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A new whitefly *Cockerelliella somnathensis* sp. n. from India (Insecta: Hemiptera: Aleyrodidae)

With 1 figure

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Abstract. A new species of whitefly, *Cockerelliella somnathensis* sp. n. from an unidentified climber collected at Somnath (Gujarat, India) is described and illustrated. A key to the Indian species of the genus *Cockerelliella* is provided.

SUNDARARAJ & DAVID (1991) erected the genus *Cockerelliella* and described five new species from India and also referred *Dialeurodes dehradunensis* JESUDASAN & DAVID (1991) to this genus. MEGANATHAN & DAVID (1994), added one more new species *C. splendens* from Silent Valley (Kerala) of India. In this present paper a new species is described under the genus from India. Also a workable key to the Indian species of the genus *Cockerelliella* is provided.

Cockerelliella SUNDARARAJ & DAVID

Type species: *Cockerelliella indicus* SUNDARARAJ & DAVID, 1991: J. Bombay Nat. Hist. Soc. **88**: 415–424.

Pupal case broadly elliptical, pores and folds distinct without stipples, caudal tracheal furrow distinct and thoracic tracheal furrow indistinct, submargin wide, separated from dorsal disc only on the cephalothorax by cephalothoracic fold or suture; submarginal setae present; subdorsum with conspicuous pores and papillae, first abdominal setae wanting, longitudinal moulting suture reaching margin and transverse moulting suture reaching submargin. Vasiform orifice small, subcordate, notched at the caudal end, operculum similarly shaped filling the orifice and obscuring the lingula.

Key to the Indian species of the genus *Cockerelliella* SUNDARARAJ & DAVID

- | | | |
|---|---|---|
| 1 | Marginal area differentiated by a fold around the case. | 2 |
| – | Marginal area not differentiated by a fold around the case. | 3 |
| 2 | Subdorsum and submargin with papilla-like structures; a distinct row of crescent shaped papilla-like structures extending from laterad of vasiform orifice to the anterior end of cephalothorax absent. | |

C. somnathensis sp. n.

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- Subdorsum and submargin without papilla-like structures; a distinct row of crescent shaped papilla-like structures extending from laterad of vasiform orifice to the anterior end of cephalothorax present. *C. dioscoreae* SUNDARARAJ & DAVID
- 3 Submargin without papilla-like structures but with striations, thoracic and tracheal pore region invaginated with chitinised rim. 4
- Submargin with papilla-like structures but without striations, thoracic and tracheal pore region indicated by slight invagination. 5
- 4 Caudal furrow smooth. *C. quaintancei* SUNDARARAJ & DAVID
- Caudal furrow with distinct polygonal markings. *C. splendens* MEGANATHAN & DAVID
- 5 Prothorax, mesothorax and second abdominal segments each with a pair of enlarged tubercles. 6
- Prothorax, mesothorax and second abdominal segments without enlarged tubercles. 7
- 6 Mesad of thoracic and first abdominal segments with a brown batch, submedian row of papilla-like structures absent. *C. dehradunensis* (JESUDASAN & DAVID)
- Mesad of thoracic and first abdominal segments without a brown batch, submedian row of papilla-like structures present. *C. meghalayensis* SUNDARARAJ & DAVID
- 7 Pupal case 0.75–0.93 mm long and 0.61–0.78 mm wide, a submedian row of papillae-like structures on dorsum present. *C. indicus* SUNDARARAJ & DAVID
- Pupal case 0.945–1.19 mm long and 0.75–0.96 mm wide, a submedian row of papillae-like structures on dorsum absent. *C. zingiberæ* SUNDARARAJ & DAVID

Cockerelliella somnathensis sp. n. (Fig. 1)

Pupal case Pale white with secretion of wax only on dorsum, broadly elliptical, slightly constricted at the thoracic tracheal pore region, widest across the metathoracic segment region; 0.61–0.74 mm long and 0.48–0.61 mm wide; found one to two per leaf on the under surface of leaves.

Margin More or less smooth, thoracic and caudal tracheal pores distinct with chitinised rim, marginal area differentiated by a fold around the case with papilla-like structures; anterior and posterior marginal setae 20 µm and 15 µm long, respectively.

Dorsal surface Three pairs of dorsal setae cephalic, first abdominal and submarginal caudal setae each 5 µm long, first abdominal setae wanting. Subdorsum and submargin with papilla-like structures. Dorsum with rows of pores and porettes, a row on submargin, two rows on subdorsum and two rows on submedian region of abdomen and three rows on submedian region of cephalothorax evident. A row of seven microsetae on submargin, of which five are on abdomen and two on cephalothorax on each side present. A brownish yellow patch is present on the mesad of metathoracic segment.

Vasiform orifice subcordate, without notch at the caudal end, wider than long, 25–30 µm long and 30–35 µm wide; operculum similarly shaped, 17.5–20 µm long and 20–22.5 µm wide, filling the orifice and obscuring the lingula. Thoracic tracheal furrow not indicated, caudal tracheal furrow distinct with papilla-like markings.

Ventral surface Paired ventral abdominal setae 12.5 µm long and 42 µm apart. Thoracic and caudal tracheal folds distinct without markings.

Specimens examined: Holotype. Unidentified climber, India: Gujarat, Somnath, 5.XII.1996, R. SUNDARARAJ, coll. R. SUNDARARAJ, deposited in the collection of Dr. B. V. DAVID, Director, Jai Research Foundation, Gujarat, India. **Paratypes:** Twenty pupal cases on slides data as of holotype. The paratypes will be deposited in the collections of the Systematic Entomology Laboratory, United States Department of Agriculture, Beltsville, Maryland, U.S.A.; Natural History Museum, London, U.K.; the Division of Entomology, Indian Agricultural Research Institute, New Delhi, India, and the Zoological Survey of India, Calcutta, India.

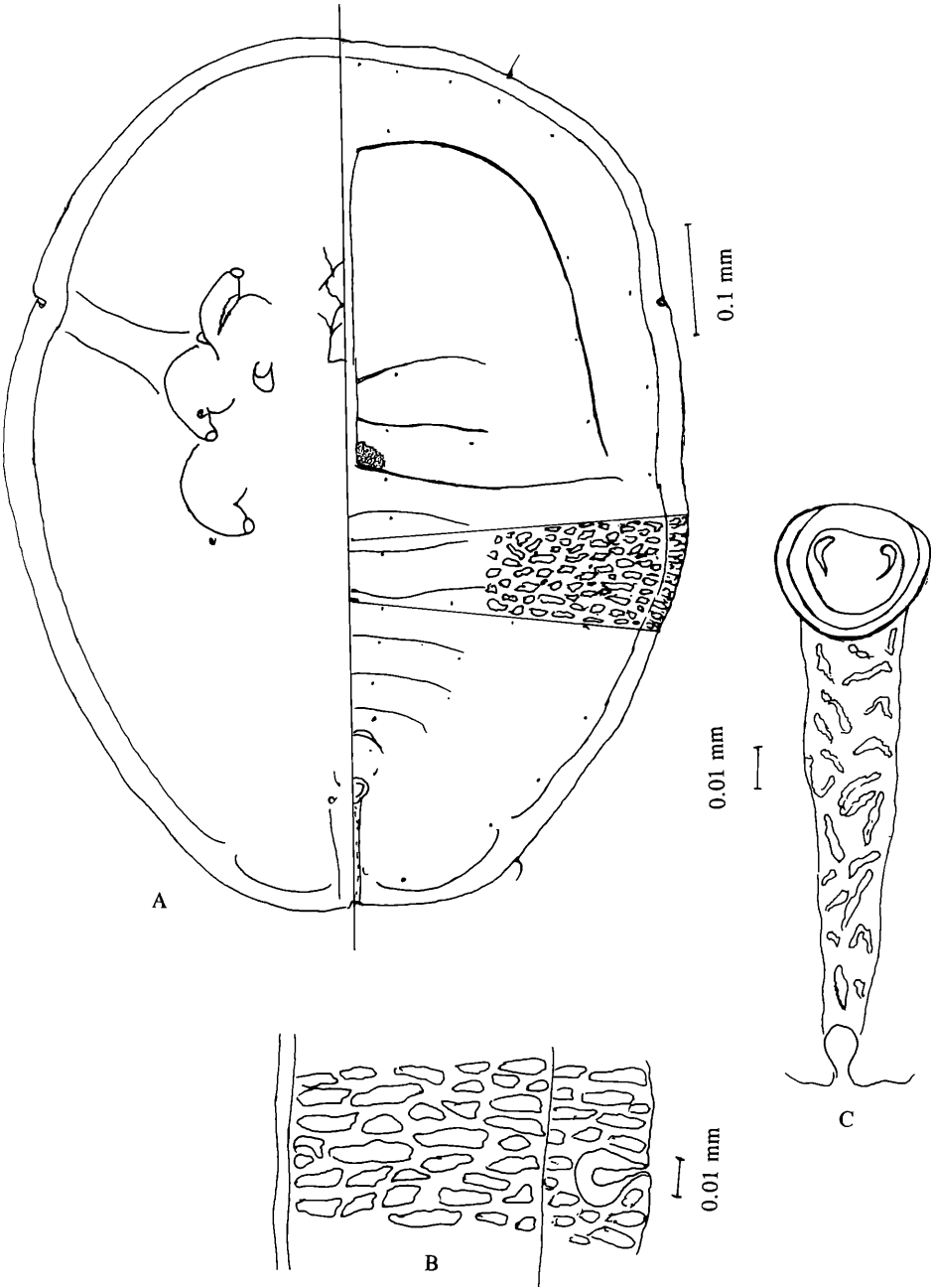


Fig. 1: *Cockerelliella somnathensis* sp. n.
A: pupal case; B: thoracic tracheal fold; C: vasiform orifice.

Remarks This species is quite distinct from *C. dioscoreae* SUNADARARAJ & DAVID by the presence of papilla-like structures on subdorsum and submargin, and by the absence of distinct row of crescent shaped papilla-like structures extending form laterad of vasiform orifice to the anterior end of cephalothorax.

Etymology This species is named after Somnath (Gujarat: India), the place of collection.

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