



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

NOTE

***MELIOLA ELAEOCARPICOLA* SP. NOV. (ASCOMYCETES, MELIOLALES) FROM MALABAR WILDLIFE SANCTUARY IN KERALA STATE, INDIA**

Lini K. Mathew & Jacob Thomas

26 April 2020 | Vol. 12 | No. 5 | Pages: 15671–15674

DOI: 10.11609/jott.5137.12.5.15671-15674



For Focus, Scope, Aims, Policies, and Guidelines visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-0>

For Article Submission Guidelines, visit <https://threatenedtaxa.org/index.php/JoTT/about/submissions#onlineSubmissions>

For Policies against Scientific Misconduct, visit <https://threatenedtaxa.org/index.php/JoTT/about/editorialPolicies#custom-2>

For reprints, contact <ravi@threatenedtaxa.org>

The opinions expressed by the authors do not reflect the views of the Journal of Threatened Taxa, Wildlife Information Liaison Development Society, Zoo Outreach Organization, or any of the partners. The journal, the publisher, the host, and the partners are not responsible for the accuracy of the political boundaries shown in the maps by the authors.

Member



Publisher & Host





Meliola elaeocarpicola sp. nov. (Ascomycetes, Meliolales) from Malabar Wildlife Sanctuary in Kerala State, India

Lini K. Mathew¹ & Jacob Thomas²

¹P.G. & Research Department of Botany, St. Thomas College, Kozhencherry, Kerala 689641, India.

²P.G. & Research Department of Botany, Mar Thoma College, Thiruvalla, Kerala 689103, India.

¹linikmathew1985@gmail.com (corresponding author), ²jacobnthomas@gmail.com

A huge number of meliolaceous fungi were reported from India and there was a requirement for the consolidation of this group and Hosagoudar (1996) published a monograph for India by including six genera and 378 species. The enthusiastic work on this group continued in Kerala. Hosagoudar & Abraham (1996a, b), Hosagoudar et al. (1997), Hosagoudar & Abraham (1998 a,b,c,d,e), Hosagoudar et al. (1998 a,b,c,d,e,f; 1999a,b), Goos & Hosagoudar (1998), Hosagoudar & Jacob Thomas (2013) contributed to Meliolales of Kerala and other southern parts of India; Hosagoudar (2008, 2013) for Meliolales of India and Hosagoudar & Agarwal (2008), for the world monograph are the subsequent works. This study describes a new species that belongs to the genus *Meliola* from Kerala State.

MATERIALS AND METHODS

Infected leaves of *Elaeocarpus* sp. (*Elaeocarpaceae*) were collected and field notes were prepared regarding their nature of colonies, infection and the collection locality. For each collection, a separate field number was given. In the field, each infected plant part was collected separately in polythene bags along with the host twig (preferably with the reproductive parts, to facilitate the

identity of the corresponding host). These infected plant parts were pressed neatly and dried between blotting papers. After ensuring their dryness, they were used for microscopic study. Scrapes were taken directly from the infected host and mounted in 10% KOH solution. After 30 mins, KOH was replaced by Lactophenol. Both the mountants performed well as clearing agents and made the septa visible for taking measurements. To study the entire colony in its natural condition, a drop of high quality natural colored or transparent nail polish was applied to the selected colonies and carefully thinned with the help of a fine brush without disturbing the colonies. Colonies with hyper parasites showing a woolly nature were avoided. The treated colonies along with their host plants were kept in a dust free chamber for half an hour.

When the nail polish on the colonies dried fully, a thin, colorless or slightly apple rose colored (depending upon the colour tint in the nail polish) film or flip was formed with the colonies firmly embedded in it. In case of soft host parts, the flip was lifted off with a slight pressure on the opposite side of the leaves and just below the colonies. In case of hard host parts, the flip was eased off with the help of a razor or scalpel. A drop of dibutyl

Editor: K.R. Sridhar, Mangalore University, Mangalagangothri, India.

Date of publication: 26 April 2020 (online & print)

Citation: Mathew, L.K. & J. Thomas (2020). *Meliola elaeocarpicola* sp. nov. (Ascomycetes, Meliolales) from Malabar Wildlife Sanctuary in Kerala State, India. *Journal of Threatened Taxa* 12(5): 15671–15674. <https://doi.org/10.11609/jott.5137.12.5.15671-15674>

Copyright: © Mathew & Thomas 2020. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use, reproduction, and distribution of this article in any medium by providing adequate credit to the author(s) and the source of publication.

Funding: KSCSTE, Govt. of Kerala.

Competing interests: The authors declare no competing interests.

Acknowledgements: We thank are due to Dr. Icy John, Principal, Mar Thoma College, Thiruvalla for providing facilities and KSCSTE, Government of Kerala, Thiruvananthapuram for financial support to conduct the research.



phthalate polystyrene xylene (DPX) was spread on a clean slide and the flip was spread properly on it. One or two more drops of DPX were added additionally on the flip and a clean cover glass was placed over it. By gently pressing on the cover glass, the excessive amount of DPX was removed after drying. Care was taken to avoid air bubbles.

These slides were labeled and placed in a dust free chamber for one to two days for drying. These permanent slides were then used for further studies. For innate fungi, sections were made and stained in cotton blue. After the study of each collection, part of the material was retained in the regional herbarium, Mar Thoma College Herbarium, Thiruvalla (MTCHT).

***Meliola elaeocarpicola* sp. nov. Lini K. Mathew
(Figure 1, Image 1)**

MycoBank # 835348

Colonies epiphyllous, dense, up to 5mm in diameter, rarely confluent. Hyphae straight to flexuous, branching alternate to opposite at acute to wide angles, loosely to closely reticulate, cells 13–20 x 3–6.6 µm. Appressoria alternate to opposite, antrorse to subantrorse to retrorse, spreading, straight to curved, 10–20 µm long; stalk cells cylindrical to cuneate, 3–5 µm long; head cells ovate, rarely globose, entire, 9–15 x 9–12 µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 13–20 x 6.6–10 µm. Mycelial setae scattered to grouped around the perithecia, simple, straight, acute, up to 650µm long. Perithecia scattered, up to 180µm in diameter; ascospores oblong to cylindrical, 4-septate, constricted at the septa, 33–40 x 13–17 µm.

On leaves of *Elaeocarpus* sp. (*Elaeocarpaceae*), Peruvannamuzhy, Malabar Wildlife Sanctuary, Calicut, Kerala, December, 26, 2014, MTCHT 106 (Type), TBGT 6999 (Isotype), collected by Lini K. Mathew.

Appendiculella elaeocarpicola Hosag. & Robin, J., *Asteridiella elaeocarpi-tuberculati* Hosag., *A. elaeocarpicola* Hansf. and *Meliola elaeocarpi* Yates are known on this host genus (Yates 1917; Hansford 1961;

Hosagoudar 1996, 2008, 2013; Hosagoudar et al. 1997; Hosagoudar & Agarwal 2008). *Meliola elaeocarpicola* differs from *Appendiculella elaeocarpicola* in the absence of perithecial appendages and flattened-globose perithecia. It differs from *Asteridiella elaeocarpicola* Hansf., *A. elaeocarpi-tuberculati* Hosag. in absence of perithecial wall cells and presence of mycelial setae (Hansford 1961; Hosagoudar 1996, 2008, 2013; Hosagoudar & Goos 1989; Hosagoudar & Agarwal 2008; Hosagoudar & Thomas 2013). *Meliola elaeocarpi* Yates was the only *Meliola* species on the host genus which was reported in 1917 from Philippines. The current species differs from *Meliola elaeocarpi* Yates

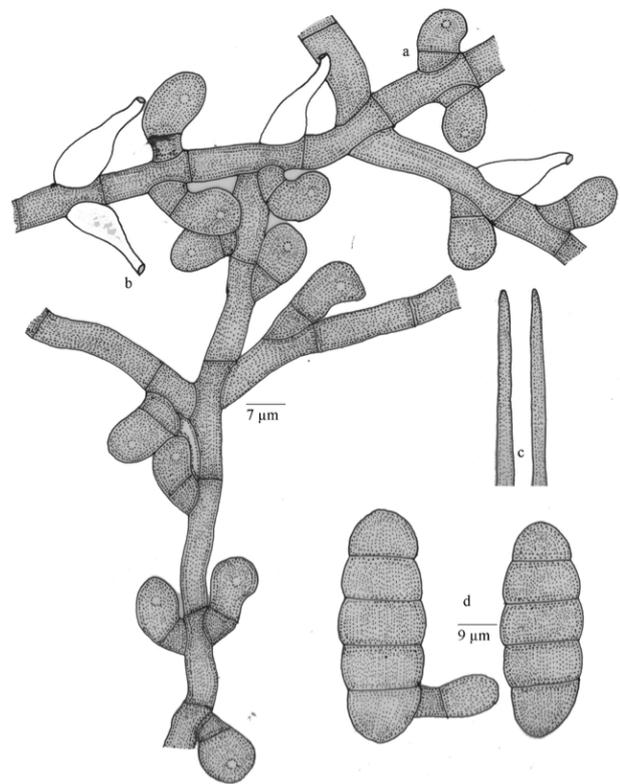


Figure 1. *Meliola elaeocarpicola* sp. nov. Lini K. Mathew
A—appressorium | B—phialides | C—mycelial setae | D—ascospore.

Comparative account

Name	Beeli formula	Distinguishing characters				
		Colonies	Mycelial	Mycelial setae	Appressoria	Spore
<i>M. elaeocarpicola</i> sp. nov.	3113.3223	Epiphyllous	Hyphae straight to flexuous,	simple, straight, acute, up to 650µm long	alternate to opposite; head cells ovate, rarely globose, entire, 9–15 x 9–12 µm	oblong to cylindrical, 33–40 x 13–17 µm.
<i>M. elaeocarpi</i>	3112.4221 Philippines	amphigenous	Straight	simple, acute, obtuse up to 300µm long	Opposite, subglobose to ovoid	Subellipsoid, obtuse, 44– 50 x 18 µm

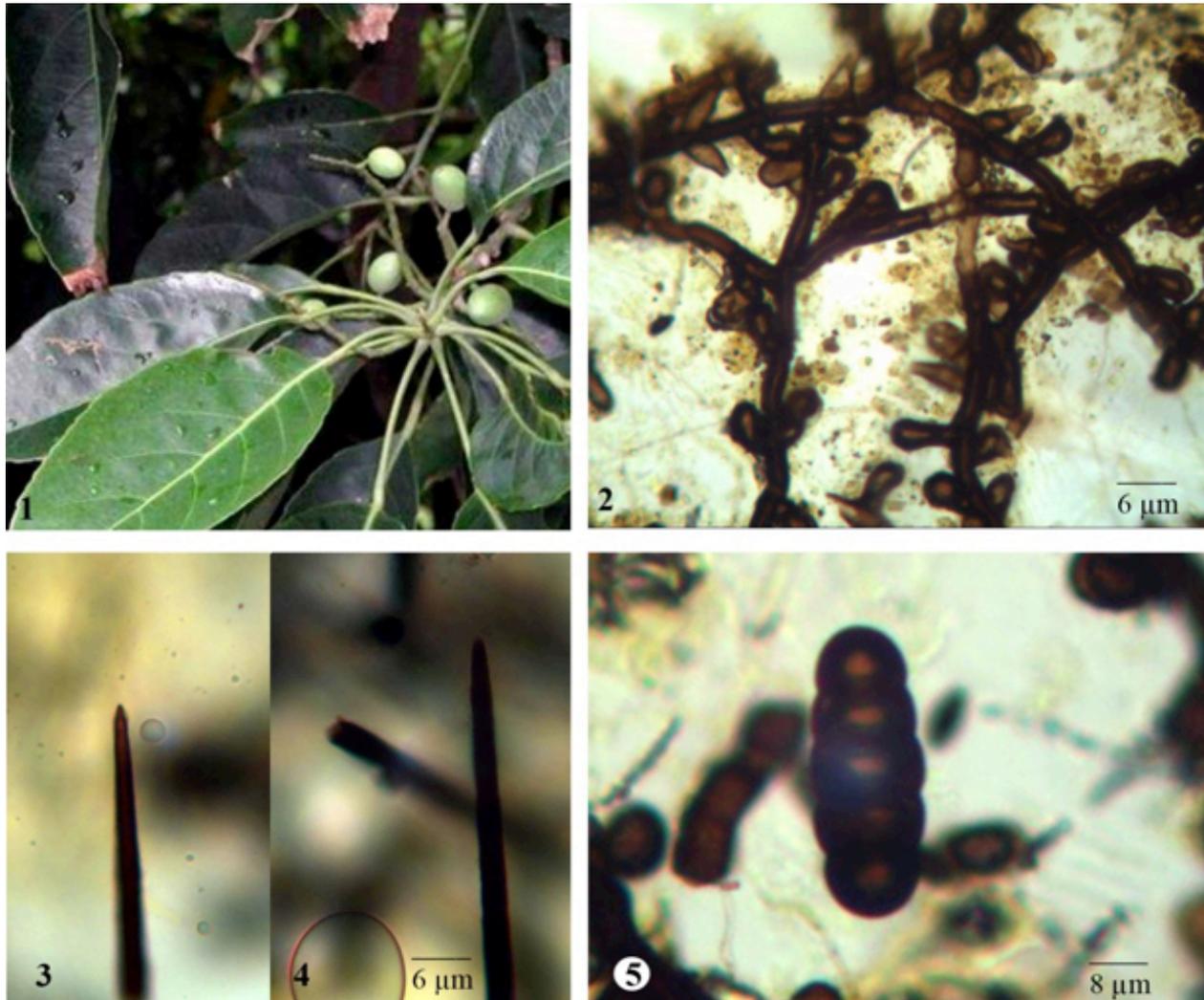


Image 1. *Meliola elaeocarpicola* sp. nov. Lini K. Mathew: 1—infected leaf of *Elaeocarpus serrates* (Elaeocarpaceae) | 2—appressorium mycelium with phialides | 3 & 4—apical portion of the mycelia setae | 5—germinating ascospore. © Jacob Thomas.

in the presence of alternate and opposite appressoria and comparatively smaller ascospores, whereas *Meliola elaeocarpicola* Yates has only opposite appressoria and larger ascospores.

Etymology: The specific epithet is based on the host genus.

REFERENCES

- Goos, R.D. & V.B. Hosagoudar (1998). *Meliola chennaiana* sp. nov. and some additional records from India. *Mycotaxon* 68: 41–46.
- Hansford, C.G. (1961). The Meliolineae. A Monograph. *Sydowia Beihefte* 2: 1–806.
- Hosagoudar, V.B. & R.D. Goos (1989). Meliolaceous fungi from the state of Kerala, India - I. *Mycotaxon* 36: 221–247
- Hosagoudar, V.B. (1996). *Meliolales of India*. Botanical Survey of India, Calcutta, 363pp.
- Hosagoudar, V.B. (2008). *Meliolales of India Vol. II*. Botanical Survey of India, Calcutta, 390pp.
- Hosagoudar, V.B. & D.K. Agarwal (2008). *Taxonomic Studies of Meliolales Identification Manual*. International Book Distributors, Dehradun, India, 263pp.
- Hosagoudar, V.B. (2013). Meliolales of India – Volume III. *Journal of Threatened Taxa* 5(6): 3993–4068. <https://doi.org/10.11609/jott.03307.3993-4068>
- Hosagoudar, V.B. & J. Thomas (2013). Meliolales in Peppara and Neyyar wildlife sanctuaries in Kerala State. Sadguru Publications, Udaipur, 254pp.
- Hosagoudar, V.B. & T.K. Abraham (1996a). *Meliola prataprajii* sp. nov. from Kerala, India, pp. 14–15. Seminar on Recent Advances in Botany, Satara, 115pp.
- Hosagoudar, V.B. & T.K. Abraham (1996b). Two new Meliolaceae members from Kerala, India. *Kavaka* 24: 15–17.
- Hosagoudar, V.B., T.K. Abraham & P. Pushpangadan (1997). *The Meliolineae - A Supplement*. Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram, Kerala, India, 201pp.
- Hosagoudar, V.B. & T.K. Abraham (1998a). Some interesting meliolaceous fungi from Kerala, *Indian Journal of Mycopathological Research* 36: 97.
- Hosagoudar, V.B. & T.K. Abraham (1998b). Some Meliolaceae members from Kerala, India. *Sydowia* 50: 14–20.

- Hosagoudar, V.B. & T.K. Abraham (1998c).** Some interesting members of the Meliolaceae from India. *Nova Hedwigia* 68: 477–487.
- Hosagoudar, V.B. & T.K. Abraham (1998d).** New and interesting Meliolaceae members from Kerala. *Indian Phytopathology* 51: 301–303.
- Hosagoudar, V.B. & T.K. Abraham (1998e).** New and interesting Meliolaceae members from Kerala. *Indian Phytopathology* 51: 58–61.
- Hosagoudar, V.B., T.K. Abraham & R.D. Goos (1998a).** Three new species of the Meliolaceae from Kerala, India. *Mycotaxonomy* 63: 493–496.
- Hosagoudar, V.B., T.K. Abraham & R.D. Goos (1998b).** Meliolaceae of Kerala, India-II. *Mycotaxon* 66: 103–107.
- Hosagoudar, V.B., T.K. Abraham & R.D. Goos (1998c).** Meliolaceae of Kerala, India-III. *Mycotaxon* 66: 109–113.
- Hosagoudar, V.B., T.K. Abraham & R.D. Goos (1998d).** Meliolaceae of Kerala, India-IV. *Mycotaxon* 66: 115–119.
- Hosagoudar, V.B., T. K. Abraham & J.L. Crane (1998e).** Meliolaceae of Kerala – V. *Mycotaxon* 59: 391–397.
- Hosagoudar, V.B., T.K. Abraham & J.L. Crane (1998f).** The identity and nomenclature of *Meliolaatlantiae*. *Mycotaxon* 66: 419–420.
- Hosagoudar, V.B., T.K. Abraham & C.K. Biju (1999a).** Notes on some foliicolous fungi from Kerala, *Indian Journal of Mycopathological Research* 37: 25–28.
- Hosagoudar, V.B., T.K. Abraham & J.L. Crane (1999b).** Meliolaceae of Kerala, India-VI. *Mycotaxon* 71: 149–153.
- Yates, H.S. (1917).** Fungi collected by E.D. Merrill in southern China. *Philippine Journal of Science* Section C, Botany 12: 313–316.





PLATINUM
OPEN ACCESS



The Journal of Threatened Taxa (JoTT) is dedicated to building evidence for conservation globally by publishing peer-reviewed articles online every month at a reasonably rapid rate at www.threatenedtaxa.org. All articles published in JoTT are registered under [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/) unless otherwise mentioned. JoTT allows unrestricted use, reproduction, and distribution of articles in any medium by providing adequate credit to the author(s) and the source of publication.

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

April 2020 | Vol. 12 | No. 5 | Pages: 15535–15674

Date of Publication: 26 April 2020 (Online & Print)

DOI: 10.11609/jott.2020.12.5.15535-15674

www.threatenedtaxa.org

Article

Prey selection and food habits of the Tiger *Panthera tigris* (Mammalia: Carnivora: Felidae) in Kalakkad-Mundanthurai Tiger Reserve, southern Western Ghats, India

– Bawa Mothilal Krishnakumar, Rajarathinavelu Nagarajan & Kanagaraj Muthamizh Selvan, Pp. 15535–15546

Communications

Community-based study to demonstrate the presence and local perspectives of the Critically Endangered Chinese Pangolin *Manis pentadactyla* in Zhejiang Wuyuanling, China

– Hongying Li, Shusheng Zhang, Ji Zhang, Zupei Lei, Fangdong Zheng & Peter Daszak, Pp. 15547–15556

Field friendly method for wild feline semen cryopreservation

– Gediendson Ribeiro de Araujo, Thyara de Deco-Souza, Leticia Coelho Ferreira Bergo, Leanes Cruz da Silva, Ronaldo Gonçalves Morato, Pedro Nacib Jorge-Neto, Maitê Cardoso Coelho da Silva, Gustavo Guerino Macedo & Tarcizio Antônio Rego De Paula, Pp. 15557–15564

Habitat structure determines the abundance of the Endangered Sharpe's Longclaw *Macronyx sharpei* (Aves: Passeriformes: Motacillidae) at Timau montane grasslands in central Kenya

– Dominic Kimani, Muchane Muchai, Johnstone Kimanzi, Joseph Mwangi, Wanyoike Wamiti, Samuel Bakari, Bernhard Walter & Peter Njoroge, Pp. 15565–15571

Avifaunal diversity of some selected water bodies of Khanapur Taluka, Belagavi District, Karnataka, India

– Harsha D. Neelgund & Girish Kadadevaru, Pp. 15572–15586

Herpetofauna of Shuklaphanta National Park, Nepal

– Yam Bahadur Rawat, Santosh Bhattarai, Laxman Prasad Poudyal & Naresh Subedi, Pp. 15587–15611

Varying colour pattern, yet genetically similar: Pebble Crab *Seulocia vittata* (Stimpson, 1858) (Brachyura: Leucosiidae) from the southeastern coast of India

– Sanjeevi Prakash & Amit Kumar, Pp. 15612–15618

Grasses of Kundadri Hills in the Western Ghats of Karnataka, India

– Hanchali Udayashankar Abhijit & Yelugere Linganaik Krishnamurthy, Pp. 15619–15630

Comparative phytosociological assessment of three terrestrial ecosystems of Wayanad Wildlife Sanctuary, Kerala, India

– M. Vishnu Chandran, S. Gopakumar & Anooopa Mathews, Pp. 15631–15645

Short Communications

Piroplasmiasis in a captive Grant's Zebra *Equus quagga boehmi* (Mammalia: Perissodactyla: Equidae) - a case study

– Sarat Kumar Sahu, Niranjana Sahoo, Bijayendranath Mohanty & Debabrat Mohapatra, Pp. 15646–15650

Eurylophella karelica Tiensuu, 1935 (Insecta: Ephemeroptera: Ephemerellidae) – an additional species to the mayfly fauna of Ukraine and notes on distribution of the family in the country

– Alexander V. Martynov, Pp. 15651–15654

Some new records of katydids (Orthoptera: Tettigoniidae) from Uttar Pradesh, India

– Ramesh Singh Yadav & Dharmendra Kumar, Pp. 15655–15660

Notes

On the occurrence of Honey Badger *Mellivora capensis* (Mammalia: Carnivora: Mustelidae) in the northern Eastern Ghats of Andhra Pradesh, India

– Vikram Aditya, Yogesh Pasul & Ganesh Thyagarajan, Pp. 15661–15663

Assamese Cat Snake *Boiga quincunciata* (Wall, 1908) (Reptilia: Squamata: Colubridae) - new country record for Bhutan

– Lekey Chaida, Abhijit Das, Ugyen Tshering & Dorji Wangdi, Pp. 15664–15667

Loss of Critically Endangered Hawksbill Turtle nesting beach at EGA facility, Abu Dhabi, UAE

– D. Adhavan, Pp. 15668–15670

Meliola elaeocarpicola sp. nov. (Ascomycetes, Meliolales) from Malabar Wildlife Sanctuary in Kerala State, India

– Lini K. Mathew & Jacob Thomas, Pp. 15671–15674

Member



Publisher & Host

