

Meliolaceae of South India. II

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Abstract. — The present paper gives an account of seven new taxa of the family Meliolaceae *viz.* *Armatella katumotoi*, *Asteridiella vivekananthanii*, *Meliola ervatamiae*, *M. jayachandranii*, *M. pudukadensis*, *M. floridensis* HANSF. var. *pudukadensis* and *M. Litseae* SYD. var. *microspora*.

1. *Armatella katumotoi* HOSAGOUDAR sp. nov. — Pl. 1, fig. 1

Plagulae hypophyllae, tenues, ad 5 mm diam., dispersae, raro confluentes. Hyphae mycelii flexuosa vel anfractosae, alternatim vel irregulariter acuteque ramosae, laxe reticulatae, cellulis 15.5–46.5 × 4.5–6.5 µm. Hyphopodia capitata alternata, diverse curvula, 18.5–46.5 µm longa; cellula basali aseptata vel ad 3-septata, flexuosa vel anfractosa, 6.5–40.5 µm longa; cellula apicali ovata vel globosa, integra vel subtulata sublobata, 6.5–12.5 × 12.5–15.5 µm. Hyphopodia mucronata non visa. Perithecia dispersa, in exhypopodiatis hyphis, verrucosa, ad 217 µm; sporae brunneae, 1-septatae, 28–31 × 12.5–15.5 µm.

Colonies hypophyllous, thin, scattered, diffused, up to 5 mm in diameter. — Hyphae flexuous to crooked, branching alternately to irregularly at acute angles, loosely reticulate, cells 15.5–46.5 × 4.5–6.5 µm. — Capitate hyphopodia alternate, variously bent, 18.5–46.5 µm long; stalk cells aseptate to 3-septate, flexuous to crooked, 6.5–40.5 µm long; head cells ovate to globose, entire to stellately sublobate, 6.5–12.5 × 12.5–15.5 µm. — Mucronate hyphopodia not seen. — Perithecia scattered, seated on exhypopodiate mycelial mat, verrucose, up to 217 µm. — Spores brown, 1-septate, 28–31 × 12.5–15.5 µm.

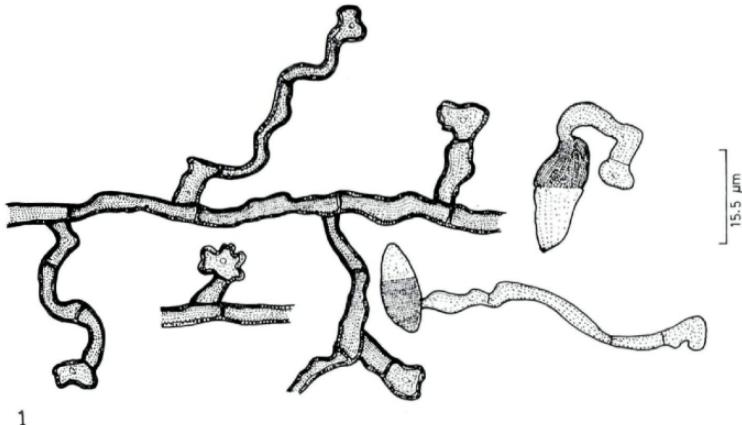
Type. — On leaves of *Persea macrantha* (NEES) KOSTERM., India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUDAR BSI/ISV/82683 (MH).

So far eight species and a variety of the genus *Armatella* are known on different members of the family Lauraceae. However, the present species differs from the rest in having aseptate to 3-septate, flexuous to crooked basal cells and entire to stellately sublobate head cells of the capitate hyphopodia. Further, there is no report of the genus *Armatella* on this host genus. Hence it is proposed here a new species.

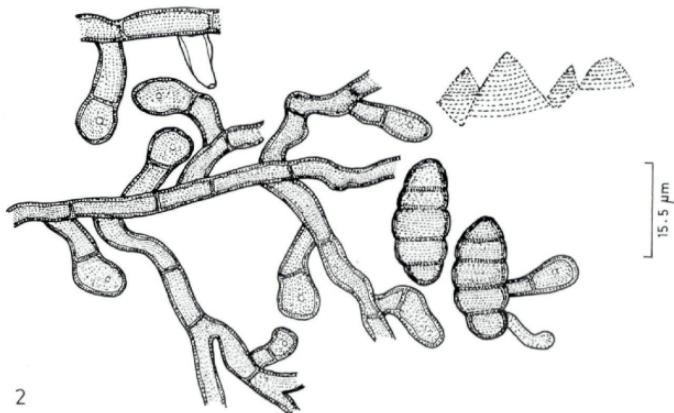
The species is named in honour of Dr. K. KATUMOTO, Japan, for his notable contribution to the field of Mycology.

2. *Asteridiella vivekananthanii* HOSAGOUDAR sp. nov. – Pl. 1, fig. 2

Plagulae epiphyllae, subdensae vel densae, ad 4 mm diam., confluentes. Hyphae mycelii flexuosa vel anfractosae, alternatim vel irregulariter acuteque ramosae, densae reticulatae, cellulis 15.5–18.5 × 4–6.5 µm. Hyphopodia capitata alternata vel unilateralia, recta vel plerumque curvula, antrorsa vel patentia, 16.5–31 µm longa; cellula basali cylindracea vel cuneata, 3–12.5 µm longa; cellula apicali ovata, globosa, integra vel angulosa, 15.5–18.5 × 12–15.5 µm; raro hyphopodia capitata 46–50 µm longa et cellula basali 1-septata, 15.5–18.6 µm longa. Hyphopodia mucronata pauca,



1



2

Plate 1: Fig. 1. *Armatella katumotoi* sp. nov. – Fig. 2. *Asteridiella vivekananthanii* sp. nov.

illis capitatis commixta, opposita vel alternata, conoidea vel ampullacea, 15.5–31 × 6–12.5 µm. Perithecia dispersa, ad 280 µm; cellulis parietis conoideis vel mammillatis, ad 22 µm longis; sporae obovoidae, 4-septatae, leniter curvulae, 31–37 × 12.5–18.5 µm.

Colonies epiphyllous, subdense to dense, up to 4 mm in diameter, confluent. – Hyphae flexuous to crooked, branching alternately to irregularly at acute angles, very closely reticulate, cells 15.5–18.5 × 4–6.5 µm. – Capitate hyphopodia alternate to unilateral, straight to mostly curved, antrorse to spreading, usually 16.5–31 µm long; stalk cells cylindrical to cuneate, 3–12.5 µm long; head cells ovate, globose, entire to angulose, 15.5–18.5 × 12–15.5 µm. Few hyphopodia 46–50 µm long and stalk cells 1-septate, 15.5–18.5 µm long. – Mucronate hyphopodia few, mixed with capitate hyphopodia, opposite to alternate, conoid to ampulliform, 15.5–31 × 6–12.5 µm. – Perithecia scattered, up to 280 µm; perithecial cells conoid to mammilliform, up to 22 µm long. – Spores obovoidal, 4-septate, slightly curved, 31–37 × 12.5–18.5 µm.

Type. – On leaves of *Clerodendrum viscosum* Vent, India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUARD BSI/ISV/82663 (MH).

The present species differs from rest of the *Asteridiella* species reported on members of the family Verbenaceae in having epiphyllous colonies and tortuous mycelia. Further, there is no report of the genus *Asteridiella* on this host genus. Hence it is proposed here as a new species.

The species is named in honour of Shri K. VIVEKANANTHAN for his notable contribution to the angiosperm flora of Idukki district.

3. *Meliola ervatamiae* HOSAGOUARD sp. nov. – Pl. 2, fig. 3

Plagulae epiphyllae, raro hypophyllae, tenues, ad 4 mm diam., confluentes. Hyphae mycelii undulatae, opposite lateque ramosae, laxe reticulatae, cellulis 24–31 × 4.5–6 µm. Hyphopodia capitata alternata, recta vel curvula, antrorsa, reflexa, patentia, 12–18 µm longa; cellula basali cuneata vel cylindracea, 2–3 µm longa; cellula apicali ovata, globosa, leniter angulosa vel sublobata, recta vel curvula, 13.5–15.5 × 9–10.5 µm. Hyphopodia mucronata illis capitatis commixta, opposita vel alternata, ampullacea, 12–16.5 × 6–8 µm. Setae myceliales paucae, etiam juxta perithecia aggregatae, rectae, simplices, acutae vel obtusae ad apices, ad 208 µm longae. Perithecia dispersa, verrucosa, ad 93 µm; sporae obovoidae, 4-septatae, leniter constrictae, 27–31 × 11–12.5 µm.

Colonies epiphyllous, rarely hypophyllous, thin, up to 4 mm in diameter, confluent. – Hyphae undulating, branching mostly oppositely at wide angles, loosely reticulate, cells 24–31 × 4.5–6 µm. – Capitate hyphopodia alternate, straight to curved, antrorse, reflexed, spreading, 12–18 µm long; stalk cells cuneate to cylindrical, 2–3 µm long; head cells ovate, globose, slightly angular to sublo-

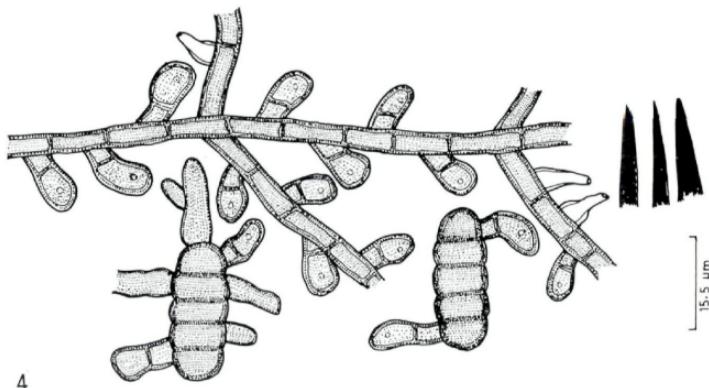
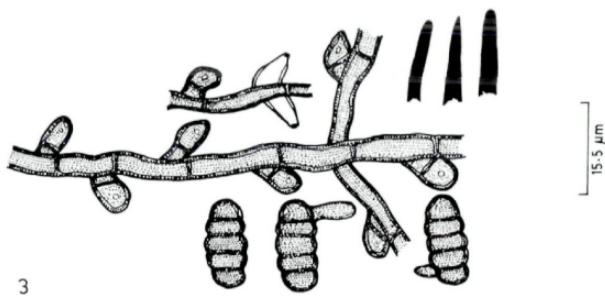


Plate 2: Fig. 3. *Meliola ervatamiae* sp. nov. – Fig. 4. *Meliola floridensis* HANSF. var. *pudukadensis* var. nov.

bate, straight to curved, $13.5\text{--}15.5 \times 9\text{--}10.5 \mu\text{m}$. – Mucronate hyphopodia mixed with capitate hyphopodia, opposite to alternate, ampulliform, $12\text{--}16.5 \times 6\text{--}8 \mu\text{m}$. – Mycelial setae few, grouped around perithecia, straight, simple, acute to obtuse, up to $208 \mu\text{m}$ long. – Perithecia scattered, verrucose, up to $93 \mu\text{m}$. – Spores obovoidal, 4-septate, slightly constricted, $27\text{--}31 \times 11\text{--}12.5 \mu\text{m}$.

Type. – On leaves of *Ervatamia heyneana* T. COOKE (*Tabernaemontana heyneana* Wall.), India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUARD BSI/ISV/82672 (MH).

So far eight taxa of the genus *Meliola* have been reported on the host genus *Tabernaemontana*. However, the present new species differs from them in formation of the epiphyllous and thin colonies, undulating and loosely reticulate mycelia, smaller capitate hyphopodia, mycelial setae, perithecia and ascospores.

4. *Meliola floridensis* HANSF. var. *pudukadensis* HOSAGOUDAR var. nov. – Pl. 2, fig. 4

Differt a *M. floridensis* HANSF. var. *floridensis* plagulis epiphyllis, hyphopodiis capitatis longioribus et hyphopodiis mucronatis illis capitatis commixtis.

Colonies epiphyllous, crustose to slightly dense, up to 3 mm in diameter. – Hyphae straight, branching mostly oppositely at acute angles, loosely reticulate, cells $21\text{--}33 \times 7\text{--}12.5 \mu\text{m}$. – Capitate hyphopodia alternate, mostly straight, antrorse, $18.5\text{--}31 \mu\text{m}$ long; stalk cells cuneate, $6\text{--}9.5 \mu\text{m}$; head cells ovate to globose, entire, $12.5\text{--}21.5 \times 12.5\text{--}15.5 \mu\text{m}$. – Mucronate hyphopodia mixed with capitate hyphopodia, opposite to alternate, conoid to ampulliform, $21.5\text{--}28 \times 9\text{--}12.5 \mu\text{m}$. – Mycelial setae scattered, simple, straight, acute to obtuse, up to $500 \mu\text{m}$ long. – Perithecia immature. – Spores obovoidal, 4-septate, slightly constricted, $49.5\text{--}53 \times 18.5\text{--}22 \mu\text{m}$.

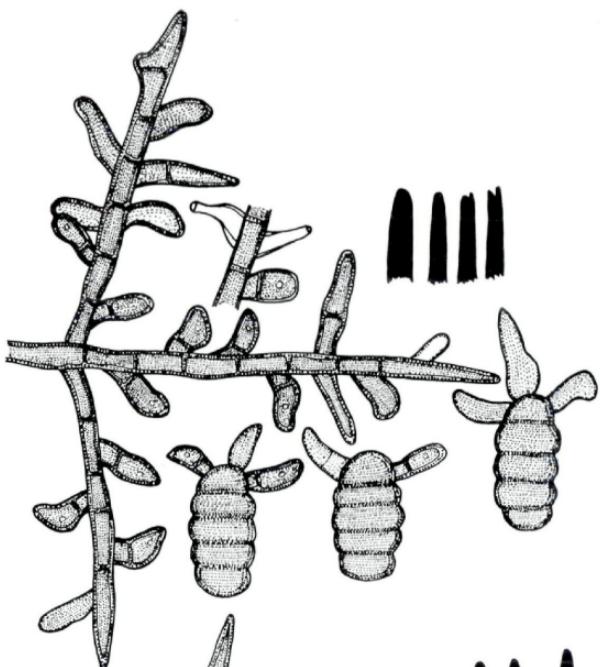
Type. – On leaves of *Persea macrantha* (NEES) KOSTERM., India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUDAR (BSI/ISV/82678 (MH).

The new variety *pudukadensis* differs from var. *floridensis* in formation of the epiphyllous colonies, longer capitate hyphopodia and the mucronate hyphopodia mixed with capitate hyphopodia.

5. *Meliola jayachandranii* HOSAGOUDAR sp. nov. – Pl. 3, fig. 5

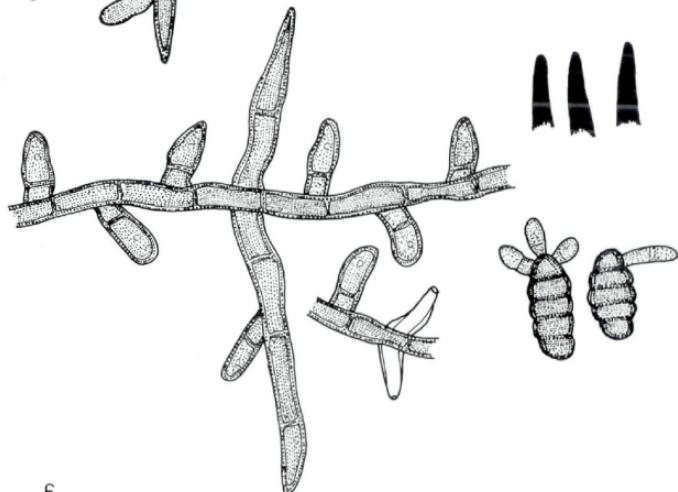
Plagulae epiphyllae, raro amphigenae, subdensae, ad 3 mm diam., dispersae. Hyphae mycelii rectae, opposite vel irregulariter lateque ramosae, laxe reticulatae, cellulis $15.5\text{--}18.5 \times 7\text{--}10 \mu\text{m}$. Hyphopodia capitata alternata, unilateralia vel ad 5% opposita, recta vel curvula, antrorse vel reflexa, $15.5\text{--}22 \mu\text{m}$ longa; cellula basali cylindracea vel cuneata, $3\text{--}6 \mu\text{m}$ longa; cellula apicali ovata, plerumque curvula, integra, $12.5\text{--}15.5 \times 9\text{--}12.5 \mu\text{m}$. Hyphopodia mucronata illis capitatis commixta, alternata vel opposita, ampullacea, $22\text{--}28 \times 9\text{--}12.5 \mu\text{m}$. Setae myceliales paucae, etiam juxta perithecia aggregatae, simplices, rectae, acutae, obtusae vel raro dentatae, ad $545 \mu\text{m}$ longae. Perithecia dispersa, verrucosa, ad $165 \mu\text{m}$; sporae obovatae, 4-septatae, leniter constrictae, leniter curvulae, $40\text{--}43.5 \times 21\text{--}25 \mu\text{m}$.

Colonies epiphyllous, rarely amphigenous, subdense, up to 3 mm in diameter, scattered. – Hyphae straight, branching oppositely to irregularly at wide angles, loosely reticulate, cells $15.5\text{--}18.5 \times 7\text{--}10 \mu\text{m}$. – Capitate hyphopodia alternate, unilateral, about 5% opposite, straight to curved, antrorse to reflexed, $15.5\text{--}22 \mu\text{m}$ long; stalk cells cylindrical to cuneate, $3\text{--}6 \mu\text{m}$ long; head cells ovate, mostly curved, entire, $12.5\text{--}15.5 \times 9\text{--}12.5 \mu\text{m}$. – Mucronate hyphopodia mixed with capitate hyphopodia, alternate to opposite, ampulliform, $22\text{--}28 \times 9\text{--}12.5 \mu\text{m}$. – Mycelial setae few, grouped around perithecia, simple, straight, rarely dentate at the tip, up to $545 \mu\text{m}$ long. – Perithecia scattered, verrucose, up to



5

15.5 μm



6

15.5 μm

Plate 3: Fig. 5. *Meliola jayachandranii* sp. nov. – Fig. 6. *Meliola litseae* SYD. var. *microspora* var. nov.

165 µm. – Spores obovate, 4-septate, slightly constricted, slightly curved, $40-43.5 \times 21-25$ µm.

Type. – On leaves of *Isonandra lanceolata* WIGHT var. *anfractuosa* CL., India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUDAR BSI/ISV/82676 (MH).

The present species differs from rest of the *Meliola* species reported on members of the family Sapotaceae in all the essential morphological characters. Further, there is no report of the genus *Meliola* on this host genus. Hence is proposed here as a new species.

The species is named in honour of Dr. V. Jayachandran NAIR for his notable contribution to the knowledge of the Poaceae of Kerala.

6. *Meliola litsea* SYD. var. ***microspora*** HOSAGOUDAR var. nov. – Pl. 3, fig. 6

Differet a var. *litsea* peritheciis magnioribus et ascosporis brevioribus.

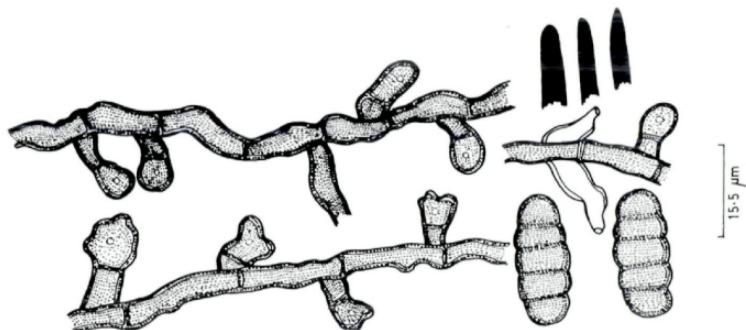
Colonies epiphyllous, subdense, up to 3 mm in diameter, rarely confluent. – Hyphae straight to substraight, branching oppositely at wide angles, loosely reticulate, cells $15-31 \times 6-9.5$ µm. – Capitate hyphidia alternate, straight to slightly curved, antrorse to reflexed, $21-30$ µm long; stalk cells cylindrical to cuneate, $6-12.5$ µm long; head cells straight to slightly bent, ovate, bluntly pointed towards the apex, entire, $15.5-21.5 \times 9-12.5$ µm. – Mucronate hyphopodia mixed with capitate hyphopodia, opposite to alternate, ampulliform, $21.5-31 \times 9-12.5$ µm. – Mycelial setae numerous, mostly grouped around perithecia, simple, straight, acute to obtuse, up to 715 µm long. – Perithecia scattered, verrucose, up to 211 µm. – Spores obovoidal, 4-septate, $35-40 \times 12-18.5$ µm.

Type. – On leaves of *Litsea foribunda* (BL.) GAMBLE, India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUDAR BSI/ISV/82668 (MH).

The new variety *microspora* differs from var. *litsea* in having larger perithecia and smaller ascospores.

7. *Meliola pudukadensis* HOSAGOUDAR sp. nov. Pl.4, fig. 7

Plagulae epiphyllae, tenues vel subdensae, ad 3 mm diam. Hyphae mycelii subrectae vel anfractosae, opposite, alternatim vel irregulariter laxe ramosae, laxe reticulatae, cellulis $37-46.5 \times 9-12.5$ µm. Hyphopodia capitata alternata vel unilateralia, recta vel curvula, subantrorsa vel patentia, $21.5-28$ µm longa; cellula basali cylindracea vel cuneata, $6-7$ µm longa; cellula apicali ovata vel globosa, recta vel curvula, integra vel leniter angulosa, $15.5-21.5 \times 9-12.5$ µm. Hyphopodia mucronata illis capitatis commixta, plerumque alternata, ampullacea, $21.5-25 \times 9-12.5$ µm. Setae myceliales dispersae, simplices, rectae, acutae vel obtusae, ad 860 µm longae. Perithecia dispersa, verrucosa, ad 186 µm; sporae obovatae, 4-septatae, constrictae, $49.5-52.5 \times 18-21.5$ µm.



7

Plate 4: Fig. 7. *Meliola pudukadensis* sp. nov.

Colonies epiphyllous, thin to subdense, up to 3 mm in diameter. — Hyphae substraight to crooked, branching oppositely, alternately to irregularly at wide angles, loosely reticulate, cells 37–46.5 × 9–12.5 μm . — Capitate hyphopodia alternate to unilateral, straight to curved, subantrorse to spreading, 21.5–28 μm long; stalk cells cylindrical to cuneate, 6–7 μm long; head cells straight to curved, ovate to globose, entire to slightly angulose, 15.5–21.5 × 9–12.5 μm . — Mucronate hyphopodia mixed with capitate hyphopodia, predominantly alternate, ampulliform, 21.5–25 × 9–12.5 μm . — Mycelial setae scattered, simple, straight, acute to obtuse at the tip, up to 860 μm long. — Perithecia scattered, verrucose, up to 186 μm . — Spores obovate, 4-septate, constricted, 49.5–52.5 × 18–21.5 μm .

Type. — On leaves of *Litsea* sp., India, Tamil Nadu, Valparai, Pudukadu (Lower Sheikalmudi), January 17, 1987, V. B. HOSAGOUDAR BSI/ISV/82679 (MH).

The present species can be compared with *Meliola saccardi* SYD. reported on *Litsea mollis* from Chile but differs from it in having epiphyllous and subdense colonies, loosely reticulate mycelia, longer setae, smaller capitate hyphopodia, perithecia, and ascospores. Further, mucronate hyphopodia mixed with capitate hyphopodia.

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