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## ***Hermanites Sastryi* – a new species of Ostracoda from Lower Eocene of Andhra Pradesh, India**

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### **Abstract**

A new species of Ostracoda – *Hermanites sastryi* – has been described from the Inter-trappean beds of Lower Eocene age, Pungadi area, east coast of India. Stereoscan study of the surface pores exhibits numerous tiny, normal, pores haphazardly scattered all over the surface in addition to frequent, comparatively large, sunken, sieve pores confined to ornamental costae.

### **Introduction**

While making a detailed micropaleontological investigation of the Inter-trappean beds of the Pangadi area ( $17^{\circ}1' : 81^{\circ}39'02''$ ), West Godavari district, Andhra Pradesh, on the east coast of India, the author encountered a new species of the ostracode genus *Hermanites* which is being described here. Although the foraminiferal assemblage from these beds have been described in detail (Bhalla, 1967), the ostracode microfauna has not received adequate attention. The locality and sample numbers referred to in the present text are the same as given by the author for the foraminiferal assemblage (Bhalla, *op. cit.*).

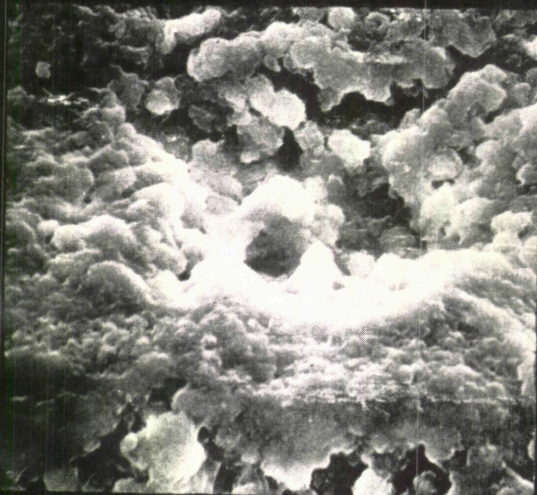
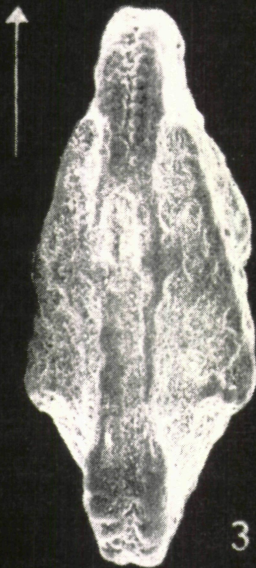
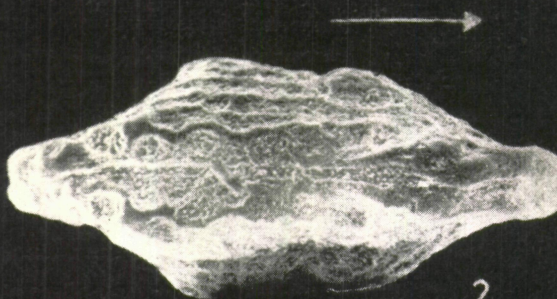
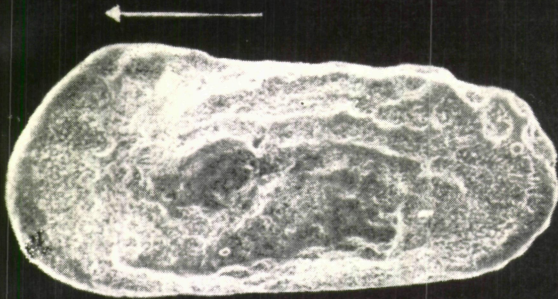
The microfauna associated with *Hermanites sastryi* sp. nov. comprise *Fissurina laevigata* Reuss, *Nonion kingi* Bhalla, *Rosalina sub-vilardeboana* (Rzehak), and *Discorbis toddae* Bhalla amongst foraminifers and a few ostracodes.

### **EXPLANATION OF PLATE I**

All figures scanning electron micrographs

Figs. 1-6. *Hermanites sastryi* sp. nov., Holotype, G.S.I. type no. 19528.

- 1 – Side view ( $\times 80$ ).
- 2 – Dorsal view ( $\times 80$ ).
- 3 – Ventral view ( $\times 80$ ).
- 4 – Showing details of ornamentation ( $\times 404$ ).
- 5 – Showing haphazard distribution of numerous tiny, normal, pores with a large sieve pore in the centre ( $\times 1615$ ).
- 6 – Showing details of large, sunken, sieve pore ( $\times 8076$ ).



The Inter-trappean beds of the Pangadi area have been assigned a Lower Eocene age on the basis of paleontological and stratigraphical considerations (Bhalla, 1967; 1968). Therefore, the age of *Hermanites sastryi* is also being considered as Lower Eocene. On microfaunal evidence, these beds (L/10 and L/11) were deduced to have been deposited in a near shore, epineritic environment having open sea connections (Bhalla, 1967). So, it is reasonable to infer that *Hermanites sastryi* occupied the same ecological niche as other microfossils occurring in these beds

### Systematic Description

- Subclass : OSTRACODA Latreille, 1806
- Order : PODOCOPIDA Müller, 1894
- Suborder : PODOCOPINA Sars, 1866
- Superfamily : CYTHERACEA Baird, 1850
- Family : TRACHYLBERIDIDAE Sylvester-Bradley, 1948
- Genus : *Hermanites* Puri, 1955
- Hermanites sastryi* sp. nov.
- (Pl. I figs. 1-6)

*Description* : Carapace subquadrate, elongate, somewhat compressed, large for the genus, maximum height at anterior cardinal angle; valves very slightly oblique towards dorsal side; dorsal margin almost straight, slightly undulating, gently convex in anterodorsal part, a little depressed behind it; posterior cardinal angle slightly protruding; posterior end almost rounded, convex in the centre of posterodorsal end, slightly concave on either sides, gradually merging with ventral margin; ventral margin straight; dorsal and ventral margins almost parallel, somewhat converging towards posterior end.

Viewed dorsally, carapace subcuneiform, moderately inflated; greatest width behind the middle, about one-third of length from posterior end; lateral sides a little nicked behind subcentral tubercle, converging to both ends, more rapidly behind the greatest width where they are compressed also.

Anterior end with a fairly stout rim; less pronounced marginal rims present along dorsal, ventral, and posterior margins; a rather undulating ridge parallel to dorsal margin present along central-dorsal and posterodorsal regions; a prominent keel on ventral side runs parallel to ventral margin and terminates in a small bend in posteroventral region. Eye-spots fairly prominent, surrounded by a narrow groove on all sides except dorsal.

Subcentral swelling well-marked; surface embossed with heavy, reticulating, ridges prominent on most of the carapace except anterior and posteroventral regions due to poor preservation; ornamental pits shallow, rectangular; anterior and posterior borders studded with small, rather faint, frill-like protuberances.

Left valve slightly overlaps right valve adjacent to eye-spot along dorsal margin and also near posterior end of the same margin.

Two types of pores were observed on the carapace – A, numerous, tiny, single pores scattered all over in a haphazard manner and B, a few, comparatively rare but large, sieve pores (Pl. I, fig. 5). The sieve pores are sunken and without a well-defined central or subcentral pore (Pl. I, fig. 6). They are situated on the ornamental reticulating ridges.

Sexual dimorphism and valve interior were not observed in *Hermanites sastryi*. All the specimens are apparently males.

## Dimensions (in mm)

	<i>length</i>	<i>height</i>	<i>width</i>
Holotype (Pl. I, figs. 1-6)	0.93	0.42	0.40
Other specimens	1.30 to 0.90	0.40 to 0.39	0.38 to 0.41

## Remarks

*Hermanites sastryi* sp. nov. shows some resemblance to *Hermanites paijenborchiana* described by Keij (1957) from the Lutetian of Paris Basin but does not show subtruncated posterior margin, rounded knob at posteroventral region and spines at anterior and posterior margins. As against *H. paijenborchiana*, the dorsal ridge in this new species is not overhanging on the posterior part of the dorsal margin and projecting spurs in the depressions formed by ornamental reticulations are absent. This new species also shows some affinity with *Cythereis bowerbanki* Jones described by Latham (1938) from the Eocene beds of Salt range, Pukistan, but a comparison with the types of *C. bowerbanki* deposited in the British Museum (Natural History), London, reveals that *Hermanites sastryi* does not exhibit anterior and posterior denticles or spines, posteroventral side is not upward bending, faint caudal projection is absent, and it is smaller in size than *C. bowerbanki*.

*Type horizon*: Inter-trappean beds, sample L/10, hard, whitish, limestone. Also in sample L/11.

*Type locality*: Quarry section, one mile southeast of Duddukuru village and less than a furlong from milestone 350 on Kavvur-Eluru road, West Godavari district, Andhra Pradesh, India.

*Geologic age*: Lower Eocene.

*Repository of type material*: Holotype, No. 19528, a complete carapace, apparently a male deposited in the Palaeontological Collection of the Geological Survey of India, Calcutta.

*Etymology*: This new species is named in honour of Shri M. V. A. Sastry, Director of the Palaeontology and Stratigraphy Division, Geological Survey of India, Calcutta, in recognition of his notable contributions to the palaeontology and stratigraphy of India.

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