Table 1. *AChE activity levels (μmol of ACh hydrolysed/mg protein hr) in the nerve and muscle of the crab, O. senex senex in eye-stalk ablated and eye-stalk extract injected conditions.*

Time	Nerve	Muscle
Control	0.1259 ± 0.0014	0.0013
Eye-stalk ablated (hr)		
24 hr	0.1570 ± 0.0069 (+24.7)	0.00183 ± 0.0007 (+37.59)
48 hr	0.1366 ± 0.0075 (+8.498)	0.00152 ± 0.0004 (+14.2)
96 hr	0.0945 ± 0.0027 (−24.9)	0.00107 ± 0.0006 (−19.5)
Eye-stalk extract injected (hr)		
24 hr	0.2220 ± 0.0027 (+76.8)	0.0022 ± 0.0004 (+65.4)
48 hr	0.0770 ± 0.0084 (−38.8)	0.00075 ± 0.0001 (−45.1)
96 hr	0.1435 ± 0.005 (+13.9)	0.0015 ± 0.0002 (+13.5)

Values are mean of ± S.D. of six individual observations and for each observation tissues from six animals were pooled up. Values in parentheses represent per cent change over the control. Values are statistically significant ($P < 0.001$) over the control.

of AChE activity than the muscle[10], it is largely influenced by the eye-stalk extract[11]. Thus the possible existence of NDF in the eye-stalk organs seems to have an inhibitory effect on AChE activity, probably inactivating the AChE by its indirect action on the ACh receptors[12].

BNK and SP are grateful to CSIR, New Delhi for financial assistence and to the Head of the Department for facilities.

27 September 1983; Revised 26 June 1984

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KARYOMORPHOLOGY OF A SEA-FROG *TETRAODON FLUVIATILIS* (TETRAODONTIDAE, PISCES)

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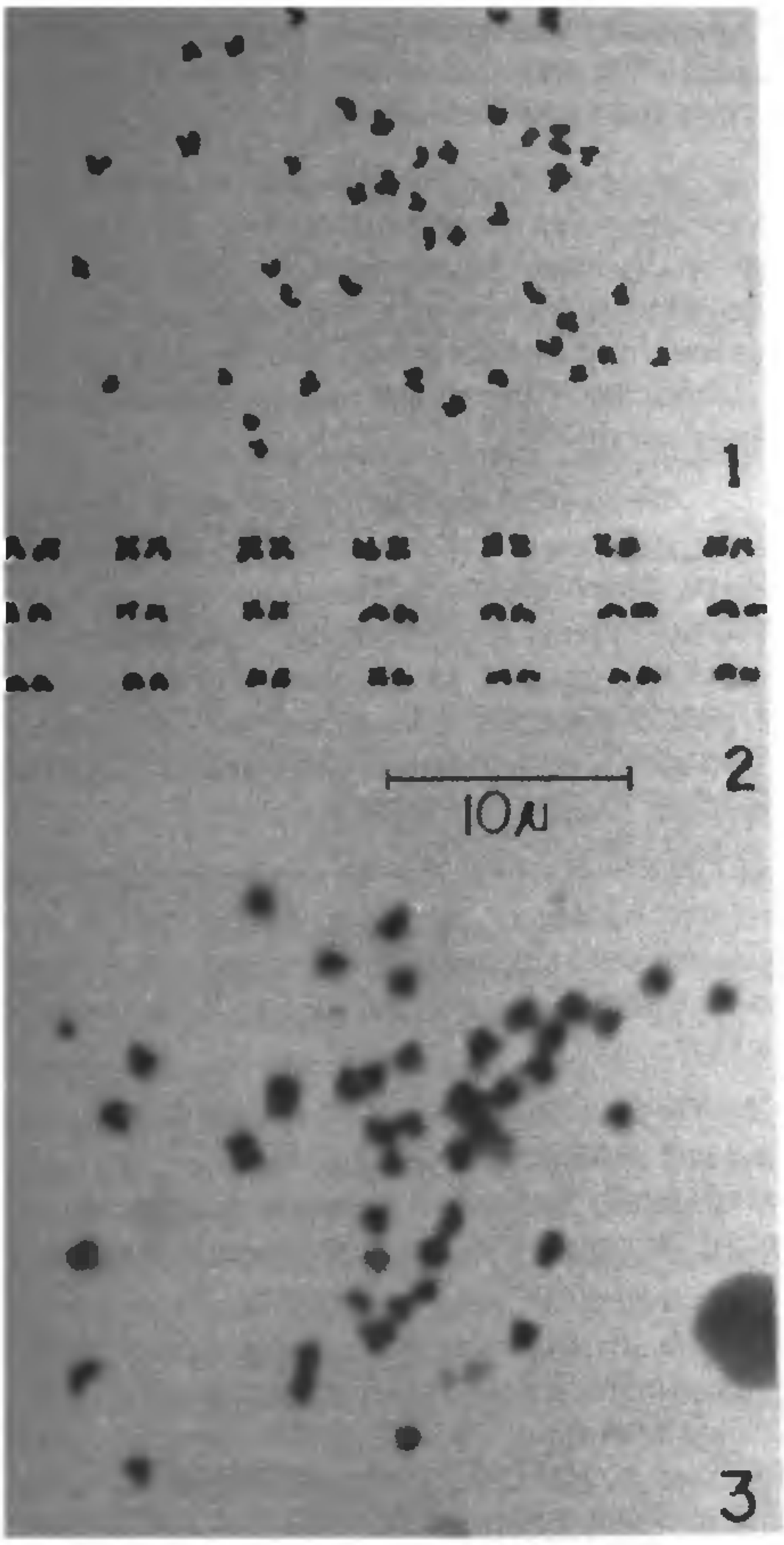
THE members of the fish family Tetraodontidae, also known as "Sea-frogs" because of their ability to inflate a portion of their oesophagus with air and for producing a noise when captured[1], have received limited cytological attention as only 14 species have so far been investigated[2].

The present communication deals with the diploid number, morphology and metrical analysis of chromosomes of a common sea-frog, *Tetraodon fluviatilis*, occurring in the Indian marine and brackish waters.

Eight living specimens of *T. fluviatilis* were collected from the estuarine creeks and crevices near Kakdwip, West Bental, India. The sex of the specimens could not be identified. The kidney and gill tissues of the colchicinized specimens were processed for preparation of somatic chromosomes according to the routine flame drying-Giemsa stain schedule[3]. The morphology of chromosomes was ascertained from mean measurement values of 3 well-spread complements employing the nomenclature suggested by Levan *et al*[4].

The somatic metaphase complements (figures 1, 3) contained 42 chromosomes in 48 out of 52 cells examined. Therefore, the diploid number was considered to be 42. The karyotype (figure 2) revealed 21 pairs of homomorphic chromosomes. The chromosomes were very small and formed a graded series ranging from 1.18 to 0.42 μm. Because of their small



Figures 1–3. 1. Camera lucida drawing of a kidney metaphase complement in *T. fluviatilis*. **2.** Karyotype prepared from figure 1. **3.** Photomicrograph of a kidney metaphase complement of *T. fluviatilis*.

size, sometimes it was rather difficult to locate the centromeric position correctly. To minimize the observational error, the measurement values of 3 well-spread metaphase complements drawn with camera lucida were used to determine the chromosome formula as $n = 4$ m (Nos. 4, 5, 9 & 10) + 7 sm (Nos. 1–3, 6, 7, 17 & 18) + 1st (No. 8) + 1 t (No. 20) + 8 T (Nos. 11–16, 19 & 21) (NF 66) in this species. The morphology of a few chromosomes, however, lay at the borderline of two morphological entities, *e.g.* chromosome No. 7 designated as "sm" actually lay at the borderline of "m" and "sm" types; similarly, chromosome Nos. 8 and 18 designated as "st" and "sm" respectively actually lay at the borderlines of these two morphological entities. Therefore, the suggested formula would be slightly flexible while accounting for any individual complement.

So far as the present authors are aware, chromosomal studies on *T. fluviatilis* or on any other species of *Tetraodon* had not been carried out earlier. Natarajan and Subrahmanyam[5] reported the same diploid number of 42 in another tetraodontiform fish, *Arothron hispidus* from Portonovo waters. Recently, Choudhury *et al*[6] reported $2n = 42$ in two other species of *Arothron*, namely, *A. immaculatus* and *A. reticularis*, from the Orissa coast. The chromosome number was, however, different in another species of *Arothron*, *viz A. leopardus* ($2n = 40$); while *Lagocephalus lunaris*, another tetraodontiform fish, had $2n = 44$[6] although a common NF of 68 was found in all the four species. Therefore, the range of variation in respect of both diploid number and NF is very narrow in the so far reported Indian tetraodontiform fishes. Out of the 15 species of Tetraodontidae cytologically investigated, two have 40, six have 42, five have 44 and one each has 28, 34 and 38 chromosomes in their diploid complement respectively. Therefore, the modal number in this family is not yet clear.

Grateful acknowledgements are made to the Head, Department of Zoology, Kalyani University for facilities; and to Dr M. L. Bhowmick and other staff of Central Inland Fisheries Research Centre at Kakdwip for assistance during the collection of specimens; to UGC for financial assistance.

16 March 1984; Revised 17 July 1984

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