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A new species of frogfish of the genus *Histiophryne* (Teleostei: Lophiiformes: Antennariidae) from Queensland, Australia

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Abstract

Histiophryne maggiewalker, a new species of frogfish of the teleost order Lophiiformes, family Antennariidae, is described from six specimens collected in shallow waters off Queensland, Australia. The new taxon differs from its congeners in having a relatively long illicium and esca, the latter expanded distally, more or less rectangular; and genetic divergence in the nuclear recombination activation gene-2 (RAG2) and cytochrome oxidase-I (COI) genes. Members of the new species are black with a reticulate patterning discernible only with aid of a dissecting scope; or white with light brown spots. The new species is described and compared with its congeners.

Key words: Teleostei, Lophiiformes, Antennarioidei, Antennariidae, *Histiophryne*, *maggiewalker*, new species, taxonomy, marine, Australia

Introduction

The genus *Histiophryne*, as recognized by Pietsch (1984) and Pietsch and Grobecker (1987), contains three species: the type species *H. bougainvilli* Valenciennes 1837, represented in collections by at least 40 individuals, all collected from Queensland, New South Wales, and South Australia; *H. cryptacanthus* Weber 1913, about 75 known specimens from localities ranging from Taiwan to South Australia; and *H. psychedelica* Pietsch, Arnold, & Hall 2009, known from three specimens from Ambon and Bali, Indonesia. The genus is unique in many ways, characterized most strikingly by having a greatly reduced illicium (nearly absent in *H. cryptacanthus* and *H. psychedelica*); the second and third dorsal-fin spines immobile, bound down to the surface of the cranium by skin, emerging only as low protuberances on top of the head; and the posteriormost margin of the soft-dorsal and anal fins extending beyond the base of the caudal fin and broadly connected to the proximal portion of the outermost caudal-fin rays (Pietsch and Grobecker 1987). Although easily recognized among the remaining 11 genera of the family, two species of the genus, *H. cryptacanthus* and *H. bougainvilli*, are difficult to distinguish, each diagnosed by a small difference in the length of the illicium, and whether the illicium and esca are partially hidden within a groove on the mid-dorsal line of the snout by folds of tissue (Pietsch and Grobecker 1987:253, fig. 104). In contrast, *H. psychedelica* is easily recognizable by its distinctive swirling color pattern (Pietsch *et al.* 2009:39, fig. 1). Although most similar to *H. bougainvilli*, we report the finding of a new species of *Histiophryne* that can easily be distinguished based on the morphology of the esca.

The new species was initially identified as *Histiophryne bougainvilli*, but resulting sequence data originating from tissue received from the Queensland Museum did not match sequences of *H. bougainvilli* for which identification had been verified. The material was requested from the Queensland Museum, and it was only then discovered that the morphology of the esca was different from anything described previously for *Histiophryne*.

The new species is presently represented by six preserved specimens, all from Queensland, Australia, from the following localities: one from the north side of Mudjimba Island, Mudjimba, 153˚06’E (missing latitude); one from Alexandria Bay, Noosa Heads, 26˚23’S, 153˚07’E; and four from Shag Rock on the eastern side off North Stradbroke Island, 27˚24’S, 153˚31’E.

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