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Short Communication

New data on *Nicholsina denticulata* (Evermann & Radcliffe, 1917) (Scaridae, Labroidei) in southeastern Pacific

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ABSTRACT. Description of a specimen of *Nicholsina denticulata* (Evermann & Radcliffe, 1917) (Scaridae, Labroidei) captured in the north of Chile. The information is compared with data presented by previous authors. The distribution of the species in the southeastern Pacific is discussed.

Keywords: *Nicholsina denticulata*, new record, Chile, southeastern Pacific.

Nuevos antecedentes sobre *Nicholsina denticulata* (Evermann & Radcliffe, 1917) (Scaridae, Labroidei) en el Pacífico suroriental

RESUMEN. Se describe un ejemplar de *Nicholsina denticulata* (Evermann & Radcliffe, 1917) (Scaridae, Labroidei) capturado en el norte de Chile. La información es comparada con datos presentados por autores previos y se discute su distribución en el Pacífico suroriental.

Palabras clave: *Nicholsina denticulata*, nuevo registro, Chile, Pacífico suroriental.

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The species of the family Scaridae were reviewed by Schultz (1958, 1969), for which Schultz (1969) established the subfamilies Scarinae and Sparosomatidae. Bellwood (1994) presented a generic revision of the family. The species of the eastern Pacific Ocean were reviewed by Rosenblatt & Hobson (1969) and Bellwood (2001). Kaufman & Liem (1982) proposed a new arrangement of the suborder Labroidei, considering Scaridae and Odacidae as part of Labridae. However, Labridae is apparently a natural group (Liem & Greenwood, 1981), with many gaps in its relationship with other fish groups, without a clear justification for a subfamily rank of the Scaridae (Bruce & Randall, 1985). The phylogenetic study of Bellwood (1994) is concordant with this opinion.

The present report is the first of the family Scaridae for the continental coast of Chile, with the description of a specimen of *Nicholsina denticulata* (Evermann & Radcliffe, 1917) captured in the north of Chile and extending its known southern distribution range from 5°S (type locality) to 20°S (Iquique).

The measurements and counts follow Hubbs & Lagler (1958). The following measurements were taken: Tl, total length; Stdl, standard length; Hl, length of head; Sl, length of snout; Ml, length of the maxillary; Ed, anteposterior eye diameter; Id, interorbital distance; L1stds, length of the 1st dorsal spine; L3rd as, length of the 3rd anal spine; Ldr, longest dorsal ray; Lar, longest anal ray; Bw, maximum body width; Bthick, maximum body thickness; Pal, preanal distance; Ppl, prepelvic distance; Pdl, predorsal distance; Lpel, length of pelvic fin (right fin); Lpec, length of pectoral fins (right fin); Lc length of caudal fin. For the ray counts of the fins the following abbreviations were used: C, caudal; D, dorsal; PEC, pectoral; PEL, pelvic and A, anal fin. The description follows Bruce & Randall (1985).

One specimen (282 mm Tl) captured by spear fishing at 10 m depth in a rocky shore habitat, at Playa Blanca: south of Iquique, northern Chile (20º20'S, 70º09'W) 27.08.2000, Willy Cotton col. The specimen was deposited with number MUAP(PO)-0902 in the Zoological Collection of the Marine Science Department of the Universidad Arturo Prat, Iquique, Chile.

Diagnostic characters

The genus is distinguished by the presence of a narrow free fold across the isthmus, flexible dorsal spines and

incisor-like teeth at front of both jaws (Bruce & Randall, 1985). *Nicholsina denticulata* (Evermann & Radcliffe, 1917) is distinguished by its typically dark colour pattern from the Atlantic distributed species *Nicholsina usta* (Valenciennes, 1940) (*in* Cuvier & Valenciennes, 1840) (Schultz, 1958). The body of this species is greenish (especially on the dorsum) or pinkish (especially on the venter). The bottom of the head is yellow. It features two reddish bands from the eye to the corner of the mouth. The vertical fins are reddish and the base of the front dorsal fin has a black spot. Two subspecies are recognized: *N. usta usta* (Valenciennes, 1840) from the western Atlantic and *N. usta colettei* Schultz, 1968 from the eastern Atlantic (Schultz, 1968).

Description

D IX, 10, the first spine is the longest; A III, 9; pectoral 12; C 8+7; dorsal spines weak and projecting the membrane; the posterior angle of the dorsal fin, pelvic and pectoral fins rounded; the last ones very broad. Caudal fin with a convex distal margin.

On the checks, under the eye an irregular series of 4 scales; lateral line with 27 perforated scales, extending along the second scale series (count top down); at the level of the last two dorsal rays the lateral line curves down to the central part of the caudal peduncle and extends to the base of the caudal fin. In a longitudinal series 22 big cicloid scales are counted.

Across the isthmus a narrow free fold. The branchial spines of the first arch are short, pointed, some of them with small ramifications; 6 on the inferior branch and 5 on the superior branch. Mandibular teeth fused in a plate with cusps arranged in an imbricate form; teeth of upper jaw not fused, conical and in a single series (Fig. 1). Palate toothless.

When fresh, the specimen was in general very dark brown with red on the posterior base of the pectoral; branchiostegal membrane, inferior parts of the chins and isthmus redbrown. The membrane of the caudal fin is red and rays contrastingly dark brown. Anal, pectoral and ventral fins dark and uniform. No noticeable strips or borders were observed on the fresh specimen. Also on the head and especially around the eyes, no radial strips are visible. The fixed specimen has grayish colors (Fig. 2) and is shown from its right side because the usually left side view is damaged by spear fishing.

The specimen has the following measurements (mm): Tl 282; Stdl 242; Hl 73.6; Ed 10.4; Id 19.7; L1std 26.7; L1stds 34.7; L3rdas 26.5; Lar 31.0; Alt 86.6; Bthick 41.3; Pal 145.3; Ppl 72.2; Pdl 82.8; Pel 42.0; Lpec 46.2; Lc 42.7.

Figure 1. Dentition of specimen MUAP(PO)-0902 from Playa Blanca, Iquique.

Figure 2. General appearance of specimen MUAP(PO)-0902 from Playa Blanca, Iquique (242 mm Lstd) from its right side (left side damaged by spear-fishing).

The specimen showed the following proportions: maximum Bw 2.79 in Stdl; Bthick 2.1 in Bw; Hl 3.3 in Stdl; Sl 2.6 in Hl; Ed 7.07 in Hl; Id 3.74 in Hl; L1stds 2.76 in Hl; Ldr 2.12 in Hl; L3rdas 2.78 in Hl; Lar 2.37 in Hl; Lc 1.72 in Hl; Lpec and Lpel respectively 1.48 and 1.75 in Hl; Pdl, Pal and Ppl respectively 3.05, 1.74 and 3.5 in Lstd.

Distribution

Nicholsina denticulata is known from Peru: Lobos de Afuera Island (Evermann & Radcliffe, 1917), Lobos de Tierra, Don Martín and North Chincha Islands (Hildebrand, 1946) to gulf of California: Guaymas (Schultz, 1958). *Xenoscarrus hubbsii* Harry, 1950 described from Guaymas: Sonora, is the juvenile phase of *Nicholsina denticulata* (Schultz, 1958) and represents its northern distribution range in the gulf of California. The present specimen extends the known southern distribution range to Iquique (20°12'S).

The genus *Nicholsina* Fowler, 1915 is first established as a subgenus of *Cryptotomus* Cope, 1851 and later considered at a generic level by Schultz (1958).

The following nominal species were included by Fowler (1915) and Schultz (1958) in the genus: *Cryptotomus beryllinus* Jordan & Swain, 1861, *Scarus dentiens* Poey, 1861, *Calliodon retractus* Poey, 1868, *Callyodon ustus* Valenciennes, 1840, *Xenoscarus denticulatus* Evermann & Radcliffe, 1917 and *Xenoscarus hubbsi* Harry, 1950.

Following Schultz (1958) the last two are of Pacific distribution and considered to be the same species: *Nicholsina denticulata* (Evermann & Radcliffe, 1917) and the other species, all of Atlantic distribution, are considered to be conspecific with *Nicholsina usta* (Valenciennes, 1840).

Other genera of Sparosomatinae recognized by Norman (1957), Schultz (1958, 1969) and Bruce & Randall (1985) are *Calotomus*, *Cryptotomus*, *Sparisoma*, *Leptoscarus* and *Nicholsina*.

In the east Pacific *Calotomus* is only represented by *C. carolinus* (Valenciennes, 1840) (see: Bruce & Randall, 1985), the widest ranging species of the genus and distributed from east Africa to the Revillagigedo Islands off Mexico, including the Hawaiian and Pitcairn Islands (Bruce & Randall, 1985). Rosenblatt & Hobson (1969) also reported this species from the gulf of California and Masuda *et al.* (1975) from the coast of south Japan.

The records of *Calotomus viridescens* (Rüppell, 1835) from the Galapagos Islands by McCosker *et al.* (1978) and *Calotomus sandvicensis* (Valenciennes, 1840) from Hawaii by Gosline & Brock (1960) were considered to be misidentifications of *C. calotomus* (see Bruce & Randall, 1985).

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REFERENCES

Bellwood, D.R. 1994. A phylogenetic study of the parrotfishes family Scaridae (Pisces: Labroidei) with a revision of genera. Rec. Austr., Mus., Suppl., 20: 1-84.

Bellwood, D.R. 2001 Scaridae. Parrotfishes. In: K.E. Carpenter & V. Niem (eds.). FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific (Labridae to Latimeriidae), estuarine crocodiles. FAO, Rome, (4)6: 3468-3492.

Bruce, R. & J. Randall. 1985. Revision of the Indo-Pacific parrotfish genera *Calotomus* and *Leptoscarus*. Indo Pacific Fishes Bernice Pauahi Bishop Museum, Honolulu, 5: 1-32.

Evermann, B. & L. Radcliffe. 1917. The fishes of the west coast of Perú and the Titicaca Basin. Bull. U.S. Nat. Mus., 95: 1-166.

Fowler, H. 1915. The genus *Cryptotomus* Cope. Copeia, 14: 3.

Gosline, W.A. & V.E. Brock. 1960. Handbook of Hawaiian fishes. University of Hawaii Press, Honolulu, 371 pp.

Hildebrand, S.F. 1946. A descriptive catalogue of the shore fishes of Peru. Bull. U.S. Nat. Mus., 189: 1-530.

Hubbs, C.L. & K.F. Lagler. 1958. Fishes of the Great Lakes Region. Cranbrook Institute, Sci. Bull., 26: 1-213.

Kaufman, L.S. & K.F. Liem. 1982. Fishes of the Suborder Labroidei (Pisces, Perciformes): phylogeny, ecology and evolutionary significance. Breviora, 472: 1-19.

Liem, K.F. & P.H. Greenwood. 1981. A functional approach to the phylogeny of the pharyngognath teleosts. Am. Zool., 21: 83-101.

Masuda, H., C. Araga & T. Yoshino. 1975. Coastal fishes of southern Japan. Tokai University Press, Tokyo, 382 pp.

McCosker, J.E., L.R. Taylor & R.R. Warner. 1978. Ichthyological studies at Galapagos. Notic. Galapagos, 27: 13-15.

Norman, J.R. 1957. A draft synopsis of the orders, families and genera of recent fishes and fish-like veretebrates. Brit. Mus. (Nat. Hist.) London, 649 pp.

Rosenblatt, R.H. & E.S. Hobson. 1969. Parrotfishes (Scaridae) of the eastern Pacific, with a generic rearrangement of the Scarinae. Copeia, 3: 434-453.

Schultz, L.P. 1958. Review of the parrotfishes family Scaridae. Bull. U.S. Natl. Mus., 214: 1-143.

Schultz, L.P. 1968. A new subspecies of parrotfish, *Nicholsina ustus collettei*, from the Eastern Atlantic Ocean. Proc. U.S. Nat. Mus., 124: 1-5.

Schultz, L.P. 1969. The taxonomic status of the controversial genera and species of parrotfishes with a descriptive list (family Scaridae). Smithson. Contrib. Zool., 17: 1-49.

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