

STUDIES OF INDIAN ERYTHRAEOIDEA (ACARINA) ¹

Series IV. — *Mites of the subfamily Callidosomatinae* Southcott.

BY

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SOUTHCOTT (1961) defined subfamily Callidosomatinae as “ Adults and nymphs with one eye on each side, placed behind the middle of the crista. Crista present and may continue behind posterior sensillary area. Idiosoma of adult and nymph without special sensory pits. Pedial tibiae of adults and nymphs may have prominent distal tubercles. ”

In my collection there are two species of this subfamily which do not come under any of the genera described so far. Hence, they are placed under new genus *Neoabrolophus*. Above definition given by SOUTHCOTT can be modified by adding specialized character of this genus of having two distinctly different types of setae on dorsum.

Out of five genera described so far under this subfamily species of the genera *Cecidopus*, *Sphaerolophus*, *Abrolophus* and a new genus *Neoabrolophus* are in my collection. These descriptions are given below :

Genus *Sphaerolophus* Berlese 1910.

Adults and nymphs of this genus possess one eye on each side ; crista present, with two sensillary areas, the anterior at the vertex of the idiosoma. Eyes present, behind the middle of the crista. Idiosomal setation dense, simple or setose. Palpal tarsus enlarged, globular or pyriform, projecting well behind palpal tibial claw.

BERLESE (1910) divided this genus into subgenera *Sphaerolophus* s. s. and *Cavannea* Berlese. On the basis of shape of palpal tarsus ; according to his definitions, mites of the subgenus *Sphaerolophus* possess enlarged or more or less globular

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palpal tarsus while the subgenus *Cavannea* having elongated pyriform palpal tarsus. Subgenus *Cavannea*

This subgenus includes species with palpal tarsus elongated, pyriform. Crista metopica prolonged backwardly beyond the posterior sensillary area. Only one new species is in my collection and the same is described below.

***Sphaerolophus (Cavannea) gigas*, sp. n.**

(Plate No. 14)

Bright red mite 3.9 mm. long and 2.31 mm. wide. Dorsum with numerous small setae giving spur like appearance to the body, each seta (Plate No. 14, C) with long median pointed stem and spiny ciliations up to the middle of its length, crista (Plate No. 14, D) stout 1.34 mm. in length with anterior sensillary area situated on anterior dorsal margin ; anterior sensillary area triangular in shape with eight non-sensillary setose setae situated along its anterior margin and two more such pairs on either side of the sensillary setae, the length of these setae ranging 0.26 mm. -0.32 mm ; sensillary setae, smooth, slender, pointed 0.143 mm. in length. Posterior sensillary area situated on middle of dorsum having a posterior extension of crista and a pair of sensillary setae 0.182 mm. long. Eyes one on either side, little behind the middle of crista. Legs with two types of setae, like that of dorsum and long pointed simple setae ; legs long I-6.18 mm., II-3.833 mm., III-3.93 mm., IV-4.806 mm., all tarsi with dense spur of setae at the base of claw. Palpi (Plate No. 14, B) comparatively smaller measuring 0.975 mm., palpal tarsus 0.975 mm. long pyriform in shape, palpal tibial claw bullet shaped and small.

Locality : I. A. R. I. orchard (Delhi) ; 25 February, 1959 ; on sugar cane leaves ; collected by the writer.

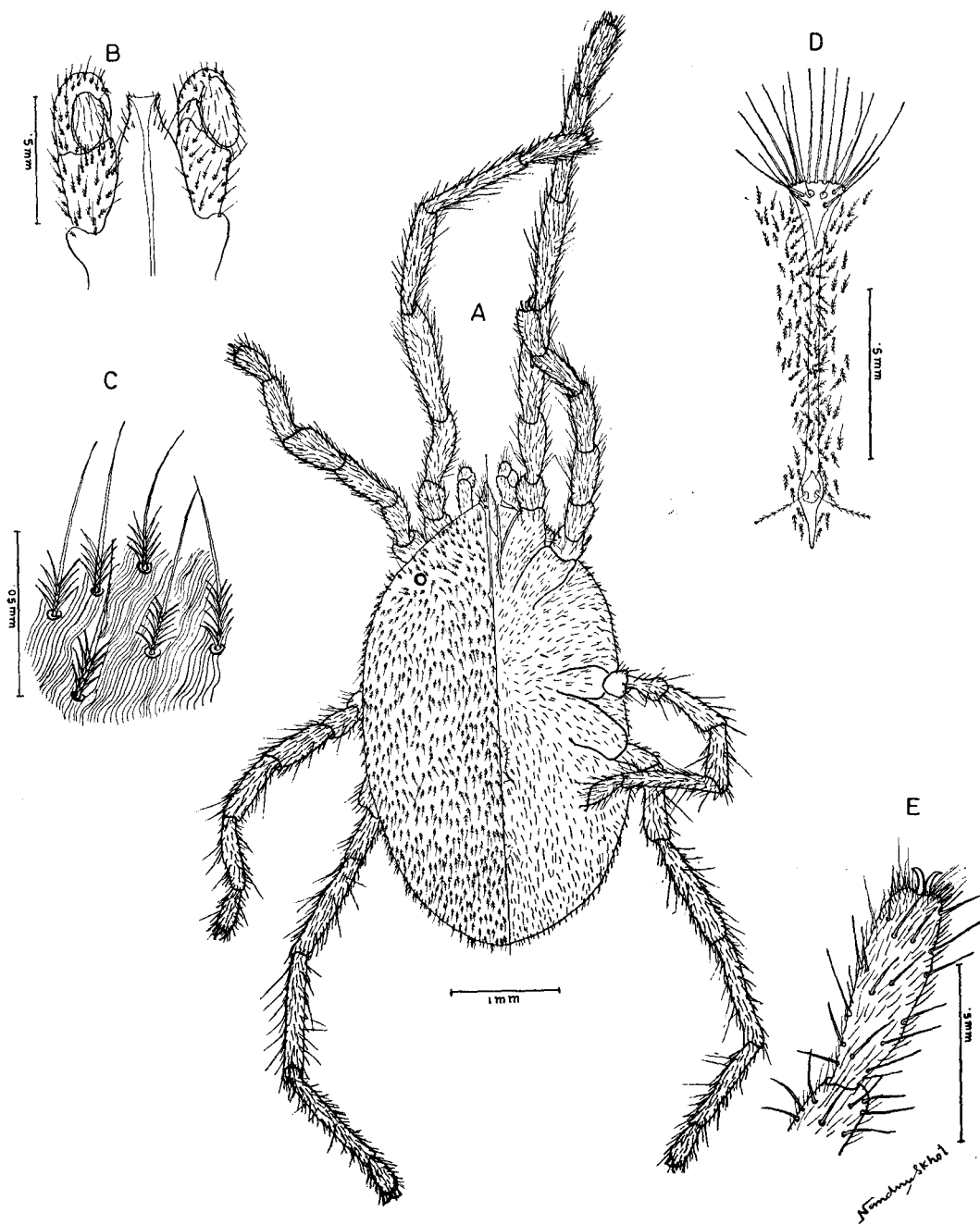
Subgenus *Sphaerolophus* :

Mites with body more or less elongated. Dorsal setae lightly setose, dense. Legs long with the setae of the same type as that of dorsum. Palpal tarsus globular.

Key to the Indian species of Sphaerolophus.

- Front tarsus four times longer than wide.....
Sphaerolophus (Sphaerolophus) delhiensis, sp. n.
Front tarsus globular, slightly longer than wide.....
Sphaerolophus (Sphaerolophus) minutus sp. n.

PLATE No. 14



Sphaerolophus (Sphaerolophus) delhiensis, sp. n.

(Plate No. 15).

Bright red mite in live specimen. Body wide oval 1.43 mm. long and 1.12 mm. wide. Dorsum covered with dense spur of minute, 0.091 mm. long small, curved and pointed lightly ciliated setae, (Plate No. 15, C). Crista 0.942 mm. long with anterior sensillary area little below the anterior margin of dorsum and extending posteriorly beyond the posterior sensillary area ; anterior sensillary area rectangular in shape with a pair of smooth pointed sensillary setae 0.042 mm. long and five stout pointed non-sensillary setae 0.045 mm. long. Two pairs of long setae almost double the size that of normal dorsal setae, situated one on either side of the base of the anterior sensillary area and a pair a little below it along the stem of crista. Eyes one on either side of the crista. Tarsus I-0.26 mm. long and 0.065 mm. wide and with a spur of setae along the inner margin. Legs moderately long, I-1.172 mm., II-1.09 mm., III-1.235 mm., and IV-2.028 mm. Palpal tarsus spherical.

Locality : I. A. R. I. orchard (Delhi) ; 2 September, 1959, on cotton leaves ; collected by the writer.

Sphaerolophus (Sphaerolophus) minutus, sp. n.

(Plate No. 16).

This species comes close to the *Sphaerolophus westraliense* Womersley, but differs from it in having a small almost spherical front tarsus and also in other dimensions.

Body oval 1.014 mm. long and 0.468 mm. wide, bright orange-red in color in live specimens. Crista 0.237 mm. extending posteriorly up to the middle of dorsum ; anterior sensillary area triangular in shape with three plumose 0.286 mm. long non-sensillary setae situated along the anterior margin of area, sensillary setae linear, simple, 0.057 mm. long ; posterior sensillary area with a sensillary setae 0.221 mm. in length, simple and situated on triangular plate. Eyes on either side situated lateral to the posterior sensillary area. Dorsal setae small ranging from 0.018 mm. — 0.021 mm. in length, small setose and pointed. Legs with simple setae. Legs moderate in length, I-1.09 mm., II-0.728 mm., III-0.826 mm. and IV-1.30 mm. Tarsus I-0.091 mm. long and 0.078 mm. wide.

Locality : I. A. R. I. orchard (Delhi) ; 22 October, 1959, on cotton plant collected by the author.

Genus *Cecidopus* Karsch.

COOREMAN (1953) redefined this genus as : one eye on each side. Crista present, normal, provided with narrow longitudinal shield. Eyes placed a little behind

PLATE No. 15

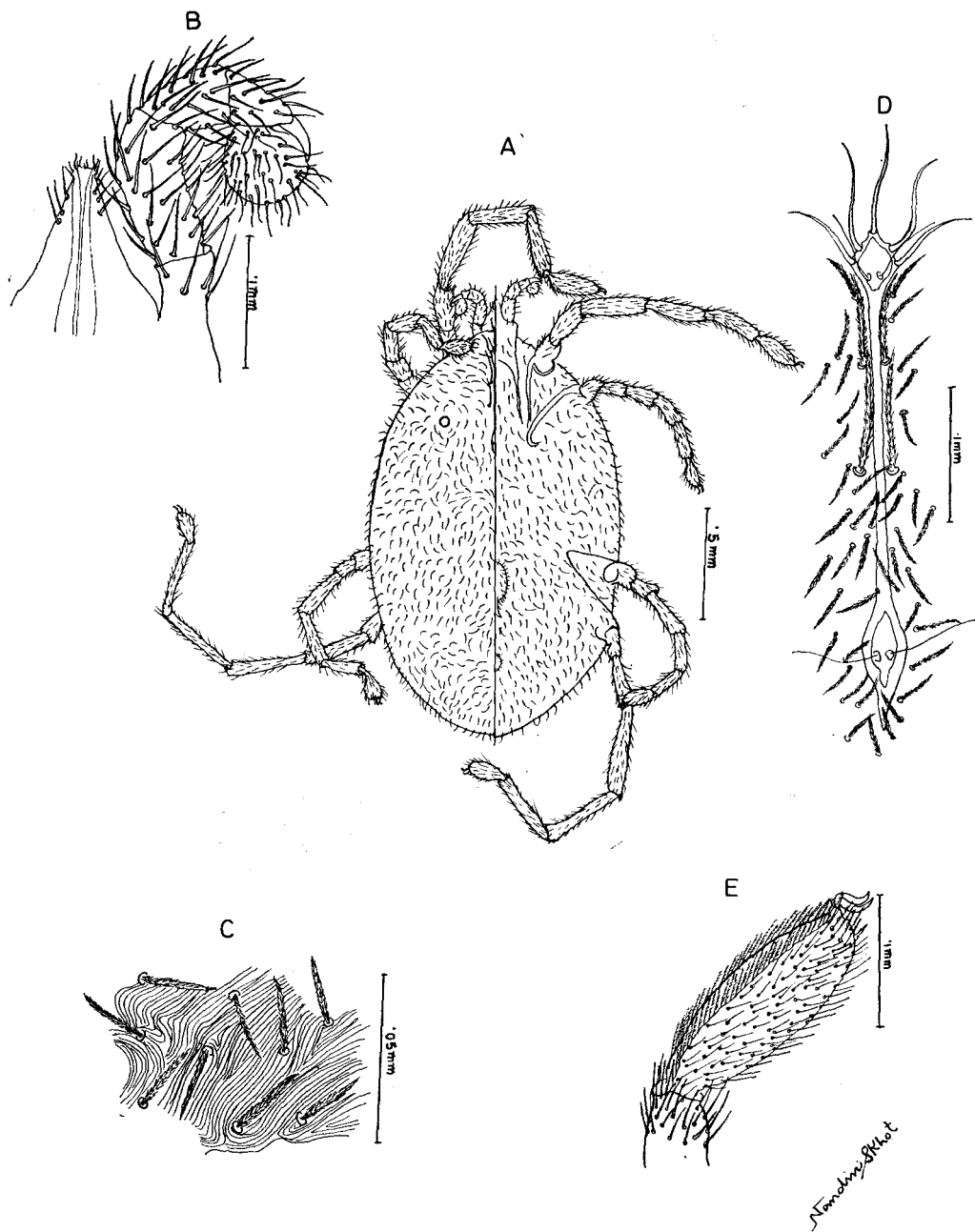
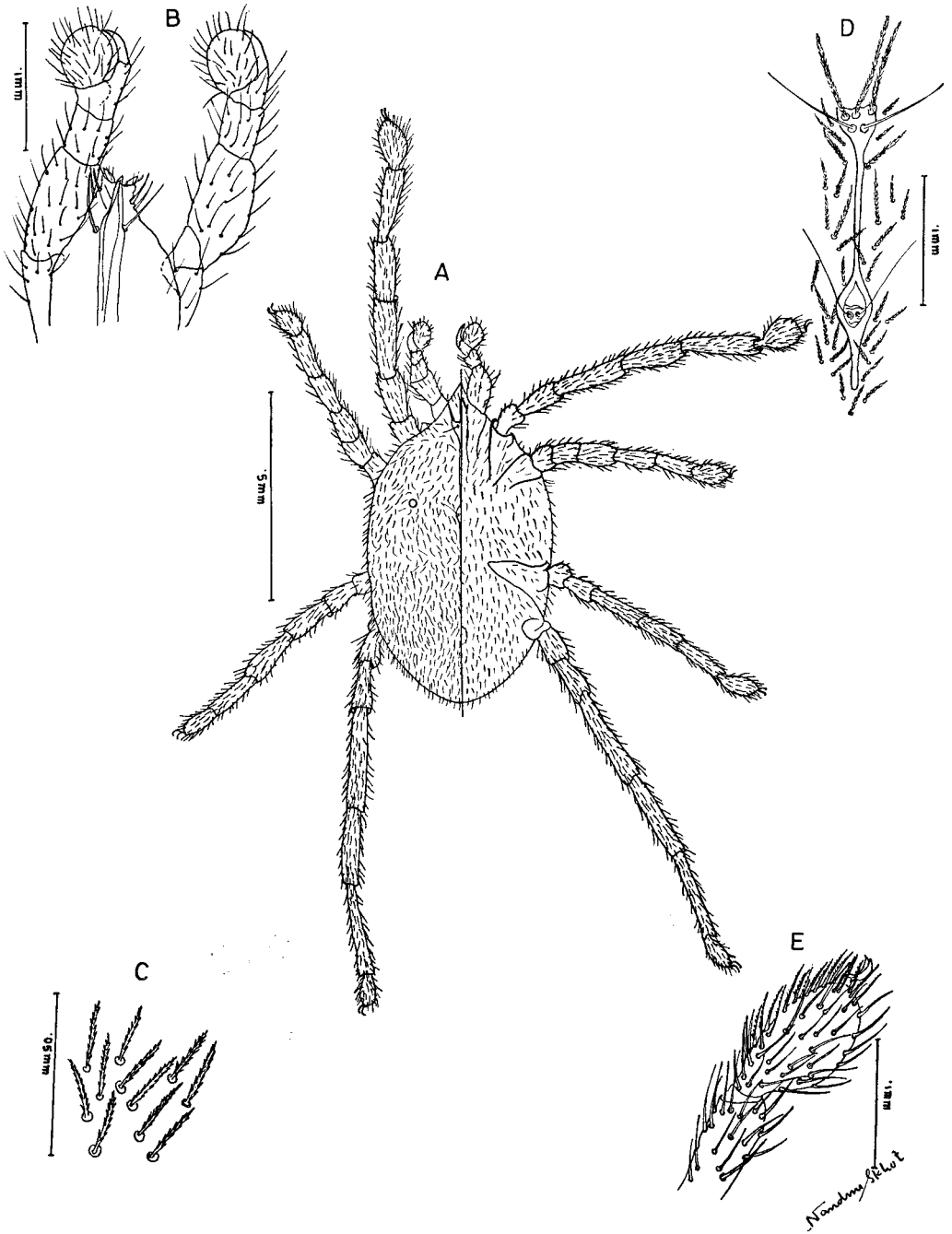


PLATE No. 16



middle of crista. Palpal tarsus generally enlarged. Leg IV with genu enlarged. Telofemur IV also enlarged but less than genu IV. Dorsal setation simple.

A single new species is present in my collection.

***Cecidopus shyamae*, sp. n.**

(Plate No. 17).

Body elongated 1.801 mm. long and 0.962 mm. wide, dark red in color in live specimen. Crista 0.541 mm. long with anterior sensillary area triangular having three stout, pointed, smooth non-sensillary setae situated along the anterior margin and a pair of five simple 0.078 mm. sensillary setae ; posterior sensillary area roundish with a sensillary setae 0.111 mm. long. Dorsal setae small, curved, simple and 0.024 mm. long. Eyes are on either side placed lateral, posterior to the middle of crista. Ventral setae same as that of dorsum. Legs long I leg-0.912 mm., II leg-1.885 mm., III leg-2.197 mm. and IV leg-3.67 mm. in length. Leg IV with enlarged genu and telofemur.

Locality : I. A. R. I. quarters (Delhi) ; 12 June, 1960, in house ; collected by Miss Shyam P. FOTEDAR.

Genus *Abrolophus* Berlese.

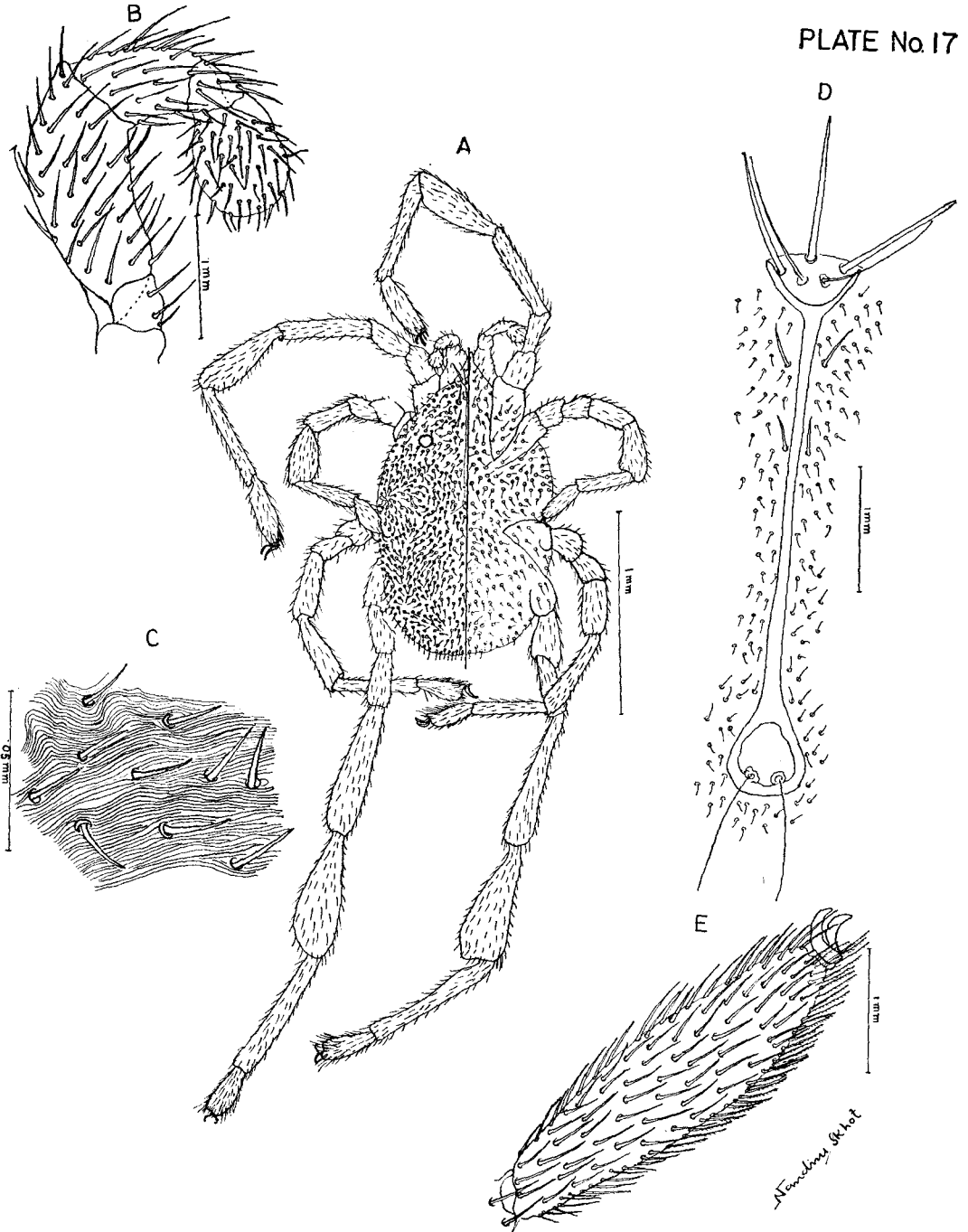
SOUTHCOTT (1961) reviewed this genus and redefined as : Adult and nymph with one eye on each side, behind the middle of crista. Crista normal. No specialized sensory pits present on dorsum. No tubercles on tibia of legs. Legs and palpi normal without any unusually enlarged segments.

Three new species and *Abrolophus ripicola* Womersley, a new record from India are in my collection.

Key to the species of *Abrolophus* of India.

1. Front tarsi three times or three and a half times as long as wide.....
Abrolophus ripicola Womersley
Front tarsi about two and a half times as long as wide..... 2
2. Metatarsus more than twice the width of tarsus..... 3
Metatarsus less than twice the width of tarsus..... *Abrolophus delhiensis*, sp. n.
3. Metatarsus of the same length as that of tarsus.... *Abrolophus indicum*, sp. n.
Metatarsus one and a half times longer than the tarsus.....
Abrolophus batotensis, sp. n.

PLATE No. 17



Abrolophus ripicola Womersley.

(Plate No. 18).

WOMERSLEY (1934) described this species from Australia. According to the dimensions specimen in my collection agree with this species but differ in some other characters such as shape of anterior sensillary area and number of non-sensillary setae etc. Hence, the description of the specimen in collection is given below.

Mite with deep orange color in live specimens. Body oval 1.000 mm. long and 0.52 mm. wide. Dorsum with dense spur of small, lightly setose, 0.02 mm. long setae. Crista 0.18 mm. long extending posteriorly, dorsally up to the base of coxae second. Anteriorly cristal plate forms a nasus; anterior sensillary area triangular in shape with light transverse lines separating the area into four parts, sensory setae, smooth, pointed, linear, 0.045 mm. long situated on the posterior part of the area; a pair of non-sensillary, 0.051 mm. long, setae situated anterior to the sensillary setae. Posterior sensillary area with irregular posterior margin and 0.051 mm. long sensillary setae. A clear transverse line on dorsum separates propodosoma and hysterosoma. One eye situated posterior lateral to the middle of crista. Legs measuring I-0.819 mm., II-0.637 mm., III-0.65 mm. and IV-0.819 mm. Leg setae simple. Tarsus I about three and a half times longer than wide.

Locality : I. A. R. I. orchard (Delhi) ; 4 March, 1959 ; collected by the writer.

Abrolophus delhiensis, sp. n.

(Plate No. 19).

Color bright red in live specimen with a red eye spot. Body elliptical 1.007 mm. long and 0.364 mm. wide. Crista 0.156 mm. long; anterior sensillary area with rounded tip forms a nasus with cristal plate; sensillary area possess 0.069 mm. long sensillary setae. Crista extends posteriorly into an irregular projection. Dorsal setae, setose, ranging 0.081 mm.-0.021 mm. in length. Eye one on either side situated lateral to the posterior sensillary area. Palp with a slightly bent tibial claw and bullet-shaped palpal tarsus.

Locality : I. A. R. I. orchard (Delhi) ; 15 January, 1959 ; on sugar cane leaves ; collected by the writer.

PLATE No. 18

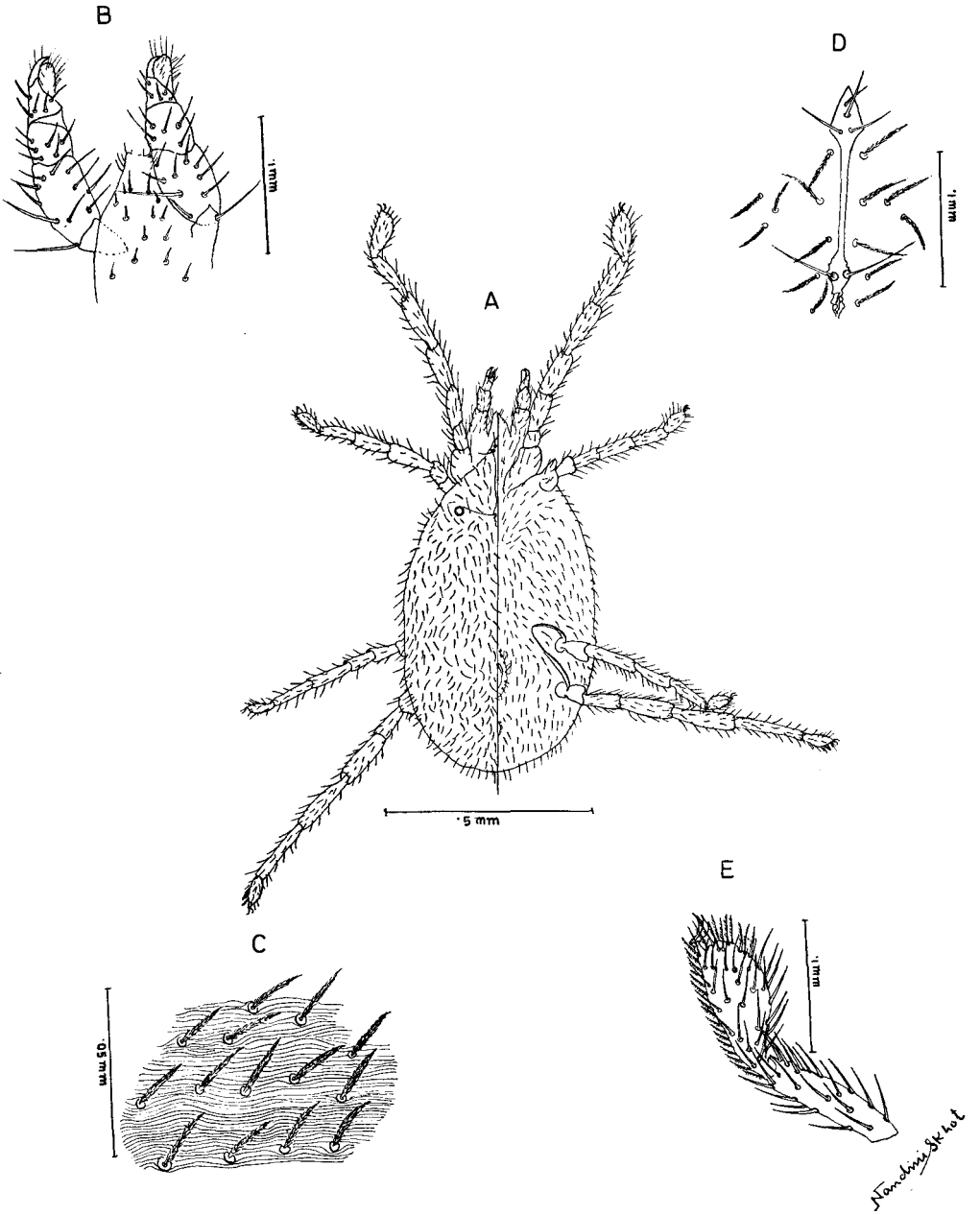
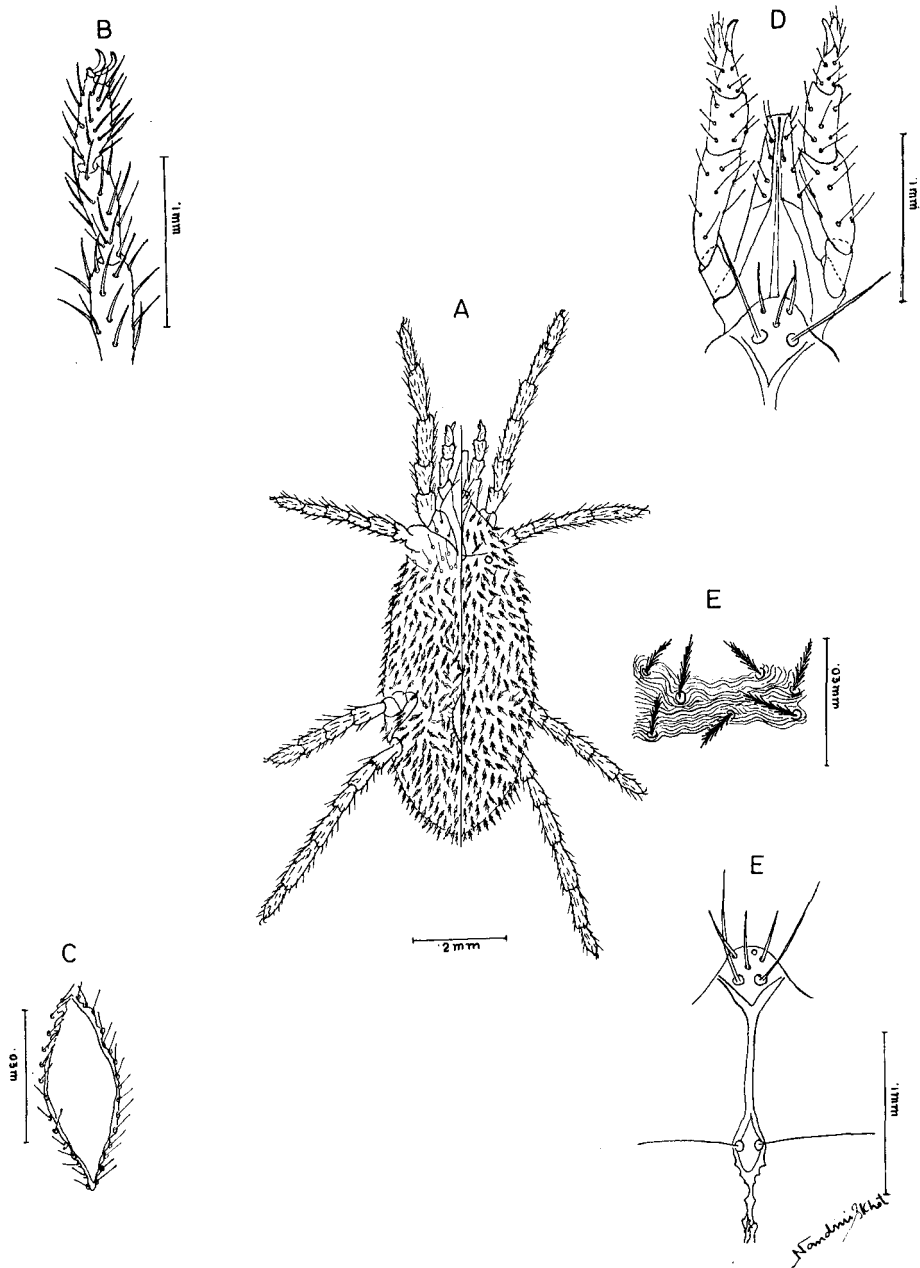


PLATE No.19



Abrolophus batotensis, sp. n.

(Plate No. 20).

Bright red mites in live specimen. Body oval 1.44 mm. long and 0.65 mm. wide. Dorsum with small spiny setae, each consists four to five about 0.018 mm. long setae with common base. Crista comparatively short 0.273 mm. long; anterior sensillary area rectangular, situated on nasus formed by cristal plate; anterior sensillary setae 0.05 mm. long situated on posterior half of the area while anterior half with six non-sensillary setae ranging 0.048 mm.-0.06 mm. in length. Eyes one on either side situated lateral to the posterior sensillary area. Legs measuring I-1.67 mm., II-1.00 mm., III-1.12 mm. and IV-1.55 mm.; leg setae small simple ranging 0.024 mm.-0.045 mm.

Locality : Batot (Kashmir state) ; collected 19 May, 1959, in debris, by Dr. Paul O. RITCHER.

Gen. *Neoabrolophus*.

This genus comes under the subfamily Callidosomatinae in having one eye on either side situated behind the middle of crista but does not agree with generic characters of the genera so far described. Hence it is described as a new genus. *Neoabrolophus* is characterized in possessing distinctly two types of dissimilar setae on dorsum, a longer lightly setose stout setae and small ciliated plumose setae. Cristal plate or shield absent. Type : *Neoabrolophus brevisetorum*, sp. n.

Two new species are described under this genus. Key to them and their description is given below.

1. Tarsus I four times as long as wide. Metatarsus three times as long as width of tarsus. Dorsal setae some what stellate with common base..... *N. brevisetorum*, sp. n.
Tarsus I a little less than three times as long as wide. Metatarsus twice as long as width of tarsus. Smaller dorsal setae having a middle stock uniformly ciliated along the length *N. longisetorum*, sp. n.

***Neoabrolophus brevisetorum*, sp. n.**

(Plate No. 21).

Body oval, bright red in color in live specimen, 2.093 mm. long, 1.17 mm. wide. Dorsum with two types of setae, smaller ones like bunch of spiny setae with common base while the other almost three times longer than smaller ones and stout, densely setose 0.081 mm. long setae. Crista 0.598 mm. long, posteriorly extended a little beyond the posterior sensillary area. Anterior sensillary area pear shaped, situated on anterior margin of the body, with a pair of fine, lightly setose, 0.09 mm. long

PLATE No.20

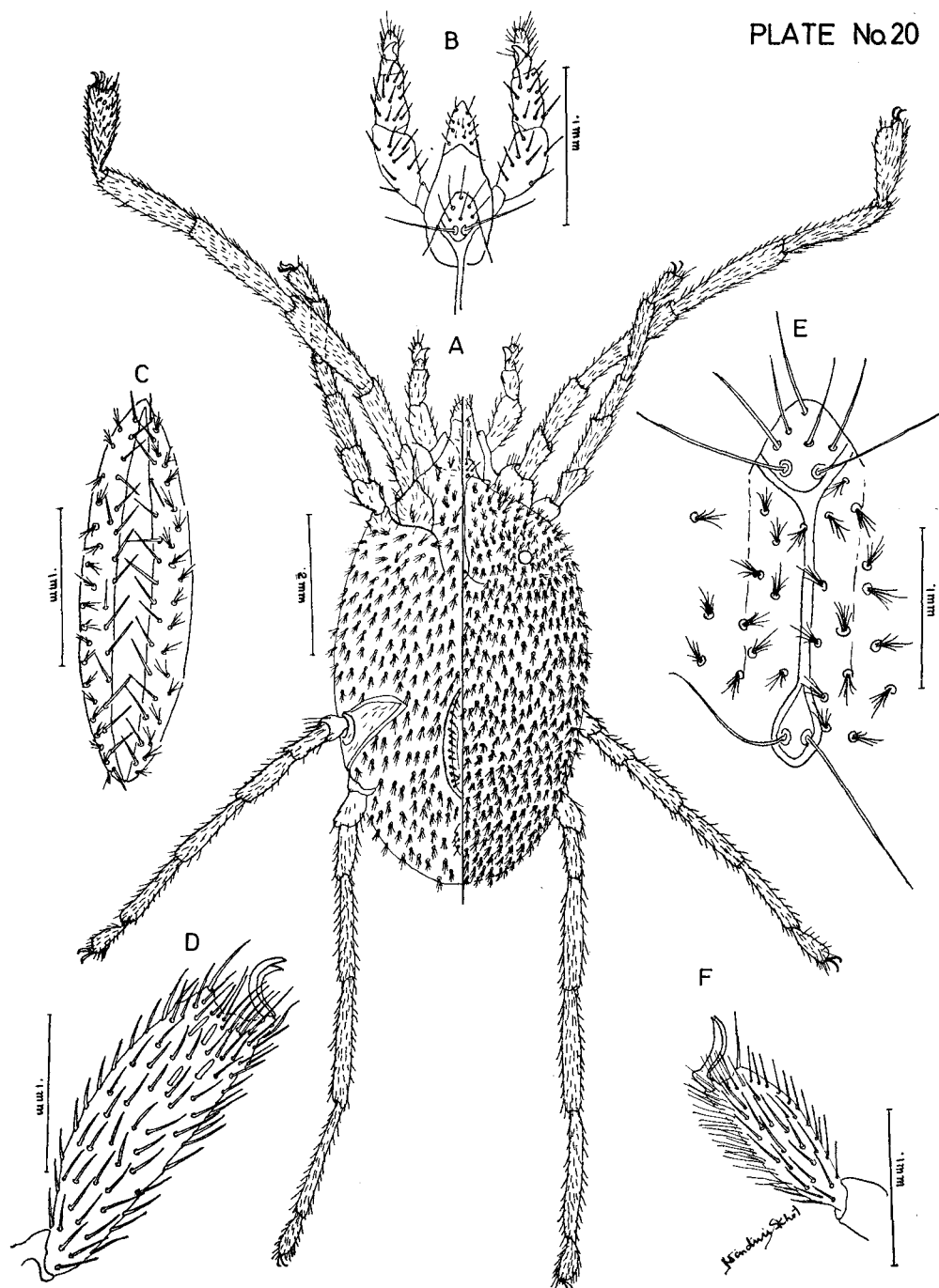
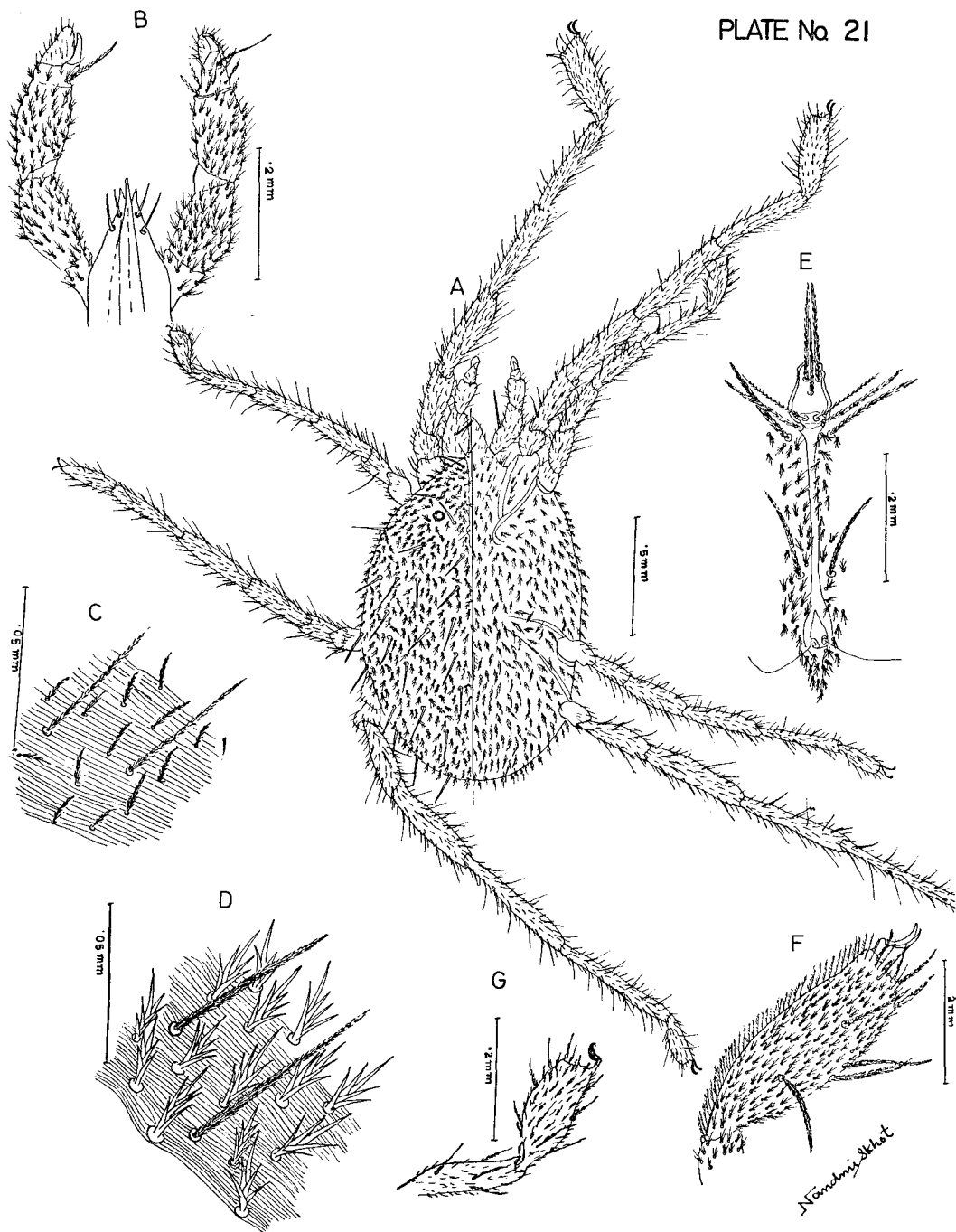


PLATE No 21



sensillary setae and five non-sensillary setose setae ; the anterior most pair of these non-sensillary setae measures 0.105 mm. in length, middle one 0.105 mm. and a pair lateral to the sensillary setae 0.106 mm. long. Posterior sensillary area with a pair of linear, pointed 0.06 mm. long sensillary setae. Eyes one on either side of crista. Legs long, I-2.79 mm., II-1.92 mm., III-2.09 mm., and IV-3.1 mm. Legs with two types of setae, small pointed setae and the other longer, almost double than smaller ones, densely setose and pointed setae. Tarsus I-0.52 mm. long and 0.13 mm. wide, metatarsus I-0.444 mm. long.

Locality : Kalingpong (Bengal) ; 18 May, 1959 ; in debris ; collected by Mr. S. S. KHOT.

***Neoabrolophus longisetorum*, sp. n.**

(Plate No. 21, C & G).

Orange in color in live specimen. Body oval 1.006 mm. long, 0.611 mm. wide. Dorsal setae of two types small, evenly, lightly setose 0.015 mm. long setae and long, densely setose, pointed, 0.039 mm. long setae. Crista 0.24 mm. long ; anterior sensillary area oval, with a pair of sensillary, smooth, pointed 0.048 mm. long setae situated at the base of the area. This anterior sensillary area also possess four, setose, non-sensillary setae, a pair lateral to the sensillary setae 0.045 mm. long and a pair posterior to it 0.06 mm. long ; posterior sensillary area with 0.075 mm. long simple sensillary setae. Eyes one on either side situated posterior lateral to the middle of crista. Leg setae similar to that of dorsum ; tarsus I-0.221 mm. long.

Locality : Rishikesh (Utter Pradesh) ; 7 October, 1960, in debris ; collected by the writer.

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