The diploid number was reported to be 8 in *Pomphorhynchus laevis, P. proteus*[3] and *Moniliformis dubius*[4] and 16 in *Echinorhynchus acus, E. gadi, E. haeruca, E. polymorphus, Acanthocephalus ranae* and *Polymorphus minutus*[5]. However, the diploid number is reported to be only 6 in *Macracanthorhynchus hirudinaceus*[6–8], *Neoechinorhynchus cylindratus, Mediorhynchus grandis* and *Leptorhynchoides thecatus*[9]. Walton[10] indicated that the chromosome number may be constant within a genus. The studies on the chromosomes number of acanthocephalan parasites have so far revealed that whereas 16 seems to be the common karyotypic number for most of the species belonging to Echinorhynchidea, 6 appears to be the common karyotypic number for most of the species belonging to Gigantorhynchidea. However, no generalization can be made since exceptions ar noticed in both orders.

The authors thank Dr. E. N. Das and Dr. A. K. Indurkar for technical help and guidance.

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A CASE REPORT OF EPIDERMAL TUMORS ON A MARINE TELEOST, *JOHNIUS (JOHNIEOPS) ANEUS* (BLOCH) FROM THE WATERS OFF VISAKHAPATNAM

DURING the routine sampling of sciaenids for biological studies, a maturing female specimen of *Johnius (Johnieops) aneus* with epidermal tumors was encountered. The specimen was collected from the trawl catches at Visakhapatnam fishing harbour on 21-11-1978. The standard length of the specimen was 14·1 cm and weighed 72·02 gm. The fish appeared to be otherwise in good health anatomically. Closer examination revealed that only the head region manifested tumors in several places (Figs. 1*a* and 1 *b*). The tumors were brown in colour varying in size and extent. They were solid, slightly lobulated with rough outer surfaces. Of all the lesions, the one situated on the outer margin of the left eye was very prominent measuring 1·1 cm in diameter and 0·4 cm in height followed by smaller lesions between the middle of the maxilla and the eye. Other small lesions were seen clearly below the symphysis of the lower jaw and at several places along the margin of the operculum.

FIGS. 1 *a* and 1 *b*. Showing neoplasia in the head region.

Available information is from Wellings[1] who listed 289 cases of tumorous growths in 192 species of fish which included several marine and some freshwater species. The reported cases in India were by Sarkar *et al.*[2,3] who observed such epidermal tumors in freshwater fishes only, like *Anabas testudineus* and *Wallago attu*. About marine fish from India, there is a report of osteoma[4] but not of epidermal tumors.

There was only one earlier report of epidermal papilloma in the sciaenid fishes. This was observed by Russel and Kotin[5] in the white croaker *Genyonemus lineatus* (also in the mouth region of the fish) collected from Santa Monica Bay, California. They further mentioned that in a collection of 353 fish from trawl catches in the marine waters, 2 miles from the sewage outfall in Los Angeles harbour, 10 fish had manifestations of the lesions while no tumors were observed in a collection of 1,116 croakers from an unpolluted area 50 miles away. Circumstantial evidence led them to

believe that pollution played an important role in the high incidence of tumors in fish collected from the Bay waters.

In the present study, the specimen was collected from the catches of a trawler operating between the fishing grounds outside the breakwater of the outer harbour of Visakhapatnam and those off Bimilipatam which is about 25 km away towards the north. It was not possible to locate the exact place from where the fish was caught. However, since the effect of pollution in Visakhapatnam harbour as understood from the low values of pH (as low as 6·0), which extend up to 6 km from the effluent points (personal communication from our colleague Sri. A. V. Raman), it is possible that the fish was subjected to the adverse effects of the industrial and domestic effluents let out into the harbour waters. From this standpoint further studies on environmental neoplasia in fishes near Visakhapatnam harbour is very important. An intensive survey of the fish catches for finding out the frequency of neoplasia in fishes from and near the harbour waters along with experimental studies are necessary.

The specimen under report is deposited in the Zoology Department of Andhra University, pending further examination of the actual tissue modification.

The authors thank Prof. K. H. Rao, Head of the Department and one of us (KVSJR) thanks the CSIR for financial assistance.

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GLYCOGEN IN COMMON INDIAN EARTHWORM, *PHERETIMA POSTHUMA*

IN annelids, like other animals, glycogen and fat are regarded as food reserves and if the bulk is taken as the criterion, glycogen is the most important food reserve. It is stored in the tissue of the different parts of the body and its distribution has been studied in some annelids. Glycogen was detected in the reserve cells of the peritoneal epithelium of oligochaetes and in the amoebocytes and chloragogue cells of *Lumbricus terrestris*[1]. Thick deposits of glycogen in the hepatopancreatic gland of *Eutyphoeus* were observed[2]. The present communication describes the glycogen deposition and its utilization in various parts of the body of *Pheretima posthuma*.

Freshly collected earthworms were washed with distilled water, stretched properly, pinned in wax dish at both the ends and fixed in hot alcoholic Bouin's fluid for 30 minutes. The cuttings of the worm were again fixed in the same fixative and the serial paraffin sections were obtained. The coelomic fluid was collected by giving an incision just anterior to clitellum and the slides of coelomic fluid were prepared. The glycogen was localized with PAS technique[3]. The glycogen content was biochemically estimated by Montgomery method[4] in clitellum, prostate glands and coelomic fluid in freshly collected worms and after starving them ror 7 days in sterilized purified sand.

The clitellum showed thick deposits of glycogen (Fig. 1). A slight granular deposition was noticed in the prostate gland (Fig. 2). Out of four types of coelomocytes, amoebocytes and granulocytes showed the deposition of glycogen. The results are summarized in Table I.

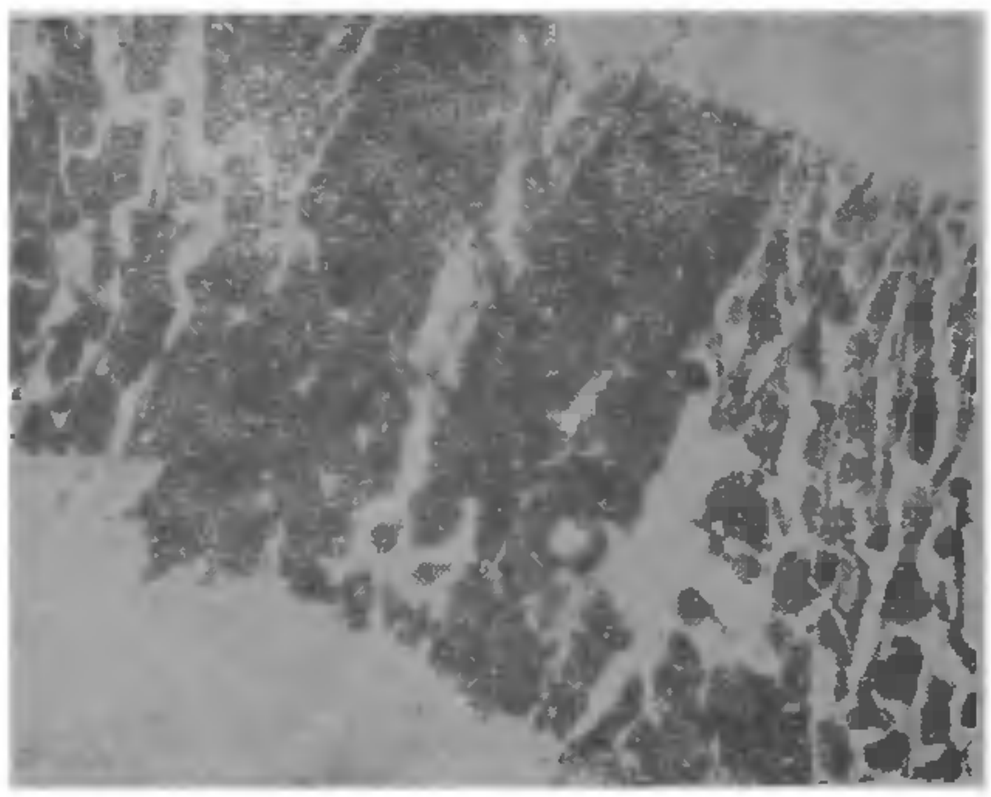

FIG. 1. Transverse section of clitellum of *P. posthuma* (PAS) reaction).

FIG. 2. Transverse section of prostate gland of *P. posthuma* (PAS).