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SPONTANEOUS EPIDERMAL NEOPLASM IN FRESHWATER AQUARIUM FISH *XEPHOPHORUS MACULATUS* (GUNTHER)

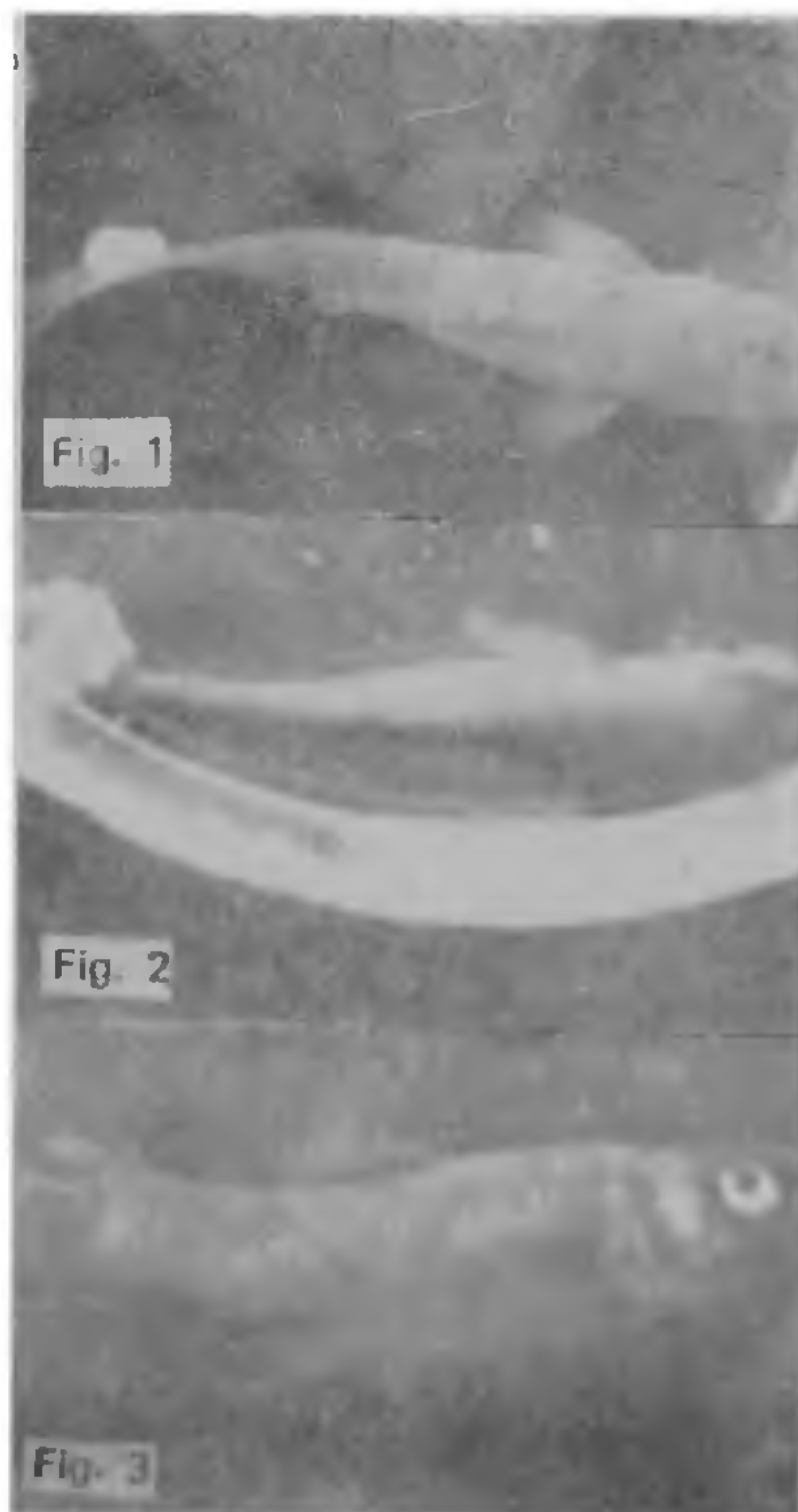
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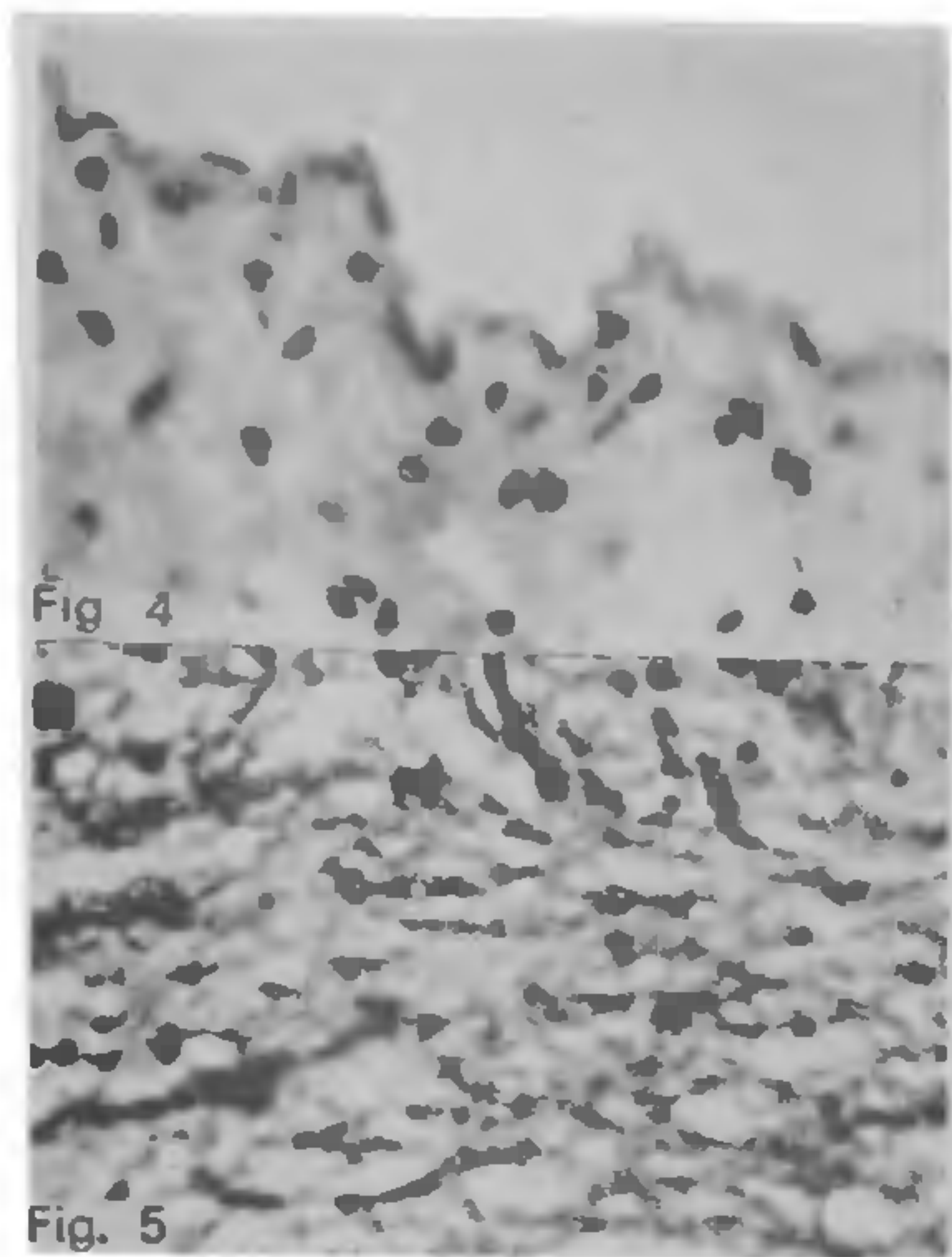
THE incidence of spontaneous neoplasm in teleosts is largely concentrated in five families: the Salmonids, Cyprinids, Codfishes, Flatfishes and Flounders. These families constitute a major portion of fish consumed by man, they are caught in large numbers and inspected. Epidermal papillomas have also been encountered with considerable frequencies in several species of

pleuronectid fishes such as *Hippoglossoides elassodon*, *Parophyrus vetulus*, *Platichthys stellatus*¹. Similar lesions have been regularly observed in large numbers of the reef fish "slippery dick" *Irridio bivittata* by Lucke². Keysselitz³ also observed the epidermal papillomas on the lips or barbels, *Barbus fluviatialis* and Breslauer⁴ reported papillary tumors of the lips, buccal mucosa and fins of smelt, *Osmerus eperlanus*. But there is no report of this type from India and this is the first report of this type from this country.

A freshwater aquarium fish *X. maculatus* was brought to the aquarium in October 1978. It was fed with *Daphnia* dry food daily in the morning at 8 A.M. and *Hydrilla* plants were planted in the aquarium. In July 1979 a creamish white spot appeared at the caudal end on the left side of the body of the fish. This spot gradually increased in size and became cauliflower-like in appearance and on 20th September 1979 it measured 2 mm in the fish which measured 46 mm in length (Fig. 1). Due to excessive cellular



FIGS. 1-3. Fig. 1. Cauliflower-like tumor on 20-9-1979. Fig. 2. Fully grown tumor on 20-4-1980. Fig. 3. Post-operative photograph.



FIGS. 4-5. Fig. 4. Section of tumor showing epidermal papilloma, Bouin's iron Haematoxylin. Fig. 5. Section of tumor showing lypoma nature, Formol-Ca-Sudan Black B.

growth the epidermis was thrown into folds which projected above the integumental surface. On 21st November 1979 an operation was performed and half of the papillomatous outgrowth was removed to conduct histological and histochemical studies. The fish was given Septran treatment 1 tablet in 5 litres of water for six days. The fish remained passive and sluggish for three days and did not feed. It preferred to remain at the bottom corner of the aquarium. After

three days fish started gradually recovering from the shock of the operation and began to feed occasionally. Later the epidermal tumor which was cut to half became full again on February 20, 1980 and in the next two months it grew to other side of the fish and almost encircled the body of the fish. After 15th April onwards the fish stopped feeding and rested in the corner of the aquarium. On 20th April, it appeared that the end of the fish was near and thus photograph of the tumor of the fish was taken (Fig. 2) and an operation was performed on the same day and the whole of the tissue was removed and fixed for histological and histochemical studies. A post-operative photograph was also taken (Fig. 3). The fish breathed its last after two hours of the operation.

These observations revealed the spontaneous epidermal neoplasm in *X. maculatus*. The tumor is cauliflower-like in appearance hence designated as epidermal papilloma (Fig. 4) and since the tumor is regenerated and spread in the near vicinity, it is neoplastic and hyperplastic tumor.

Histochemical test (SBB) reveals its lypoma nature (Fig. 5).

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