

ON THE GENERIC RELATIONSHIP OF THE EEL-LIKE FISH, *PILLAIA KHAJURIAI*
TALWAR, YAZDANI & KUNDU (PERCIFORMES, MASTACEMBELOIDEI)

G. M. YAZDANI,

Gangetic Plains Regional Station, Zoological Survey of India, Patna

AND

P. K. TALWAR

Zoological Survey of India, Calcutta

ABSTRACT

A new genus is proposed for the reception of *Pillaia khajuriai* Talwar, Yazdani & Kundu, 1977, and its affinities discussed.

INTRODUCTION

The genus *Pillaia* was established by Yazdani (1972) for a remarkable new eel-like fish, *P. indica* from the Khasi Hills (Meghalaya) who later (Yazdani, 1976) proposed a new family Pillaiidae under the suborder Mastacembeleidei, for its reception. The genus remained monotypic until Talwar, Yazdani and Kundu (1977) discovered a second species, *P. khajuriai* from the Garo Hills (Meghalaya) and the Kaziranga Wildlife Sanctuary (Assam) which exhibited sharp differences with the type-species. As further study has revealed that *P. khajuriai* possesses a higher number of vertebrae, the generic relationship of the species has now been reviewed and a new genus is proposed for its inclusion.

The various characters of *Pillaia indica* have been studied by dissecting specimens as well as by examining alizarin preparations. The osteology of *Garo khajuriai* has, however,

been studied from x-ray photographs of the type-specimens.

SYSTEMATIC ACCOUNT

Family PILLAIIDAE

Garo, gen. nov.

Body elongate (eel-like) and naked. Head rather conical; mouth wide, terminal, with an indistinct fleshy rostral appendage. Gill openings wide, separate, free from isthmus. Eyes laterally placed. Dorsal and anal fins confluent with the long caudal fin; no spines in dorsal and anal fins; dorsal fin with 40-44 soft rays, its origin at about midpoint of the body (without caudal fin); anal fin with 37-38 soft rays. Pectoral fin fairly large, with 19-20 rays. Caudal fin with 12 unbranched rays. Vertebrae 65.

Type-species: *Pillaia khajuriai* Talwar, Yazdani & Kundu, 1977.

The genus *Garo* differs from the monotypic genus *Pillaia* by the following combination of characters;

<i>Pillaia</i>	<i>Garo</i>
(i) Head much depressed ; eyes dorsally placed.	Head rather conical ; eyes laterally placed.
(ii) Pectoral fins small, each with 7-9 rays.	Pectoral fins relatively large, each with 19-20 rays.
(iii) Dorsal-fin rays 34-36.	Dorsal-fin rays 40-44.
(iv) Dorsal-fin origin distinctly in the posterior half of body (without tail).	Dorsal-fin origin at almost midpoint of body.
(v) Caudal fin short and moderately tapering, with 8-10 unbranched rays.	Caudal fin long and tapering, with 12 unbranched rays.
(vi) Vertebrae 62	Vertebrae 65

DISCUSSION

Pillaia indica Yazdani, known from the Khasi Hills at altitudes ranging from 1070 to 1525 m, is a sluggish, mud-burrowing form (Yazdani, 1978). Its depressed head, dorsally placed eyes, small pectoral fins with few rays, are characters well adapted for its way of life. On the other hand, *Garo khajuriae* appears to be an active form occurring at a much lower altitude in the Garo Hills (Meghalaya) and in the plains of Assam. Its conical head, laterally placed eyes, tapering tail and fairly well developed pectoral fins with a remarkably higher number of rays, seem to be well-suited for an active life.

The suborder Mastacembeloidei, a perciform derivative, is placed in its own order by many workers. Yazdani (1978) remarked that among the members of this group the family Mastacembelidae appears to be more primitive than Pillaiidae and Chaudhuriidae, and it seems probable that Chaudhuriidae evolved from a stock resembling Mastacembelidae through stages comparable to Pillaiidae. Further, he surmised that among members of Pillaiidae, *Pillaia indica* exhibits a close resemblance with members of Masta-

cembelidae. The present study also suggests that *Garo* is less specialized than *Pillaia* and exhibits several remarkable resemblances with members of Mastacembelidae.

ACKNOWLEDGEMENTS

The authors are thankful to the Director, and Dr. K. C. Jayaram and Dr. P. D. Gupta, Deputy Directors, Zoological Survey of India, for their sustained encouragement.

REFERENCES

- TALWAR, P. K., YAZDANI, G. M. AND KUNDU, D. K. 1977. On a new eel-like fish of the genus *Pillaia* Yazdani (Pisces : Mastacembeloidei) from India. *Proc. Indian Acad. Sci.*, **85**, Sec. B. (2) : 53-56.
- YAZDANI, G. M. 1972. A new genus and species of fish from India. *J. Bombay nat. Hist. Soc.*, **69** (1) : 134-135.
- YAZDANI, G. M. 1976. A new family of mastacembeloid fish from India. *J. Bombay nat. Hist. Soc.*, **73** : 166-170.
- YAZDANI, G. M. 1978. Adaptive radiation in the mastacembeloid fishes. *Bull. zool. Surv. India*, **1** (3) : 279-290.