

## Description of a new weakfish, *Cynoscion nortoni*, from Ecuador with a note on the distribution of *Umbrina bussingi* (Perciformes: Sciaenidae)

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**Abstract:** A new sciaenid was found at a fish market on the Ecuadorian coast. *Cynoscion nortoni*, described from 11 specimens, is characterised by a relatively large eye, a long head and pectoral fin, a high dorsal fin-ray count and a dark, steel grey colour on its dorsum. The specimens were captured over the continental shelf with a long line at depths between 100 and 200 meters. Another deep water species, *Umbrina bussingi*, is recorded for the first time from southern Colombia.

**Key words:** Sciaenidae, *Cynoscion nortoni*, *Umbrina bussingi*, Ecuador, Colombia, Eastern Pacific, New species.

The cosmopolitan family Sciaenidae is most diverse in the Eastern Pacific (Chao 1986, Sasaki 1989), represented by about 25 genera and 90 species. Amongst these, the new world endemic genus *Cynoscion* comprises 11 species which are distributed from California to Chile.

A new species that clearly belongs to the genus *Cynoscion* Gill, 1861 has been found. Following Chao's (1978, 1986) criteria, it has a swim bladder with two anterior horn-like appendages, an elongate oval sagitta, a lower jaw without obvious pores or barbels, and an upper jaw with one or two large canines.

All specimens were collected from the Puerto López fish market at Manabí, Ecuador. The first one was found on 19 July 1994 (Béarez 1996a: 31). All other specimens were found in May 1999.

Another sciaenid, *Umbrina bussingi* López 1980, was previously known from Panama to Baja California to the north. The present paper reports a record that extends its known distribution to the south by at least 700 km.

### MATERIAL AND METHODS

Fourteen specimens of a new species of *Cynoscion* and one specimen identified as *Umbrina bussingi* have been examined. All the types have been deposited in museums' established collections: the holotype and seven paratypes in the Muséum national d'histoire naturelle (MNHN, Paris, France), one paratype in the California Academy of Sciences (CAS, San Francisco, U.S.A.), one in the National Museum of Natural History

(NMNH, Washington D.C., U.S.A.) and one in the Museum of Comparative Zoology (MCZ, Cambridge, U.S.A.). The methodology used for counts and measurements follows Hubbs & Lagler (1958). Pored lateral-line scales were counted from the upper end of the gill slit to the end of the hypural plate. Vertebral counts were determined from holotype radiograph and from prepared skeletons. The urostylel centrum was included in counts (Chao 1978).

*Cynoscion nortoni*, new species

(Fig. 1)

**Holotype:** MNHN 99-0961, 260 mm SL (standard length). Fish market at Puerto López, Manabí, Ecuador (1°33'S, 80°49'W), taken between 100 and 200 m with longline, 28 May 1999.

**Paratypes:** MNHN 99-0962, 250 to 293 mm SL; MCZ 156126, 280 mm SL; USNM 357280, 303 mm SL; CAS 208889, 272 mm SL. All collected with the holotype.

**Additional material:** Three complete skeletons; one is kept in the Presley Norton Foundation collection (Salango, Manabí, Ecuador) under the number 6533

(1994), the two others are kept in the author's collection under the number 6714 and 6756 (1999).

**Diagnosis:** A moderate sized *Cynoscion*, the largest specimen is 353 mm TL. *Cynoscion nortoni* can be distinguished from its congeners by : a long head contained 2.8 to 3 times in SL, a large eye contained 5.1 to 5.8 times in head length (HL), a low gill raker count, a relatively high number of dorsal-fin rays (23-26), a long pectoral fin contained 1.6 times in HL, a dark steel grey colour on its dorsum and a black pigmented oral cavity.

**Description:** Body elongate, moderately compressed, oval in transverse section. Maximum depth 3.8 to 4.6 in SL. Head long, 2.8 to 3 in SL. Snout length 3.7 to 4.1 in HL. Eye diameter smaller than snout length, 5.1 to 5.8 in HL (cf. Table 1). Snout without slits and pores. Mouth terminal, slightly oblique. Lower jaw only just projecting beyond upper jaw and without barbel.

Teeth in two or three rows, canine-like, becoming larger to rear in lower jaw. One or



Fig. 1. *Cynoscion nortoni*, new species, holotype MNHN 99-0961, 306 mm TL, from the Pacific coast of Ecuador.

TABLE 1

Measurements and counts of *Cynoscion rubrus* compared with the other species of *Cynoscion* present in Ecuador and with *C. nanus*. Measurements are expressed in percent of standard length.

	Holotype	Paratypes	<i>C. albus</i>	<i>C. analis</i>	<i>C. nanus</i>	<i>C. piloscephalus</i>	<i>C. squamipinnis</i>	<i>C. strimmarum</i>
Standard length	260 mm	250-303 mm						
Head length	34.6	33.5-36.2	29.8-30.2	29.2-34.5	33.3-38.5	31.8-38.1	21.0-27.0	30.2-30.6
Body depth	23.5	21.8-26.4			20.8-23.3			
Caudal peduncle depth	8.1	7.4-8.4			7.0-8.1			
Snout length	8.8	8.5-9.2			8.1-8.5			
Interorbital distance	7.3	6.5-7.2			6.0-8.5			
Eye diameter (times in HL)	6.7 (5.1)	6.1-6.8 (5.1-5.8)	(6.0-8.5)	(5.0-6.7)	6.7-8.0 (3.0-4.0)	(6.0-8.0)	(5.3-6.3)	(5.8-7.8)
Pectoral length	21.2	21.6-23.2	19.3-19.5	22.6-22.8	24.9-25.2	14.9-19.7	19.3-20.5	13.3-16.1
Dorsal spines	X+1	X-XI+1	IX-X+1	IX-X+1	IX-X+1	IX-X+1	VII-VIII+1	X+1
Dorsal soft rays	23	23-26	19-22	22-24	18-21	20-22	21-23	19-21
Anal spines	II	II	II	II	II	II	II	II
Anal soft rays	9	9-10	8-9	14-15	8-10	10	9	8-9
Pectoral rays	18	17-18	17-18	27-28	16-17	16-17	17-18	
Paired lateral-line scales	55	54-56	54-58	54-63	49-59	60-70	51-61	60-61
Gill rakers in lower limb	6	6-7	8-9	9-11	6-10	7-8	9-10	8-9
Total gill rakers	9	9-11	12-14	15-18	11-15	9-11	12-16	10-12

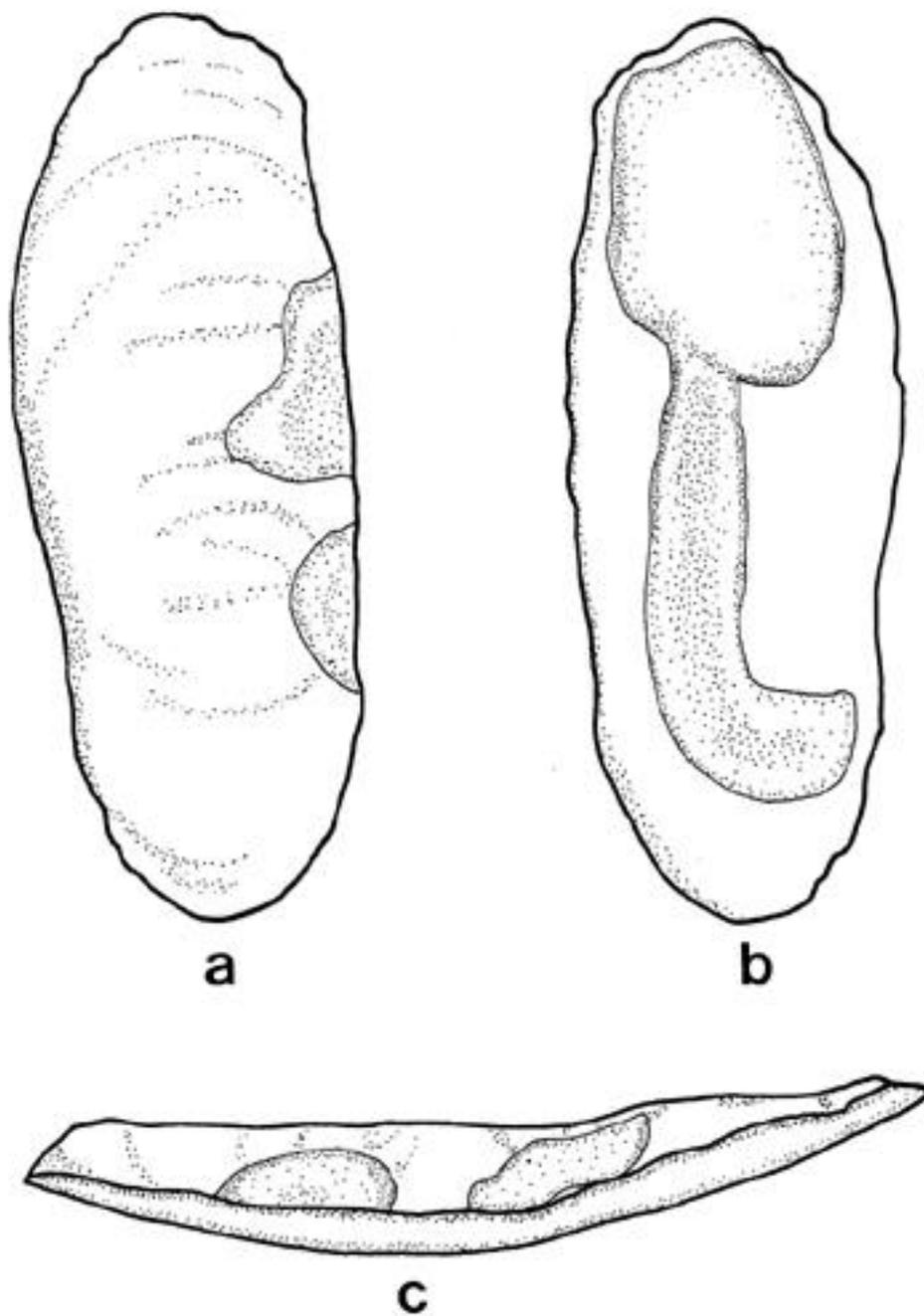


Fig. 2. Left sagitta of *C. nortoni* (# 6714), length = 17.88 mm. External view (a), internal view (b) and dorsal view (c).



Fig. 3. Swim bladder of *C. nortoni* (# 6756).  
Ventral view.

two large canines at tip of upper jaw, clearly oriented to rear. Posterior end of maxillary almost reaching level of rear margin of eye. Preopercle with small and weak spines at margin, soft to touch. Gill rakers poorly developed and in low number (6-7) on lower limb of first arch, total number on first arch: 9-11. Body covered with ctenoid scales, head with cycloid scales. Lateral line softly arched anteriorly with 54-56 pored scales to end of hypural plate, but extending to tip of caudal fin. Eight lateral rows of scales between lateral line and first dorsal spine. Dorsal fin continuous with X-XI+I spines and 23-26 soft rays, third or fourth spine the longest. Anal fin short with II poorly developed spines and 9-10 rays, second spine about one third of first soft ray length. Pectoral fin with 17-18 rays, reaching beyond tips of depressed pelvic fins and almost to base of soft dorsal fin; 1.5 to 1.6 times in HL. Caudal fin truncate, slightly pointed. Interradial membranes of soft dorsal and anal fins with a few basal scales, but without a scaly sheath. Sagittae well developed, thin, elongate and oval in shape (Fig. 2). Vertebral count 25(12+13). Ribs and epipleural ribs very weak. Swim bladder with a pair of stout, horn-like appendages at anterolateral corners of main chamber, projecting anteriorly (Fig. 3). Colour of body uniformly steel grey, darker on back, with iridescent glints when fresh; whiter on belly; no bars or streaks. Tip of lower jaw black. Inside of mouth and gill chamber, as well as tongue, black. Posterior margin of branchiostegal membrane internally white. Pectoral, pelvic, and anal fins whitish; dorsal fin dusky; caudal fin blackish. Axil of pectoral blackish on its dorsal half.

**Distribution and biology:** A species from moderately deep water, between 100 and 200 meters; caught by longline while fishing mainly cusk-eels (*Brotula clarkae*, *B. ordwayi*, *Lepophidium negropinna*) and sand bass (*Paralabrax callaensis*). Other species sometimes captured are speckled scorpionfish (*Pontinus sierra*), sand grunt (*Pomadasyx branicki*), bighead tilefish

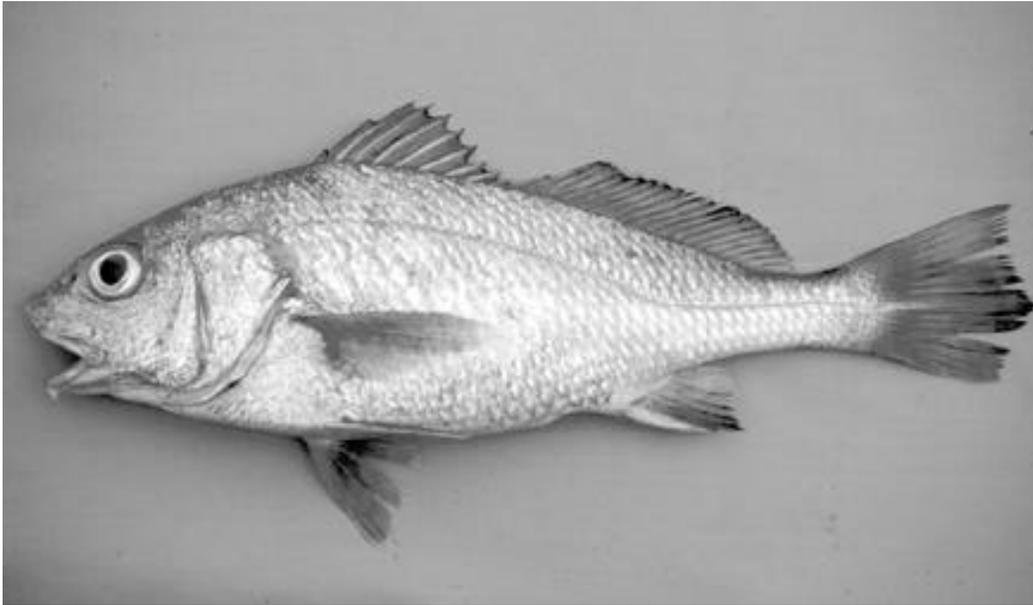


Fig. 4. *Umbrina bussingi* (# 7012), 388 mm TL, from the Pacific coast of south Colombia.

(*Caulolatilus affinis*), mocosa ruff (*Schedophilus haedrichi*), torpedo sand perch (*Diplectrum maximum*), grape-eye seabass (*Hemilutjanus macrophthalmus*), and Peruvian hake (*Merluccius gayi*). *Cynoscion nortoni* does not seem to be common and because of its small size and flabby flesh, it has no commercial value. All specimens examined of *C. nortoni* were collected thus far near Puerto López, Manabí, Ecuador (1°33'S, 80°49'W). One specimen from Paita, Peru (5°06'S, 81°07'W), is kept in the Scripps Institution of Oceanography under the collection number SIO 83-75 (Chao & Walker, pers. com.).

**Etymology:** This species is named after Presley Norton, founder of the Research Centre of Salango, who permitted and encouraged my investigations in Ecuador. The proposed common name is "hake weakfish".

**Remarks:** Among the eleven species of *Cynoscion* in the eastern Pacific, in addition to *C. nortoni*, five can be found in Ecuador (Béarez 1996b): *C. analis*, *C. albus*, *C. phoxocephalus*, *C. squamipinnis* and *C. stolzman-*

*ni*. Their meristic data are given in Table 1. The new species has a larger eye, a higher soft dorsal-ray count and a lower gill raker count than these; it can also be distinguished from *C. analis* by its lower number of anal soft rays. *Cynoscion nannus*, another deep water *Cynoscion*, and probably the most similar to *C. nortoni*, has a bigger head (2.6 to 2.8 times in SL), a bigger eye (4.4 to 5.4 times in HL), a lower soft dorsal-ray count (18-21), a higher number of gill rakers (11-15) and a rounded caudal fin. *Cynoscion reticulatus* has a lower number of pored lateral-line scales and a different colour pattern: brownish wavy streaks on back and a yellowish inside of mouth. The general body colour of *C. nortoni* resembles that of the hake (*Merluccius gayi*): this is why fishermen call it "corvina merluza"; another name is "corvina de altura".

*Umbrina bussingi* López 1980  
(Fig. 4)

**Previous range:** Baja California to Panama; 32 to 290 m (López 1980, Walker & Radford 1992, Chao 1995).

**New records:** One specimen off Tuma-co (Colombia), 1°48'N - 78°46'W, 100 m, 11 July 1998, author's collection number 7012 (skeleton).

**Remarks:** The specimen was captured by fishermen with longline, while fishing cusk eels (Ophidiidae) between 100 and 200 meters deep. It seems to be the biggest known specimen to date. It corresponds to a mature female with the following morphometric data: total length 388 mm, standard length 317 mm, head length 112 mm. Dorsal fin with X+I spines and 21 soft rays. Anal fin with II spines and 7 rays.

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#### RESUMEN

Un nuevo esciéndido fue encontrado en un terminal pesquero de la costa ecuatoriana. *Cynoscion nortoni*, descrito a partir de 11 especímenes, se caracteriza por su ojo relativamente grande, su cabeza y su aleta pectoral largas, su alto número de rayos blandos dorsales y su color gris oscuro sobre el dorso. Los especímenes se capturaron con espinel sobre la plataforma continental entre 100 y 200 metros de profundidad. *Umbrina bussingi* se reporta por primera vez en el sur de Colombia.

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