

A New Species And A New Record Of Aphids (Homoptera: Aphididae) From Garhwal Range of Western Himalaya, India

D. K. Bhattacharya* & S. R. Dey

Department of Zoology, University of Kalyani, Kalyani 741235, Nadia, West Bengal, India

Abstract: This paper embodies the description of a new species *Cryptaphis salviae* infesting *Salvia leucantha* and one species *Schoutedenia emblica* (Patel and Kulkarni) records as new to the Garhwal range of Western Himalaya, India.

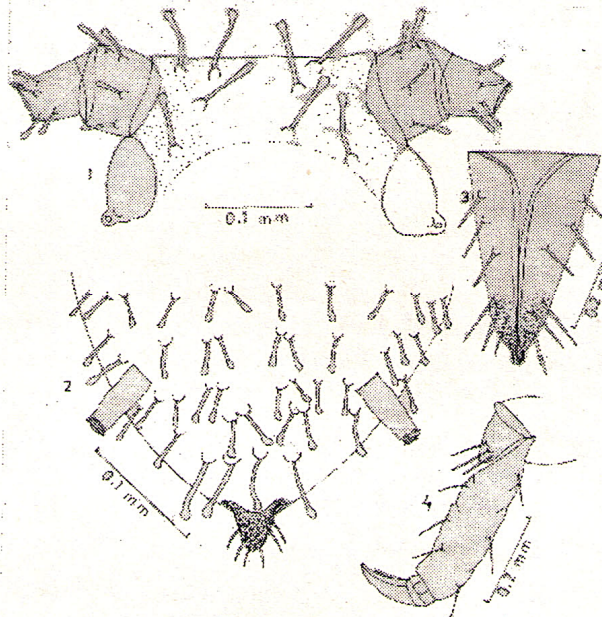
Keywords: aphids, taxonomy, new species, new record, Garhwal Himalaya, India

Cryptaphis Hille Ris Lambers is a very distinct genus with about seven species known from the World (Eastop and Hille Ris Lambers, 1976). So far only two species viz. *Cryptaphis rostrata* Chakrabarti and Raychaudhuri (1974) and *C. garhwalensis* Bhattacharya, Mandal and Chakrabarti (1983) are known from India. Among these two species, *Rostrata* is known from Himachal Pradesh (North West Himalaya) and *Garhwalensis* is known from Uttar Pradesh (Garhwal range of Western Himalaya). A new species *C. salviae* infesting *Salvia leucantha* in Uttar Pradesh (Garhwal range of Western Himalaya). is described here.

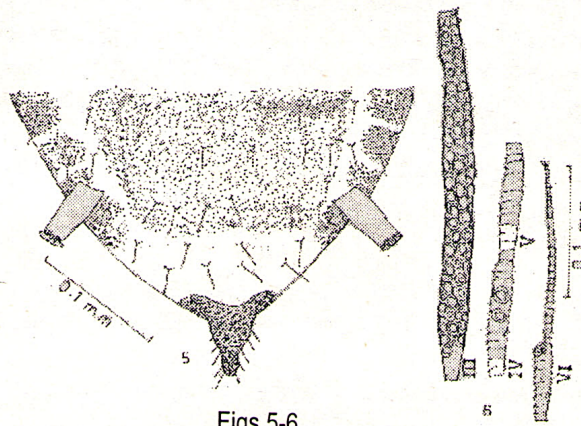
Except *salviae* all the Indian species are known from apterous viviparous morph. Hence a key is given for apterous viviparous females only.

Key to the Indian species of *Cryptaphis* (Apterous viviparous female)

1. Head without spinules; abdominal tergite 8 with 8 hairs; u. r. s. with 5 pairs of secondary hairs; cauda with 5 hairs *garhwalensis* Bhattacharya, Mandal and Chakrabarti.
—Head with spinules; abdominal tergite 8 with 4-5 hairs 2
2. Antennal segment III without secondary rhinaria; cauda with 6 hairs; siphunculi 0.93-0.97 times as long as body; p. t. 0.66-0.69 times as long as antennal segment III *salviae* sp. nov.
—Antennal segment III with 2-4 secondary rhinaria; cauda with 4 hairs; siphunculi 0.10-0.13 times as long as body; p. t. 1.08-1.32 times as long as antennal segment III *rostrata* Chakrabarti & Raychaudhuri.



Figs 1-4



Figs 5-6

Apterous viviparous female: Fig. 1. Head; Fig. 2. Posterior part of abdomen; Fig. 3. Ultimate rostral segment; Fig. 4. Second joint of hind tarsus.
Apterous viviparous male: Fig. 5. Posterior part of abdomen; Fig. 6. Antennal segments III-IV.

Cryptaphis salviae sp. nov. (Figs 1–6) Apterous viviparous female (Figs. 1–4): Body 1.43–1.49 mm long with 0.58–0.65 mm as maximum width. Head pale brown with very poorly developed lateral frontal tubercles, sparsely spinulose both dorsally and ventrally, but such spinulosity is absent from a broad median area; frons with 4 pairs of long and stout hairs with capitate apices arise from distinct tuberculate bases; longest one on vertex about 0.068–0.071 mm long and 3.33–3.50 times as long as basal diameter of antennal segment III. Antennae pale, little darker apically about 0.79–0.85 times as long as body; segment III nearly smooth, abruptly constricted near the apex and then again swollen, rest of the flagellum gradually and distinctly imbricated apicad; hairs on the flagellum thick, distinctly arises from raised bases; segment I and II each with 4 hairs; segment III with 12–13 hairs, longest one about 0.023–0.027 mm long and about 1.16–1.33 times as long as basal diameter of the segment; processes terminalis about 2.55–2.66 times as long as base of the segment VI; segment III without secondary rhinaria. Rostrum reaches beyond mid-coxae, ultimate rostral segment about 1.07–1.14 times as long as second joint of hind tarsus with 3 pairs of secondary hairs. Thorax pale brown, with few rows of spinules ventrally, mid-thoracic furca with separate arms. Abdomen pale brown, membranous; dorsal hairs long, stout with expanded to capitate apices, arising from distinct tuberculate bases; anterior tergites with 10–12 hairs, longest one about 0.061–0.064 mm long and 3.00–3.16 as long as basal diameter of antennal segment III; tergites 7 and 8 with 6 and 4 hairs, longest one on these tergites about 3.50–3.66 and 4.00–4.16 times as long as basal diameter of antennal segment III, respectively. Venter with rows of spinules; ventral hairs shorter, thinner than dorsal hairs and with acuminate to blunt apices. Siphunculi subcylindrical, pale brown, nearly smooth or faintly imbricated with 1–2 rows of striae near the apex and with a distinct flange. Cauda tongue shaped with 6 hairs. Subgenital plate with 4 hairs on anterior margin and 10–12 hairs on posterior margin. Legs pale brown, femora smooth; femoral hairs with slightly to distinctly swollen apices; tarsi brown, imbricated, first tarsal chaetotaxy 3, 3, 3.

Measurements of holotype in mm: Body length 1.49, width 0.65; antenna 0.83, antennal segments III: IV: V: VI: 0.13: 0.13: (0.06–0.16); ultimate rostral segment 0.10; second joint of hind tarsus 0.09; siphunculus 0.15; cauda 0.10.

Alate viviparous female (Figs. 5–6): Body 1.82–1.84 mm long with 0.71–0.75 mm as its maximum width; Head dark, dorsal cephalic hairs short with acute apices, longest hair on dorsum about 0.015–0.17 mm long and 0.75–0.83 times as long as basal diameter of antennal segment III. Antennae brown about 0.74–0.78 times as long as body; processus terminalis about 2.33–2.62 times as long as base of segment VI; flagellar hairs short with acute apices; longest one on segment III about 0.011–0.013 mm long and 0.58–0.66 times as long as basal diameter of antennal segment III segment III with 67–71 IV with 2 round secondary rhinaria. Thorax black. Abdomen pale, tergites 3–6 with marginal scleritis, 3 with spinopleural bar, such spinopleural bars on tergites 4–6 confluent together to form a compact central mass; dorsal hairs short with acute apices, anterior tergites with 8–10 hairs, longest one about 0.017–0.018 mm long and 0.83–0.91 times as long as basal diameter of antennal segment III; tergites 7 with 4 hairs. Cauda with a constriction, little bulbous anteriorly and narrowed posteriorly, with 10–12 hairs. Media of the forewing twice branched, hind wings with both the obliques. Other characters as in apterous viviparous females.

Measurements of one specimen in mm: Body length 1.82, width 0.71; antenna 1.45, antennal segments III: IV: V: VI: 0.67: 0.20: 0.18: (0.11–0.27); ultimate rostral segment 0.09; second joint of hind tarsus 0.08; siphunculus 0.17; cauda 0.11.

Holotype: apterous viviparous ♀, India: Uttar Pradesh: Barunghati (Garhwal Himalaya), 15. IX. 1993 from *Salvia leucantha* (Collector, S. R. Dey). Paratypes: 6 apterous viviparous ♀♀, 3 alate viviparous ♀♀ and nymphs, collection data as in holotype.

REMARKS

Among *Cryptaphis* species infesting plants of Labiatae, this new species shows its closest resemblances with *Cryptaphis rostrata* Chakrabarti & Raychaudhuri (in Chakrabarti, Ghosh & Raychaudhuri, 1974). However, it can be separated from *rostrata* by shorter ratio of processus terminalis to the base of last antennal segment (3.10–3.60) in *rostrata*, shorter ratio of ultimate rostral segment to second joint of hind tarsus with 6 secondary hairs (1.60–1.70 times and with 4 hairs in *rostrata*) and apterous viviparous females without secondary rhinaria.

This species, can also be distinguished from *Cryptaphis menthae* Takahashi (in Takahashi, 1961) in having following combination of characters; first tarsal chaetotaxy 3, 3, 3(3, 3, 2 in *menthae*), anterior tergites with 10–12 hairs (20 in *menthae*) and antennal segment III and IV with 67–71 and 2 secondary rhinaria in alate viviparous female (20 and 5–6 in *menthae*).

Schoutedenia emblica (Patel & Kulkarni)

Cerciaphis emblica Patel & Kulkarni, 1953 *J. Bombay Nat. Hist. Soc.* **51**: 435–38.

Schoutedenia emblica (Patel & Kulkarni): David & Hille Ris Lambers, 1956. *Indian J. Entomology*, **18**: 41–44.

Schoutedenia emblica (Patel & Kulkarni); Eastop & Hille Ris Lambers, 1976. *Survey of world's Aphids*, 302.

Material studied

10 apterous viviparous ♀♀ and nymphs. India: Uttar Pradesh: Gyansu (Garhwal Himalaya), 12. VI. 1994 from *Spirea* sp. Collector, S. R. Dey).

Distribution

India: Andhra Pradesh, Maharashtra, Meghalaya, Tripura, West Bengal, Nepal.

REMARKS

This species is recorded for the first time from Garhwal range of Western Himalaya, India.

ACKNOWLEDGEMENT

The authors are thankful to the Head, Department of Zoology, University of Kalyani for providing laboratory facilities.

REFERENCES

- Bhattacharya, D. K., Mandal, A. K. & Chakrabarti, S (1983) New and hitherto not species of aphids (Homoptera: Aphididae) producing leaf galls in the North West Himalayas, India. *Entomon*, **8**(1): 13-17.
- Chakrabarti, S., Ghosh, A. K. & Raychadhuri, D. N. (1974) Some new aphids (Homoptera: Aphididae) from Himachal Pradesh, India. *Oriental Insects*, **8**(4): 521-530.
- Eastop, V. F. Hille Ris Lambers, D. (1976) A survey of World's Aphids Dr. W. Junk B. V. Publishers, The Hague: 1-586.
- Takahashi, R. (1961) A new genus and four new species of Aphididae from Japan. *Ins. Matsum.*, **24**(2): 104-111.