

SYSTEMATIC STATUS OF SPECIES OF THE SUBFAMILY HETEROMYCTERINAE, WITH THE DESCRIPTION OF *HETEROMYCTERIS NORMANI* CHABANAUD, A NEW RECORD FOR INDIAN SEAS

ABSTRACT

Chabanaud (1935) synonymised several species of *Heteromycteris* Kaup, with *Heteromycteris japonica* (Temminck & Schelgel). Some of these he retained only as sub-species. This drastic step has caused a lot of confusion in taxonomy of subfamily Heteromycterinae. Systematic status of these species is discussed critically. *Heteromycteris normani* Chabanaud is established as a valid species and described as a new record for Indian Seas. A key for the identification of the species of genus *Heteromycteris* is also given.

WHILE working on flat fish collections of Zoological Survey of India a specimen markedly agreeing with the description of *Heteromycteris japonica hartzfeldi normani* Chabanaud was found. The position of this form was, however, quite confused. A study of existing literature and material, however, has helped in clarifying this confusion. Chabanaud (1935) in his revision of the flat fishes belonging to Subfamily Heteromycterinae described *Heteromycteris oculus* (Alcock), *H. hartzfeldi* (Bleeker) and *H. normani* (Chabanaud) as *H. japonica* (Temminck & Schelgel) from south east Asia, retaining *H. hartzfeldi* as only a subspecies. Such a drastic step has caused a lot of confusion in identification of species of this subfamily particularly as two specimens which are very distinct are considered as belonging to one species.

The justification and reasons given by Chabanaud (1935) are not very convincing. According to him, the presence or absence of scales on the vertical fins appears a simple accident in relation to deciduous nature of scales. As for the ensheathment of marginal spinules in the epidermis, he opines that this so-called specific character is nothing but the consequence of a superficial temporary thickness of the epidermis under the influence of age or the degree of sexual maturity.

If the scales are deciduous by nature, they will not only disappear from the fins and be retained on the body. In fact, scales on fins are smaller and more adherent than those on the body. Secondly the ensheathment of scales due to the epidermal growth if it occurs in all the specimens of one species but is absent in specimens of the other, merits certainly consideration as a specific character.

Lobulation of nasal valve is an important diagnostic character and under the same species one cannot describe specimens with lobulated as well as simple nasal valves and consider them as just a variations.

While working on the collection of Soleid fishes in Zoological Survey of India, I came across a specimen caught along with *Heteromycteris oculus* (Alcock) and identified as the same species. A careful study revealed that the specimen differs markedly from the above species as well as all other known species of the genus except the variety of *H. hartzfeldi hartzfeldi* which Chabanaud (1935) called as *morpha normani*. In this work the latter is considered as a good species of *Heteromycteris* and a redescription of it based on the present material is given below. A key for the identification of the various species of *Heteromycteris* is included here.



Fig. 1 a. *Heteromycteris normani* (Chabanaud) and b. anterior nasal tube on blind side.

Heteromycteris normani Chabanaud (Fig. 1 a)

Heteromycteris japonica hartzfeldi normani Chabanaud, 1935. *Bull. Soc. Zool. Fr.*, 60 : 221.

Material examined: 1 specimen, Z. S. I. F 6829/2, 98 mm S. L., Puri, Orissa Coast collected by "Golden Crown" of Bengal fisheries.

D. 96; A. 62; C. 19; P₁. R. 7; P₁. L. 0; P₂. R. 5; P₂. L. 5; L. 1, 87.

In percentage of standard length, head 25.3; depth 39.7; snout 8.6; eye 4.6; interorbital distance 1.5; postorbital distance 10.7; snout to angle of mouth 13.2; angle of mouth to gill opening 11.2. In percentage of head length, snout 34.0; eye 18.0; interorbital distance 6.0; post-orbital distance 42.0; snout to angle of mouth 52.0; angle of mouth to gill opening 44.0.

Body oblong, both contours equally arched; snout hooked, extending upto perpendicular from middle of eye; eyes small, separated by a scaly interspace; anterior nostril on ocular side present as a narrow elongated tube, with a minute valve at its tip; when depressed posteriorly, it reaches anterior border of fixed eye; anterior nostril on blind side dilated, thickened, fleshy, nonfringed; its outline smooth with a spoonlike valve at tip (Fig. 1 b), mouth inferior, cleft reaching anterior 2/3rd of fixed eye; lips on ocular side not fleshy, lower lip with a triangular membranous flap; lips on blind side fleshy with minute papillae; inner border of upper lip minutely fringed, teeth in jaws villiform, minute, and present on blind side only; scales small, ctenoid, deciduous with 10 marginal spinules and 19 basal and lateral grooves;

lateral line scales cycloid with 18 basal and lateral grooves; dorsal, anal and pelvic fins naked; caudal scaled on its basal half; lateral line system on ocular side consists of mediolateral line, temporal commissure, cephalodorsal line and pre-opercular line; lateral line associated with small dermal fringes on blind side, dense on snout and chin; 5 temporal commissures, operculo-mandibular line and supra-orbital line are present in addition to those present on ocular side.

Dorsal fin inserted slightly behind tip of snout, extending upto base of caudal fin; rays of vertical fins other than caudal, simple; caudal free slightly shorter than head; pectorals rudimentary; pelvics asymmetrical, broad based, free from each other, that on ocular side connected to anal fin and that on the blind side to genital papilla, which is long, slightly shorter than first anal ray situated at its base on blind side above anus.

Colour: In alcohol, light brown with deep brown clusters of minute dots. Big double ringed marks in three rows, 5 dorsal, 4 ventral and 4 on lateral line. Fins with dark spots.

Distribution: North-east coast of India.

A key to the identification of species of *Heteromycteris* is given below based on those given by Chabanaud (1927) and Ochiai (1963).

1. Lower lip ciliated. All the caudal rays simple.
2. Tip of snout not prolonged beyond the level of perpendicular through dorsal eye. Valve of anterior nostril on blind side lobulated. S. Africa*H. capensis* Kaup
 - 2a. Tip of snout reaches or surpasses the first ray of pelvic fin on ocular side. Valve of anterior nostril on blind side simple, elliptical. Eastern Atlantic *H. proboscidea* (Chabanaud)
- 1a. Lower lip simple. Median rays of caudal bifid.
3. Dorsal and anal fin covered with scales on ocular side. Marginal spinules of scales free.....*H. hartzfeldi* (Bleeker)
 - 3a. Dorsal and anal fin naked entirely. Marginal spinule of scales ensheathed in epidermis.
4. Nasal valve of anterior nostril on blind side ramified.
5. Ringlike markings on body. Nasal valve fringed.....*H. oculus* (Alcock)
 - 5a. V-shaped markings on body. Nasal valve petaloid.....*H. matsubarai* (Ochiai)
- 4a. Nasal valve of anterior nostril on blind side simple.
6. Nasal tube ramified. D. 79 - 90; A. 47 - 69 .. *H. japonica* (Temminck & Schelgel)
 - 6a. Nasal tube simple. D. 90 - 94; A. 60 - 64.....*H. normani* Chabanaud

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