



FOLIICOLOUS FUNGI OF ANDAMAN ISLANDS, INDIA

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Abstract: One month field collection tour resulted in the collection of more than 500 foliicolous fungi. Of these, 152 collections have been identified, resulted in recording 60 fungal taxa. Of these, one new genus (*Andamanomyces*), 16 new species (*Andamanomyces fragariae*, *Asterediella anaxagoreae*, *Asteridiella colocasiae*, *Asterina eleocarpigena*, *Asterostomella dhanikariensis*, *Asterostomella farrargunjensis*, *Irenopsis andamanica*, *Meliola andamanica*, *Meliola canarifolia*, *Meliola chukrasiicola*, *Meliola harrietensis*, *Meliola myristicacearam*, *Meliola parishiae*, *Meliola savarkarii*, *Meliola ternstroemiicola* and *Schiffnerula chukrasiae*) and one new variety (*Meliola pithecellobii* var. *indica*) are discovered. *Meliola palmicola* is reported here for the first time from India. All these taxa are listed but the novel taxa are described and illustrated in detail.

Keywords: Andaman Islands, foliicolous fungi, India, new species.

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INTRODUCTION

Andaman Islands, the pristine Indian archipelago in the Bay of Bengal is about 647 nautical miles away from the Coromandel coast of the Peninsular India, located between 92°12"–93°17"E & 6°45"–13°45"N, comprise about 325 islands, islets and rocks which cover an area of 6,408km² (Image 1). Geologically, these islands are considered as the emergent peaks of a submerged mountain range in continuation with the Arakan–Yoma Mountains of the Myanmar. The entire length of Andaman group of islands is estimated to be 467km while the maximum width is about 51.5km. Landfall Island demarcates the northern end of the Andaman Archipelago while Little Andaman Island occupies the extreme southern end of this group. The two volcanic islands, viz., Narcondom Island and Barren Island, demarcate the eastern boundary while Interview Island and Sentinel Islands delimit the western extremity. The Andaman Archipelago consists of four major groups of islands such as North Andamans, Middle Andamans, South Andamans and the Little Andaman. The former three groups are collectively known as Great Andamans. The biggest island in this group is South Andaman (2,021 km²) and smallest is the Aves Island (0.2km²).

The toponymy of Andaman Islands is in different names since 2nd century. Ptolomy, the famous Roman geographer referred to these islands as 'Agmate' or 'Aginae' in his travelogues. It has been mentioned as 'Timattive' in 'Tanjor Incrptions' of 1050AD. The Malayan people who came to these islands for capturing slaves referred these islands as 'Handuman'. It appears that the present name has originated from 'Hanuman', the monkey god of the Indian epic, Ramayana. These islands are also known as Bay Islands, since in the Bay of Bengal. 'Kala Pani' is another name, perhaps given by the Indian freedom fighters during the Indian freedom struggle. This name is derived from the Sanskrit word 'Kal–Pani' which means the water of death or place of banishment but not the 'black water' as mentioned in many literature. Whatever be the different names in the remote past, these islands are referred to the name given by the Malaysians with slight phonetic changes seems to be more logic in toponymy of these islands.

The proximity of these islands towards equator contributes tropical climate with an average temperature of 30°C, rainfall of 3100mm and relative humidity of 77%, facilitate luxuriant growth of rainforests. According to an official estimation, around 83% of the land area of these islands are covered by dense lowland rain forests which could be designated as 'humid tropics' ranging

from sea level to an altitude up to 732m at Saddle Peak (North Andamans). From phytogeographical point of view, the insular flora of the Andaman and Nicobar Islands is remarkable as the transitional zone vegetation between the South and Southeast Asia as well as the only stronghold of Malesian floristic elements within the Indian Territory. The geographical isolation of these islands from the major land masses of South and Southeast Asia over millions of years have resulted in unique endemism and coupled with multi-dimensional floristic affinities towards nearer and distant geographical regions such as northeastern India, Southeast Asia, Malesia and to the Western Ghats of the peninsular India. According to a recent official estimation carried out by Pandey & Diwakar from the Botanical Survey of India in 2008, the Bay Islands are known to host about 2,428 Angiosperm taxa including 294 endemics.

The general topography of the islands is very irregular and undulating. The irregular deeply indented coastal lines result in many creeks and coves. The highest point in the Bay of Bengal is the 'Saddle Peak' (732m) in North Andamans. The other major heights of Andaman archipelago are Mount Diavolo (505m), Mount Oldham (304m), Mount Angelica (458m) of the Middle Andamans, Mount Ford (428m) of the Rutland Island (South Andamans), Mount Harriet ranges of the South Andamans which reaches the maximum height of 460m at Mount Koyob of the same ranges. The other major heights are the Mount Hext (424m), Mount Warden (422m), Mount Harriet (398m), Mount Goodridge (321m), Mount Carpenter (310m) and the Mount Nappier (304m).

The insular types of vegetation ranging from shallow marine ecosystems to the inland forest ecosystems could be broadly classified into two different zonal types such as coastal or littoral vegetation and the inland vegetation, based on the proximity of the sea. The zonal types have been further subdivided into several types based on the floristic composition owing to the influence of other edaphic, climatological and physical factors such as humidity, soil types, daily tides, retentivity of soil, altitude, etc. The coastal or littoral forest vegetation constitutes marine aquatic vegetation, mangrove forest vegetation, tidal swamp vegetation and littoral forest vegetation along the sea coasts. The inland vegetation comprises the giant evergreen forests, Andaman tropical evergreen forests, southern hill top tropical evergreen forests, semi evergreen forests, moist deciduous forests, grasslands, inland aquatic vegetation and manmade vegetations.

However, in such an interesting floristically rich



Image 1. Andaman Islands

forests, the study of lower groups is very much meager. In case of foliicolous fungi alone, generally it is stated that there will be 10 fungi to each plant species. This archipelago has 2,428 plant species, it is expected more than 24,000 fungi against the just known 10 foliicolous fungal species (Hosagoudar & Mathew 2000).

LIST OF FUNGAL TAXA

Acroconidiellina arecae (Berk. & Br.) M.B. Ellis

Materials examined: TBGT 6528, PBL 121, 16.xii.2012, on leaves of *Areca catechu* (Arecaceae), Billiground, Mayabandar, North Andaman, coll. V.B. Hosagoudar et al.

Andamanomyces gen. nov. V.B. Hosagoudar (Asterinales, Lemboosiaceae)

urn:lsid:indexfungorum.org:names:807674

Fungus foliicolous, ectophytic. Mycelium ectophytic, brown, septate, branched, appressoriolate. Appressoria solitary but mostly in couplets like *Gangamyces*, unicellular, lumen between both the appressoria is continuous or separated by cell wall of the mycelial cells. Thyriothecia oval, ellipsoidal with central vertical suture formed by dissolving or splitting; asci globose, 8-spored, bitunicate; ascospores brown, conglobate, oblong, uniseptate, constricted at the septum.

Etymology: Fungus named after the Andaman Islands.

Type: *Andamanomyces fragariae* sp. nov.

This genus is similar to *Gangamyces* but differs from it in having elliptical thyriothecia with central vertical suture as is in the case of *Asterolibertia* and *Cirsosia*.

Andamanomyces fragariae sp. nov.

(Fig. 1) urn:lsid:indexfungorum.org:names: 807684

Materials examined: TBGT 6666 (holotype), PBL 259 (isotype); TBGT 6670, PBL 263; TBGT 6675, PBL 269, 11.xii.2012, on leaves of *Fragaria* sp. (Rosaceae), Mount Harriet National Park, coll. Hosagoudar et al.

Colonies epiphyllous, dense, up to 3mm in diameter. Hyphae straight to substraight, branching opposite to irregular at acute angles, closely to loosely reticulate, cells 35–45x5–7 μm. Appressoria in opposite couplet, rarely solitary forming stellate lumen in the cells on which they are born, scattered to closely scattered, ovate, globose, margin entire to sublobate, couplet horizontal, 22–27 μm broad, appressoria individually 8–10 μm broad, lumen quadrangular in shape, often a link of mycelial cell is visible, with its points towards upper and lower septa and the other two directed towards the centre of lumen of appressoria, 10–15x5–7 μm. Thyriothecia oval, ellipsoidal to elongated, scattered to loosely grouped, longitudinally dehisced at the centre, 440–720x200–300 μm; margin crenate to fimbriate, fringed hyphae flexuous; asci oval to globose,

octosporous, 32–34x17–20 μm ; ascospores oblong to cylindrical, conglobate, 1-septate, constricted at the septum, 50–52x40–50 μm .

This genus differs from *Gangamyces* in having elliptical thyriothecia with vertical suture (Hosagoudar 2012).

Etymology: Named after its host plant.

***Asteridiella anamalaiana* Hosag.**

Materials examined: TBGT 6418, PBL 11, 17.xii.2012, on leaves of *Sterculia* sp. (Sterculiaceae), South creek, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6508, PBL101, 15.xii.2012, Kallara junction, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6486, PBL 079, 12.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6448, PBL 41, 20.xii.2012, Farrar gunj, South Andaman, V.B. Hosagoudar et al.; TBGT 6451, PBL 44, 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.

***Asteridiella anaxagoreae* sp. nov.**

(Fig. 2) urn:lsid:indexfungorum.org:names: 807685

Materials examined: TBGT 6680 (holotype), PBL 274 (isotype), 8.xii.2012, on leaves of *Anaxagorea javanica* (Annonaceae), Sholbay, South Andaman, V.B. Hosagoudar et al.

Colonies epiphyllous, subdense, up to 4mm in

diameter. Hyphae straight to substraight, branching mostly opposite to rarely alternate at acute to wide angles, loosely to closely reticulate, cells 25–30x5–7 μm . Appressoria alternate to unilateral, straight to slightly curved, antrorse to sub antrorse, 20–25 μm long; head cells globose, entire, clavate, truncate, angular, 15–20x10–15 μm . Phialides born on a separate mycelial branch, opposite to alternate, ampulliform, 17–22x6–7 μm . Perithecia scattered, up to 140 μm in diameter; perithecial wall cells conoid to ampulliform, up to 15 μm long; ascospores oblong to cylindrical, 4-septate, constricted at the septa, 32–37x12–17 μm .

Asteridiella subglabroides Hansf. is known on Annonaceae member from British Guiana (Hansford 1961) but *Asteridiella anaxagoreae* differs from it in having mostly entire head cells of appressoria and longer ascospores.

Etymology: Named after its host plant.

***Asteridiella colocasiae* sp. nov.**

(Fig. 3 & Image 1)

urn:lsid:indexfungorum.org:names: 807686

Materials examined: TBGT 6677 (holotype), PBL 271 (isotype), 8.xii.2012, on leaves of *Colocasia* sp. (Aracaceae), Wright Myo, South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, dense, scattered, up to 1mm

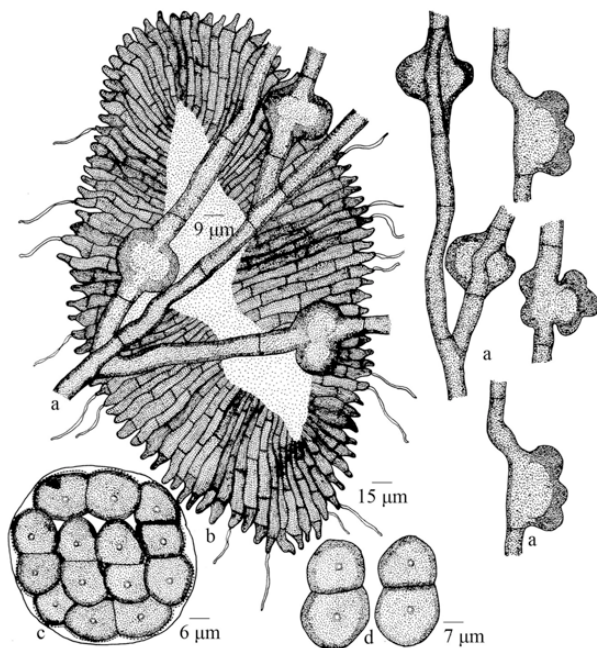


Figure 1. *Andamanomyces fragariae* sp. nov.

a - Appressoriate mycelium; b - Thyriothecium; c - Ascus; d - Ascospores

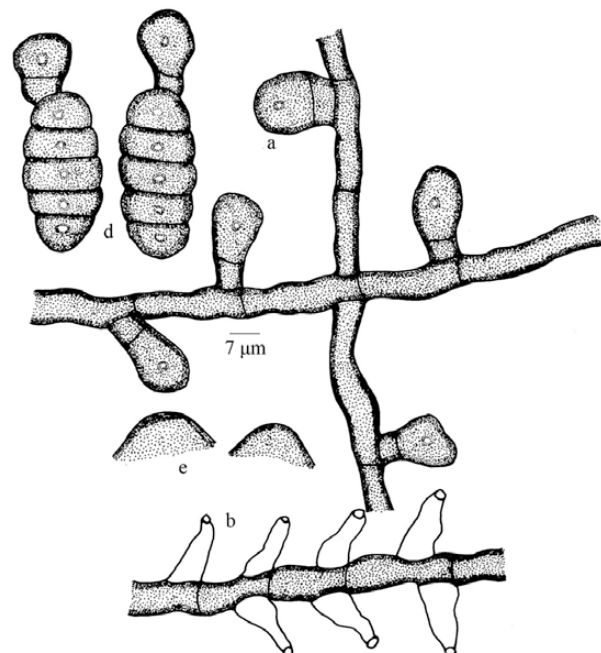


Figure 2. *Asteridiella anaxagoreae* sp. nov.

a - Appressorium; b - Phialide; d - Ascospores; e - Peridial cells

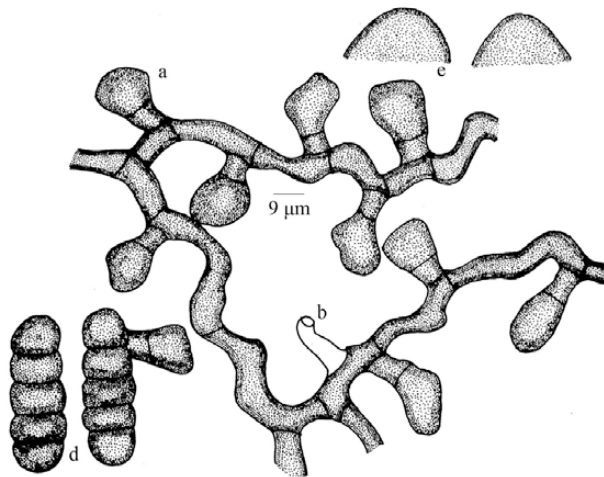


Figure 3. *Asteridiella colocasiae* sp. nov.

a - Appressorium; b - Phialide; d - Ascospores; e - Peridial cells



Image 1. a - Infected *Colocasia* vegetation; b - *Asteridiella colocasiae* sp. nov. on *Colocasia* sp.

in diameter, confluent. Hyphae flexuous to crooked, branching alternate to irregular at acute to wide angles, form a loose mycelial net, cells 15–22x6–7 μ m. Appressoria alternate to unilateral, antrorse, subantrorse to spreading, straight to curved, 20–25 μ m long; stalk cells cylindrical to cuneate, 5–10 μ m long; head cells

straight to curved, ovate, clavate, globose, truncate at the apex, angular, entire, 12–15x10–15 μ m. Phialides mixed with appressoria, ampulliform, 15–20x5–7 μ m. Perithecia scattered to loosely grouped, up to 180 μ m in diameter; perithecial wall cells mammiform, up to 12 μ m long; ascospores ellipsoidal, 4-septate, 42–45x12–14 μ m, mostly constricted at the septa.

Asteridiella pothodis (Hansf. & Thirm.) Hansf. is known on *Pothos scandens* from the Western Ghats of Peninsular India (Hansford & Thirumalachar 1948; Hansford 1961). *Asteridiella colocasiae* differs from it in loosely forming hyphal net.

Etymology: Named after its host plant.

***Asteridiella combreti* (Stev.) Hansf. var. *leonensis* Hansf.**

Materials examined: TBGT 6513, PBL 106, 14.xii.2012, on leaves of *Terminalia bialata* (Combretaceae), Lakshmipur Nursery, North Andaman, coll. V.B. Hosagoudar et al.

***Asterina claviflori* Kar & Maity**

Materials examined: TBGT 6408, PBL 001, 17.xii.2012, on leaves of *Syzygium* sp. (Myrtaceae), Mangrove forest guest house, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6470, PBL 063, 14.xii.2012, Millengram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Asterina diplocarpa* Cooke**

Materials examined: TBGT 6483, PBL 076, 20.xii.2012, on leaves of *Sida* sp. (Malvaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6523, PBL 116, 14.xii.2012, Shibpur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Asterina elaeagni* (Sydow) Sydow & Petrak**

Materials examined: TBGT 6489, PBL 082, 16.xii.2012, on leaves of *Elaeagnus* sp. (Elaeagnaceae), Kallara junction, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Asterina eleocarpigena* sp. nov.**

(Fig. 4) urn:lsid:indexfungorum.org:names: 807687

Materials examined: TBGT 6676 (holotype) PBL 270 (isotype), 8.xii.2012, on leaves of *Elaeocarpus* sp. (Elaeocarpaceae), South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, thick, scattered, up to 6mm in diameter, confluent. Hyphae mostly straight to substraight, branching opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 17–25x5–

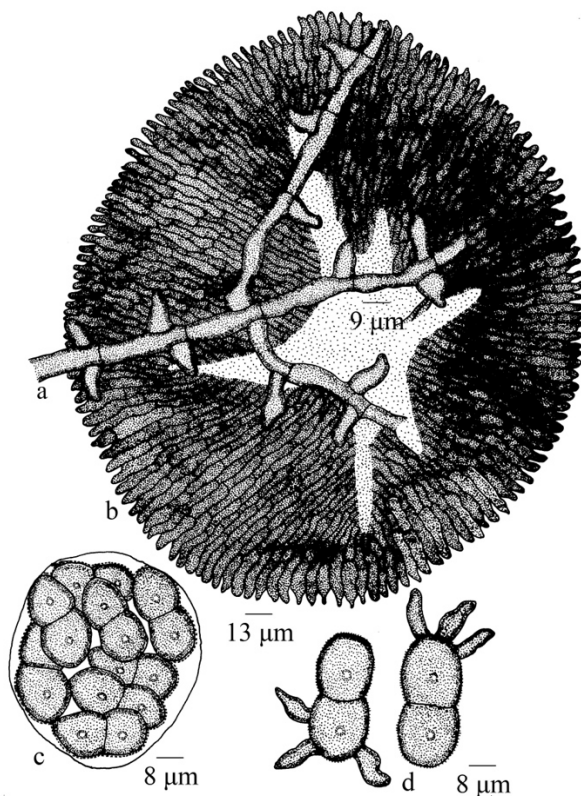


Figure 4. *Asterina eleocarpigena* sp. nov. a. Appressorate mycelium, b. Thyriothecium, c. Ascus, d. Ascospores

6 µm. Appressoria opposite (90%) to alternate, straight to curved, antrorse, subantrorse to retrorse, ovate, often ampulliform, attenuated and broadly rounded towards apex, 12–15x5–7 µm. Thyriothecia scattered, rarely one to two connate, up to 270µm in diameter, stellately dehiscent at the centre, margin crenate to fimbriate, fringed hyphae flexuous, devoid of appressoria; asci globose, octosporous, 47–62x45–60 µm in diameter; ascospores oblong, conglobate, brown, uniseptate, slightly constricted at the septum, 35–37x15–17 µm, wall tuberculate.

There are six *Asterina* species, namely, *Asterina borneensis* Hansf., *Asterina elaeocarpi* Sydow, *Asterina elaeocarpi* var. *ovalis* Kar & Ghosh, *Asterina eleocarpicola* Hansf., *Asterina elaeocarpi-kobanmochi* Yamam. and *Asterina gamsii* are known on this host genus. However, *Asterina elaeocarpigena* differs from all in having 90% opposite, ovate, conoid to ampulliform appressoria (Hosagoudar & Abraham 2000; Hosagoudar 2009, 2012).

Etymology: Named after its host plant.

***Asterina escharoides* Sydow**

Materials examined: TBGT 6493, PBL 086, 15.xii.2012, on leaves of *Quisqualis indica* (Combretaceae), Kalighat,

Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6531, PBL 124, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6525, PBL 118, 14.xii.2012, Shibpur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6510, PBL 103, 17.xii.2012, Krishnanagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.

***Asterina jambolana* Kar & Maity**

Materials examined: TBGT 6434, PBL 027, 15.xii.2012, on leaves of *Syzygium* sp. (Myrtaceae), Central forest nursery, Nabagram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6437, PBL 030, 15.xii.2012, Keralapuram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6516, PBL 109, 6.xii.2012, North Bay, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6458, PBL 051, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6522, PBL 115, 6.xii.2012, North Bay, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6520, PBL 113, 6.xii.2012, *Syzygium cumini*, North Bay, South Andaman, coll. V.B. Hosagoudar et al.

***Asterina lawsoniae* Nymn.**

Materials examined: TBGT 6410, PBL 003, 17.xii.2012, on leaves of *Lawsonia inermis* (Lythraceae), Krishna nagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6521, PBL 114, 14.xii.2012, Millengram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6497, PBL 090, 11.xii.2012, Bamboo flat, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6490, PBL 083, 15.xii.2012, Govt. Secondary school, Ramnagar, North Andaman, coll. V.B. Hosagoudar et al.

***Asterina triumfeticola* Yamam.**

Materials examined: TBGT 6420, PBL 013, 17.xii.2012, on leaves of *Triumfetta* sp. (Tiliaceae), Krishna nagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6524, PBL 117, 14.xii.2012, Shibpur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Asterostomella dhanikariensis* sp. nov.**

(Fig. 5) urn:lsid:indexfungorum.org:names: 807688

Materials examined: TBGT 6671 (holotype), PBL 264 (isotype), 7.xii.2012, on leaves of *Tetrastigma* sp. (Vitaceae), Dhanikari, Vandoor, South Andaman, coll. V.B. Hosagoudar et al.

Colonies hypophyllous, subdense, up to 2mm in diameter. Hyphae flexuous to crooked, branching irregular at acute to wide angles, loosely to closely

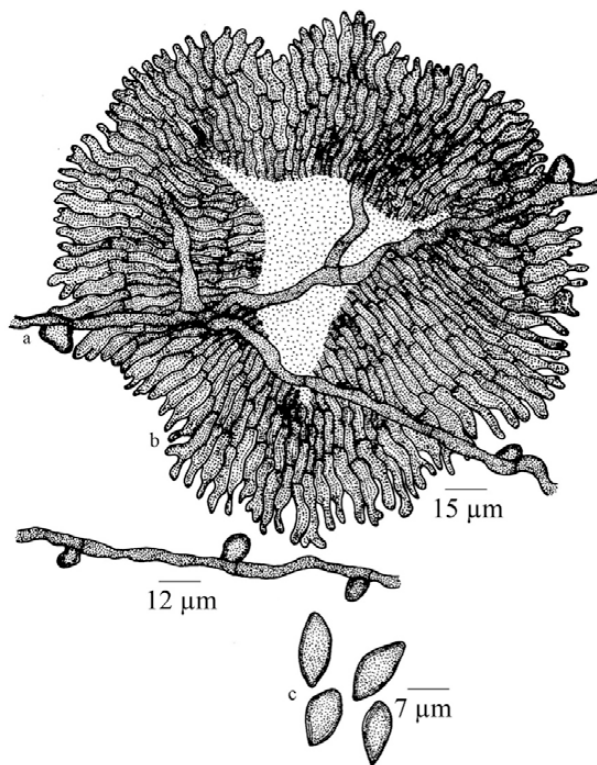


Figure 5. *Asterostomella dhanikariensis* sp. nov. a - Appressoriolate mycelium; b - Pycnothyrium; c - Pycnothyriospores

reticulate, cells 15–22x2–3 µm. Appressoria distantly placed, alternate to unilateral, straight to curved, unicellular, ovate, globose, mammate, often slightly stipulate, entire, angular, sublobate, 5–10x5–7 µm. Pycnothyria numerous, densely scattered, orbicular, up to 220µm in diameter, stellately dehisced at the centre. Pycnothyriospores pale to deep brown, oval, pyriform, fusiform, often with a hyaline band at the centre, 10–15x5–7 µm.

This species differs from other known *Asterina* species on the members of the family Vitaceae in having fusiform pycnothyriospores and distantly placed, mammiform, subsessile to stipulate appressoria (Hosagoudar & Abraham 2000; Hosagoudar 2012).

Etymology: Named after its host plant.

***Asterostomella farrargunjensis* sp. nov.**

(Fig. 6) urn:lsid:indexfungorum.org:names: 807689

Materials examined: TBGT 6669 (holotype), PBL 262 (isotype); TBGT 6673, PBL 267, 20.xii.2012, on leaves of *Tetracera sermentosa* var. *indica* (Dilleniaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.

Colonies hypophyllous, subdense, up to 2mm in diameter, confluent. Hyphae flexuous to crooked,

branching irregular at acute angles, loosely to closely reticulate, cells 22–27x3–5 µm. Appressoria few, distantly placed, unicellular, oblong, ovate, entire, 6–7x5–7 µm. Pycnothyria closely scattered, orbicular, up to 180µm in diameter, margin crenate, dissolved and widely opened at the centre; pycnothyriospores ellipsoidal, pyriform, 12–17x7–10 µm, wall smooth.

This species is similar to *Asterostomella stipitipodia* Farr. in having the similar morphology with the appressoria (Farr 1987). However differs from it in having smaller pycnothyriospores (12–17x7–10 vs 18–28 x10–16 µm).

Etymology: Named after its collection locality.

***Chaetomium* sp.**

Materials examined: TBGT 6514, PBL 107, 16.xii.2012, on leaves of *Hyptis* sp. (Lamiaceae), Bakulthala, Middle Andaman, V.B. Hosagoudar et al.

***Cirsosia arecacearum* Hosag. & Pillai**

Materials examined: TBGT 6428, PBL 021, 17.xii.2012, on leaves of *Calamus* sp. (Arecaceae), Jarwa creek, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6452, PBL 045, 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6496, PBL 089, 18.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6482, PBL 075, 12.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6480, PBL 073, 12.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6476, PBL 069, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6472, PBL 065, 14.xii.2012, Shipur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6460, PBL 053, 20.xii.2012, Farrar gunj check post, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6447, PBL 040, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6445, PBL 038 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.

***Irenopsis andamanica* sp. nov.**

(Fig. 7) urn:lsid:indexfungorum.org:names: 807690

Materials examined: TBGT 6682 (holotype), PBL 276 (isotype), 8.xii.2012, on leaves of *Tabernaemontana* sp. (Apocynaceae), Sholbay, South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, dense, up to 6mm in diameter. Hyphae straight to flexuous, branching opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 20–25 x 6–7 µm. Appressoria alternate

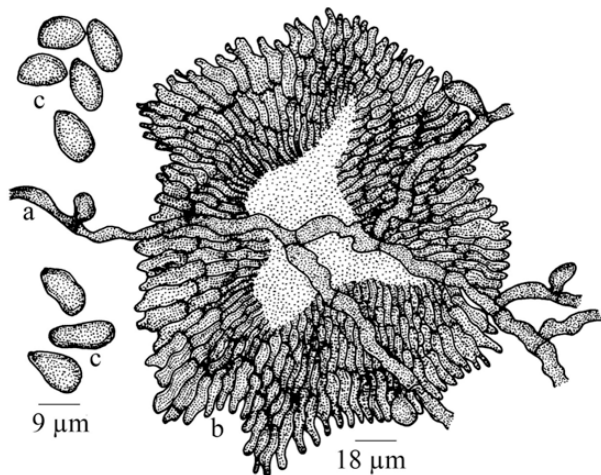


Figure 6. *Asterostomella farrargunjensis* sp. nov.

a - Appressoriolate mycelium; b - Pycnothyrium; c - Pycnothyriospores

to unilateral, straight to curved, antrorse, sub antrorse to retrorse, 20–27 µm long; stalk cells cylindrical to cuneate, 5–10 µm long; head cells ovate to broadly ovate, attenuated and narrowed towards apex, entire, straight to curved, 15–17 x 7–10 µm. Phialides mixed with appressoria, alternate, born on separate mycelial branch, ampulliform, 15–20 x 5–6 µm. Perithecial setae 4–5 in numbers, straight, simple, acute to obtuse at the tip, often curved at the tip, up to 320µm long. Perithecia scattered, up to 90µm in diameter; ascospores oblong, 4-septate, slightly constricted at the septa, 40–45 x 12–20 µm.

This is the first species of the genus *Irenopsis* known on the members of the family Apocynaceae (Hansford 1961; Hosagoudar 1996, 2008; Hosagoudar et al. 1997; Hosagoudar & Agarwal 2008; Hu et al. 1996, 1999).

***Irenopsis leae* Hansf. var. *indica* Hosag.**

Materials examined: TBGT 6435, PBL 028, TBGT 6438, PBL 31, 15.xii.2012, on leaves of *Leea* sp. (Leeaceae), Seeta nagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6443, PBL 036, 15.xii.2012, Kallara junction, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Irenopsis leae* Hansf. var. *javensis* Hansf.**

Material examined: TBGT 6509, PBL 102, 16.xii.2012, on leaves of *Leea* sp. (Leeaceae), Bakulthala, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6511, PBL 104, 16.xii.2012, Kallara junction, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Irenopsis molleriana* (Wint.) Stev.**

Materials examined: TBGT 6484, PBL 077, 20.xii.2012, on leaves of *Urena lobata* (Malvaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6519, PBL 112, 14.xii.2012, *Hibiscus* sp. ('Kattabhaji'), Lakshmipur nursery, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

The latter host (Kattabhaji) was growing profusely in most of the forest nurseries and according to locals, it is sour in taste and is being extensively used as vegetable after cooking with pulses. The infection was severe and probably this is the first report on this host plant.

***Irenopsis sidae* (Rehm) Hughes var. *indica* Hosag. & Manoj.**

Materials examined: TBGT 6457, PBL 050, TBGT 6483, 076, 20.xii.2012, on leaves of *Sida* sp. (Malvaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.

Irenopsis triumfettae* Stev. var. *indica

Hosag. & Abraham

Materials examined: TBGT 6420, PBL 013, 17.xii.2012, on leaves of *Triumfetta* sp. (Tiliaceae), Krishna Nagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6485, PBL 078, 12.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola abri* Hosag.**

Materials examined: TBGT 6454, PBL 47, 22.xii.2012, on leaves of *Abrus precatorius* (Fabaceae), BSI garden, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6461, PBL 54, 20.xii.2012, Farrar gunj check post, South Andaman, coll. V.B. Hosagoudar et al.

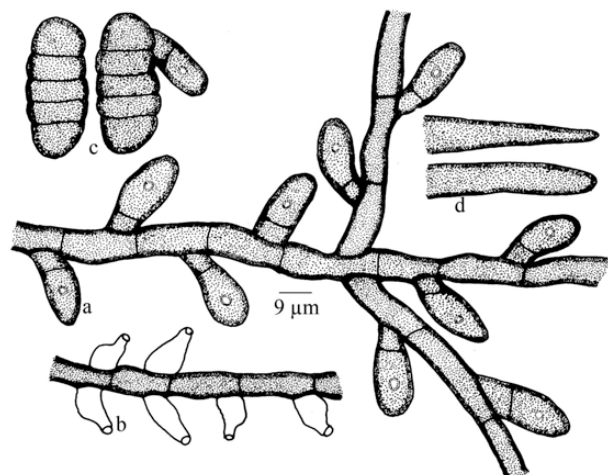


Figure 7. *Irenopsis andamanica* sp. nov.

a - Appressorium; b - Phialide; c - Ascospores; d - Perithecial setae

***Meliola andamanica* sp. nov.**

(Fig. 8) urn:lsid:indexfungorum.org:names: 807691

Materials examined: TBGT 6678 (holotype), PBL 272 (isotype), 17.xii.2012, on leaves of *Strychnos andamanensis* (Strychnaceae), Krishnanagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, subdense, scattered, up to 4mm in diameter. Hyphae straight to substraight, branching mostly opposite at acute to wide angles, loosely to closely reticulate, cells 27–37x5–7 μ m. Appressoria opposite, 1% solitary, straight to curved, antrorse to subantrorse, 15–17 μ m long; head cells ovate to oblong, entire, 10–12x5–7 μ m. Phialides mixed with appressoria, alternate to opposite, ampulliform, 20–25x5–7 μ m. Mycelial setae scattered, simple, straight, acute to obtuse at the tip, up to 750 μ m long. Perithecia scattered, globose, up to 180 μ m in diameter; ascospores obovoidal, 4-septate, deeply constricted at the septa, 37–40x12–15 μ m.

This is the only species of the genus *Meliola* known in the member of the family Strychnaceae in having only opposite appressoria (some are solitary) (Hansford 1961; Hosagoudar 1996, 2008, 2013; Hue et al. 1997).

Etymology: Named after Andaman Islands.

***Meliola anceps* Sydow & Sydow**

Materials examined: TBGT 6412, PBL 005, 18.xii.2012, on leaves of *Mussaenda philippica* (Rubiaceae), Lorogic forest camp, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.

***Meliola butleri* Sydow & Sydow**

Materials examined: 14.xii.2012, TBGT 6533, PBL 126, on leaves of *Citrus* sp. (Rutaceae), Lakshmiipur Nursery, North Andaman, coll. V.B. Hosagoudar et al.

The infection was very severe on this cultivated plant.

***Meliola canarifolia* sp. nov.**

(Fig. 9) urn:lsid:indexfungorum.org:names: 807692

Materials examined: TBGT 6684 (holotype), PBL 278 (isotype), 21.xii.2012, on leaves of *Canarium* sp. (Burseraceae), Tusnabad, South Andaman, coll. V.B. Hosagoudar et al.

Colonies amphigenous, scattered, dense, up to 4mm in diameter. Hyphae substraight to flexuous, branching opposite at acute to wide angles, loosely to closely reticulate, cells 35–42x6–10 μ m. Appressoria alternate to unilateral, straight to curved, closely antrorse to subantrorse, 22–32 μ m long; stalk cells cylindrical to cuneate, 5–10 μ m long; head cells, ovate, oblong,

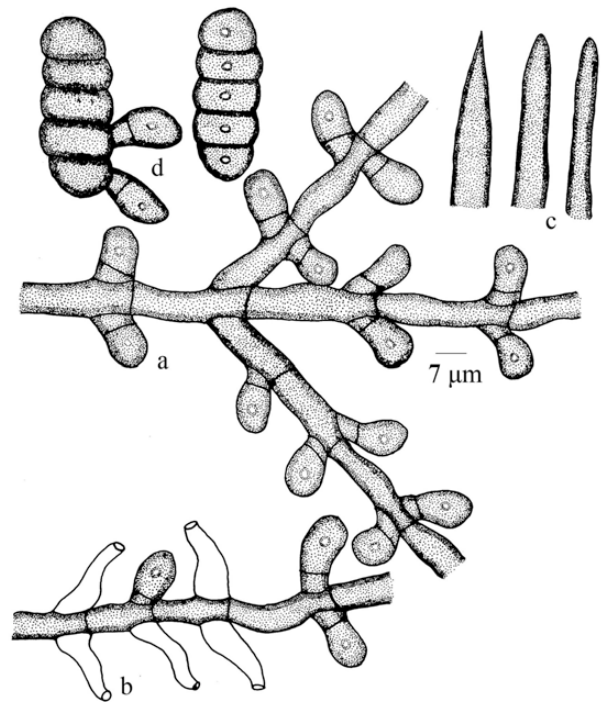


Figure 8. *Meliola andamanica* sp. nov.

a - Appressorium; b - Phialide; c - Apical portion of the mycelial setae; d - Ascospores

clavate, often cylindrical, entire to rarely sublobate, truncate, straight to curved, 12–25x10–15 μ m. Phialides mixed with appressoria, alternate, ampulliform, 22–30x6–7 μ m long. Mycelial setae scattered, simple, straight, acute to obtuse at the tip, up to 400 μ m long; mycelial setae around perithecia were simple, straight, curved, uncinat at the tip, up to 300 μ m long. Perithecia scattered, up to 210 μ m in diameter; ascospores oblong to cylindrical, 4-septate, mostly constricted at the septa, 47–55x15–20 μ m.

Meliola canarii is known on this host genus from the tropical countries and also from the Western Ghats of Karnataka and Tamil Nadu (Hansford 1961; Hosagoudar 1996). However, *Meliola canarifolia* differs from *Meliola canarii* in having frequently truncate and rarely sublobate head cells of the appressoria and distinctly larger ascospores.

Etymology: Named after its host plant.

***Meliola careyae* (Stev.) Hosag. var. *indica* Hosag.**

Materials examined: TBGT 6453, PBL 46, 22.xii.2012, on leaves of *Careya arborea* (Lecythidaceae), BSI garden, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.

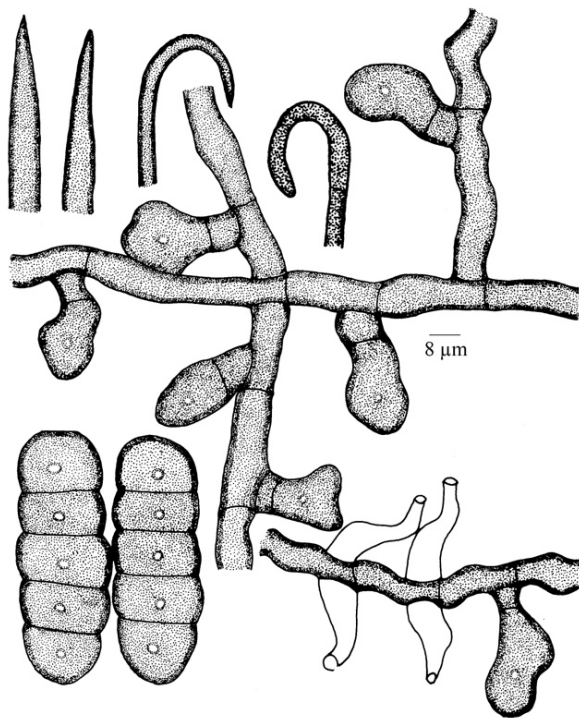


Figure 9. *Meliola canarifolia* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

***Meliola cadambae* Hosag. & C.K. Biju**

Materials examined: TBGT 6411, PBL 004, 17.xii.2012, on leaves of *Neolamarkia cadamba* (Rubiaceae), Krishna nagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6429, PBL 022, 17.xii.2012, South creek, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6439, PBL 032, 15.xii.2012, Seeta nagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

This is very common plant along with the edges of the evergreen forests with this fungus.

***Meliola citricola* Sydow & Sydow**

Materials examined: TBGT 6424, PBL 17, 18.xii.2012, on leaves of *Citrus* sp. (Rutaceae), Gandhi Ghat, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6427, PBL 20, 18.xii.2012, Gandhi Ghat, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6433, PBL 26, 15.xii.2012, Kalpong hydroelectric project area, Nabagram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6475, PBL 68, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

***Meliola chukrasiicola* sp. nov.**

(Fig. 10) urn:lsid:indexfungorum.org:names: 807693

Materials examined: TBGT 6681 (holotype), PBL 275 (isotype), 8.xii.2012, on leaves of *Chukrasia* sp. (Meliaceae), Central nursery, Lorogic Forest Camp, Middle Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, thin, up to 6mm in diameter, confluent. Hyphae straight to substraight, branching opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 22–32x6–7 μm. Appressoria alternate, rarely unilateral, antrorse, sub antrorse to retrorse, straight to curved, 15–22 μm long; stalk cells cylindrical to cuneate, 5–7 μm long; head cells ovate, globose, clavate, entire, straight to curved, 10–16x7–10 μm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 17–22x5–6 μm. Mycelial setae loosely scattered, straight, simple, acute to 2–3-dentate at the tip, up to 650μm long. Perithecia scattered, up to 170μm in diameter; ascospores cylindrical, 4-septate, constricted at the septa, 40–47x15–17 μm.

Meliola chukrasiae known on *Chukrasia* sp. from Western Ghats (Hosagoudar 1996). However, *Meliola chukrasiicola* differs from it in having straight, acute to 2–3-dentate mycelial setae.

Etymology: Named after its host plant.

***Meliola clerodendricola* Henn.**

Materials examined: TBGT 6444, PBL 037, 20.xii.2012, on leaves of *Clerodendrum* sp. (Verbenaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6512, PBL 105, 16.xii.2012, Betapur, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6501, PBL 094, 7.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6494, PBL 087, 8.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6481, PBL 074, 12.xii.2012, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6446, PBL 039, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6468, PBL 061, 8.xii.2012, *C. viscosum*, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola entadicola* Deight.**

Materials examined: TBGT 6455, PBL 48, 22.xii.2012, on the pods of *Entada* sp. (Mimosaceae), BSI garden, Dhanikari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6465, PBL 58, 15.xii.2012, Kallara junction, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

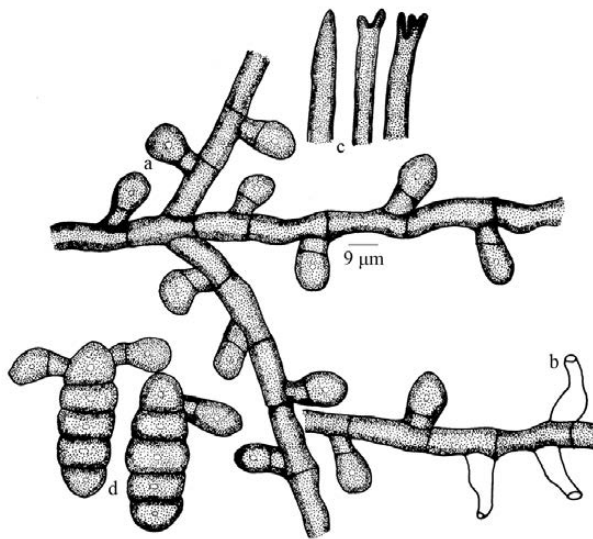


Figure 10. *Meliola chukraasiicola* sp. nov. a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

***Meliola flemingiicola* Hosag. et al.**

Materials examined: TBGT 6423, PBL 16, 18.xii.2012, on leaves of *Flemingia* sp. (Fabaceae), Gandhi Nagar, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6456, PBL 49, 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola gliricidiicola* Hosag. & Agarwal**

Materials examined: TBGT 6469, PBL 62, 8.xii.2012, on leaves of *Gliricidia sepium* (Fabaceae), riverside, Wrighte Myo, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6534, PBL 127, 16.xii.2012, Bettapur, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6527, PBL 120, 13.xii.2012, Tugapur rest camp, Diglipur, North Andaman, V.B. Hosagoudar et al.; TBGT 6487, PBL 80, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola harrietensis* sp. nov.**

(Fig. 11) urn:lsid:indexfungorum.org:names: 807694

Materials examined: TBGT 6672 (holotype), PBL 265 (isotype), PBL 266, 11.xii.2012, on leaves of *Diospyros ridli* (Ebenaceae), Mount Harriet National Park, South Andaman, coll. V.B. Hosagoudar et al.

Colonies mostly hypophyllous, scattered, dense, up to 4mm in diameter. Hyphae straight to substraight, branching opposite to irregular at acute to wide angles, loosely to closely reticulate, cells 20–25x7–10 µm. Appressoria opposite, 2–3 % alternate to rarely solitary, straight to curved, closely antrorse, subantrorse to

retorse, 12–22 µm long; stalk cells cylindrical to cuneate, 5–7 µm long; head cells ovate to oblong, cylindrical, entire, straight to curved, 7–17x7–10 µm. Phialides mixed with appressoria, alternate, ampulliform, 20–32x5–7 µm. Mycelial setae densely scattered, simple, acute to obtuse, uncinete to coiled at the tip, up to 250µm long. Perithecia scattered, up to 170µm in diameter; ascospores oblong to cylindrical, 4-septate, mostly constricted at the septa, 37–45x15–17 µm.

This species is distinct from all other *Meliola* species known on the members of family Ebenaceae in having 2–5 % alternate appressoria and uncinete to coiled mycelial setae (Hansford 1961; Hosagoudar 1996, 2008, 2013).

Etymology: Named after collection locality.

***Meliola hemidesmicola* Hosag.**

Materials examined: TBGT 6515, PBL 108, 11.xii.2012, on leaves of *Hemidesmus* sp. (Periplocaceae), Mount Harriet National Park, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola hyptidis* Sydow**

Materials examined: TBGT 6417, PBL 10, 18.xii.2012, on leaves of *Hyptis* sp. (Lamiaceae), Lorogic forest camp, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6426, PBL 19, 18.xii.2012, Gandhi nagar, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6440, PBL 33, 15.xii.2012, Seeta nagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6514, PBL 107, 16.xii.2012, Bakulthala, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6506, PBL 99, 16.xii.2012, Panighat, Diglipur, North Andaman, V.B. Hosagoudar et al.; TBGT 6495, PBL 88, 8.xii.2012, Sholbay 14, South Andaman, V.B. Hosagoudar et al.; TBGT 6478, PBL 71, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6464, PBL 57, 8.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6462, PBL 55, 8.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6449, PBL 42, 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6442, PBL 35, 15.xii.2012, Kallara junction, Diglipur, North Andaman, V.B. Hosagoudar et al.

***Meliola jasmini* Hansf. & Stev.**

Materials examined: TBGT 6474 PBL 67, 14.xii.2012, on leaves of *Jasminum sambac* (Oleaceae), Shibpur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6526 PBL 119, 14.xii.2012, Shamnagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

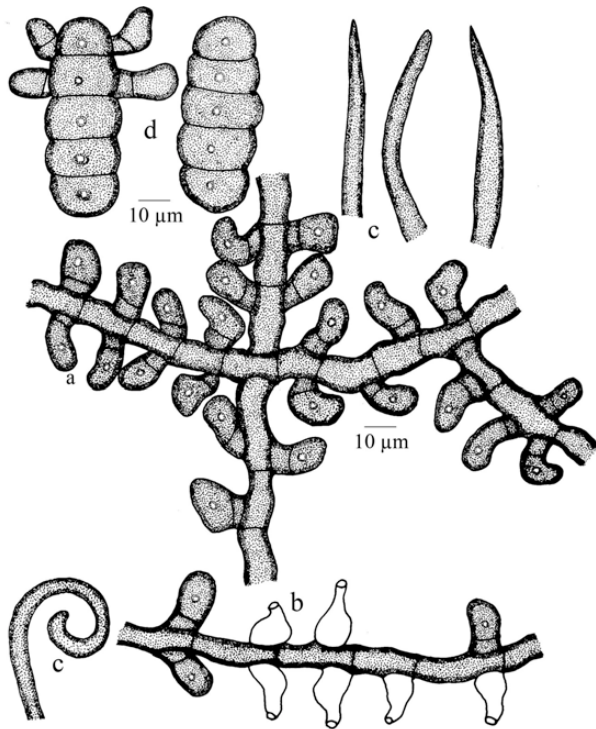


Figure 11. *Meliola harrietensis* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

***Meliola palmicola* Wint. (Fig. 12 & Image 2)**

Materials examined: TBGT 6683, PBL 277; TBGT 6685, PBL 279; TBGT 6687, PBL 281; TBGT 6689, PBL 283, 14.xii.2012, on leaves of *Licuala peltata* (Arecaceae), Krishnanagar, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, subdense to dense, up to 3mm in diameter, confluent. Hyphae straight to substraight, branching opposite to irregular, at acute to wide angles, loosely to closely reticulate, cells 37–50x7–10 µm. Appressoria alternate to unilateral, antrorse to sub antrorse, straight to curved, 30–40 µm long; stalk cells cylindrical to cuneate, 7–17 µm long; head cells ovate, oblong, cylindrical, often hammer shaped, entire, angular, to sublobate, straight to curved, 17–22x12–20 µm. Phialides apparently born on a separate mycelial branch but are often mixed with appressoria, alternate, ampulliform, 17–25x6–8 µm. Mycelial setae scattered, simple, straight, flexuous, geniculate, acute, obtuse, variously dentate, furcate to slightly branched at the tip, up to 1300µm long. Perithecia scattered, globose, up to 240µm in diameter; ascospores cylindrical, 4-septate, slightly constricted at the septa, 80–85x20–25µm.



Image 2. *Meliola palmicola* Wint. - Infected leaf

***Meliola malacotricha* Speg.**

Materials examined: TBGT 6414, PBL 7, 18.xii.2012, on leaves of *Argyreia* sp. (Convolvulaceae), Gandhinagar, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6416 PBL 9, 17.xii.2012, South Creek, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6421 PBL 14, 18.xii.2012, Near Central nursery, Lorogic forest camp, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6431 PBL 24, 11.xii.2012, Mount Harriet, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6436 PBL 29, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6500 PBL 93, 8.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola malacotricha* Speg. var. *major* Beeli**

Materials examined: TBGT 6517 PBL 110, 14.xii.2012, on leaves of *Argyreia* sp. (Convolvulaceae), Near Lakshmipur nursery, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6503 PBL 96, 8.xii.2012, Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6441 PBL 34, 15.xii.2012, *Merremia* sp., Seeta

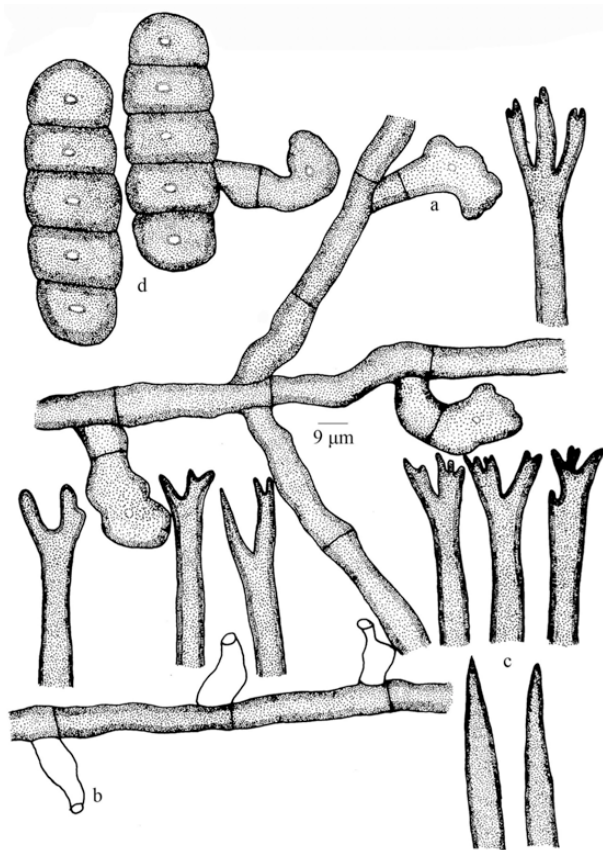


Figure 12. *Meliola palmicola* Wint.
a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae;
d - Ascospores

nagar, Bamboo tikiri, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6419 PBL 12, 17.xii.2012, *Argyreia* sp., Jarwa Creek, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6529 PBL 122, 8.xii.2012, Wright Myo, riverside, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola mangiferae* Earle**

Materials examined: TBGT 6413 PBL 6, 18.xii.2012, on leaves of *Mangifera indica* (Anacardiaceae), Gandhi nagar, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6415 PBL 8, 18.xii.2012, Adagic, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6422 PBL 15, 18.xii.2012, Gandhi ghat, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.; TBGT 6599 PBL 92, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6492 PBL 85, 15.xii.2012, Central forest nursery, Nabagram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6479 PBL 72, 14.xii.2012, Near Lakshmipur nursery, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6477 PBL 70, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll.

V.B. Hosagoudar et al.; TBGT 6471 PBL 64, 14.xii.2012, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6467 PBL 60, 14.xii.2012, Dhankari, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6450 PBL 43, 21.xii.2012, Tushnabad, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6507 PBL 97, 11.xii.2012, *Mangifera camptosperma*, Mount Harriet, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6498, PBL 91, 11.xii.2012, Mount Harriet, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6466, PBL 59, 11.xii.2012, Mount Harriet, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola melanoxylois* Hosag. & Pillai**

Materials examined: TBGT 6530, PBL 123, 8.xii.2012, on leaves of *Acacia auriculiformis* (Mimosaceae), Sholbay 14, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola myristicacearum* sp. nov.**

(Fig. 13) urn:lsid:indexfungorum.org:names: 807695

Materials examined: TBGT 6690 (holotype), PBL 284 (isotype), 11.xii.2012, on leaves of Myristicaceae member, Mount Harriet National Park, South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, scattered, dense, up to 5mm in diameter, confluent. Hyphae straight, substraight to flexuous, branching opposite to irregular at acute to wide angles, closely reticulate, cells 25–35x7–8 μm. Appressoria opposite to alternate, straight to curved, antrorse to subantrorse, 20–30 μm long; stalk cells cylindrical to cuneate, 7–12 μm long; head cells, ovate, oblong to globose, clavate, entire, broadly rounded to truncate at the apex, straight to curved, 12–17 x 10–12 μm. Phialides mixed with appressoria, opposite to alternate, ampulliform, 17–25x6–10 μm long. Mycelial setae scattered, simple, straight to uncinuate, acute to obtuse at the tip, up to 460μm long. Perithecia scattered, up to 200μm in diameter; ascospores oblong to cylindrical, 4-septate, mostly constricted at the septa, 45–50x17–20 μm.

Meliola knemae Hosag. & Robin is known on *Knema attenuata* from the Western Ghats of Kerala. However, the present species differs from it in having opposite appressoria and uncinuate mycelial setae (Hosagoudar & Robin 2011).

Etymology: Named after the family of host plant.

***Meliola panici* Earle**

Materials examined: TBGT 6430, PBL 23, 21.xii.2012, on leaves of Poaceae (Grass) member, Tushnabad, South

Andaman, coll. V.B. Hosagoudar et al.; TBGT 6505, PBL 98, 11.xii.2012, *Oplismenus* sp., Mount Harriet, South Andaman, coll. V.B. Hosagoudar et al.

***Meliola parishiae* sp. nov.**

(Fig. 14) urn:lsid:indexfungorum.org:names: 807703

Materials examined: TBGT 6674 (holotype), PBL 268 (isotype), 8.xii.2012, on leaves of *Parishia insignis* (Anacardiaceae), Wright Myo, South Andaman, coll. V.B. Hosagoudar et al.

Colonies amphigenous, scattered, thin, up to 3mm in diameter. Hyphae straight to substraight, branching opposite at acute to wide angles, loosely to closely reticulate, cells 27–35x5–7 μ m. Appressoria opposite to unilateral, straight to curved, antrorse to subantrorse, 25–30 μ m long; stalk cells cylindrical to cuneate, 5–10 μ m long; head cells ovate, obovate, entire, straight to curved, 17–22x6–7 μ m. Phialides mixed with appressoria, opposite to alternate, ampulliform, 17–25x6–7 μ m. Mycelial setae scattered, simple, straight, acute to 2–3 dentate at the tip, up to 300 μ m long. Perithecia scattered, up to 180 μ m in diameter; ascospores oblong

to cylindrical, 4-septate, mostly constricted at the septa, 40–45x15–17 μ m.

Meliola parishiae differs from all the known *Meliola* member of the family Ancardiaceae in having entire head cells of the appressoria, acute, obtuse to 2–3 dentate and straight to uncinuate mycelial setae (Hansford 1961; Hosagoudar 1996, 2008, 2013; Hue et al. 1996, 1999).

***Meliola pithecellobii* var. *indica* var. nov.**

(Fig. 15) urn:lsid:indexfungorum.org:names: 807707

Materials examined: TBGT 6665 (holotype), PBL 258 (isotype), 8.xii.2012, on leaves of *Pithecellobium* sp. (Mimosaceae), Wright Myo, South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, thin, up to 3mm in diameter. Hyphae straight to substraight, branching alternate to opposite at acute to wide angles, loosely reticulate, cells 23–30x5–7 μ m. Appressoria mostly unilateral, rarely opposite (2%), straight to curved, mostly perpendicular to the hyphae, antrorse, subantrorse to retrorse, 10–17 μ m long; stalk cells cylindrical to cuneate, 2–7 μ m long; head cells globose, ovate, straight to curved, broadly rounded to truncate, often pointed to the side, entire, 7–11x7–10 μ m. Phialides mixed with appressoria, alternate to opposite, ampulliform, 20–25x7–10 μ m long. Mycelial setae scattered, straight, simple, acute

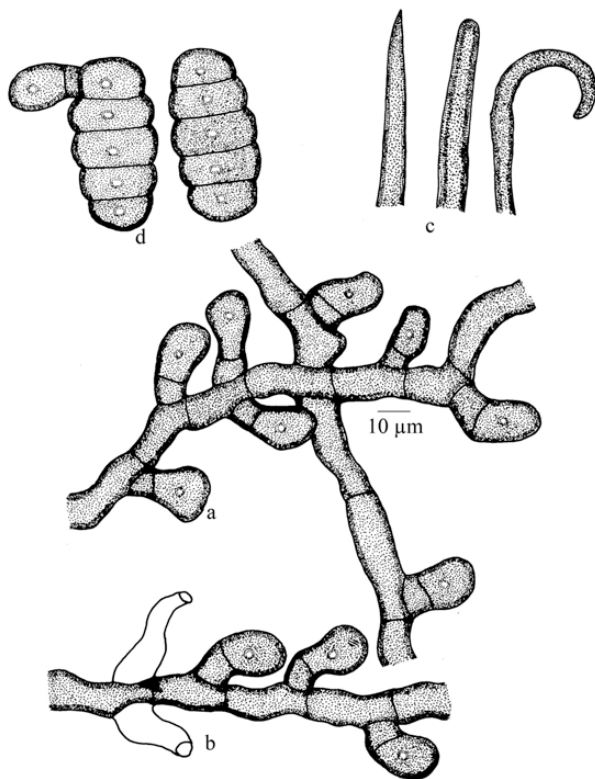


Figure 13. *Meliola myristicacearum* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

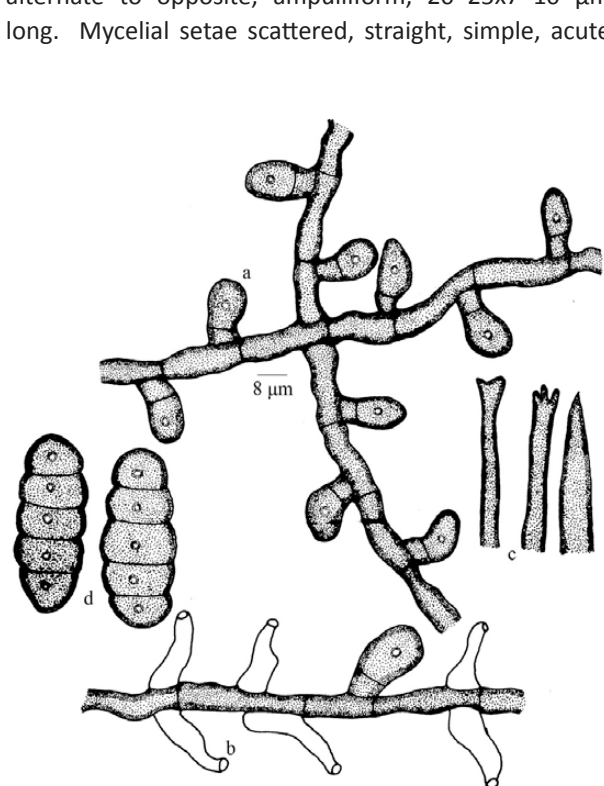


Figure 14. *Meliola parishiae* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

to dentate at the tip, up to 450µm long. Perithecia scattered, globose, up to 190µm in diameter; ascospores obovoidal, 4-septate, mostly constricted at the septa, 35–40x10–15 µm.

Meliola pithecellobii is known on *pithecellobium* species from Jawa and Trinidad (Hansford 1961). However, differs from the var. *pithecellobii* in having simple to dentate mycelial setae. This taxon also differs from another variety of this species *uncinata* Bezerra Gadelha (Hosagoudar et al. 1997) in having only straight mycelial setae in contrast to uncinata setae.

Meliola pterocarpi Yates

Materials examined: TBGT 6425 PBL 18, 20.xii.2012, on leaves of *Pterocarpus dalbergioides* (Fabaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6532 PBL 125, 14.xii.2012, Lakshmipur Nursery, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6507 PBL 100, 14.xii.2012, Millengram, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6491 PBL 84, 15.xii.2012, Bamboo tikiri, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

Meliola raulfae Mibey & Hawksworth

Materials examined: TBGT 6463, PBL 56, 8.xii.2012, on leaves of *Rauvolfia tetraphylla* (Apocynaceae), Mannarcaud, South Andaman, coll. V.B. Hosagoudar et al.

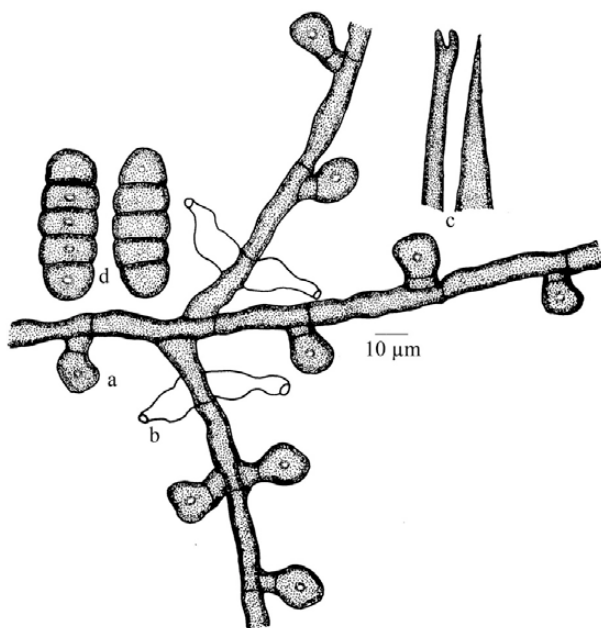


Figure 15. *Meliola pithecellobii* var. *indica* var. *nov.*
a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae;
d - Ascospores

Meliola savarkarii sp. nov.

(Fig. 16) urn:lsid:indexfungorum.org:names: 807704

Materials examined: TBGT 6664 (holotype), PBL 257 (isotype), 8.xii.2012, on leaves of *Aglaia* sp. (Meliaceae), Sholbay, South Andaman, coll. V.B. Hosagoudar et al.

Colonies epiphyllous, scattered, thin, up to 2mm in diameter, confluent. Hyphae substraight, flexuous to slightly crooked, branching mostly opposite at wide angles, loosely to closely reticulate, cells 20–30x5–7 µm. Appressoria alternate, less than 1% opposite to unilateral, straight to slightly curved, subantrorse to retrorse, often spreading, 15–22 µm long; stalk cells cylindrical to cuneate, 5–7 µm long; head cells ovate, clavate to oblong, entire, rarely truncate, straight to curved, 10–15x6–8 µm. Phialides mixed with appressoria, alternate to opposite, ampulliform, 12–17x5–8 µm long. Mycelial setae few, simple, straight, acute, obtuse to 2–5 cristate at the tip, up to 260µm long. Perithecia scattered, up to 190µm in diameter; ascospores ellipsoidal to cylindrical, 4-septate, constricted at the septa, 35–42x12–17 µm.

This species is similar to *Meliola silentvalleyensis* Hosag. but differs from it in having phialides mixed with appressoria and head cells of the appressoria are entire (Hosagoudar 2008).

Etymology: Named after Veer Savarkar, a freedom fighter

Meliola tamarindi Sydow & Sydow

Materials examined: TBGT 6409 PBL 2, 18.xii.2012, on leaves of *Tamarindus indica* (Caesalpinaceae), Central nursery, Baratang, Middle Andaman, coll. V.B. Hosagoudar et al.

Meliola ternstroemiicola sp. nov.

(Fig. 17) urn:lsid:indexfungorum.org:names: 807705

Materials examined: TBGT 6668 (holotype), PBL 261 (isotype), 11.xii.2012, on leaves of *Ternstroemia vahliana* (Theaceae), Mount Harriet National Park, South Andaman, coll. V.B. Hosagoudar et al.

Colonies hypophyllous, subdense, spreading, up to 5mm in diameter, confluent. Hyphae straight to substraight, branching opposite to alternate at acute angles, loosely reticulate, cells 22–27x6–7 µm. Appressoria alternate to unilateral, straight to curved, antrorse, subantrorse to retrorse, 17–25 µm long; stalk cells cylindrical to cuneate, 5–7 µm long; head cells ovate to oblong, globose, entire, straight to curved, 10–17x6–8 µm. Phialides mixed with appressoria, opposite to alternate, ampulliform, variously curved, 20–25x5–7 µm

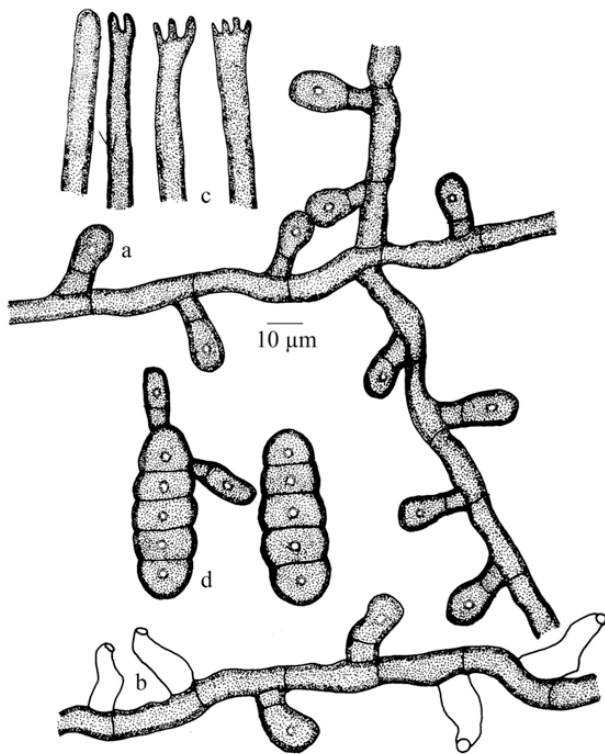


Figure 16. *Meliola savarkarii* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

long. Mycelial setae scattered, simple, straight, acute to obtuse, variously dentate to cristate at the tip, up to 1450µm. Perithecia scattered, up to 120µm in diameter; ascospores oblong to cylindrical, 4-septate, constricted at the septa, 42–47 x 15–20 µm.

Amazonia toquian Petrak is known on *Ternstroemia toquian* from Philippines (Hansford 1961). However, the new species differs from it in having mycelial setae. It is also similar to *Meliola camellicola* Yamam., but differs from it in having longer appressoria and mycelial setae.

Etyymology: Named after its host plant.

Mitteriella ziziphina Sydow

Materials examined: TBGT 6432 PBL 25, 15.xii.2012, on leaves of *Ziziphus* sp. (Rhamnaceae), Nabagram, Kalpong, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

Rehmidothis osbeckiae (Berk. & Br.) Theiss.

Materials examined: TBGT 6502 PBL 95, 8.xii.2012, on leaves of *Melastoma malabathricum* (Melastomaceae), Wrighte myo, riverside, South Andaman, coll. V.B. Hosagoudar et al.

Schiffnerula azadiractae Hosag. & Sabeena

Materials examined: TBGT 6459 PBL 52, 20.xii.2012, on leaves of *Azadiracta indica* (Meliaceae), Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.

Schiffnerula chukrasiae sp. nov.

(Fig. 18) urn:lsid:indexfungorum.org:names: 807706

Materials examined: TBGT 6681a (holotype), PBL 275a (isotype), 18.xii.2012, on leaves of *Chukrasia* sp. (Meliaceae), Central Nursery, Lorogic Forest Camp, Middle Andaman, V.B. Hosagoudar et al.

Colonies epiphyllous, thin to dense, up to 2mm in diameter, confluent. Hyphae straight to flexuous, branching opposite, alternate to unilateral at acute to wide angles, loosely to closely reticulate, cells 17–27x5–6 µm. Appressoria alternate, unilateral, globose, entire, 17–10x8–10 µm. Conidia of *Questieriella* scattered in the colonies, fusiform, straight to curved, slightly brown, 3-septate, constricted at the septum, end cells smaller and obtuse at the tip, 55–70x8–10 µm. Conidiophores

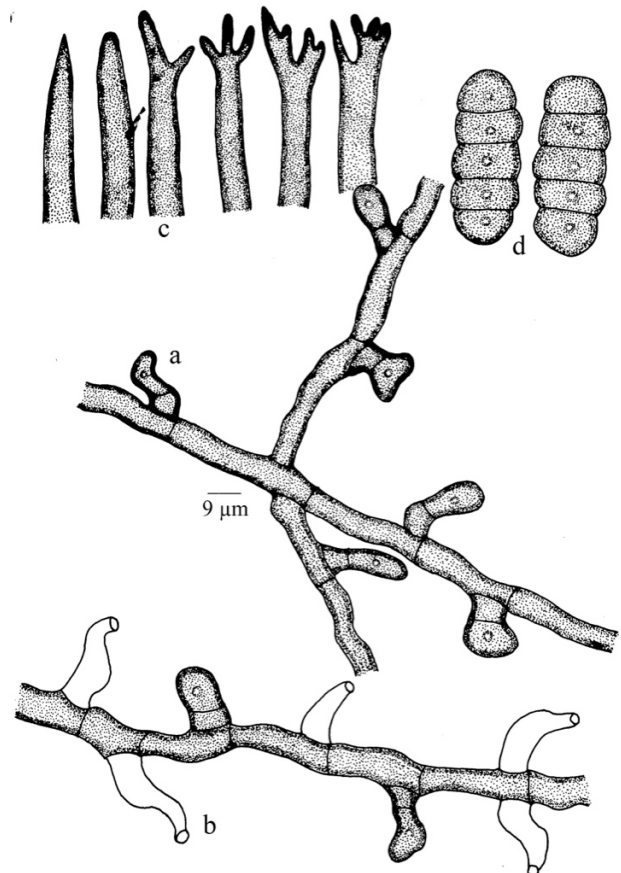


Figure 17. *Meliola ternstroemicola* sp. nov.

a - Appressorium, b - Phialide, c - Apical portion of the mycelial setae; d - Ascospores

of *Sarcinella* produced lateral to the hyphae, simple, straight to flexuous, macronematous, mononematous, 0–3 septate, integrated, cylindrical; conidia blastic, terminal, mostly sessile, solitary, dry, ovate to globose, sarciniform, brown to black, 4–7 celled, constricted at the septa, 20–27×22–30 µm in diameter. Thyriothecia scattered, orbicular, margin crenate to fimbriate, up to 80µm in diameter; peridial cells initially radiating, later central portion dissolved by exposing asci; asci few to many, globose, octosporous, bitunicate, up to 80µm in diameter; ascospores oblong, conglobate, uniseptate, constricted at the septum, 22–25 x 10–12 µm, wall smooth.

Schiffnerulla entandrophragmatis Hansf. and *Schiffnerulla azadirachtae* Hosag. & Sabeena are known on *Entandrophragma angolense* and *Azadirachta indica* from Uganda, Nepal and India, respectively. Based on the host specificity, this fungus has been accommodated in a new species.

Etymology: Named after its host plant.

Schiffnerulla girijae Hosag. & Archana

Materials examined: TBGT 6473 PBL 066, 14.xii.2012, on leaves of *Aegle marmelos* (Rutaceae), Shipur, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.; TBGT 6488 PBL 081, 20.xii.2012, Farrar gunj, South Andaman, coll. V.B. Hosagoudar et al.; TBGT 6518 PBL 111, 14.xii.2012, Radhanagar, Diglipur, North Andaman, coll. V.B. Hosagoudar et al.

Aegle marmelos is being cultivated in and around the temples and the teleomorph of the fungus is based on the few thyriothecia. However, it was surprising to locate this plant in the natural forest with very much robust leaves in contrast to tender leaves in the main land. Here, the fungus persisted mainly in teleomorph with few *Sarcinella* conidia.

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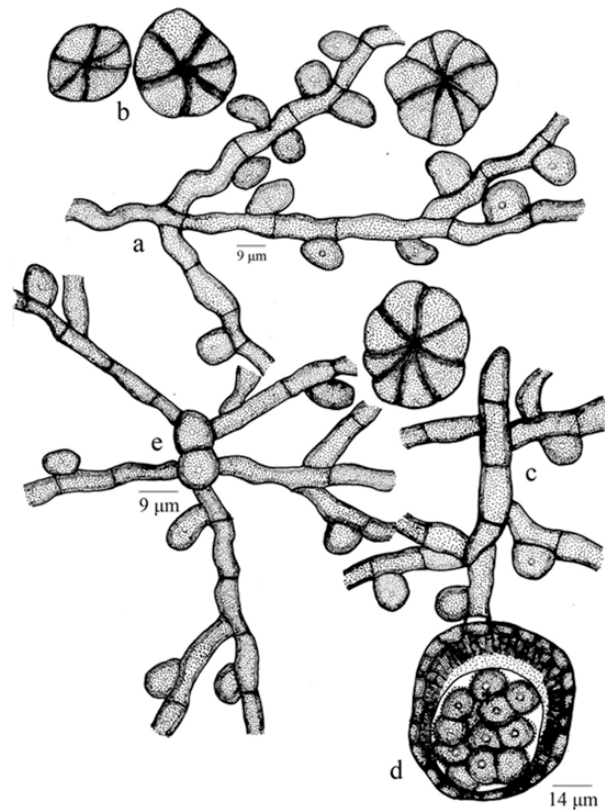


Figure 18. *Schiffnerella chukrasiae* sp. nov.

a - Appressariate mycelium; b - Conidia of *Sarcinella*; c - Germinating conidia of *Questieriella*; d - Thyriothecium; e - Colony forming ascospore

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