



### **A new Ascomycetes fungus (Meliolaceae: *Prataprajella*) from Kerala, India**

Meliolaceae fungal species are biotrophic on the leaves and stems of plants and most species do not cause severe damage to the host plant (Cannon & Kirk 2007). The genus *Prataprajella* Hosag. currently contains three species: *P. turpiniicola* (Hosag.) Hosag. 1992; *P. subacuminata* (W. Yamam.) B. Song & Y.X. Hu 1999; and *P. rubi* Hosag., C.K. Biju & T.K. Abraham 2005 (Lumbsch & Huhndorf 2007). I found an unknown fungal species infecting the leaves of *Memecylon edule* (Melastomataceae). Microscopic examination of the black mildew on the leaves revealed that it is a hitherto undescribed species. Hence, based on the host specificity and other morphological features, here I describe and illustrate a fourth species collected from Malabar Wildlife Sanctuary of Kozhikode District, Kerala, India.

Infected plant parts were selected in the field, and field notes were made regarding the extent of colonies of the fungus and infection, and the collection locality. A separate field number was allocated to each collection. In the field, each infected plant was collected in polythene bags along with other parts of the host plant (preferably with the reproductive parts to facilitate the identity of the host). These infected plant parts were pressed neatly and dried in between blotting papers. After ensuring their dryness, they were used for microscopic study. Scrapes were taken directly from the infected host and mounted in a 10% KOH solution. After 30 minutes, KOH was replaced by Lactophenol. Both these mountings worked 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 coloured 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

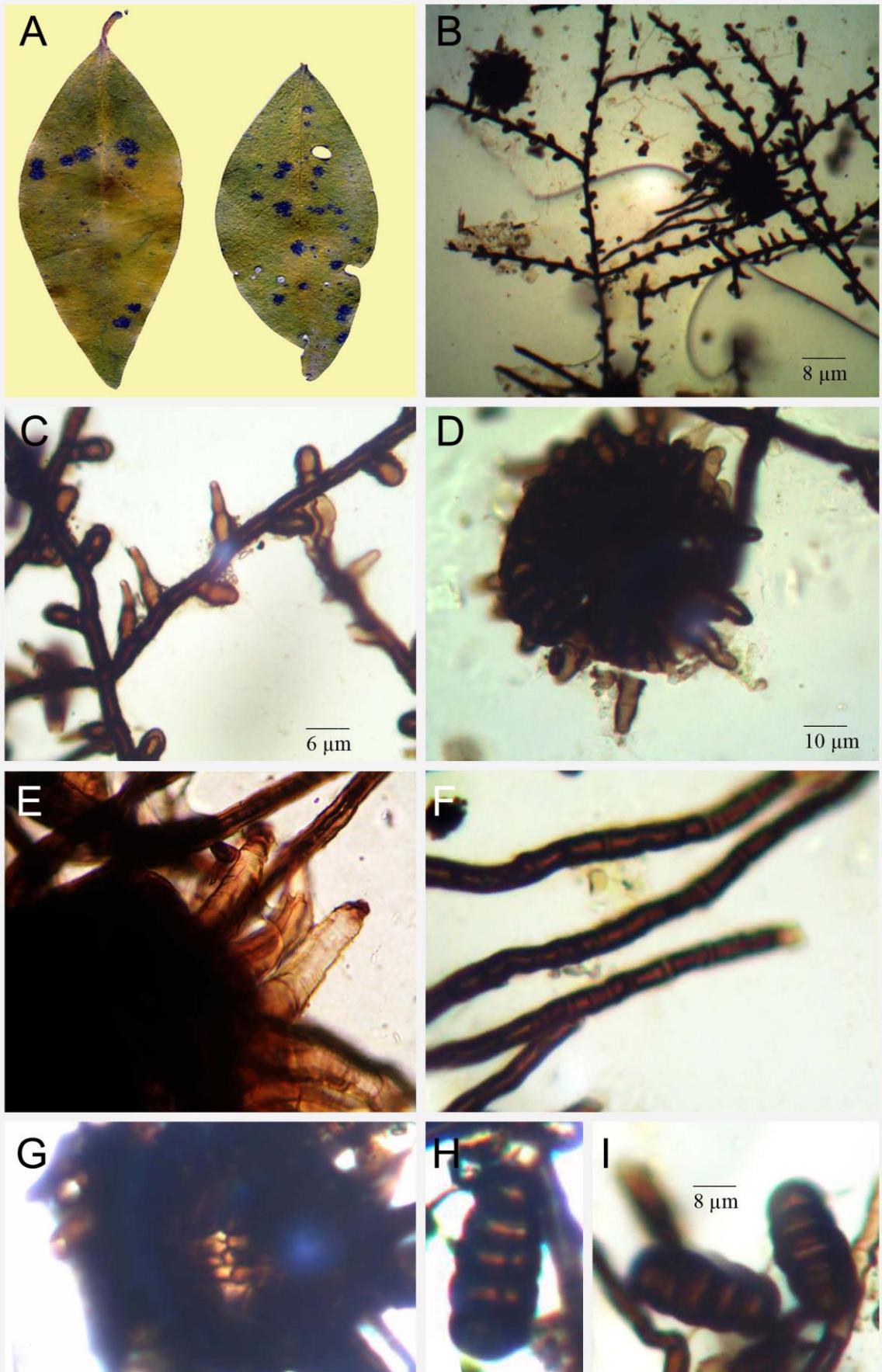
colonies and their host plants were kept in a dust-free chamber for half an hour.

When the nail polish on the colonies dried fully, a thin, colourless, or slightly apple rose coloured (depending upon the colour tint in the nail polish) film was formed with the colonies firmly embedded in it. In the case of soft host parts, the film was lifted off with a slight pressure on the opposite side of the leaves and just below the colonies. In the case of hard host parts, the film was eased off with the help of a razor or scalpel. A drop of DPX was spread on a clean slide, and the film was spread properly on it. One or two more drops of DPX were added, and a clean cover glass was placed over it. By gently pressuring the cover glass, an excessive amount of DPX was removed after drying. Care was taken to avoid air bubbles. These slides were labelled and placed in a dust-free chamber for one to two days for drying. These permanent slides were then used for further studies. After the study of each collection, part of the material was retained in the regional herbarium, Mar Thoma College Herbarium, Thiruvalla (MTCHT). There are no previous reports of meliolaceous fungi (e.g., Sydow 1913, 1926, Sydow & Sydow 1917, Stevens 1927, Ciferri 1931, Hansford & Deighton 1948, Roger 1953, Batista *et al.* 1956, Hansford 1955, 1957, 1961, Hosagoudar & Abraham 1998, Mibey & Cannon 1999, IF 2016) on the leaves of Melastomataceae family species, hence this report on a new species infecting *Memecylon edule* leaves (Fig. 1) is new to science.

*Prataprajella memecyli* sp. nov. Lini K. Mathew  
[Mycobank#850802]  
(Figs. 1, 2)

**Types.** MTCHT 104 (Type), TBGT 6990 (Isotype); on leaves of *Memecylon edule* (Melastomataceae), Calicut, Malabar Wildlife Sanctuary, Chembra, Kerala State, Southern India, collected on 16 October 2013 by L.K. Mathew.

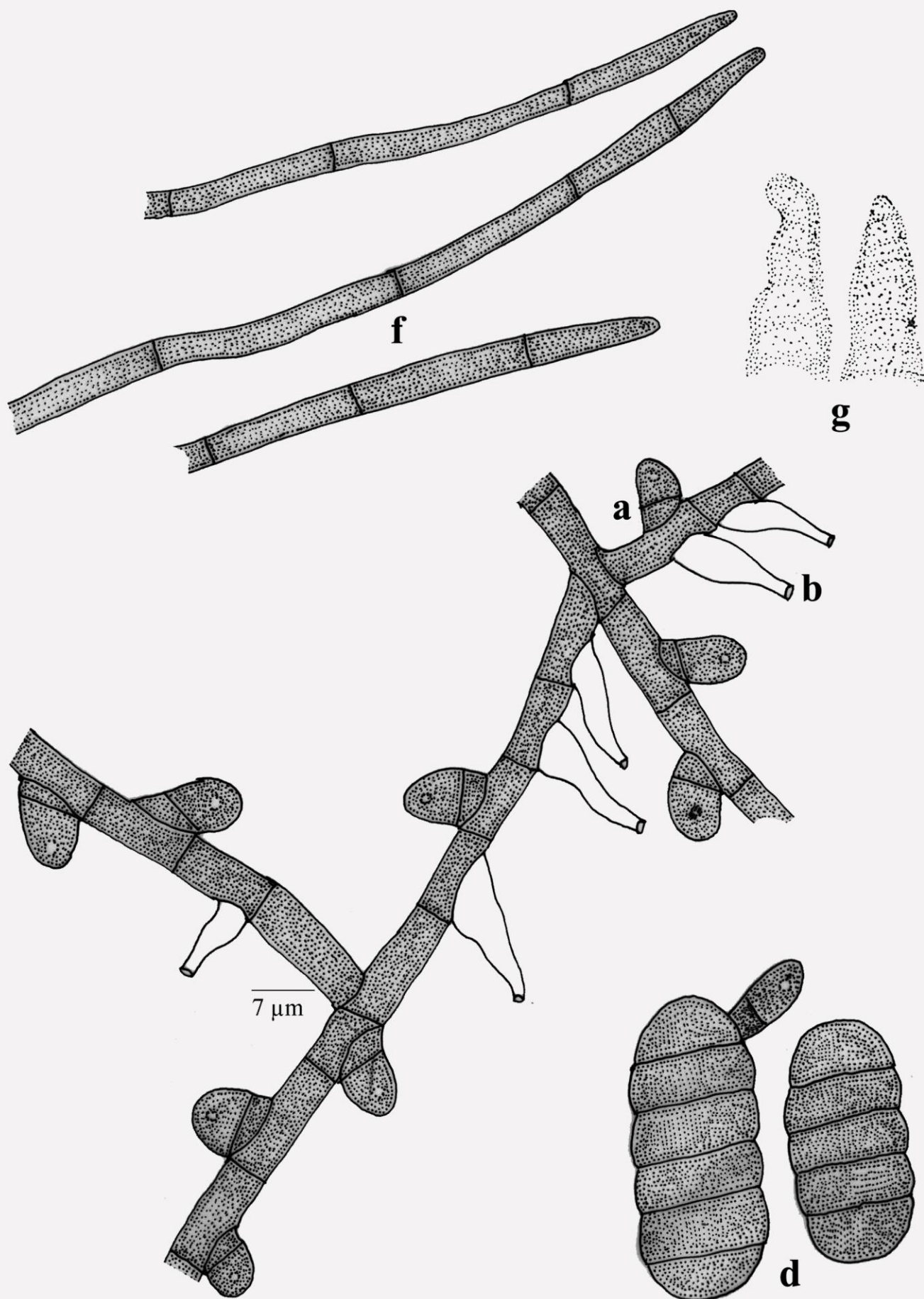
# Plate 29



**Figure 1.** *Prataprajella memecyli* sp. nov. (A) infected leaves of *Memecylon edule* (Melastomataceae), (B) colony with mature perithecia, (C) appressoriate mycelium with phialides, (D) mature perithecia, (E) perithecial appendages and base of repent setae, (F) perithecial I repent setae, (G) dehiscing perithecia, (H) ascospore, (I) germinating ascospore



# Plate 30



**Figure 2.** *Prataprajella memecyli* sp. nov. (a) appressorium, (b) phialide, (d) ascospores, (e) perithecial appendages, (g) apical portion of the repent perithecial setae

**Description in Latin.** Coloniae amphigenae, plerumque hypophyllae, densae, ad III mm diam. Hyphae rectae vel subrectae, opposite acuteque ramosae, laxae vel dense reticulatae, cellulae 22–34 × 6–8 µm. Appressoria alternis recto curvata patentibus subantrorsa vel antrorsa, 17–22 longae; cellulae cylindratae vel cuneatae, 6.5–9 longae; cellulae apicales ovatae vel globosae, 15–20 × 12–16 µm. Phialides satis numerosae appressoriis alternis oppositae, ampulliformes, 18–30 × 9–12 µm. Setae elongatis rectis simplex aurea brunneis patentibus, ad 210 µm longae et 6–9 µm latae, apice acutis vel obtusis apice parum dentati sunt parvi et appendices 1200 µm longae; grouped dispersae vel juxta perithecia aggregatae, globosae, usque ad 300 µm in dia. Appendices peritheciales larviformibus recta vel curva, detorquetur, apice obtusae ad apicem, ad 40 µm longae; ascosporae oblongae sunt, 4-septatae, constrictae ad septa, 33–40 × 16–20 µm.

**Description in English.** Colonies amphigenous, mostly hypophyllous, dense, up to 3 mm in diameter. Hyphae straight to substraight, branching opposite at acute to wide angles, loosely to closely reticulate, cells 22–34 × 6–8 µm. Appressoria alternate, straight to curved, spreading, subantrorse to antrorse, 17–22 µm long; stalk cells cylindrical to cuneate, 6.5–9 µm long; head cells globose to ovate, 15–20 × 12–16 µm. Phialides fairly numerous, mixed with appressoria, alternate to opposite, ampulliform, 18–30 × 9–12 µm. Mycelial setae elongated, straight, simple, golden brown, spreading, up to 210 µm long and 6–9 µm wide, tip acute to obtuse at the tip, few are dentate, few appendages even longer than 1200 µm long; perithecia scattered to grouped, globose, up to 300 µm in diameter. Perithecial appendages larviform, straight to curved, twisted, acute to obtuse at the tip, up to 40 µm long; ascospores cylindrical to oblong, 4-septate, constricted at the septa, 33–40 × 16–20 µm.

**Etymology.** The specific epithet is based on the host genus “*Memecylon*”.

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