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

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

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A huge number of meliaceous 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 color 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
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 elaeocarpica* 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 & 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

| Name                     | Beeli formula | Colonies | Mycelial setae | Appressoria | Spore |
|--------------------------|---------------|----------|----------------|-------------|-------|
| *M. elaeocarpica* sp. nov.| 3113.3223     | Epiphyllous | Hyphae straight to flexuous, simple, straight, acute, up to 650µm long | alternate to opposite, cells ovate, rarely globose, entire, 9–15 x 9–12 µm | Oblong to cylindrical, 33–40 x 13–17 µm |
| *M. elaeocarpi*          | 3112.4221     | Amphigenous | Simple, acute, obtuse up to 300µm long | Opposite, subglobose to ovate | Subellipsoid, obtuse, 44–50 x 18 µm |
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in the presence of alternate and opposite appressora and comparatively smaller ascospores, whereas Meliola elaeocarpi Yates has only opposite appressoria and larger ascospores.

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

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