

MELIOLACEAE OF KERALA, INDIA – XII
The genus *Meliola* on Lecythidaceae members in India

V.B. HOSAGOUDAR

Microbiology Division, Tropical Botanic Garden and Research Institute,
Palode 695 562, Thiruvananthapuram, Kerala, India

An account of three species of the genus *Meliola* occurring on Lecythidaceae in India is presented here, viz. *Meliola indica* Syd. & P. Syd., recollected on *Barringtonia acutangula* in the southern Western Ghats, *Meliola careyae* (Stev.) Hosag. comb. nov. and *Meliola careyae* (Stev.) var. *indica* var. nov.

Meliola indica Syd. & P. Syd. and *Meliola indica* Syd. & P. Syd. var. *careyae* Stev. are known to occur on members of the family Lecythidaceae in India (Hansford, 1961; Hosagoudar, 1996). *Meliola indica* Syd. & P. Syd., originally collected in 1910 by A. Som in Assam, has recently been recollected in the southern Western Ghats. Hence, an account of the *Meliola* species occurring on the members of Lecythidaceae is given here.

KEY TO THE MELIOLA SPECIES ON LECYTHIDACEAE IN INDIA

- 1a. On *Barringtonia*, cause yellow haloes around the black colonies *M. indica*
b. On *Careya*, no such effect on the host 2
2a. Phialides borne on separate mycelial branches *M. careyae*
b. Phialides mixed with appressoria *M. careyae* var. *indica*

***Meliola indica* Syd. & P. Syd. — Fig. 1**

Meliola indica Syd. & P. Syd. in Sydow et al., Ann. Mycol. 9 (1911) 382.

Colonies amphigenous, dense, causing yellow haloes around the black colonies and yellowing of the corresponding opposite sides of the leaves, up to 3 mm in diameter, confluent. Hyphae straight to substraight, branching mostly opposite at acute angles, closely reticulate, cells 19–35 × 4–8 μm. Appressoria opposite, about 5% alternate to unilateral, antrorse to subantrorse, 12–16 μm long; stalk cells cylindrical to cuneate, 3–5 μm long; head cells ovate to globose, entire, 9–11 × 8–11 μm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 16–18 × 7–9 μm. Mycelial setae many, densely scattered, simple, straight, about 1–2% uncinatate at the upper part, acute to obtuse at the tip, up to 350 μm long. Perithecia loosely grouped to scattered, globose, verrucose, up to 192 μm in diameter; ascospores oblong to cylindrical, 4-septate, constricted at the septa, middle cell often appearing slightly larger, 40–45 × 14–16 μm.

Material examined. INDIA: Kerala, Palode, Thiruvananthapuram, in the campus of Tropical Botanic Garden and Research Institute, on leaves of *Barringtonia acutangula* Gaertn., 28.V.2001, T. Sabu (HCIO 43961, TBGT 480).

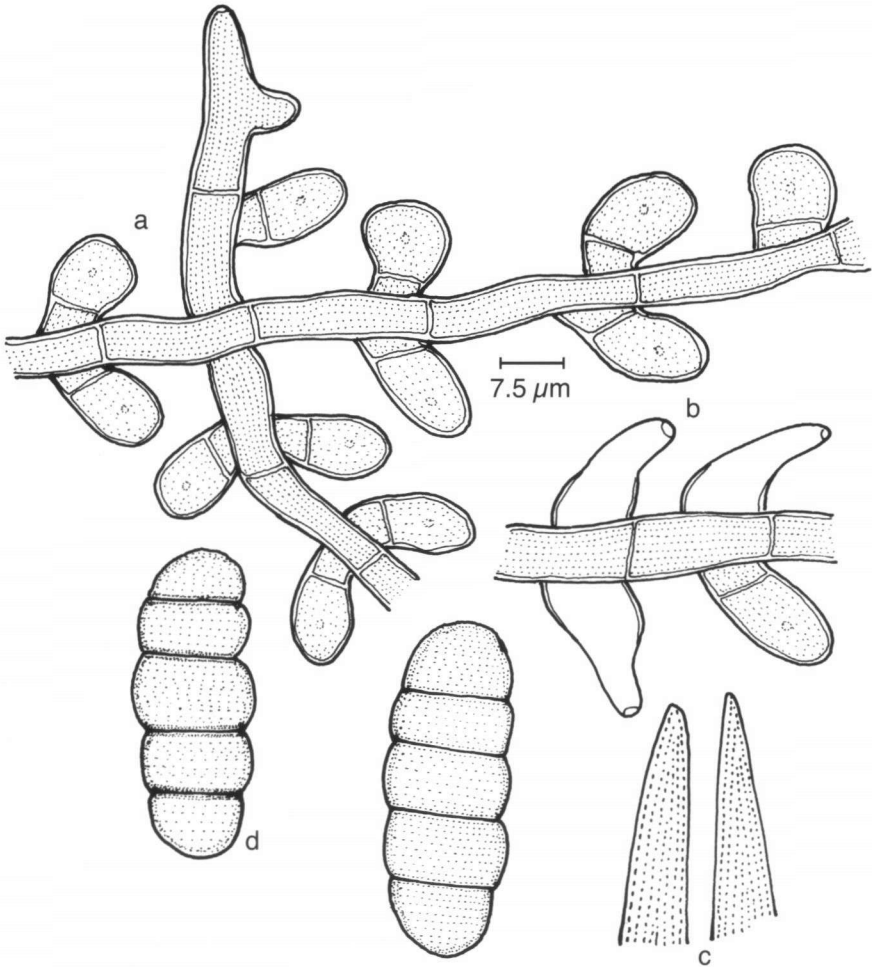


Fig. 1. *Meliola indica*. a. Appressorium; b. phialide; c. apices of mycelial setae; d. ascospores.

Hansford (1961) recorded this species on other species of the genus *Barringtonia* from the Philippines and Java. Although Thite & Kulkarni (1973) recorded it from the Western Ghats, no material exists other than the holotype in HCIO (Hosagoudar et al., 1995).

***Meliola careyae* (Stev.) Hosag., *comb. nov.* — Fig. 2**

Basionym: *Meliola indica* Syd. var. *careyae* Stev., Ann. Mycol. 26 (1928) 223.

Colonies epiphyllous, dense, velvety, up to 4 mm in diameter, confluent. Hyphae substraight to flexuous, branching opposite at wide angles, closely reticulate, cells 25–30 × 6–8 μm. Appressoria alternate and opposite in varying proportions, antrorse to spreading, mostly straight, 15–20 μm long; stalk cells cylindrical to cuneate, 3–6 μm

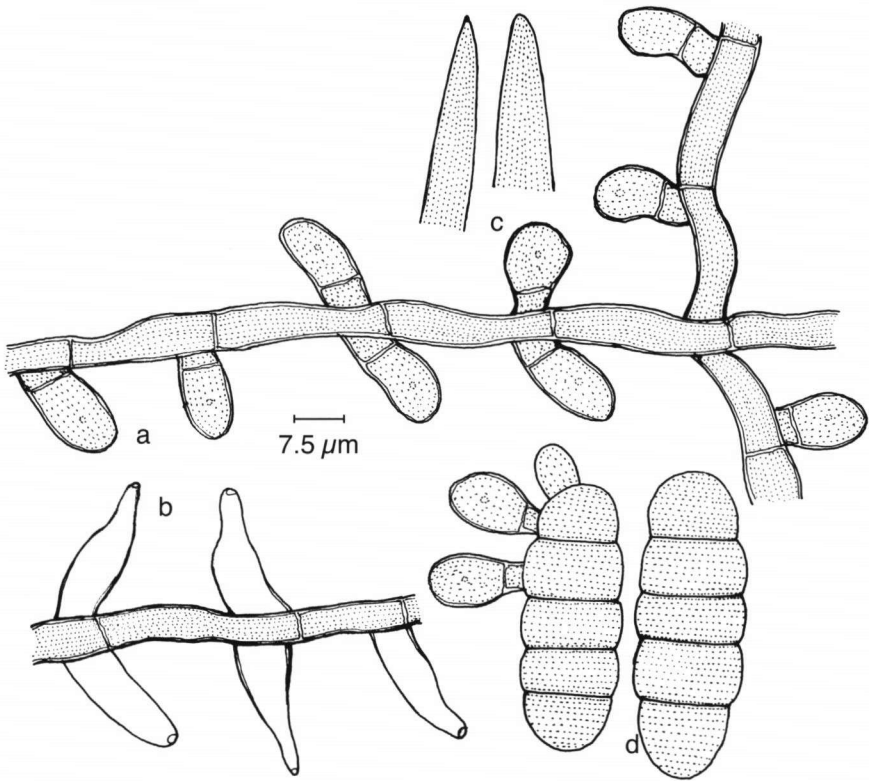


Fig. 2. *Meliola careyae*. a. Appressorium; b. phialide; c. apices of mycelial setae; d. ascospores.

long; head cells globose to broadly clavate, entire, $10\text{--}14 \times 8\text{--}12 \mu\text{m}$. Phialides borne on separate mycelial branches, alternate to opposite, ampulliform, $16\text{--}20 \times 7\text{--}9 \mu\text{m}$. Mycelial setae numerous, scattered, simple, straight, acute, up to $700 \mu\text{m}$ long. Perithecia scattered, verrucose, up to $180 \mu\text{m}$ in diameter; ascospores oblong, 4-septate, constricted at the septa, $30\text{--}50 \times 14\text{--}18 \mu\text{m}$.

Material examined. INDIA: Gersoppa Falls, Karnataka, on leaves of *Careya arborea* Roxb., X.1919, L.J. Sedgwick (HCIO 1985, holotype).

***Meliola careyae* (Stev.) Hosag. var. *indica* Hosag., var. nov. — Fig. 3**

A varietate typica phialidis appressorii intermixtus differt.

Holotypus: On leaves of *Careya arborea* Roxb., India, Kerala, North of Eanikara, Karakulam, Thiruvananthapuram, 28.I.2001, P.V. Mahanteshagouda (HCIO 43968, holotype; TBGT 477, isotype).

Colonies epiphyllous, dense, up to 5 mm in diameter, rarely confluent. Hyphae straight to substraight, branching alternate to opposite at acute to wide angles, closely reticulate and form solid mycelial mat, cells $12\text{--}26 \times 4\text{--}8 \mu\text{m}$. Appressoria opposite,

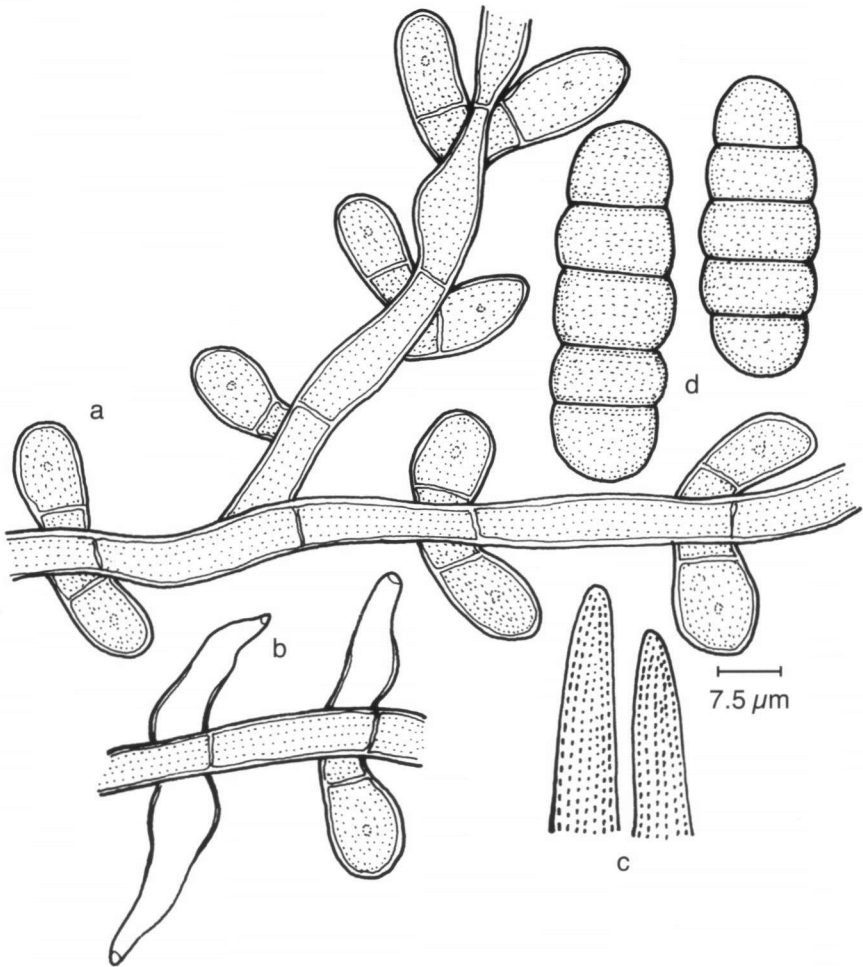


Fig. 3. *Meliola careyae* var. *indica*. a. Appressorium; b. phialide; c. apices of mycelial setae; d. ascospores.

about 3% alternate, antrorse to subantrorse, 14–18 μm long; stalk cells cylindrical to cuneate, 3–5 μm long; head cells ovate, rarely globose, entire, 9–13 \times 9–12 μm . Phialides mixed with appressoria, alternate to opposite, ampulliform, 16–23 \times 8–10 μm . Mycelial setae scattered to grouped around perithecia, simple, straight, acute, up to 350 μm long. Perithecia scattered, up to 175 μm in diameter; ascospores oblong to cylindrical, 4-septate, constricted, 36–44 \times 14–16 μm .

ACKNOWLEDGEMENTS

Thanks are due to Dr. L. M. Nair, Director and Dr. T. K. Abraham, Deputy Director, TBGRI, Palode for encouragement.

REFERENCES

- Hansford, C.G. 1961. The Meliolineae. A Monograph. Sydowia Beih. 2: 1–806.
- Hosagoudar, V.B. 1996. Meliolales of India. Botanical Survey of India, Calcutta.
- Hosagoudar, V.B., A.K. Sarbhoy, D.K. Agarwal & M.K. Khan. 1995. Meliolaceae exsiccatae in Herbarium Cryptogamae Indiae Orientalis. Mycotaxon 56: 347–386.
- Thite, A.N. & U.K. Kulkarni. 1973. Additions to sooty moulds of Maharashtra. J. Shivaji Univ. 6: 161–166.