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First Indo-Pacific Occurrence of the Deepsea Ceratioid Anglerfish, *Diceratias pileatus* (Lophiiformes: Diceratiidae)

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The diceratiid anglerfish, *Diceratias pileatus*, was described by Uwate (1979) on the basis of 32 specimens (21–235 mm SL), all collected from the tropical and subtropical North Atlantic Ocean (Uwate, 1979: fig. 20). Since that time, an additional 13 specimens (27–167 mm SL) were recorded by Fujii (1983: 259) from off Surinam and French Guiana. In this note, we report the first occurrence of *D. pileatus* outside of the Atlantic, a 275-mm SL female found floating on the surface off Honaunau Bay, Kona, Hawaii. The specimen is deposited in the Bernice P. Bishop Museum, Honolulu (BPBM). The methods employed in the description that follows are those of Uwate (1977).

Diceratias pileatus Uwate
(Capped seadevil)
(Figs. 1–3)

Diceratias bispinosus: Grey, 1959 (single specimen, ca. 140 mm SL, trawled off Surinam, 732 m, Field Museum of Natural History, Chicago, Cat. No. 64543).

Diceratias pileatus Uwate, 1979: 140, figs. 1, 2, 4, 5, 7A, 8, 10A, 11A, 12, 17, 20 (original description, 32 specimens; holotype Florida State Museum, Gainesville, Cat. No. 23774, 82 mm SL, off Surinam).

Material examined. BPBM 30655, 275 mm SL, 410 mm TL, found floating on surface ca. 4.8 km off Honaunau Bay, Kona, Hawaii, 19°23′N, 155°57′W, Rick Rose, aboard *Aerial* V, 24 June 1985.

Description

Body short and stout, globose, depth approximately 60% SL (Fig. 1); lower jaw extending slightly beyond upper jaw, dentaries forming a well-developed symphysial spine; mouth large, cleft extending to level of eye when mouth is closed; oral valves well developed, lining inside of both upper and lower jaws; two nostrils on each side at end of a single short tube; eyes small and subcutaneous, appearing through circular translucent area of integument; gill opening oval in shape, situated just posteroventral to pectoral lobe; skin covered with close-set dermal spines; ovaries paired.

Illicium emerging from snout, length 24.7% SL; distance between base of illicium and symphysis of upper jaw 11.5% SL; anterior tip of pterygiophore of illicium exposed, emerging on snout (cf. Uwate, 1979: 134, fig. 11A); posterior end of pterygiophore of illicium concealed beneath skin of head; second cephalic ray (second dorsal fin spine) emerging from dorsal surface of head just behind base of illicium, distal light organ absent, lost prior to capture.

Esca with a bulbous, posteriorly oriented,

Fig. 1. *Diceratias pileatus* Uwate, BPBM 30655, 275 mm SL, from off Kona, Hawaii.

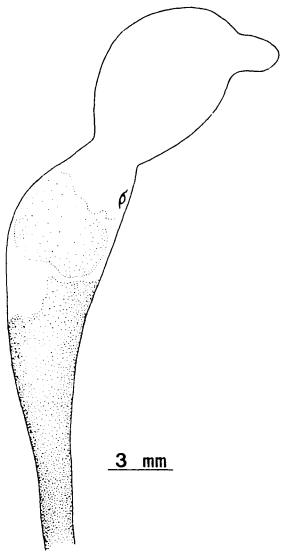

Fig. 2. Esca of *Diceratias pileatus* Uwate, BPBM 30655, 275 mm SL.

Fig. 3. Anterior view of *Diceratias pileatus* Uwate, BPBM 30655, 275 mm SL, showing dentition.

terminal papilla, larger than width of escal bulb, and bearing distally a rounded, posteriorly directed appendage (Fig. 2; terminal papillae and appendage laterally compressed due probably to artificial compression and dehydration); anterior and posterior escal appendages absent; lumen of escal bulb connected to outside by a pore located on posterior margin of escal bulb below base of terminal escal papilla; dark pigment of escal lumen visible in lateral view; stem of illicium below escal bulb lightly pigmented; skin of esca, including terminal papilla and appendage, everywhere covered with close-set dermal spines.

Upper and lower jaws with numerous, slender, recurved, and depressible teeth; number of teeth in lower jaw 33–34, in upper jaw 33–38; vomerine teeth 4–15; pharyngobranchials II and III well toothed (Fig. 3).

Dorsal rays 6; anal rays 5; pectoral rays 15/15; pelvic fins absent; caudal rays 9, 1 unbranched, 6 branched, 2 unbranched.

Coloration in preservative dark brown to black over entire surface of head, body, fins (except for distal portion of escal bulb), and oral cavity.

Discussion

Our Indo-Pacific specimen of *D. pileatus*, measuring 275 mm SL, is by far the largest known individual of the family. Morphologically, it compares well with the type material of the species, differing only in the greater development of the distal appendage of the terminal escal papilla (compare our Fig. 2 with Uwate, 1979, fig. 17), and in having five instead of four anal rays. In this last character, our specimen differs as well from all known material of the family; all 67 diceratiids examined by Uwate (1979) had only four anal rays.

The only known, sexually mature diceratiid is a 235-mm SL female of *Diceratias pileatus* reported by Uwate (1979: 141). The ovaries of this specimen each contained 10^4 to 10^5, pear-shaped eggs, each measuring about 0.3–0.7 mm in diameter. Although the ovaries of our specimen are large, their length approximately 80 mm or 29% of SL, they contain no eggs and appear to be spent.

The stomach of our specimen contained the half-digested remains of a large (392 mm TL)

macrourid, tentatively identified by Tomio Iwamoto as *Coryphaenoides* sp. It is possible that after being engulfed and while still alive inside the stomach, the violent struggles of such a large and powerful prey item might have caused the demise of the anglerfish. Feeding mortality of a slightly different nature, but still involving a diceratiid and a macrourid, was recently described by Paxton and Lavenberg (1973), in which a 112-mm SL specimen of *Diceratias bispinosus* (Günther) was found floating on the surface with a 369+ mm *Ventrifossa* sp. protruding from its mouth.

Acknowledgments

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Literature cited

Fujii, E. 1983. Diceratiidae. Pages 259–260 *in* T. Uyeno, K. Matsuura and E. Fujii, eds. Fishes trawled off Suriname and French Guiana. Japan Mar. Fish. Reso. Res. Cent., Tokyo.

Grey, M. 1959. Descriptions of newly discovered Western Atlantic specimens of *Diceratias bispinosus* Günther and *Paroneirodes wedli* (Pietschmann). Copeia, 1959(3): 225–228.

Paxton, J. R. and R. J. Lavenberg. 1973. Feeding mortality in a deep sea angler fish (*Diceratias bispinosus*) due to a macrourid fish (*Ventrifossa* sp.). Austr. Zool., 18(1): 47–51.

Uwate, K. R. 1979. A revision of the anglerfish family Diceratiidae with descriptions of two new species. Copeia, 1979(1): 129–144.

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フタツザオチョウチンアンコウの太平洋からの初記録

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フタツザオチョウチンアンコウは，これまで大西洋のみから知られていた．本種の雌 (1 尾，体長 275 mm) がハワイのコナの沖合表面で採集された．この標本はこれまで採集されたフタツザオチョウチンアンコウ科のなかで最大である．本標本の胃内容物中にホカケダラ属の 1 種 (全長 392 mm) が含まれていた．