

***EURYPEGASUS DRACONIS* LINNAEUS, 1766 (GASTEROSTEIFORMES: PEGASIDAE); A NEW RECORD TO THE DERAWAN ISLANDS, INDONESIA**

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ABSTRACT

Three specimens of *Eurypegasmus draconis* Linnaeus, 1766 were collected in seagrass beds of Samama Island, East Kalimantan, in June 2006. It was the first record of this uncommon species that widely distributes in Indian and Pacific waters. The species was characterized by 8-9 tail rings and a spine on the dorsal side of last tail ring.

Keywords : *Eurypegasmus draconis*, *Gasterosteiformes*, Pegasidae, Seamoths, Derawan Island.

INTRODUCTION

The eastern Indonesian waters have various ecosystems which are suitable for the development of fishery activities. These ecosystems include mudflats, coral reefs, estuaries, mangrove swamps, coastal areas and continental shelves. Since the eastern part of Indonesian waters is situated in the tropical Indo-Pacific, it has extremely high diversity of fish fauna. Munro (1967) shows that the marine territory of Papua shares many elements with the Indian Ocean, the western part of Oceania and tropical Australia.

The pegasids (Family Pegasidae) are widely distributed in Indo-Pacific waters (Nakabo, 2002); and expatriate to subtropical waters with young pelagic (Kuitert, 2000). According to Nelson (2006) this family is represented by two genera, *Pegasus* Linnaeus 1758 and *Eurypegasmus* Bleeker, 1863 consecutively represented by *Pegasus laternarius* Cuvier 1816, *P. volitans* Linnaeus 1758 and *P. lancifer* Kaup 1861, *Eurypegasmus draconis* Linnaeus 1766, and *E. papilio* Gilbert 1905.

E. draconis was first described from the specimen collected from India, by Linnaeus, 1766

(Day, 1889). Three years before, Ogilby identified the same species from Port Jackson, NSW Australia, as *Pegasus pauciradiatus* (Paxton *et al.*, 1989), which than is adopted by Paxton *et al.* (1989), and Palsson and Pietsch (1980). Other synonym also appears in Palsson and Pietsch (1989), in which they identify specimen from the Sea of China as *P. latirostris*.

Records on *E. draconis* come from Ryukyu Island (Nakabo, 2002); Osesaki, Japan (Yamazaki *in* Kuitert, 2000); Bali, Indonesia (Kuitert, 2000; Allen and Adrim, 2003); Sydney, Australia (Kuitert, 2000); Raja Ampat Islands, Papua, Maumere Bay, Flores Island, Togean and Banggai Islands, Sulawesi (Allen and Adrim, 2003), Japan (Masuda *et al.*, 1984), Australia (Kuitert, 1993; Allen 1997, Allen and Swainston, 1988; Hutchins, 2001).

Specific life mode by burying partly of the body makes this species not easy to be observed. This species is found on sand, gravel, shell-rubble, or muddy bottoms. The present paper reports a new record of this rare seagrass fish *E. draconis* Linnaeus, 1766 in the seagrass beds of Samama Island, Indonesia.

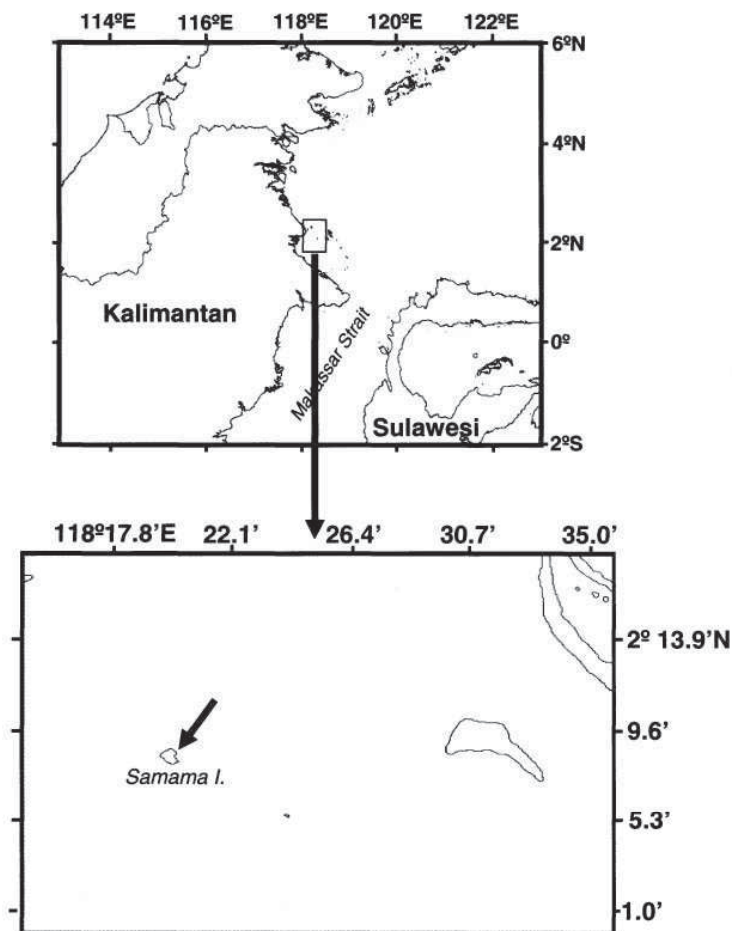


Figure 1. Study area showing stations where fishes were collected

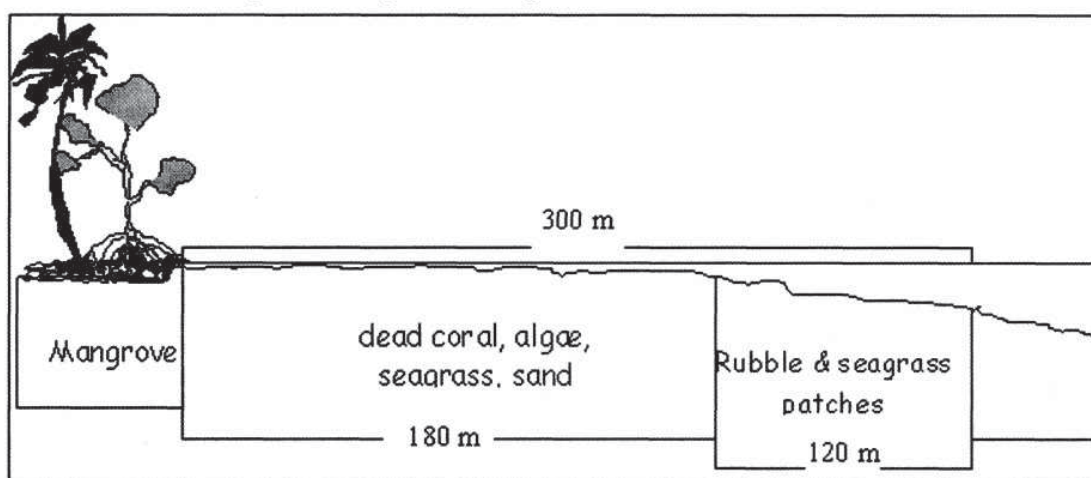


Figure 2. Vertical topography of the reef top at the seagrass beds, Samama Island, East Kalimantan, Indonesia.

MATERIALS AND METHOD

Study Area

Samama Island, Derawan Islands, East Kalimantan was surrounded with a reef flat of

about 300 m in width (Fig. 1). The bottom was mainly covered by dead corals, seagrasses and algae (Fig. 2). Seagrasses species found in this island were: *Cymodocea rotundata*, *C. serrulata*, *Halodule pinifolia*, *H. uninervis*,

H.ovalis, *Thalassia hemprichii* and *Syringodium isoetifolium*. The seagrass coverage ranged from 15% to 50% in 1994, 2004 and 2005 (Peristiwady *et al.*, 2006).

Sampling

Fishes were collected in seagrass beds of Samama Island in June 2006. Fish specimens were captured using a small beach seine with 1 mm mesh size at its wing and cod end. The collected specimens were immediately photographed, labeled and preserved in 10% formalin solution, and deposited at the Station of Marine Biota Conservation-Indonesian Institute of Sciences in Bitung for further investigation. Terminology used in the description generally followed Hubbs and Lagler (1947). The abbreviation RCLB-F and SL refer to Reference Collection of LIPI Bitung-Fish and Standard length, respectively.

SYSTEMATIC ACCOUNT

Pegasidae

Seamoths (Seadragons)

Diagnosis (after Day, 1889).

Small fishes (to 18 cm total length). Head and body more or less angular, depressed, completely encased in fused dermal plates; infraorbital bones articulate with the preopercle; tail encircled by 8 to 14 laterally articulating, or fused, bony rings. Nasal bones elongate, fused, forming rostrum; mouth inferior. Gill opening restricted to small hole on dorsolateral surface behind head. Spinous dorsal fin absent; soft dorsal and anal fins each with 5 rays, placed posteriorly on body. Caudal fin with 8 unbranched rays. Pectoral fins large, wing-like, inserted horizontally, composed of 9 to 19 unbranched, soft or spinous-soft rays; pectoral-fin rays interconnected with broad, transparent membranes. Pelvic fins thoracic, tentacle-like, with 1 spine and 2 or 3 unbranched soft rays.

Similar families occurring in the area is Dactylopteridae: head large, snout blunt, body covered with scute-like scales, not encased in fused bony plates; tail not encased in bony rings. Spinous dorsal fin well developed; pectoral fins extremely large, with 28 to 37 rays; pelvic fins with 1 spine and 4 soft rays (Palsson and Pietsch, 1989).

Remarks: Two genera of this family are well known, and distributes in all Indo-Pacific waters.

Genus *Eurypegasus* Bleeker 1863

Pegasus, Linnaeus, 1758; (type species: *Pegasus volitans* Linnaeus, 1758). (not seen); Day, 1889:244.

Branchiostegal one; pseudobranchiae absent. Gills four; gill-opening narrow, in front of the pectoral fin. Body broad and depressed, covered with bony plates, which are ankylosed on the trunk and movable on the tail. Gill-cover formed of one bony plate, and small interopercle concealed by it. No teeth. One short dorsal and anal fin opposite to one another; pectorals horizontal and long, composed of simple rays, some of which may be spinous; ventral with one or two rays, the outer elongate. Airbladder absent.

Remarks: Three species of this genera are found in Indonesia: Raja Ampat Islands-Papua, Ambon, Flores, Bali and Sulawesi.

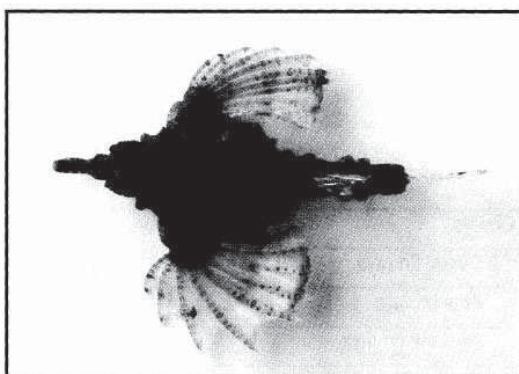


Figure 3. *Eurypegasus draconis* Linnaeus, 1766; RCLB-F000351

Eurypegasus draconis Linnaeus, 1766

Pegasus draco Shaw, 1804: Palsson and Pietsch, 1989:25

Pegasus latirostris Richardson, 1846: Palsson and Pietsch, 1989:10

Pegasus pauciradiatus Ogilby, 1886: Paxton *et al.*, 1989:434: Palsson and Pietsch, 1989:10.

Eurypegasus draconis Linnaeus, 1766; Allen and Swainston, 1988:44; Palsson and Pietsch, 1989: 9; Kuitert, 1993: 99; Randall, 1995: 97; Allen, 1997: 70; Kuitert, 1997: 70; Myers, 1999: 86; Fricke, 1999: 142; Hutchins, 2001: 29; Nakabo, 2002: 515; Allen and Adrim, 2003: 27.

Material : RCLB-F 000351, 68.5 mm SL, RCLB-F 000352, 46.5 mm SL, RCLB-F 000353, 46.0 mm SL; seagrass beds, Samama Island (118° 12' 52.9" E; 02° 22' 12.3" N); sand-muddy

substrats; collected using mini beach-seine, June 2006.

Description: Dorsal aspect of head triangularly elongate. Body broad and well depressed, widest at pectoral bases; lateral ridge on each side of median line well developed; dorso-lateral ridge followed by 4 lateral keels similar to upper laterals; serrated ridge runs along the dorsal edge of orbit and continues along the snout to its end. Snout elevated anteriorly, spatulate, depressed, with row of spines on each side. Eye large. Mouth very small, inferior. Interorbital deeply concave. Eyes 2.5 in snout length. Interorbital space transversely concave, two deep grooves on the neck. Caudal portion composed of eight rings, most of the anterior five of which have lateral spiny elevation. Dorsal fin begins on second caudal ring; when the fin ad-pressed reaching penultimate. Pectoral fins broad; rays gradually elongate postero-medially; outer membranes incised, with incisions gradually

shorter backwards; the anterior most ray the shortest. At single dorsal and ventral space just in front of caudal base. Anal fin inserted on the same ring, just opposite to dorsal fin; trough of anal fin not reaching far back when compared to dorsal fin. Caudal fin elongate and rounded. Counts and measurements of the 3 specimens are shown in Table 1.

Color in life : Dorsal body with dark brown reticulations, ventral body light brown to whitish. Last caudal ring blackish. Finely reticulated with brown: snout and last 2 or 3 caudal rings black. Pectoral fin rays brownish, its rays spotted with fine brown dots, membranes of rays clear, pectoral fin with broad milky-white edge connected medially to another whitish band (Fig. 3).

Habitat : Benthic fish, this species is found on sand, gravel, shell-rubble, or muddy bottoms.

Table 1. Counts and measurements of *Eurypegasus draconis* Linnaeus, 1766

Measurements (cm)	RCLB-F 000351	RCLB-F 000352	RCLB-F 000353
Counts			
Dorsal fin rays	5	5	5
Anal fin rays	5	5	5
Pectoral fin rays	11	11	11
Ventral fin rays	2	2	2
Caudal fin rays	8	8	8
Measurements			
Standart length	6.85	4.65	4.60
Head length	2.65	1.75	1.70
Body depth	1.80	1.15	1.10
Body width	2.85	1.95	1.80
Snout length	1.50	0.90	0.85
Eye diameter	0.5	0.45	0.40
Predorsal length	4.95	3.35	3.25
Dorsal fin base	0.75	0.65	0.55
Anal fin base	0.65	0.45	0.40
Snout to pectoral insertion	3.45	2.35	2.25
Snout to pelvic insertion	3.85	2.75	2.70
Snout to anal fin origin	4.90	3.35	3.15
Pelvic fin insertion to anal fin insertion	1.05	0.65	0.60
Pectoral fin insertion to pelvic fin insertion	1.35	0.85	0,80

By pelvic fin and spatulate snout buries partly of the body along the sandy or muddy margins of seagrass beds.

Remarks : Similar to *Eurypegasus papilio* (Gilbert, 1905) in having head large and snout blunt. First rays of dorsal fin long and pectoral fins large.

Distribution : Indian Ocean, East Indies, Melanesia to the Malay Archipelago (Day, 1889; Fowler, 1928), Pacific coast of southern Japan (Nakabo, 2002),

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