

SILUROID FISHES OF INDIA, BURMA AND CEYLON.

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II. FISHES OF THE GENUS *Akysis* BLEEKER.

The genus *Akysis* is invariably included¹ in the family Amblycepidae and in my recent treatment of the fishes of the genus *Amblyceps* I² subscribed to this view. Since then, through the kindness of Dr. F. P. Koumans, I have obtained material of *Akysis variegatus* (Blkr.) and *Acrochordonichthys pleurostigma* (Blkr.) from the s'Rijks Museum van Natuurlijke Historie, Leiden. A study of these fishes has convinced me that they should be included in a separate family Akysidae, as had already been done by Weber and de Beaufort.³ Unfortunately the osteology of these small fishes has never been studied and sufficient material is not available in the collection of the Zoological Survey of India to undertake this work. Regan⁴ included *Akysis* and *Acrochordonichthys* in the family Amblycepidae on account of their edentulous palate and the resemblance of their air-bladder⁵ and anterior vertebrae to those of *Amblyceps* and *Liobagrus*. The degenerate condition of the air bladder is not of much significance for considering genetic relationships as divergent forms are known to have undergone similar modifications due to a ground habit of life. The Amblycepidae (*Amblyceps* only) and the Akysidae (*Akysis*, *Acrochordonichthys* and *Breitensteinia*) can be separated by the following characters :—

Amblycepidae.

Akysidae.

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| 1. Nostrils close together, separated by a nasal barbel. | Nostrils remote from each other, the posterior with a nasal barbel. |
| 2. Dorsal and pectoral spines weak, articulated. | Dorsal and pectoral spines bony, strong. |
| 3. Gill-openings wide extending very far forwards, gill-membranes united with each other across the isthmus and slightly overlapping. | Gill-openings narrow or of moderate width; gill-membranes united with each other and with isthmus. |
| 4. Skin smooth | Skin granulated or tuberculated. |
| 5. Flap of skin in front of base of pectoral present. | Flap of skin absent. |
| 6. Air-bladder with thick walls. | Air-bladder with thin walls. |

All the characters tabulated above, except perhaps the last two, are of considerable taxonomic value; the position of the nostrils alone has been utilised by Weber and de Beaufort in separating groups of

¹ Regan, *Ann. Mag. Nat. Hist.* (8), VIII, p. 562 (1911); Jordan, *Classification of Fishes*, p. 148 (1923); Giltay, *Mem. Mus. Roy. Hist. Nat. Belg.* Hors Série, V, p. 30 (1933).

² Hora, *Rec. Ind. Mus.*, XXXV, p. 610 (1933).

³ Weber & de Beaufort, *Fish. Indo-Austral. Archipel.*, II, p. 365 (1913).

⁴ Regan, *loc. cit.*, p. 562 (1911).

⁵ Though of similar form, the air-bladder of *Amblyceps* is much more reduced, is thick-walled and has more pronounced modifications of the anterior vertebrae.

families of Siluroid fishes. It seems reasonable, therefore, not to include *Amblyceps* in the same family with *Akysis* and *Acrochordonichthys*.

As regards *Liobagrus*, I am not in a position to discuss its relationships, for there is no material of this genus in the collection of the Zoological Survey of India. There is an undoubted similarity between its skeletal characters and those of *Amblyceps*, but the widely separated nostrils and the absence of the skin-flaps preclude its union with the Amblycepidae. Jordan¹ included *Liobagrus* in Bagridae, but this requires further confirmation.

Of the family Akysidae, only *Akysis* has so far been found from within the limits of the Indian Empire. As early as 1883, a species—*A. pictus*—was described by Günther² from Tenasserim but since then no other specimen of it has ever been collected. In 1929, Prashad and Mukerji³ referred 3 specimens from the Myitkyina District (Upper Burma) to a new subspecies of *A. variegatus* and remarked: "In the absence of any specimens of the two species referred to above [*A. variegatus* and *A. pictus*] for comparison, it is difficult to be definite about the specific position of this apparently new form" I have now compared the Myitkyina specimens with a paratype of *A. variegatus* and find that they represent a new species as already surmised by Prashad and Mukerji but unfortunately the new subspecific name—*variegatus*—they proposed cannot be retained. I now designate it as *Akysis prashadi*, sp. nov. and have thus great pleasure in associating it with the name of my chief Dr. B. Prashad. Prashad and Mukerji referred only to some salient features of the Burmese specimens and gave excellent figures of the lateral and ventral views of the type-specimen. The species is described below in detail and some additional figures are given.

For a long time the genus *Akysis* was known only from Java, Sumatra, Borneo and Tenasserim, but recent researches have shown that its range extends for a considerable distance northwards. Smith⁴ recorded *A. macronema* and *A. armatus* from Siam and recently Fowler⁵ has described two new species from the same country. Reference has already been made to Prashad and Mukerji's record of the genus from Upper Burma. It may be remarked that these small fishes are likely to be overlooked by casual collectors.

***Akysis prashadi*, sp. nov.**

1929. *Akysis variegatus* subsp. *variegatus*, Prashad & Mukerji, *Rec. Ind. Mus.*, XXXI, p. 180, pl. viii, figs. 1 & 2.

B. 6 ; D. 3/5 ; A. 11 ; P. 1/8 ; V. 6 ; C. 16.

Akysis prashadi is a small species in which the head and the anterior part of the body are flattened ; the dorsal profile is somewhat arched while the ventral profile is almost straight and horizontal. The length of the head is contained from 3·8 (in the young) to 4·4 (in the adult)

¹ Jordan, *Classification of Fishes*, p. 148 (1923).

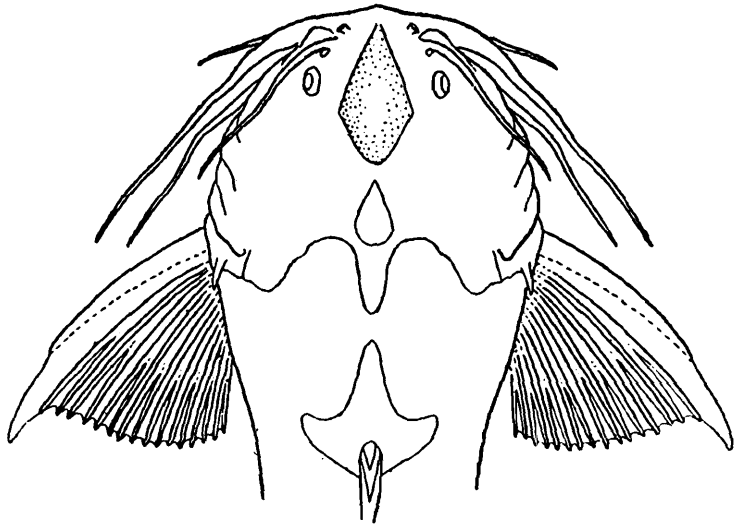
² Günther, *Ann. Mag. Nat. Hist.*, (5) XI, p. 138 (1883).

³ Prashad & Mukerji, *Rec. Ind. Mus.*, XXXI, p. 180 (1929).

⁴ Smith, *Journ. Siam. Soc. Nat. Hist. Suppl.*, VIII, p. 180 (1931).

⁵ Fowler, *Proc. Acad. Nat. Sci. Philadelphia*, LXXXVI, p. 97 (1934).

times in the total length without the caudal. The depth of the body is contained from 4.4 (in the adult) to 5.7 (in the young) times in the total length without the caudal. The width of the head is considerably greater than its length while the height is two-thirds (in the adult) to one-half (in the young) of its length. There are two broad median fontanels on the head; the posterior is much smaller and terminates near the base of the occipital process. The eyes are small, dorsally situated and subcutaneous; they are far forward in the anterior half of the head. The interorbital distance is equal to the length of the snout. The mouth is of moderate width, transverse and slightly overhung by the upper jaw. The lips are somewhat fleshy and papillated; the labial groove is widely interrupted. There are eight barbels; the nasals are considerably longer than half the length of the head and extend to the gill-openings; the maxillary and the outer mandibular extend as far as the termination of the base of the pectorals or slightly beyond; the inner mandibular reach to the base of the pectoral spine.

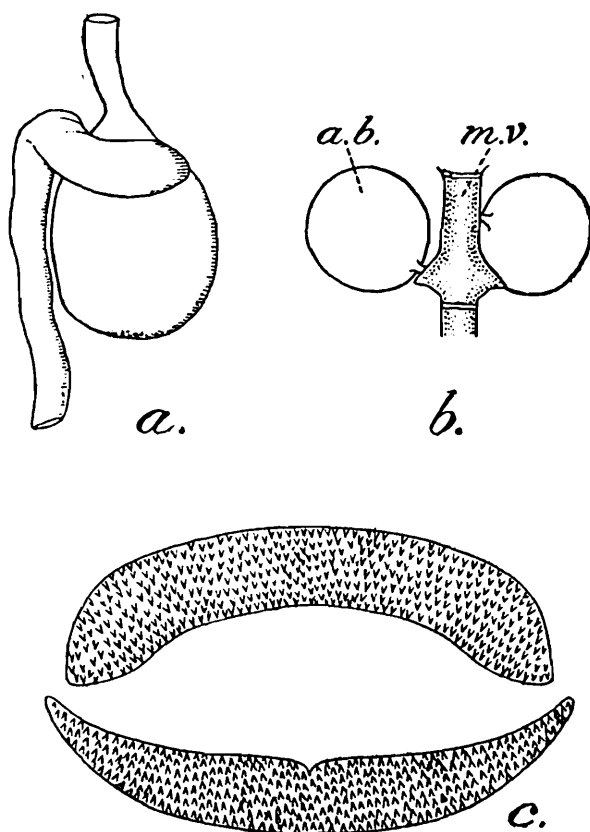


TEXT-FIG. 1.—Dorsal surface of head and anterior part of body of *Akysis prashadi*, sp. nov. $\times 2\frac{3}{4}$.

The dorsal fin commences between the pectoral and ventral fins; its long spine is preceded by 2 short spines, is grooved along the upper surface and is as long as the head behind the snout. The adipose fin is long and low; its base is twice as long as that of the rayed dorsal. The two dorsal fins are separated by a short distance. The spine of the pectoral fin is not armed; it is grooved along the upper surface and is as long as the head. The paired fins are horizontal. The ventrals extend beyond the anal opening but do not reach the anal fin. The caudal fin is emarginate, the lower lobe is slightly better developed than the upper. The caudal peduncle is twice as long as high.

The head is greyish, speckled with irregular black markings. Anteriorly the body is black in front of the ventral fins; this black mark is contracted into a narrow streak which is continuous with another black area behind the ventrals and above the anal fin. Another black band connects this area with a broad black mark at the base of the caudal fin. The ventral surface of the body is speckled with irregular black markings. The proximal portion of the dorsal fin and a considerable part of the pectoral fins and of the adipose fin are black. There

is a black band across the middle of the caudal rays. The ventral and the anal fins are also streaked with black. The barbels are variegated with black. In the young specimens the three black marks on the body are discontinuous and not so wide. The general body colour is pale-olivaceous.



TEXT-FIG. 2.—Alimentary canal, air-bladder and dentition of *Akysis* Bleeker.

a. Alimentary canal of *Akysis variegatus* (Bleeker). $\times 3\frac{3}{4}$; *b.* Air-bladder of *A. prashadi*, sp. nov. $\times 8\frac{1}{4}$; *c.* dentition of *A. prashadi*, sp. nov. $\times 25\frac{1}{2}$.

a. b. = air-bladder; *m. v.* = compound vertebra.

Length of specimen of *A. variegatus* 31 mm. without caudal.

Length of specimen of *A. prashadi* 28 mm. with caudal.

Localities.—Indawgyi Lake and round about Kamæing in the Myitkyina District, Upper Burma.

Type-specimen.—F. 10873/1, Zoological Survey of India (*Ind. Mus.*), Calcutta.

Remarks.—Prashad and Mukerji have already discussed the distinguishing features of this species. The larger number of rays in the pectoral (8 *versus* 5-7) and anal (11 *versus* 8-9) fins are very characteristic of *A. prashadi*. From *A. variegatus* it further differs in having two fontanels (instead of one) on the head. In *A. pictus* the nasal barbels are stated to be only half as long as the length of the head.

III. FISHES OF THE GENUS *Olyra* McCLELLAND.

There appears to be considerable disagreement among ichthyologists regarding the systematic position of the loach-like fishes of the genus *Olyra* McClelland¹ which was characterised as follows:—

“Body soft, long, and cylindrical, with two dorsals, the first radiated, the second adipose, head elongated and flat at the snout, operculum terminates behind in an oblique

¹ McClelland, *Calcutta Journ. Nat. Hist.*, II, p. 588 (1842).