *H. groenlandicus* is the relative length of distal appendages, being greater in *H. sagamius* for specimens longer than 100 mm. Our specimen, 111 mm SL, have a distal appendage 6.3 % SL, which is the same value of specimen LACM 43760 examined by Bertelsen & Krefft (1988). Our specimen shows some differences from both species in lengths and branching of other appendages but they probably represent the variability already showed by the above mentioned authors. This new record in the Southeastern Pacific appears to support the resurrection of *H. sagamius* by Bertelsen & Krefft (1988).

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