

STUDIES OF INDIAN ERYTHRAEOIDEA (ACARINA) ¹

BY

Nandini S. KHOT ².

Series II. — *Mites of the Subfamily Balaustiinae, Southcott.*

Adults and nymphs of the subfamily Balaustiinae possess one eye on each side, placed well behind the middle of the crista, or if the crista is obsolete or absent, behind the midpoint between the anterior and posterior, dorsal, idiosomal sensillae. Dorsum with two or four specialized sensory pits. Tibia of legs without distal tubercles.

SOUTHCOTT (1961) in his definition of this subfamily describes the position of specialized, tubular, sensory pits. The anterior pair placed posterior to the eyes and the posterior pair, when present, placed postero-laterally and somewhat dorsally on the idiosoma. In both species of the genus *Microsmaris* in my collection the anterior sensory pits are situated far behind the eyes, mid-dorsally above lateral margin. Also, in case of the new genus *Microsmarialla* described by me, sensory pits are situated on the outer side of the eyes. Hence, it appears that position of the sensory pits is variable and more collection and study is necessary to define their proper positions.

Two new species of the genus *Microsmaris* and a new genus *Microsmarialla*, represented by a new species, are in the writer's collection. Their descriptions are given below.

Genus *Microsmaris* Hirst.

Microsmarid mites are small red or deep orange in color having one bright red eye on each side. Crista generally absent. Dorsum with two pairs of specialized sensory pits lined with leaf-like setae.

1. Based on a thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy to the faculty of the post-graduate school, Indian Agricultural Research Institute, New Delhi, India. This paper is the second of a series.

2. Assistant in Entomology, Oregon State University, Corvallis, Oregon, U.S.A.

Key to the Species of Microsmaris of India.

Front tarsus twice as long as wide. Small species.. *Microsmaris sparsepinnata* sp. n.

Front tarsus three times as long as wide. Larger species... *Microsmaris pinnata* sp. n.

***Microsmaris sparsepinnata* sp. n.**

(Plate No. 7).

Small orange mite 0.650 mm. long and 0.312 mm. wide. Crista absent. Anterior sensillary setae 0.045 mm. long and posterior sensillary setae 0.057 mm. long. Dorsal setae simple, of varying length; smaller ones 0.021-0.024 mm., the longer ones ranging 0.03-0.045 mm. No clear differentiation noticeable in lengths of these setae.

One eye on each side situated a little above the level of posterior sensillary setae. Two pairs of sensory pits present on dorsum, a pair, one on either side, dorsally between the second and third legs, and a pair above the posterior dorsal margin. Legs moderately long, I - 0.689 mm., II - 0.403 mm., III - 0.416 mm. and IV - 0.624 mm.

Locality. — Bikaner (Rajasthan); 9th February, 1959; in debris; collected by Mr. S. S. KHOT.

***Microsmaris pinnata* sp. n.**

Live specimen bright red in color, body wide oval 1.22 mm. in length and 0.585 mm. in width. Dorsal setae of two variable lengths, the longer ranging 0.045 - 0.048 mm. long and the smaller 0.018 - 0.024 mm. long. One eye on each side of the posterior sensillary area. Anterior sensillary setae 0.045 mm. long and posterior sensillary setae 0.075 mm. long. Dorsum with four sensory pits, one pair on either side of the propodosoma situated dorsally between the second and third coxae, and the other pair situated on the postero-dorsal margin, each sensillary pit edged with leaf-like setae. Legs moderately long, I - 1.248 mm., II - 0.819 mm., III - 0.728 mm., IV - 1.17 mm. Leg tarsus I about three times as long as high.

Locality. — Bikaner (Rajasthan); 9th February, 1959; collected by Mr. S. S. KHOT and at I.A.R.I. Orchards (Delhi); 16th May, 1959; in debris; collected by the writer.

Genus *Microsmariella* gen. n.

Mites with dorsum having one crescent shaped sensory pit situated on each side between the eye and the posterior sensillary setae. Posterior sensillary area

PLATE No.7

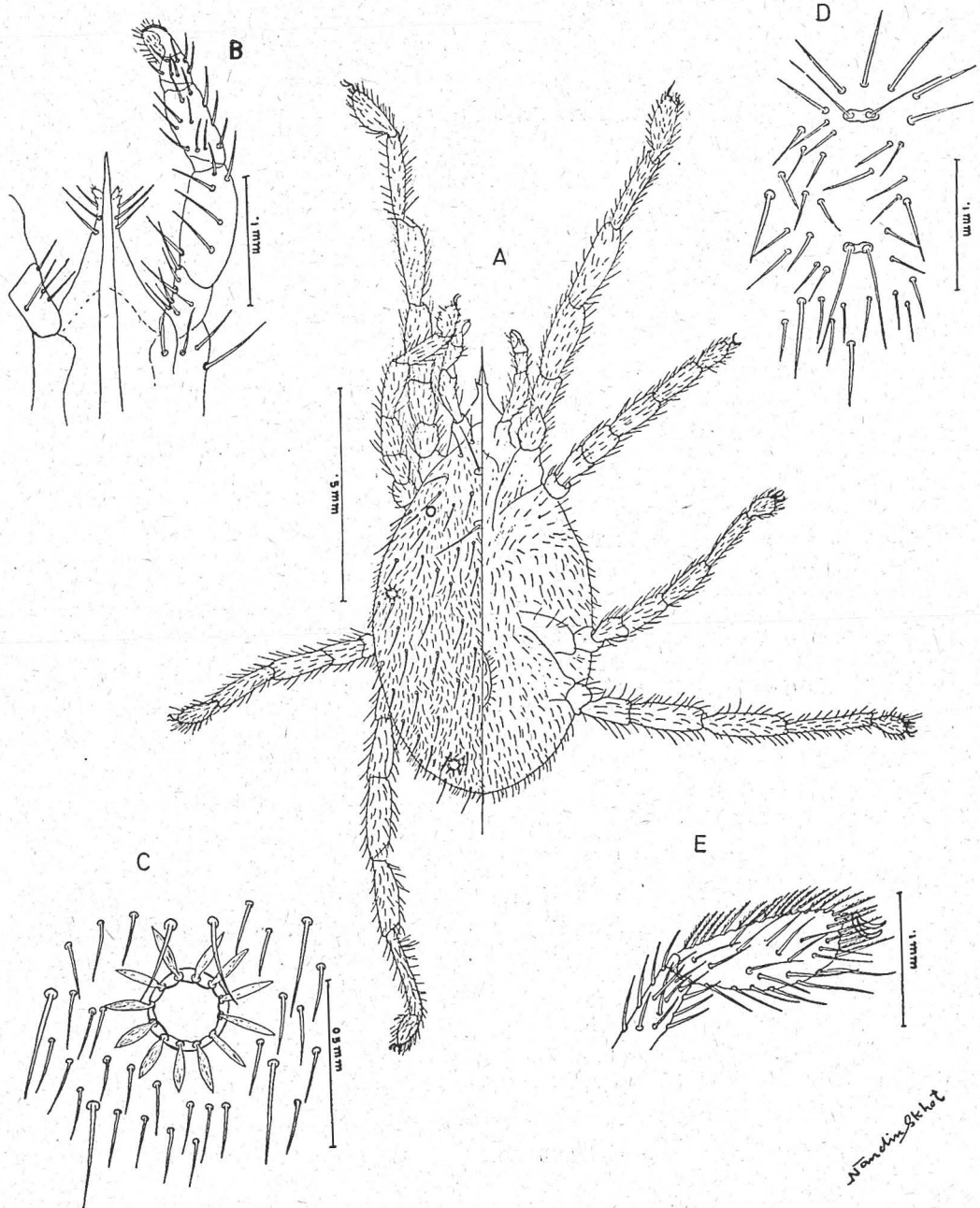
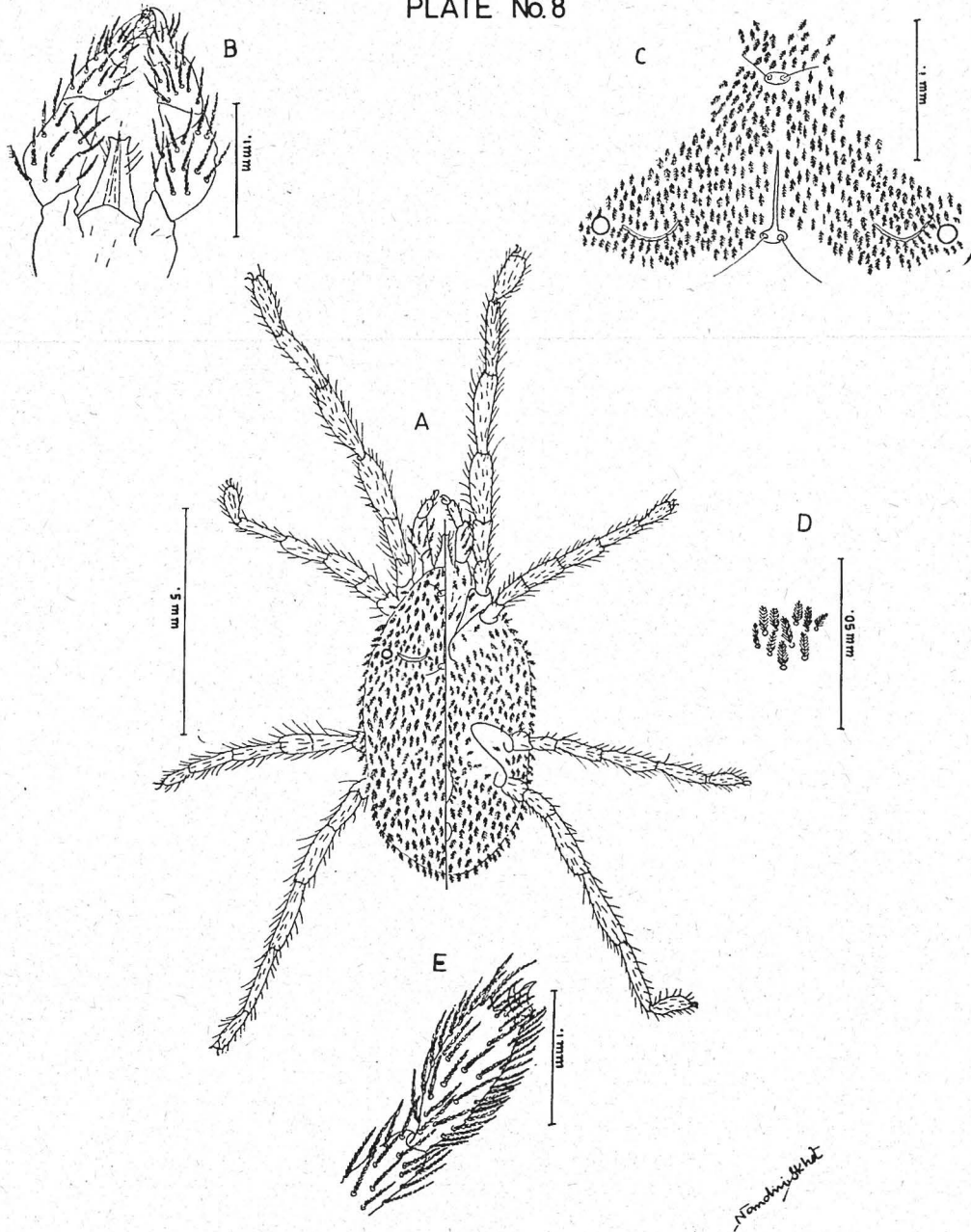


PLATE No.8



with stem of the crista extending anteriorly up to the middle of distance between the two sensillary areas, dorsal setae setose.

This genus is monotypic being represented by *Microsmarialla coniferana* sp. n.

***Microsmarialla coniferana* sp. n.**

(Plate No. 8).

Color bright red in live specimen. Body oval, 1.027 mm. long and 0.416 mm. wide. Dorsum densely covered with small setose setae, length varying 0.009 - 0.012 mm. Crista not distinct and stem of crista can be traced up to lower half of the distance between the two sensillary setae. Anterior sensillary setae fine and smooth, 0.06 mm. long; posterior sensillary setae 0.027 mm. long. Sensory pits, crescent shaped, situated on either side of the propodosoma. One eye on each side situated on the propodosoma on the outer lateral margin of the sensory pits. Legs with setae almost like that of dorsum and with some pointed sensory setae, legs moderate in length, I - 1.001 mm., II - 0.0676 mm., III - 0.858 mm., IV - 0.897 mm.

Locality. — Gwalior (Madhya Pradesh); 12th April, 1959; in debris. Collected by Dr. Paul O. RITCHER.

Acknowledgments.

I wish to express my gratitude to Doctors E. S. NARAYANAN, M. G. RAMADAS MENON, B. R. SUBBA RAO, A. B. JOSHI and T. K. NARIYANI for advice and help during these investigations.

I am grateful to Dr. Paul O. RITCHER and S. S. KHOT for generously helping me to collect samples from different parts of India.

REFERENCES

- GRANDJEAN (F.), 1947. — Au sujet des Erythroïdes. *Bull. Mus. Hist. Nat. Paris* (2) : 19 (4) : 327-334.
- HIRST (S.), 1926. — On some new mites of the suborder Prostigmata. (Trombidioidea). *Ann. Mag. Nat. Hist.* (9) 18 : 609-616.
- OUDEMANS (A.), 1941. — Neue Funde auf dem Gebiete der Systematic und der Nomenklatur der Acari VIII. *Zool. Anz.* 136 (9-10) : 177-186.
- SOUTHCOTT (R. V.), 1946. — Studies in Australian Erythraeidae (Acarina). *Proc. Linn. Soc. N. S. W.* 71 (1-2) : 6-48.
- SOUTHCOTT (R. V.), 1961. — Studies of the systematics and biology of the Erythraeoidea (Acarina) with a critical revision of the genera and subfamilies. *Aust. Journ. Zool.* Vol. 9 No. 3 : 367-610.