The potentiating action of SRIF on perphenazine and TRH-induced prolactin release was an unexpected observation. It does not appear to be a simple amplification of the effect of SRIF alone since no potentiating effect on serotonin-induced prolactin release was observed. It was possible that SRIF interacted with the anesthetic ketamine to give the potentiating action. This is believed, however, not to be the case since the serotonin response was not altered and since some potentiating action of SRIF in unanesthetized animals has been reported for provoked prolactin release[15,16]. The magnitude of potentiation in these reports, however, was not as great as we observed here. We believe that the answer lies in the mechanism of the perphenazine and TRH-induced prolactin release since we have observed a similar potentiating effect of atropine on perphenazine-induced prolactin release[18]. An explanation of the potentiation of SRIF on provoked prolactin release appears to be complex and must be deferred until the mechanism of action of SRIF and of prolactin release are better understood.

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Monoamine Oxidase Localization in the Ependyma and Infundibular Recess in the Catfish *Clarias batrachus* and its Probable Significance

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Summary. The presence of monoamine oxidase (MAO) in the cerebrospinal fluid (CSF) and MAO positive tracts bridging the CSF and the subependyma strongly suggest the involvement of CSF in the neuroendocrine control of hypophysial function.

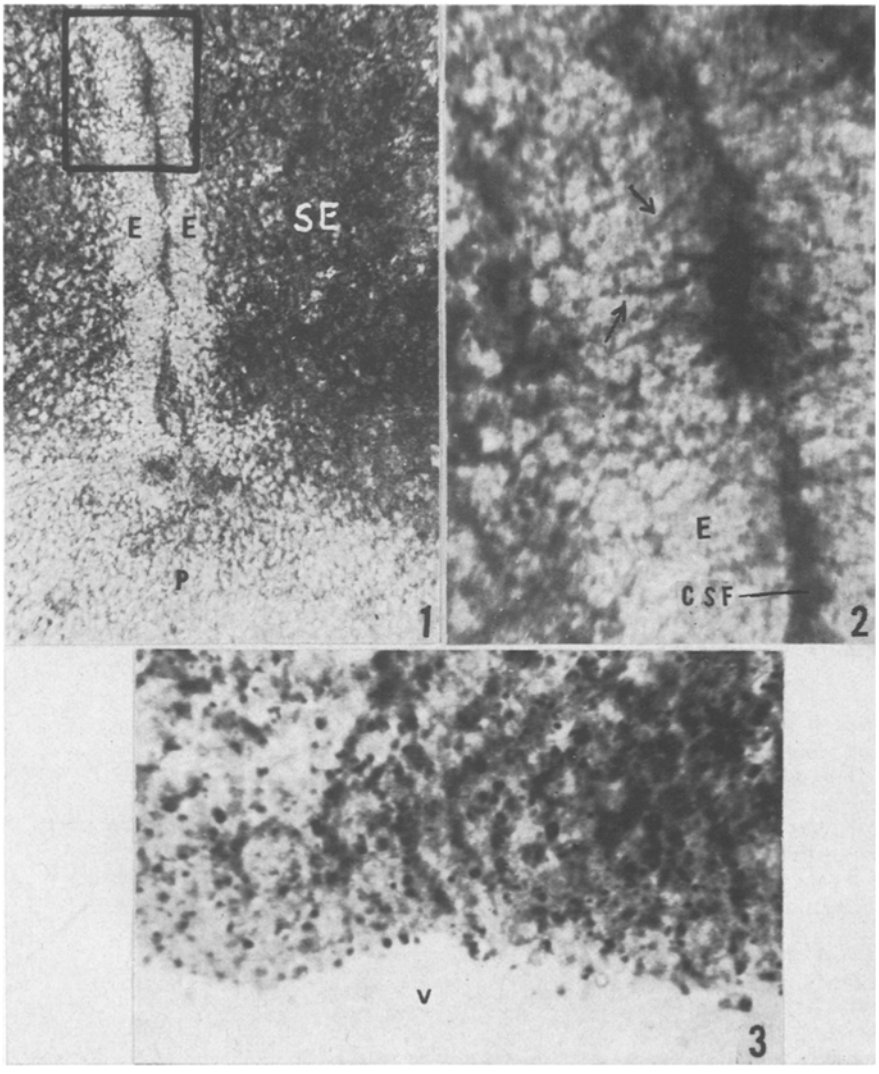

Fig. 1. Frontal section showing subependyma (SE), ependyma (E), 3rd ventricle (V) and a part of the pituitary (P). × 180.

Fig. 2. Inset of Figure 1, enlarged to show MAO positive tracts (arrows) bridging MAO filled 3rd ventricle and subependyma. × 600.

Fig. 3. Part of the subependyma and ependyma in the antero-dorsal region of the infundibular recess. × 600.

Monoamine oxidase (MAO) is known to inactivate the biologically active catecholamines liberated at the adrenergic nerve endings. Catecholamines are actively involved in the regulation of endocrine function[2,3]. Although, MAO activity in the hypothalamus has been studied in a variety of vertebrates[4,5] the areas of ependyma and cerebrospinal fluid (CSF) are less explored. In 2 species of teleosts, weak MAO activity was reported in the ependymal lining of the infundibular recess[5]. Monoamine containing liquor contact neurons have been reported in several animals, including fishes[6-8]. Subsequent to the review on the importance of CSF by HELLER[9], substantial evidence has accumulated in favour of hormones, releasing factors (RF) and monoamines being secreted or blood-borne into the CSF and later transported by the ependyma through the median eminence to the portal vasculature[10,11]. KNOWLES[12] has suggested a short and a long loop feedback pathway by which these active principles get in and released out of the CSF. However, very little is known about these phenomena in the lower vertebrates.

In this study, 65 catfish *Clarias batrachus* were used. MAO activity was demonstrated by the tryptamine tetrazolium method of GLENNER et al.[13]. Specificity of the enzyme reaction was verified by incubating the sections in substrate-free medium and by pretreating them with niamid which is a known MAO inhibitor. In *C. batrachus* subependymal region and the CSF exhibited strong MAO activity in comparison to ependyma (Figure 1). However, MAO positive tracts were seen running between the subependyma and CSF through the ependyma (Figure 2), suggesting a conducting role for the latter. MAO activity is also not uniform throughout the ependyma. The anterodorsal lining of the infundibular recess exhibits more activity than the other areas (Figure 3). These observations tend to support the view that in fishes also the CSF might form an essential link in the process of neuroendocrine control of hypohysial function and ependyma is capable of transporting active principles in the fishes also.

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Circadian Variation of Serum Testosterone in the Adult Male Rat with a Late Morning Acrophase[1]

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Summary. Serum testosterone concentrations were measured in adult male Sprague-Dawley rats. A significant circadian testosterone rhythm ($p < 0.01$) was found with peak values at 10.00 and 13.00 h.

The study and knowledge of circadian rhythms is important in elucidating the control of endocrine systems and in designing or interpreting studies which may be influenced by alterations in circulating hormone concentrations. A diurnal serum testosterone rhythm in the male human has been described and confirmed by a number of investigators (see review by RUBIN et al.[4]). Circadian serum testosterone rhythms have also been described in a number of other species including the bull, cock and monkey[5-7]; however, data concerning commonly used laboratory animals such as the rat are scanty. KINSON and LIU[8] have reported a circadian serum testosterone rhythm in the rat with peak values found at 03.00 and 06.00 h. In their study blood samples were obtained every 3 h from

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