

## A NEW SPECIES OF *CERCOSPORA* ON *LEUCAENA LEUCOCEPHALA*

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A SEVERE leaf spot of *Leucaena leucocephala* (Lam) de Witt better known as Subabul was encountered at the Forest Research Nursery, Burnihat, which was caused by a hitherto unreported species of *Cercospora* which is described as under<sup>1</sup>.

*Cercospora leucaene* Shukla & Sarmah sp. nov.

In foliolis symptoma apparet ab apice tamquam parva macula brunnea, at crescit usque ad partem mediam sed numquam ultra, formans robiginem irregularem, uniformiter brunneam. Semper anteceditur regione flava gradatim transients in viridi colore folioli. Interdum etiam maculae folii circulares, brunneae cum margine flavo. Mycelium immersum, septatum, hyalinum, vel pallide brunneum, 2–3  $\mu\text{m}$  crassum. Conidiophora caespitisi, macronematosa, mononematosa, recti, non ramosa, sed raro ramosa, pars inferior olivaceo-brunnea vel brunnea, pars superior pallida, Cicatricosa, cicatrices valde conspicuae, septata, 27.5–175.5  $\times$  2.5–5  $\mu\text{m}$ . Conidia solitaria, acropleurogenosa, recta, vel leviter curva, angusta, truncata ad basim et praeacuta ad apicem, hyaline, 25.5–150  $\times$  1.75–3.25  $\mu\text{m}$ , laevid septata, septa 3–15, hilum fuscum 1.5–2.5  $\mu\text{m}$  latum.

In foliis *L. leucocephala* (Lam) de Witt. Collectae

Forest Nursery, Burnihat, Assam, India ab A. N. Shukla. Specimen positum in CMI herb sub no. IMI 284468 et in Pathological Herb., Burnihat sub. No. 170

A comparison with its closest ally *C. canescens* Ellis & Martin shows clear differentiation between the two, in the shapes and sizes of conidiophores which are 90–100  $\times$  5–6  $\mu\text{m}$  and conida, which are 100–120  $\times$  5–6  $\mu\text{m}$ . It is also noted that no species of *Cercospora* has ever been reported on *Leucaena* spp<sup>2</sup>. Singh *et al*<sup>3</sup> described the leaf spots and other diseases on Subabul but attributed them to *Fusarium semitectum*.

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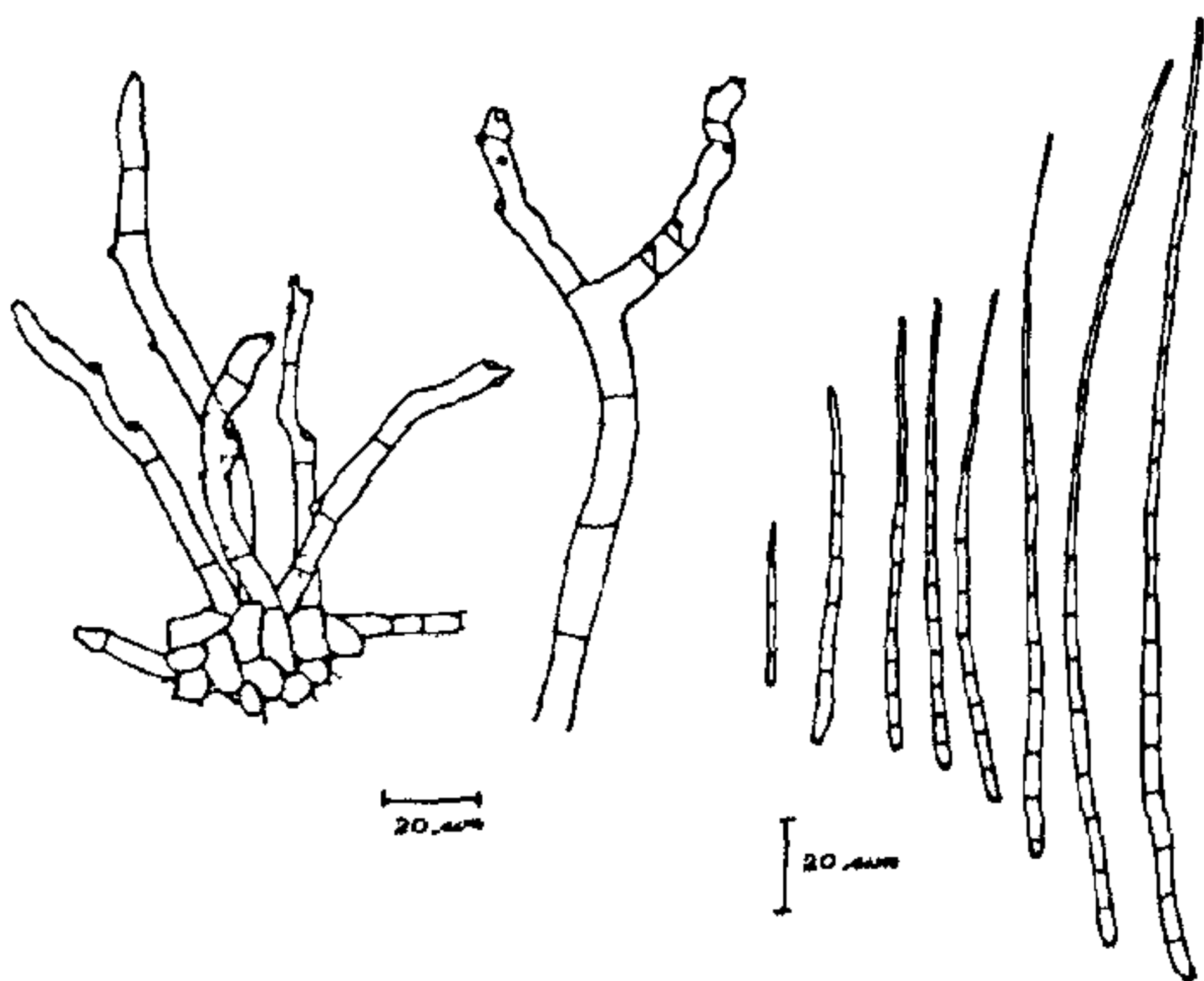
## EYESTALK NEUROSECRETORY SYSTEM IN THE FRESHWATER PRAWN, *CARIDINA* *RAJADHARI* (BOUVIER) (CRUSTACEA, DECAPODA, ATYIDAE)

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MANY of the crustacean hormones are neurosecretory products. The active principles appear to be elaborated by groups of neurosecretory cells, whose cell bodies are located in optic peduncle of the eyestalk, the brain and the thoracic ganglion. These neurohormones are usually transported intraaxonally along definite neuronal pathways and stored in its swollen axon terminals, until under the appropriate stimulus they are released into the blood. Thus the neurosecretory cells appear to play a critical role in the adjustment of a crustacean to its environment. As suggested by the available information, only a few

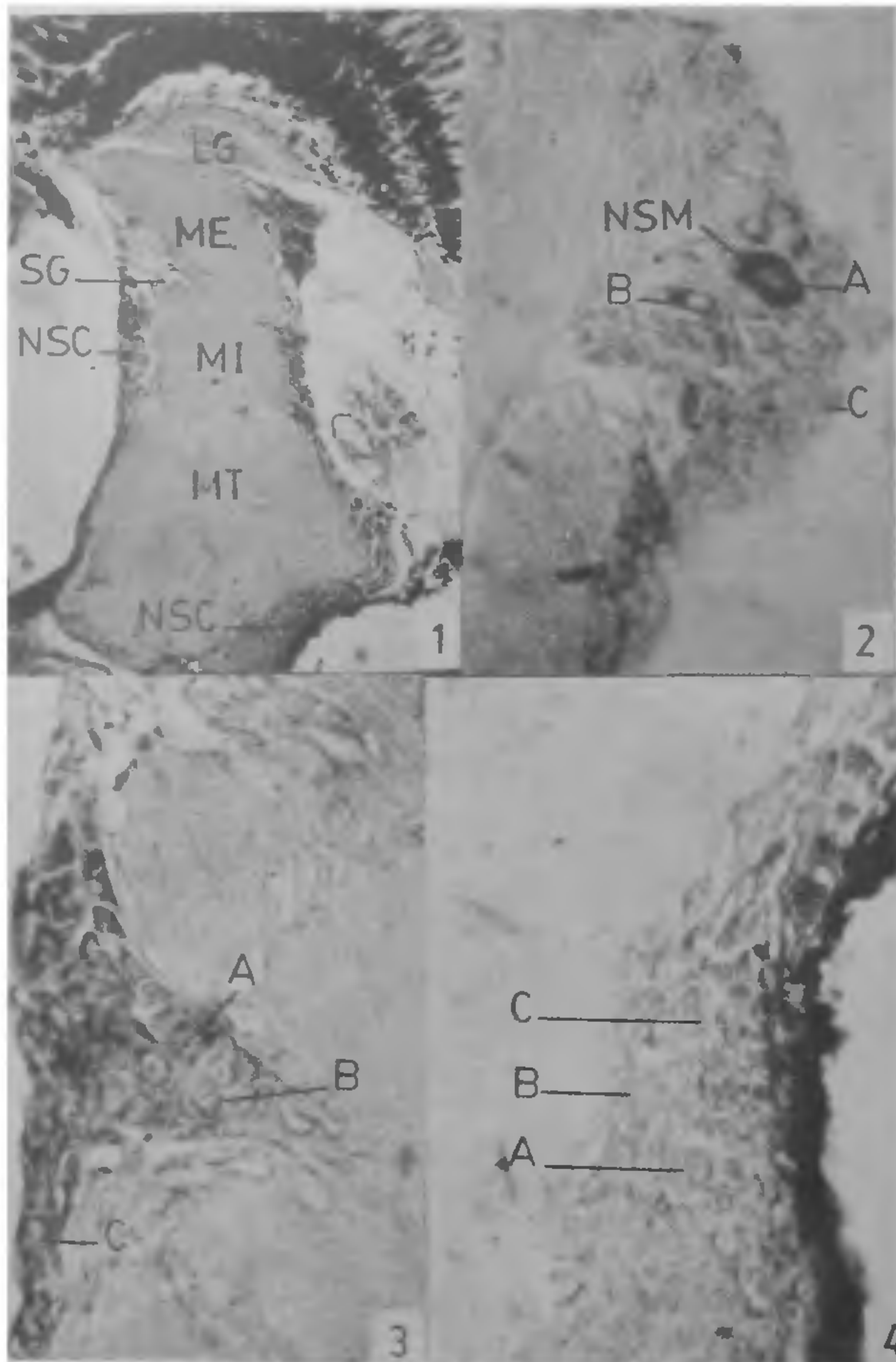


Figures 1, 2. 1. Simple and branched conidiophores of *C. leucaenae*. 2. Conidia of *C. leucaenae*.

publications dealt with the topography of the neurosecretory system in freshwater prawns. Commendable studies were carried out on neurosecretory cell types in *Palaemon paucidens*<sup>1</sup>, *Palaemon serratus*<sup>2</sup> and *Orconectus virilis*<sup>3</sup>. The present study reports the topography of the eyestalk neurosecretory system in

the freshwater atyid prawn, *Caridina rajadhari* (Bouvier).

Mature prawns of *C. rajadhari* were collected from Kham river near Aurangabad. Immediately after collection, the eyestalk was carefully dissected out in balanced saline<sup>4</sup>, and fixed in Bouin's fluid for 24 hr.



**Figures 1–4.** Photomicrographs of longitudinal section of eyestalk of *Caridina rajadhari*. **1.** Showing sinus gland and neurosecretory cell groups. **2.** Showing three Neurosecretory cell types in the eyestalk of *C. rajadhari*. **3.** Showing medulla extern x-organ (MEX) **4.** Showing medulla terminalis ganglionic x-organ (MTG X) (A–A-type cell, B–B-type cell, C–C-type cell, LG–lamina ganglionaris, ME–medulla externa, MI–medulla interna, MT–medulla terminalis, NSC–neurosecretory cell, NSM–neurosecretory material, SG–sinus gland)

Paraffin sections of 5–6  $\mu\text{m}$  thickness of eyestalk were prepared by usual histological technique. The staining method used to locate neurosecretory cells and structure was Ewen's (1962) modification of Gomori's paraldehyde fuchsin technique with Halmi's (1952) counterstain<sup>5</sup>. The size, shape, differential stainability and cell inclusions were used as the main criteria in identifying the neurosecretory cell types<sup>6</sup>.

The staining properties of NSCs in the optic ganglia, after treatment with PAF indicate that the NSCs are only found in groups and they are arranged along the lateral sides of the medulla externa, medulla interna and medulla terminalis. No NSCs are found in the lamina ganglionaris (LG). Previous studies showed that medulla interna of *Palaemon serratus* even lack NSCs<sup>7</sup> (figure 1). Sinus gland stains purple with PAF and appear to contain small number of blood sinuses. Sinus gland appears to be situated between medulla externa and medulla interna. Three types of NSCs are found in the eyestalk of *C. rajadhari*. A-type cells of 9–10  $\mu\text{m}$  in diameter, B-type cells of 4–5  $\mu\text{m}$  in diameter and C-type cells of 2–3  $\mu\text{m}$  in diameter (figure 2). Both medulla externa x-organ (MEX) and medulla terminalis or ganglionic x-organ (MTGX) appear to consist of all three classes of NSCs (figure 3, 4). These could be comparable to those found in the eyestalk of *Cambarellus shufeldti*<sup>8</sup>. The A-type cells look very

similar to the type-1 NSCs of *Orconectes virilis*<sup>6</sup>. A-type cells are the largest of all NSCs, but fewer in number. They are oval in shape with axon. These cells are PAF-positive with NSM staining dark purple of granulated cytoplasm. B-type cells are medium sized (5.4  $\mu\text{m}$  diameter) and numerous in number. C-type cells are comparatively smaller in size (1.8  $\mu\text{m}$  diameter) with little secretory activity.

26 November 1984

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## NEWS

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### BIOTECHNOLOGY PROFITS REMAIN ELUSIVE

... "Among the several dozen biotech companies that have gone public, a few show significant gains in sales and earnings. In most such cases, though, those percentage gains don't impress the financial analysts who keep a vigil on that infant industry. What they want to see . . . is success in getting new commercial products cleared and introduced into the marketing channels. Until that happens, the Wall Street people remain nonchalant about even such handsome percentage increases as the 39% revenue jump recently reported by Biogen NV (Geneva, Switzerland, and Cambridge, Mass.). Again in this year's second quar-

ter the company's revenues consisted only of interest income and fees for contract research and development work. Industry observers say Biogen has made commendable technological progress in its six-year existence, but the company still has no commercial product on the market."

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