TABLE I
R_f values of the products

Time—18 hours. Solvent—*n*-Butanol : acetic acid : water = 4 : 1 :5

Sl. No.	Name of the product	R_f value	Visualizing agent	Colour of the spot
1	Monophenyl thiourea ..	·86	Feigl's reagent	Colourless spot on a bluish background
2	Thiocarbanilide ..	·94	Ammonical silver nitrate solution	Grey spot
3	2-Amino 4-phenyl thiazole ..	·90	Diazotised sulphanilic acid	Orange red spot
4	2-Phenylamino 4-phenyl thiazole	·95	do.	do.
5	2-Phenylimino 3 : 4 diphenyl thiazoline	·93	Acidified $KMnO_4$	Colourless spot in a purple background

detected by Feigl's reagent, when colourless spots in a bluish background were obtained. Nitrophenyl thioureas do not require any visualizing agent as they are coloured yellow and give yellow-coloured spots on dried chromatogram.

2-Amino thiazoles and 2-arylamino thiazoles having 5-position free were detected by spraying the dried chromatogram lightly first with 5% aqueous sodium carbonate and then, while the paper was still damp, with diazonium spray[5] (25 c.c. of freshly prepared 5% sodium nitrite is slowly added at 0° C. to 5 c.c. of a sulphanilic acid *plus* 9 c.c. of concentrated HCl, diluted to 100 c.c. with distilled water). 2-Arylamino and 2-amino thiazoles appeared as orange red spots.

Sym-diaryl thioureas did not respond to either Grote's or Feigl's reagent satisfactorily, and were detected by spraying the dried chromatogram with ammoniacal silver nitrate[6] (5 N NH_4OH : 0·1 N $AgNO_3$ V/V) solution when gray spots appeared immediately.

2-Arylimino thiazolines were detected by spraying the dried chromatogram with 0·5% solution of $KMnO_4$ acidified with H_2SO_4,[7] when the spots appeared immediately as colourless in a purple background.

The R_f values obtained in each of the class of the compound were quite reproducible with not much of variation as experienced by Kjaer and co-worker. As the visualizing agents are specific in nature, it was very easy to detect whether thiazoles and thiazolines are respectively free from mono and diaryl thioureas. It is needless to mention that many of the thiazoles and thiazolines did not contain mono or diaryl thioureas, showing that the reaction went to completion with the new condensing agent. R_f values of a few products are given in Table I.

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HISTOCHEMICAL STUDIES ON THE INTERRENAL TISSUE OF THE COMMON INDIAN MURREL, *OPHICEPHALUS PUNCTATUS*

IN teleost, interrenal tissue around the posterior cardinal vein in the head kidney is homologous to the avian or mammalian adrenal cortex. Some reports are available concerning the histochemically demonstrable entities of the teleost interrenals. Thus, Krauter[1] showed the presence of black granular droplets in the gold fish interrenals by Sudan black. In addition to sudanophilic lipid, Chavin and Kovacevic[2] demonstrated cholesterol, glycogen and phospholipid in the same fish. They could detect the presence of ascorbic acid only when the fishes were asleep. In *Carassius auratus*, Mahon *et al.*[3] traced interrenal ascorbic acid by the freeze-drying technique. The present study is based on some of the histochemical studies of the interrenal tissue of an Indian murrel, *Ophicephalus punctatus* (fam. Ophicephalidæ). The different methods used and the findings have been incorporated in Table I.

A perusal of Table I reveals that the interrenal tissue contains abundance of sudanophilic lipids and acetal phosphatides. Whether these substances *in situ* represent site of biologically active ketonic steroid hormones is very much

TABLE I

Showing the histochemically demonstrable substances in the interrenal of O. punctatus

Tests	Interrenal parenchyma
Sudan black B method for total lipid (Carleton and Short[4])	++
Schultz method for cholesterol (Weber *et al.*[5])	−
Plasmal reaction (Hayes[6])	++
Method for neutral polysaccharides (Glegg *et al.*[7])	b^+
Ascorbic Acid (Deane and Morse[8])	−
Method for metachromasia (Montagna *et al.*[9])	−
Method for alkaline phosphatase (Kurban and Afifi[10])	n^+
Method for acid phosphatase (Gomori[11])	n^+

++ Intense reaction; b^+ Moderate reaction in basement membrane only; n^+ Moderate reaction in nucleus only; − Negative.

debatable. Probably these lipoidal materials are hormone precursors. Deane and Seligman,[12] however, indicate that usually far more ketonic lipid occurs in steroid-producing organs than the proportion necessary for the production of biologically active hormones. Since cholesterol is believed to constitute the precursor of steroid hormones, the negative reaction in Schultz test for cholesterol is an interesting finding. Of course, a negative colour reaction may mean that Schultz test is not sufficiently sensitive to detect the amount of cholesterol present in the interrenal cells of the species concerned. Alternately a different pathway of corticoid synthesis not involving cholesterol is also plausible (cf. Dorfman[13]). A biochemical assessment is rather needed to know definitely whether interrenals of this fish contain some amount of cholesterol.

Cytochemically detectable ascorbic acid remains consistently absent from the interrenal of this ophicephalid. All our efforts to sacrifice the fishes in sleeping condition (as laid down by Chavin and Kovacevic[2]) proved to be entire failure. Whether the stress during sacrifice produces quick depletion of vitamin C is to be verified in a number of species.

PAS-reactive polysaccharides are present only in the basement membranes. Histoenzymic pattern of both alkaline and acidic phosphatases shows an almost negative cytoplasmic reaction while nuclear reaction is moderate. The phosphate bond energy derived by the nuclear phosphatase might constitute here the source of energy for corticoidogenesis (Gemzell[14]).

In conclusion, it may be stated that the histochemical findings of the interrenal of *O. punctatus* is not comparable in many respects to those of the mammals (*cf.* Chavin and Kovacevic[2]).

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OCCURRENCE OF THE NEMATODE *HOPLOLAIMUS INDICUS* IN W. BENGAL

THE survey of West Bengal, conducted by the authors during the years 1964–65, showed that, next to *Meloidogyne*, *Hoplolaimus* is probably the most widely distributed phytoparasitic nematode. The genus *Hoplolaimus* was first described by Daday in 1905. Thorne[2] included it in the subfamily Hoplolaimineæ under family Tylenchideæ. But Goodey[1] in the year 1963 made separate family Hoplolaimideæ, which includes *Hoplolaimus*, *Scutellonema*, *Rotylenchus*, *Helicotylenchus* and allied genera. The well-developed head skeleton, deeply striated cuticle, robust spear and prominent phasmids are some of the salient features of this family. In India *H. indicus* was reported by Sher[4] on *Musa sapientum*, *Pisum sativum*, *Pisidum guajava* and *Lycopersicon esculentum* from Kerela, Delhi and Karnal.