better known keratinophilic hyphomycete genera, occurring in soil, rich in keratin. This was placed in synonymy with *Chrysosporium* but was reintroduced. Nearly all species of *Myceliophthora* produce ampulliform swellings, a feature absent in *Chrysosporium*.

The type strain of *Chrysosporium asperatum* synonymous to *Myceliophthora vellerea*, is distributed in the soils of Canada, Egypt and USA and so far reported only from soil. It is of particular interest that during the survey of keratinophilic fungi and related dermatophytes, *M. vellerea* was recorded from dropped off feathers of a stork, collected from the Zoo at Nagpur, Maharashtra, India. The fungus was obtained in pure culture and identified as *M. vellerea* (IMI 282420).

The colony on Sabouraud's dextrose agar medium is circular, flat, pale brown with white, even margin. The reverse is cream-coloured, racquet hyphae absent, hyphae hyaline 1-2 μ wide and thin-walled. Conidia occur in singles, twos or threes, borne on ampulliform swellings of the hyphae or its short or long narrow branches. They are hyaline, smooth and thin-walled in the initial stage but become pale brown or yellow, thick-walled and spiny or verruculose later. They are pyriform, elliptical or subglobose in shape, measuring 3-9 × 4-13 μ. The diameter of the colony reaches 49 mm in ten days at a temperature of 28°C. The isolate resembles the type description of *M. vellerea* (Sacc and Speg).

*Myceliophthora vellerea* is reported here for the first time from India.

The authors thank Dr P. M. Stockdale, CMI, Kew, England for identification. SKA acknowledges the award of a fellowship by UGC, New Delhi.

30 April 1985; Revised 5 July 1985


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**STEROID DEHYDROGENASES IN REGENERATING TAIL OF HOUSE LIZARD HEMIDACTYLUS FLAVIVIRIDIS**

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Influence of steroid hormones on the process of lacertilian tail regeneration is apparent from the fact that the rate of growth of the regenerate in the house lizard, *Hemidactylus flaviviridis* is faster in males as compared to females. It is also known that administration of male hormone enhances the rate of regeneration in females. However, apparently no attempt to localize the enzymes involved in steroid metabolism within the regenerating organs has been made. Presently, activities of the two key enzymes of sex steroid metabolism viz. Δ^5^-3β hydroxysteroid dehydrogenase (Δ^5^-3β HS DH) and 17β hydroxysteroid dehydrogenase (17β 11SDH) were studied histochimically in the regenerating tail of both the sexes of house lizard to elucidate the pattern of steroid hormone utilization within the regenerating organ.

Adult house lizards, *H. flaviviridis* of both the sexes obtained from a local dealer were maintained in the laboratory on a diet of insects. Fifty lizards were used for the present investigations conducted during the breeding season (October to April) when the sex difference in rate of regeneration was most obvious. In

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**Figures A-D. Myceliophthora vellerea. A. Mycelium with conidia, B. Young and old conidia on the hypha, C. Old conidia on ampulliform swellings, D. Conidia.**
forty lizards, autotomy was induced by pinching off the normal tail leaving two to three basal segments intact. Animals were sacrificed at different stages of tail regeneration as described by Shah and Chakko. The tails were removed immediately, blotted free of blood and frozen on the chuck in a cryostat microtome at -20°C. Fresh frozen sections of 8 to 10 μ thickness were incubated in the media as described by Wattenberg for Δ²-3β HSDH using dehydroepiandrosterone (DHA) as substrate and Kellog and Glenner for 17β HSDH using testosterone and estradiol substrates. The sections were post fixed in 10% neutral formalin, washed thoroughly with distilled water and mounted in glycerine jelly. Control sections were incubated in substrate blank media.

Distribution pattern of enzyme activity in both the sexes was similar. No sex difference in the activity of the enzymes, 17β HSDH (testosterone and estradiol substrates) and 3β HSDH was observed.

3β HSDH was almost nil in normal tail (figure 1) and remained so during wound healing, blastema and differentiation phases of regeneration. No detectable difference in intensity or pattern of activity of 17β HSDH was seen with testosterone and estradiol substrates. In the normal tail, skin and muscles showed moderate (+ +) activity of 17β HSDH (figure 2) with vertebral column showing a low (+ +) activity. During wound healing phase, activity of 17β HSDH with both the substrates was high (+ + +) in wound epithelium (figure 3) and muscles (figure 4), whereas mesenchymatous cells revealed moderate (+ +) activity (figure 3). During blastematic phase, the epithelium showed high (+ + +) activity of 17β HSDH (T) and 17β HSDH (E) whereas mesenchymatous cells showed moderate (+ +) activity (figures 5 and 6). During differentiation phase, the muscles showed high (+ + +) 17β HSDH (T) and 17β HSDH (E) (figure 7). During growth phase, enzyme activity in skin and muscles was nearly similar to that observed in the normal tail components (figure 8).

17β HSDH, the enzyme that mediate interconversion of the biologically active 17β hydroxysteroids such as testosterone and estradiol to the less active 17-oxosteroids, androstenedione and oestrone respectively is present in many tissues. Localization of the enzyme in the muscles and integument of tail in H. flaviviridis is supported by the earlier work of Bourne and Scamark who have shown 17β HSDH to be the key enzymes of androgen metabolism in lizards. The fact that no sex differences have been observed with regard to activities of 17β HSDHs in the tail tissues when either testosterone or estradiol was used as a substrate may indicate the ability of both, males and females to metabolize testosterone and estrogen. This appears meaningful when considered in the light of the reports that testosterone administration increases the rate of growth of the regenerating tail in female lizards. 17β HSDH (T) is reportedly highly active in the preen glands of both male and female sparrows and pigeons. It is possible that wide variety of sex hormone metabolizing tissues may be equipped enzymatically to metabolize both the sex steroids. In females, testosterone converted to estrogen may become physiologically active, which also explains the testosterone action in females. Lack of 3β HSDH in tail tissues is not surprising since this enzyme is involved in steroid biogenesis and not in its catabolism.
that confirm increased oxidative processes within the regenerate during this phase\textsuperscript{13}. Thus, the significance of elevated HSDHs activity becomes apparent in the present context. With gradual attainment to a fully grown state of the regenerate, 17\(\beta\) HSDH assumes preautotomy levels of activities indicating completion of the process of regeneration and normalization of metabolic activity within the tail tissue.

J.M. is grateful to Dr G. K. Menon, Department of Zoology, M.S. University of Baroda for his constant encouragement and useful suggestions during the preparation of manuscript. This research scheme was kindly supported by the M.S. University.

18 April 1985


Increased activities of both 17\(\beta\) HSDH (T) and 17\(\beta\) HSDH (E) in the regenerate during wound healing and blastema phases may be reflecting the adaptive changes in hormonal milieu of the system. The higher steroid hormone turnover in the actively dividing blastemal mesenchymatous cells might enhance the metabolic processes and cell proliferation. In many tissues including skin and sebaceous glands, reaction catalyzed by 17\(\beta\) HSDH function to regulate the local concentrations of steroid hormones and also to synthesize potent steroid compounds from circulating prohormones of either gonadal or adrenal origin. Corticosteroids are indeed found to accumulate in the blastema during limb regeneration in newts\textsuperscript{13}. During differentiation phase, high activity of 17\(\beta\) HSDH noted in muscles indicative of a high turnover of steroid hormones, could mean gearing up of oxidative metabolism in the tissues concerned. Androgens are known to increase the oxidative metabolism in lizards\textsuperscript{14}. Physiological studies have indeed shown increased R Q of tail tissues