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SHORT COMMUNICATION

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A. Sabeena, V.B. Hosagoudar & V. Divaharan

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FOLIICOLOUS FUNGI ON MEDICINAL PLANTS IN THIRUVANANTHAPURAM DISTRICT, KERALA, INDIA

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Abstract: Thiruvananthapuram District harbours more than 1,000 medicinal plants of which 241 plants are hosts to foliicolous fungi belonging to 76 families and 187 genera. These medicinal plants have been arranged alphabetically, along with the fungi they host. This work has resulted in recording 253 fungal taxa, belonging to 44 genera of Ascomycetes, Basidiomycetes and Fungi Imperfecti.

Keywords: Herbal drugs, leaf diseases, pathogenic fungi.

India harbours more than 18,000 flowering plants of which about 7,500 are being used by all the ethnic groups and ca. 400 are industrially viable in producing about 10,000 herbal drugs (Shankar et al. 1997; Dhar 2002). It has been noticed and confirmed that the pathogenic fungi play a vital role in bringing chemical changes among plants in increasing the efficacy of medicinal plants; for example, *Phyllanthus amarus* Schum. & Thonn. is effective in curing jaundice during the winter season, which is invariably infected with powdery mildew; smut-infected cereal grains are tastier than normal; and gall formed rust on *Acacia* sp. is being eaten in Maharashtra. Certain pathogenic fungi e.g. *Zhaghounia oleae* is being used as a medicine. Especially 'ergotin' obtained from *Claviceps purpurea*, a disease causative organism of rye and all other members of the grasses. Studies on pathogenic

fungi and its effect on fertility have been systematically and intensively carried out in some developed countries (Kirk et al. 2001), while sporadic work has been done in India (Kushwaha 2004).

MATERIALS AND METHODS

The foliicolous fungi mainly infect leaves, soft stems and tender shoots. Collection of these fungi is much easier than that of fleshy fungi. While collecting the host plant parts, field notes were made regarding their pathogenic effect on the host, nature of colonies, nature of infection, locality and altitude. For each collection, a separate field number was given. In the field, such infected plants were collected separately in polythene bags with the host twig, preferably with the reproductive parts to facilitate the corresponding host identity. These infected plant parts were pressed neatly and dried in-between blotting papers. Regular transfer of the collections to the fresh and dry blotters ensured the dryness of the collections. Such materials were later used for microscopic study. Foliicolous fungi infect herbaceous plants to trees of 30–40 m in height, sometimes only in the crown, which poses difficulty in noticing the infection and also in collection. In such cases, recently shed leaves were examined,

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collected, concerned trees were traced, and twig or the reproductive parts were collected for the host identity. In case of ectophytic or superficial fungi, scrapes were made directly from the infected host parts and mounted in lactophenol (prepared according to Rangaswamy 1975). A tinge of cotton blue added to lactophenol to stain hyaline fungi. Dematiaceous fungi were first mounted in 10% KOH solution and later transferred to lactophenol. Both mountants work efficiently and make the septa visible. Identification of the host plants were confirmed by matching with the materials deposited in Botanical Survey of India. After confirming the identity of the fungus, they were kept in manifold or butter paper folders. Later, these folders were placed in thick paper envelopes of convenient size with the name of the host, locality, date of collection, place of collection, name of the collector with the field number written on the top corner. These envelopes were serially arranged in a rack, based on their collection numbers. Friction between the envelope and the material was avoided to keep the fungal parts intact. These materials were deposited in TBGT (Tropical Botanic Garden and Research Institute, Palode) and part of them was in the National Fungal Herbarium HCIO, Division of Plant pathology, IARI, New Delhi.

RESULTS AND DISCUSSION

Presently, we have been engaged in the study of foliicolous (leaf infecting) fungi on medicinal plants in Thiruvananthapuram District. Of the more than 1,000 medicinal plants, 241 plants belonging to 76 families and 187 genera have been infected with foliicolous fungi. These medicinal plants have been arranged alphabetically, and references provided for their uses. This work resulted in recording 253 fungal taxa, belonging to 44 genera of Ascomycetes, Basidiomycetes and Fungi Imperfecti (Table 1).

REFERENCES

- Ambasta, S.P. (1986).** *The Useful Plants of India*. CSIR, Publications, New Delhi.
- Anil, K.D. (2003).** *Sacred Plants and their Medicinal Uses*. Diya Publishing House, Delhi, 237pp.
- Anilkumar, C., C.R. Chithra, S. Bindu & A. Jabbar (2014).** *An illustrated bilingual field guide on medicinal plants, seeds and their seedlings occurring in Kerala Forests*. Kerala Forest Department, Govt. of Kerala, Thiruvananthapuram & JNTBGRI, Palode, Thiruvananthapuram, Kerala.
- Anonymous (2000).** *Wealth of India. Raw Materials. Vol. 1*. Publications & Information Directorate, Council of Scientific and Industrial Research, New Delhi.
- Anonymous (2006).** *Raw Materials. Vol. VI*. Publications & Information Directorate, Council of Scientific and Industrial Research, New Delhi
- Anonymous (2013).** *Ayurvedic Medicinal plants of Srilanka*. www.institute of Ayurveda.org.
- Aravind, A.P.A., K.R.T. Asha & K.B. Rameshkumar (2015).** Phytochemical analysis and antioxidant potential of the leaves of *Garcinia travancorica* Bedd., Natural Product Research: Formerly Natural Product Letters: <http://doi.org/10.1080/14786419.2015.1043551>
- Binu, S. & T. S. Nayar (2005).** *Pittosporum neelgherense* Wight & Arn. (Pittosporaceae) in treatment of snake-bite. *Economic Botany* 59(3): 295
- Binu, S., A.E. Shanavakhan, E.S. Santhoshkumar & P. Pushpangadan (2003).** Plants Used as Medicine by the Irulas of Palaghat District, Kerala, India. *Journal of Economic and Taxonomic Botany* 27(4): 808–814.
- Dhar, U. (2002).** *Wild Plant Biodiversity: Thematic Biodiversity Strategy and Action Plan*. G.B. Pant Institute of Himalayan stenoporavar. major Environmental and Development, Kosi-Katarmal, Almora, Uttaranchal, India, 238pp.
- Gupta, A.K., M. Sharma & N. Tandon (2004).** *Indian Medicinal Plants. V4*. Indian Council of Medical Research, New Delhi, 577pp.
- Gupta, A.K. & N. Tandon (2004).** *Indian Medicinal Plants. VI*. Indian Council of Medical Research, New Delhi, 543pp.
- Kirk, P.M., P.F. Cannon, J.C. David & J.A. Stalpers (2001).** *Dictionary of the Fungi*. Ninth Edition. CAB International, U.K. pp. 655.
- Kirthikar, K.R. & B.D. Basu (2012).** *Indian Medicinal Plants X*. Oriental Enterprises, Dehra Dun.
- Kushwaha, R.K.S. (2004).** *Fungi in Human and Animal Health*. Scientific Publishers, Jodhpur, 476pp.
- Nadnakunjidam, S. (2003).** Ethnomedicinal Observations from Attapai Hills of Western Ghats. *Journal of Economic and Taxonomic Botany* 27(3): 732–740.
- Nair, R., T. Kalariya & S. Chanda (2005).** Antibacterial activity of some selected Indian medicinal flora. *Turk Journal of Biology* 29: 41–47.
- Nudrat, Z.S. & U. Mukundan (2005).** *Medicinal and Aromatic Plants of India Part - 1*. Ukaaz Publications, 295pp.
- Radhakrishnan, K., A.G. Pandurangan & P. Pushpangadan (1996).** Less Known Ethnomedicinal Plants of Kerala State and Their Conservation. *Ethnobotany* 8: 82–84.
- Rajasekharan, S. & P.G. Latha (2011).** *Traditional and Folk Practices - Contemporary Relevance and Future Prospects*. List of Medicinal Plants Mentioned in Hortus Malabaricus and their Curative Properties, 119–170pp.
- Rao, M.R. (1914).** *Flowering Plants of Travancore*. Government Press, Trivandrum.
- Rangaswamy, G. (1975).** *Diseases of Crop Plants in India*. Prentice-Hall of India, Pvt. Ltd., New Delhi.
- Ranjith, N.P. & N. Mohanan (2013).** Ethnobotanical Studies of Koraga Tribal Community of Kasaragod District, Kerala State. *Journal of Traditional and Folk Practices* 1(1): 102–108.
- Retnam, K.R. & P. Martin (2006).** *Ethnomedicinal Plants*. Agrobios (India) Jodhpur, 270pp.
- Reddi, T.V.V.S., S. Prasanthi & B.V.A.R.R. Naidu (2015).** *Medicinal and Aromatic Plants of India Part - 1*. Ukaaz Publications, 295pp.
- Shankar, D., D.K. Ved, V. Tandon, S.R. Ramesh, A. Kareem & P. Singh (1997).** Conserving a National Resource, pp. 103–117. In: Pushpangadan, P. & K.S.S. Nair (eds.). *Biodiversity and Tropical Forests. The Kerala Scenario*. The State Committee on Science, Technology and Environment, Kerala.
- Udayan, P.S. & I. Balachandran (2009).** *Medicinal Plants of Arya Vaidya Sala Herb Garden*. Arya Vaidya Sala Kottakkal, Kerala, 18pp.
- Vaidyanathan, D., M.S. Senthilkumar & G. Basha (2013).** Studies on Ethnomedicinal Plants Used by Malayali tribals used in Kolli hills of Eastern Ghats, Tamilnadu, India. *Asian Journal of Plant Science and Research* 3(6): 29–45.
- Varier, P.S. (1993).** *Indian Medicinal Plants. A compendium of 500 species - Vol. I*. Orient Longman Limited, Madras, 379pp.
- Wealth of India (2009). *Raw Materials. Vol. VI*. Publications & Information Directorate, Council of Scientific and Industrial Research, New Delhi.

Table 1. Host medicinal plants and corresponding fungi with references to the medicinal plant use

	Medicinal plant species	Family	Corresponding Fungi	For medicinal use of plants refer
1	<i>Abrus precatorius</i> L.	Fabaceae	<i>Phyllachora abri</i> (Subhedar & Rao) Cannon	Udayan & Balachandran (2009)
2	<i>Acacia auriculiformis</i> Cunn. ex Benth.	Mimosaceae	<i>Meliola melanoxylois</i> Hosag. & Pillai	Anonymous (2000)
3	<i>Actinodaphne angustifolia</i> Nees.	Lauraceae	<i>Meliola actinodaphnecola</i> Hosag. & Abraham <i>Meliola gooseana</i> Hosag. & Abraham <i>Meliola pudukadensis</i> Hosag. <i>Schiffnerula actinodaphnes</i> Hosag.	Ambasta (1986)
4	<i>Acrotrema arnotianum</i> Wight	Dilleniaceae	<i>Asterina acrotremae</i> Hosag. & Chandra.	Udayan & Balachandran (2009)
5	<i>Adhatoda beddomei</i> C.B. Clarke	Acanthaceae	<i>Asterina tertia</i> Racib. var. <i>africana</i> Doidge	Ambasta (1986)
6	<i>Adhatoda vasica</i> Nees	Acanthaceae	<i>Asterina tertia</i> Racib.	Nudrat & Mukundan (2005)
7	<i>Adenanthera pavonina</i> L.	Fabaceae	<i>Meliola adenanthericola</i> Hosag.	Anilkumar et al. (2014)
8	<i>Aegle marmelos</i> (L.) Corr. Serr.	Rutaceae	<i>Schiffnerula girijae</i> Hosag. & Archana <i>Oidium citri</i> (Yen) Braun	Anilkumar et al. (2014)
9	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	<i>Meliola ailanthi</i> Sharma, Mohanan & Florence	Guptha & Tandon (2004)
10	<i>Alangium salvifolium</i> (L.f.) Wangern	Alangiaceae	<i>Asterina perpusilla</i> Sydow	Anilkumar et al. (2014)
11	<i>Allophylus cobbe</i> (L.) Raeusch.	Sapindaceae	<i>Meliola allophyligena</i> Hosag. <i>Ampullifera foliicola</i> Deight. <i>Meliola allophyl-serrulati</i> Hosag. & Abraham <i>Meliola capensis</i> (Kalch. & Cooke) Theiss. var. <i>allophylicola</i> Hansf. & Deight. <i>Ampullifera foliicola</i> Deight.	Udayan & Balachandran (2009)
12	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	<i>Meliola peringamalaensis</i> Hosag. & Kamar. <i>Meliola altissimae</i> Hosag.	Udayan & Balachandran (2009)
13	<i>Amomum subulatum</i> Roxb.	Zingiberaceae	<i>Asteridiella amomi</i> Hosag. & Jacob Thomas	Varier (1993)
14	<i>Anacardium occidentale</i> L.	Anacardiaceae	<i>Meliola anacardii</i> Zimm.	Udayan & Balachandran (2009)
15	<i>Anamirta cocculus</i> (L.) Wight & Arn.	Menispermaceae	<i>Prillieuxina anamirtae</i> (Sydow & Sydow) Ryan	Udayan & Balachandran (2009)
16	<i>Aporusa lindleyana</i> (Wight) Baill.	Euphorbiaceae	<i>Asterina aporusae</i> Hansf. <i>Spiropes dorycarpus</i> (Mont.) M.B. Ellis. <i>Meliolaster aporusae</i> Hosag., Harish & Archana	Udayan & Balachandran (2009)
17	<i>Areca catechu</i> L.	Arecaceae	<i>Acroconiidiellina arecae</i> (Berk. & Br.) M.B. Ellis	Udayan & Balachandran (2009)
18	<i>Argyrea speciosa</i> (L.f.) Sweet	Convolvulaceae	<i>Meliola malacotricha</i> Speg. var. <i>major</i> Beeli	Udayan & Balachandran (2009)
19	<i>Aristolochia tagala</i> Cham.	Aristolochiaceae	<i>Asterina aristolochiae</i> Hosag. & Jacob Thomas	Udayan & Balachandran (2009)
20	<i>Artocarpus hirsutus</i> Lam.	Moraceae	<i>Meliola artocarpi</i> Yates var. <i>indica</i>	Anilkumar et al. (2014)
21	<i>Atalantia wightii</i> Tanaka	Rutaceae	<i>Asterina atalantiae</i> Hosag. & Agarwal <i>Meliola tenella</i> Pat. var. <i>atalantiae</i> (Pat.) Hansf. <i>Meliola tenella</i> Pat. var. <i>atalantiicola</i> Hosag.	Anonymous (2006)
22	<i>Averrhoa carambola</i> L.	Averrhoaceae	<i>Asterina averrhoae</i> Hosag., Kamar. & K.P. Babu	Udayan & Balachandran (2009)
23	<i>Azadirachta indica</i> A. Juss.	Meliaceae	<i>Schiffnerula azadirachtae</i> Hosag. & Sabeena	Udayan & Balachandran (2009)
24	<i>Baliospermum montanum</i> (Willd.) Muell. - Arg.	Euphorbiaceae	<i>Asterostomella baliospermi</i> Hosag., Archana & Agarwal	Udayan & Balachandran (2009)
25	<i>Bambusa bambos</i> (L.) Voss.	Poaceae	<i>Dasturella divina</i> (Sydow) Mundk. & Kesh.	Udayan & Balachandran (2009)
26	<i>Barringtonia acutangula</i> Gaertn	Lecythidaceae	<i>Meliola indica</i> Sydow	Varier (1993)
27	<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	<i>Meliola bauhiniicola</i> Yamam. <i>Meliola bauhiniicola</i> Yamam. var. <i>brevipoda</i> Hosag. & Sabeena	Udayan & Balachandran (2009)
28	<i>Breynia rhamnoides</i> (Retz.) Muell.-Arg.	Euphorbiaceae	<i>Kernkempella breyniae</i> (Sydow & Sydow) Rajendran	Udayan & Balachandran (2009)
29	<i>Buchanania lanceolata</i> Wight	Anacardiaceae	<i>Meliola ardigosii</i> Hosag. & Abraham	Rao (1914)
30	<i>Buchanania lanzan</i> Spreng.	Anacardiaceae	<i>Meliola ardigosii</i> Hosag. & Abraham	Reddi et al. (2015)
31	<i>Butea monosperma</i> (Lam.) Taub. (<i>B. frondosa</i> Roxb.)	Fabaceae	<i>Meliola buteae</i> Hafiz, Azmatulla & Kafi	Udayan & Balachandran (2009)
32	<i>Butea parviflora</i> Roxb.	Fabaceae	<i>Meliola buteae</i> Hafiz, Azmatulla & Kafi	Gupta et al. (2004)
33	<i>Caesalpinia sappan</i> L.	Caesalpiniaceae	<i>Meliola caesalpiniae</i> Hansf. & Deight. var. <i>indica</i> Hosag. & H. Biju	Udayan & Balachandran (2009)

	Medicinal plant species	Family	Corresponding Fungi	For medicinal use of plants refer
34	<i>Calamus</i> sp. <i>Calamus rotang</i> Linn.	Arecaceae	<i>Cirsosia globuliferae</i> (Pat.) Arn.	Kirthikar & Basu (2012)
35	<i>Callicarpa tomentosa</i> (L.) Murray	Verbenaceae	<i>Asteridiella formosensis</i> (Yamam.) Hansf	Udayan & Balachandran (2009)
36	<i>Calophyllum inophyllum</i> L.	Clusiaceae	<i>Appendiculella calophylli</i> (Stev.) Toro var. <i>apetali</i> Hosag.	Udayan & Balachandran (2009)
37	<i>Calycopteris floribunda</i> (Roxb.) Poiret	Combretaceae	<i>Asteridiella combreti</i> (Stev.) Hansf. var. <i>leonensis</i> Hansf. <i>Asterina combreti</i> Sydow <i>Amazonia henryi</i> Hosag.	Udayan & Balachandran (2009)
38	<i>Canarium strictum</i> King	Burseraceae	<i>Phyllachora sikkimensis</i> Ramakr. T.S. & Ramakr. K.	Udayan & Balachandran (2009)
39	<i>Canthium angustifolium</i> Roxb.	Rubiaceae	<i>Balladynocallia glabra</i> (Hansf.) Bat. <i>Amazonia goosii</i> Hosag. & Abraham <i>Meliola africana</i> Hansf. <i>Meliola canthii-angustifolii</i> Hosag. <i>Schiffnerula canthii</i> Hosag. & Archana	Rao (1914)
40	<i>Canthium dicocum</i> (Gaertn.) Teijsm. & Binn.	Rubiaceae	<i>Asterina canthii-dicocci</i> Hosag.	Ambasta (1986)
41	<i>Capparis sepiaria</i> L.	Capparaceae	<i>Asterina emciana</i> Hosag., Robin & Archana <i>Bheemamyces capparisidis</i> Hosag. & A. Sabeena	Kirtikar & Basu (2012)
42	<i>Careya arborea</i> Roxb.	Lecythidaceae	<i>Meliola careyae</i> (Stev.) Hosag. <i>Meliola careyae</i> (Stev.) Hosag. var. <i>indica</i> Hosag. <i>Meliola indica</i> Sydow var. <i>careyae</i> Stev.	Udayan & Balachandran (2009)
43	<i>Carissa carandas</i> L.	Apocynaceae	<i>Meliola integripoda</i> Hosag., Abraham & Crane <i>Meliola carissae</i> Doidge var. <i>spinari</i> Hosag.	Udayan & Balachandran (2009)
44	<i>Cassia glauca</i> Lam.	Caesalpinaceae	<i>Meliola surattensis</i> Hosag., Abraham & Crane	Kirtikar & Basu (2012)
45	<i>Cassia fistula</i> L.	Fabaceae	<i>Asterina cassicola</i> Hosag. & Archana <i>Meliola aethiops</i> Sacc. <i>Meliola aethiops</i> Sacc. var. <i>keralica</i> Hosag.	Anilkumar et al. (2014)
46	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	<i>Schiffnerula catharanthi</i> Hosag. & Archana	Udayan & Balachandran (2009)
47	<i>Cayratia pedata</i> (Lam.) A. L. Juss. ex Gagnepain	Vitaceae	<i>Meliola cayratiae</i> Hosag. & Jacob Thomas	Udayan & Balachandran (2009)
48	<i>Cinnamomum malabratrum</i> (Burm.f.) Blume	Lauraceae	<i>Stenella cinnamomi</i> Hosag. & Braun <i>Armatella balakrishnani</i> Hosag. <i>Meliola beilschmiediae</i> Yamam. var. <i>cinnamomicola</i> Hosag.	Udayan & Balachandran (2009)
49	<i>Cinnamomum verum</i> J.S. Presl.	Lauraceae	<i>Meliola cinnamomi</i> Hosag. & Abraham <i>Armatella cinnamomi</i> Hansf. & Thirum.	Udayan & Balachandran (2009)
50	<i>Cipadessa baccifera</i> (Roth.) Miq.	Meliaceae	<i>Asterina cipadessae</i> Yates <i>Sarcinella cipadessae</i> Hosag. & Jacob Thomas	Udayan & Balachandran (2009)
51	<i>Cissampelos pareira</i> L.	Menispermaceae	<i>Viegasia cissampeli</i> (Hansf.) Bat.	Udayan & Balachandran (2009)
52	<i>Citrus aurantifolia</i> (Christm.) Swingle (<i>C. medica</i> L. var. <i>acida</i> (Roxb.) Hook. f.	Rutaceae	<i>Meliola butleri</i> Sydow	Udayan & Balachandran (2009)
53	<i>Citrus grandis</i> (L.) Osb.	Rutaceae	<i>Meliola butleri</i> Sydow <i>Meliola citricola</i> Sydow & Sydow	Udayan & Balachandran (2009)
54	<i>Citrus maxima</i> (Burm.) Merr.	Rutaceae	<i>Spiropes guareicola</i> (Stev.) Cif.	Kirthikar & Basu (2012)
55	<i>Citrus limon</i> (L.) Burn.f	Rutaceae	<i>Spiropes guareicola</i> (Stev.) Cif. <i>Meliola butleri</i> Sydow <i>Meliola citricola</i> Sydow & Sydow	Udayan & Balachandran (2009)
56	<i>Citrus medica</i> L.	Rutaceae	<i>Meliola butleri</i> Sydow <i>Meliola citricola</i> Sydow & Sydow	Udayan & Balachandran (2009)
57	<i>Clerodendrum inerme</i> (L.) Gaertner	Verbenaceae	<i>Meliola clerodendricola</i> Henn. <i>Meliola cookeana</i> Speg. var. <i>viticis</i> (Hansf.) Hansf. <i>Meliola cookeana</i> Speg.	Udayan & Balachandran (2009)
58	<i>Clerodendrum serratum</i> (Linn.) Moon	Verbenaceae	<i>Meliola cookeana</i> Speg. var. <i>viticis</i> (Hansf.) Hansf.	Varier (1993)
59	<i>Clerodendrum serratum</i> (L.) Moon	Verbenaceae	<i>Meliola clerodendricola</i> Henn. <i>Meliola cookeana</i> Speg. var. <i>viticis</i> (Hansf.) Hansf.	Nadnakunjidam (2003)
60	<i>Clerodendrum viscosum</i> Vent.	Verbenaceae	<i>Asteridiella clerodendricola</i> Hosag. <i>Meliola clerodendricola</i> Henn.	Udayan & Balachandran (2009)
61	<i>Coffea arabica</i> L.	Rubiaceae	<i>Hemileia vastatrix</i> Berk. & Br.	Kirtikar & Basu (2012)

	Medicinal plant species	Family	Corresponding Fungi	For medicinal use of plants refer
62	<i>Cryptocarya bourdillonii</i> Gamble	Lauraceae	<i>Armatella cryptocaryae</i> Hosag.	Ambasta (ed) 1986.
63	<i>Cyclea peltata</i> Cooke	Menispermaceae	<i>Meliola cycleae</i> Hosag. <i>Meliola subramanyaensis</i> Hosag.	Udayan & Balachandran (2009)
64	<i>Cymbopogon flexuosus</i> (Nees ex Steudel) Watson	Poaceae	<i>Meliola panici</i> Earle <i>Phyllachora ischaemi</i> Sydow	Ranjith & Mohanan (2013)
65	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	<i>Phyllachora cynodontis</i> (Sacc.) Niessl.	Udayan & Balachandran (2009)
66	<i>Dalbergia paniculata</i> Rox.	Fabaceae	<i>Phyllachora spissa</i> Sydow	Anonymous (2006)
67	<i>Dalbergia sissoides</i> Graham ex Wight & Arn.	Fabaceae	<i>Teratosperma anacardii</i> Hansf.	Rao (1914)
68	<i>Dendrothoe falcata</i> (L.f.) Etting	Loranthaceae	<i>Meliola loranthacearum</i> Hosag. & Abraham	Udayan & Balachandran (2009)
69	<i>Derris scandens</i> Benth.	Fabaceae	<i>Meliola abrupta</i> Sydow	Kirthikar & Basu (2012)
70	<i>Desmodium latifolium</i> (Roxb. ex Ker.) DC.	Fabaceae	<i>Meliola bicornis</i> Wint.	Kirthikar & Basu (2012)
71	<i>Desmodium pulchellum</i> (L.) Benth.	Fabaceae	<i>Meliola desmodii-pulchelli</i> Hosag.	Udayan & Balachandran (2009)
72	<i>Desmodium triquetrum</i> (L.) DC.	Fabaceae	<i>Meliola desmodii-triquetri</i> Hosag. & Manoj.	Udayan & Balachandran (2009)
73	<i>Dillenia pentagyna</i> Roxb. <i>Dillenia indica</i> L.	Dilleniaceae	<i>Asteridiella dilleniae</i> Hosag. & Kamarudeen <i>Asterostomella dilleniacearum</i> Hosag., Abraham & C.K. Biju	Anilkumar et al. (2014)
74	<i>Dimocarpus longan</i> Lour.	Sapindaceae	<i>Meliola dimocarpi</i> Hosag. & Abraham	Udayan & Balachandran (2009)
75	<i>Diospyros ebenum</i> Koenig	Ebenaceae	<i>Meliola diospyri</i> Sydow & Sydow	Udayan & Balachandran (2009)
76	<i>Diospyros malabarica</i> (Desr.) Kostel	Ebenaceae	<i>Meliola diospyri</i> Sydow & Sydow <i>Meliola diospyri</i> Sydow & Sydow var. <i>yatesiana</i> (Trott.) Hansf. & Deight. <i>Asterina diospyri</i> Hosag. & C.K. Pradeep <i>Prillieuxina diospyri</i> Hosag. & Chandra. <i>Aecidium rhytismoideum</i> Berk. & Br. <i>Ampullifera foliicola</i> Deight. <i>Hansfordiellopsis lichenicola</i> (Batista & Maia) Deight.	Varier (1993)
77	<i>Eclipta alba</i> (L) Hassk.	Asteraceae	<i>Schiffnerula ecliptae</i> Hosag., Sabeena & Riju	Udayan & Balachandran (2009)
78	<i>Elaeocarpus serratus</i> L.	Elaeocarpaceae	<i>Asterina gamsii</i> Hosag. & C.K. Biju <i>Asterostomella elaeocarpi-serrati</i> Hosag	Anilkumar et al. (2014)
79	<i>Elaeocarpus tuberculatus</i> Roxb.	Elaeocarpaceae	<i>Asterina elaeocarpi</i> Sydow var. <i>ovalis</i> Kar & Maity <i>Aecidium elaeocarpi-tuberculati</i> Hosag.	Udayan & Balachandran (2009)
80	<i>Elatostema lineolatum</i> Wight	Urticaceae	<i>Asterina elatostematis</i> Hosag. & Goos	Udayan & Balachandran (2009)
81	<i>Erycibe paniculata</i> Roxb.	Convolvulaceae	<i>Meliola erycibe-paniculatae</i> Hosag.	Udayan & Balachandran (2009)
82	<i>Erythrina variegata</i> L.	Fabaceae	<i>Meliola erythrinae</i> Sydow	Udayan & Balachandran (2009)
83	<i>Erythralium populifolium</i> (Arn.) Mast.	Erythraliaceae	<i>Meliola erythralii</i> Hosag. <i>Asterina erythralicola</i> Hosag. & Goos	Udayan & Balachandran (2009)
84	<i>Euphorbia hirta</i> L.	Euphorbiaceae	<i>Sphaerotheca euphorbiae-hirtae</i> Braun & Somani	Kirthikar & Basu (2012)
85	<i>Euphorbia pulcherrima</i> Willd. ex Klotz.	Euphorbiaceae	<i>Leveillula taurica</i> (Lev.) Arnaud	Udayan & Balachandran (2009)
86	<i>Ficus asperrima</i> Roxb.	Moraceae	<i>Irenopsis benguetensis</i> Stev. & Rold.	Kirthikar & Basu (2012)
87	<i>Ficus exasperata</i> Vahl	Moraceae	<i>Hansfordiellopsis lichenicola</i> (Batista & Maia) Deight. <i>Phyllachora repens</i> (Corda) Sacc.	Udayan & Balachandran (2009)
88	<i>Ficus microcarpa</i> L.	Moraceae	<i>Asteridiella ficicola</i> Hosag., Archana & Sabu	Udayan & Balachandran (2009)
89	<i>Ficus religiosa</i> L.	Moraceae	<i>Sphaerodopsis raoii</i> Pande	Udayan & Balachandran (2009)
90	<i>Filicium decipiens</i> (Wight & Arn.) Thwaites	Sapindaceae	<i>Meliola filicii</i> Hosag. var. <i>indica</i> Hosag. & Archana	Udayan & Balachandran (2009)
91	<i>Flemingia conjesta</i> Roxb. ex Aiton.	Fabaceae	<i>Meliola flemingiicola</i> Hosag., Jose & H. Biju	Kirthikar & Basu (2012)
92	<i>Garcinia mangostana</i> L.	Clusiaceae	<i>Heteroconium solaninum</i> (Sacc. & Sydow) Ellis	Udayan & Balachandran (2009)
93	<i>Garcinia morella</i> (Gaertn.) Descr.	Clusiaceae	<i>Asterina morellae</i> Hosag., C.K. Biju & Abraham	Varier (1993)
94	<i>Garcinia travancorica</i> Bedd.	Clusiaceae	<i>Asterina garciniae</i> Hansf. <i>Asterina garciniicola</i> Ouyang & Song	Aravind et al. (2015)
95	<i>Gardenia gummifera</i> L.f.	Rubiaceae	<i>Acrodictys balladynae</i> (Hansf.) M.B. Ellis	Binu et al. (2003)
96	<i>Gaultheria fragrantissima</i> Wallich	Ericaceae	<i>Spiropes dorycarpus</i> (Mont.) M.B. Ellis.	Kirthikar & Basu 2012
97	<i>Gliricidia sepium</i> (Jacq.) Walp.	Fabaceae	<i>Meliola gliricidiicola</i> Hosag. & Agarwal	Udayan & Balachandran (2009)

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98	<i>Glycosmis pentaphylla</i> (Retz.) DC	Rutaceae	<i>Phyllachora glycosmidis</i> Petch. <i>Hansfordiellopsis lichenicola</i> (Batista & Maia) Deight. <i>Meliola cadigensis</i> Yates var. <i>glycosmidis</i> (Kapoor) Hosag.	Udayan & Balachandran (2009)
99	<i>Gmelina arborea</i> Roxb.	Verbenaceae	<i>Meliola clerodendricola</i> Henn. var. <i>micromera</i> (Sydow & Sydow) Hansf. <i>Meliola clerodendricola</i> Henn.	Udayan & Balachandran (2009)
100	<i>Gmelina asiatica</i> L.	Verbenaceae	<i>Meliola clerodendricola</i> Henn. var. <i>micromera</i> (Sydow & Sydow) Hansf.	Ambasta (1986)
101	<i>Grewia tiliifolia</i> Vahl.	Tiliaceae	<i>Irenopsis coimbatonica</i> Hosag., C.M. Pillai & P.A. Raghu	Reddi et al. (2015)
102	<i>Gymnema sylvestre</i> (Retz.) R. Br. ex Schultes	Asclepiadaceae	<i>Meliola gymnemae</i> Jana, Ghosh & Das	Udayan & Balachandran (2009)
103	<i>Helicteres isora</i> L.	Sterculiaceae	<i>Asterina helicteris</i> Ouyang & Hu in Yousheng <i>Irenopsis helicteridis</i> Hosag.	Anilkumar et al. (2014)
104	<i>Hemidesmus indicus</i> (L.) R. Br.	Periplocaceae	<i>Oidium hemidesmi</i> Singh & Kamal <i>Meliola hemidesmicola</i> Hosag. <i>Meliola hemidesmicola</i> Hosag. var. <i>indica</i> Hosag. & Manoj.	Udayan & Balachandran (2009)
105	<i>Hibiscus hispidissimus</i> Griffith	Malvaceae	<i>Irenopsis molleriana</i> (Wint.) Stev.	Udayan & Balachandran (2009)
106	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	<i>Asterina hibisci</i> (Doidge) Hosag.	Nair et al. (2005)
107	<i>Hibiscus teliaceus</i> L.	Malvaceae	<i>Irenopsis molleriana</i> (Wint.) Stev.	Kirthikar & Basu (2012)
108	<i>Hiptage benghalensis</i> (Linn.) Kurz.	Malpighiaceae	<i>Spiropes dorycarpus</i> (Mont.) M.B. Ellis.	Kirtikar & Basu (2012)
109	<i>Holarrhena pubescens</i> (Buch.-Ham.) Wallich ex G. Don	Apocynaceae	<i>Meliola holarrhenae</i> Hansf. & Thirum.	Udayan & Balachandran (2009)
110	<i>Holigarna arnottiana</i> Hook. f.	Anacardiaceae	<i>Meliola holigarnae</i> Stev.	Udayan & Balachandran (2009)
111	<i>Hopea parviflora</i> Bedd.	Dipterocarpaceae	<i>Asterina hopiicola</i> Hosag. & Abraham	Udayan & Balachandran (2009)
112	<i>Hopea ponga</i> (Dennst.) Mabb.	Dipterocarpaceae	<i>Asterina hopeae</i> Hosag. & Kamar. <i>Cirsosia hopeae</i> Hosag. & Jacob-Thomas	Udayan & Balachandran (2009)
113	<i>Hugonia mystax</i> L.	Linaceae	<i>Phyllachora hugoniae</i> Theissen & Sydow	Udayan & Balachandran (2009)
114	<i>Humboldtia unijuga</i> Bedd.	Caesalpinaceae	<i>Lembosia humboldticola</i> Hosag. Jacob & Sabeena.	Radhakrishnan et al. (1996)
115	<i>Humboldtia vahliana</i> Wight	Caesalpinaceae	<i>Lembosia humboldtiae</i> Hosag. & Abraham <i>Lembosia humboldtiigena</i> Hosag. Jacob & Sabeena.	Kirthikar & Basu (2012)
116	<i>Hydnocarpus pentandra</i> (Ham.) Oken.	Flacourtiaceae	<i>Asterolibertia hydnocarpi</i> Hosag. & Abraham	Udayan & Balachandran (2009)
117	<i>Hydrocotyle sibthorpioides</i> Lam.	Apiaceae	<i>Puccinia hydrocotyles</i> (Link.) Cooke.	Udayan & Balachandran (2009)
118	<i>Hyptis suaveilense</i> (L.) Poit.	Lamiaceae	<i>Meliola hyptidis</i> Sydow	Udayan & Balachandran (2009)
119	<i>Ichnocarpus frutescens</i> (L.) R. Br.	Apocynaceae	<i>Meliola ichnocarpi</i> Hansf. & Thirum. <i>Meliola ichnocarpi-volibili</i> Hansf. <i>Meliola frutescens</i> Hosag., Abraham & Crane	Udayan & Balachandran (2009)
120	<i>Ipomoea sepriaria</i> Roxb.	Convolvulaceae	<i>Meliola malacotricha</i> Speg. <i>Ferrarisia ipomoeae</i> (Sydow) Petrak	Varier (1993)
121	<i>Ixora coccinea</i> L.	Rubiaceae	<i>Asteridiellaixorae</i> Hosag. & Archana <i>Meliola ixorae</i> Yates	Udayan & Balachandran (2009)
122	<i>Jasminum angustifolium</i> (L.) Willd.	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Udayan & Balachandran (2009)
123	<i>Jasminum arborescens</i> Roxb.	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Varier (1993)
124	<i>Jasminum auriculatum</i> Vahl	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Varier (1993)
125	<i>Jasminum grandiflorum</i> L.	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Reddi et al. (2015)
126	<i>Jasminum malabaricum</i> Wight	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Ranjith & Mohanan (2013)
127	<i>Jasminum multiflorum</i> (Burm. f.) Andr. (<i>J. pubescens</i> Willd.)	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Varier (1993)
128	<i>Jasminum pubescens</i> Willd.	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Kirtikar & Basu (2012)
129	<i>Jasminum retchiei</i> Clarke	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Kirtikar & Basu (2012)
130	<i>Jasminum rottlerianum</i> Wallich ex A. DC	Oleaceae	<i>Meliola jasmini</i> Hansf. & Stev.	Kirtikar & Basu (2012)
131	<i>Justicia betonica</i> L.	Acanthaceae	<i>Asteridiella justiciae</i> Hosag. & Rajkumar	Udayan & Balachandran (2009)
132	<i>Justicia gendarussa</i> Burm.f.	Acanthaceae	<i>Puccinia thwaitesii</i> Berk	Udayan & Balachandran (2009)
133	<i>Kleinhovia hospita</i> L.	Sterculiaceae	<i>Irenopsis kleinhoviae</i> Hosag. & Archana	Udayan & Balachandran (2009)

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134	<i>Lannea coromandelica</i> (Houtt.) Merr. (<i>Odina wodier</i> Roxb.)	Anacardiaceae	<i>Meliola geniculata</i> Sydow & Butler	Udayan & Balachandran (2009)
135	<i>Lawsonia inermis</i> L.	Lythraceae	<i>Asterina lawsoniae</i> Henn. & Nyn.	Udayan & Balachandran (2009)
136	<i>Limonia altissima</i> L.	Rutaceae	<i>Sarcinella limoniae</i> Hosag., Sabeena & Riju	Anil (2003)
137	<i>Litsea stocksii</i> Hook. f.	Lauraceae	<i>Armatella cryptocaryae</i> Hosag.	Udayan & Balachandran (2009)
138	<i>Loranthus falcatus</i> L. f.	Lauraceae	<i>Meliola loranthacearum</i> Hosag. & Abraham <i>Meliola prataprajii</i> Hosag. & Abraham <i>Asterina deightonii</i> Sydow <i>Asterostomula loranthi</i> Theiss.	Kirtikar & Basu (2012)
139	<i>Maesa indica</i> (Roxb.) A. DC.	Myrsinaceae	<i>Meliola groteana</i> Sydow var. <i>maesae</i> Hosag., C.K. Biju & Abraham	Anilkumar et al. (2014)
140	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.	Euphorbiaceae	<i>Spiropes capensis</i> M.B. Ellis <i>Asteridiella kombeensis</i> Hosag. <i>Asteridiella malloti</i> (Hansf. & Thirum.) Hansf. <i>Asteridiella mallotica</i> (Yamam.) Hansf.	Udayan & Balachandran (2009)
141	<i>Mallotus repandus</i> (Willd.) Muell.-Arg.	Euphorbiaceae	<i>Irenopsis crotonis</i> (Stev. & Tehon) Stev.	Rajasekharan & Latha (2011)
142	<i>Mangifera indica</i> L.	Anacardiaceae	<i>Meliola mangiferae</i> Earle, <i>Asterolibertia mangiferae</i> Hansf. & Thirum.	Anilkumar et al. (2014)
143	<i>Melia dubia</i> Cav. <i>Melia composite</i> Willd.	Meliaceae	<i>Meliola toonae</i> Hosag. & Sabu	Kirtikar & Basu (2012)
144	<i>Melicope lunuankanda</i> (Gaertn.) T. G. Hartley	Rutaceae	<i>Asterina melicopecola</i> Hosag. & Abraham	Udayan & Balachandran (2009)
145	<i>Memecylon edule</i> Roxb. <i>Memecylon umbellatum</i> Burm.f.	Melastomataceae	<i>Asterina memecylonis</i> Ryan <i>Echidnodella memecyli</i> Hosag. & Abraham <i>Meliola memecyli</i> Sydow & Sydow <i>Meliola attayarica</i> Hosag & Abraham	Vaidyanathan et al.(2013)
146	<i>Memecylon malabaricum</i> (Clerke) Cogn.	Melastomataceae	<i>Meliola affinis</i> Sydow var. <i>indica</i> Hosag.	Ambasta (1986)
147	<i>Memecylon umbellatum</i> Burm.f.	Melastomataceae	<i>Meliola heudelotii</i> Gaill. <i>Meliola memecyli</i> Sydow var. <i>microspora</i> Hansf. <i>Meliola memecylica</i> Hansf. var. <i>longiseta</i> Hosag.	Udayan & Balachandran (2009)
148	<i>Merremia umbellata</i> (L.) Hall.f.	Convolvulaceae	<i>Endophyllum kaernbachii</i> Stev. & Mendiola	Udayan & Balachandran (2009)
149	<i>Michelia champaka</i> L.	Magnoliaceae	<i>Asteridiella micheliae</i> Jana, Gosh & Das	Varier (1993)
150	<i>Mimusops elenji</i> L.	Sapotaceae	<i>Asterina mimusopsicola</i> Hosag., Sabeena & Agarwal <i>Symphaster mimusopsidis</i> Hosag., Sabeena & Agarwal	Udayan & Balachandran (2009)
151	<i>Mitragyna parvifolia</i> (Roxb.)Korth.	Rubiaceae	<i>Meliola mitragynae</i> Sydow	Udayan & Balachandran (2009)
152	<i>Mitragyna tubulosa</i> (Arn.) Hav.	Rubiaceae	<i>Meliola mitragynae-tubulosae</i> Hosag. & Manoj	Wealth of India (2009)
153	<i>Morinda pubescence</i> I.E. Smith <i>Morinda tinctoria</i> Roxb.	Rubiaceae	<i>Schiffnerula braunii</i> Hosag. & Sabeena	Udayan & Balachandran (2009)
154	<i>Mukia maderaspatana</i> (L.) M. Roemer { <i>Mukia scabrella</i> (L.f.) Arn. <i>Melothria maderaspatana</i> (Linn.) Cogn.}	Cucurbitaceae	<i>Asteridiella triloba</i> (Wint.) Hansf.	Ambasta (1986)
155	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	<i>Irenopsis murrayae</i> Hosag. & Rajkumar	Udayan & Balachandran (2009)
156	<i>Murraya paniculata</i> (L.) Jack (<i>M. exotica</i> L.)	Rutaceae	<i>Meliola tenella</i> Pat. <i>Ampullifera foliicola</i> Deight. <i>Spiropes guareicola</i> (Stev.) Cif.	Udayan & Balachandran (2009)
157	<i>Mussaenda frondosa</i> L., <i>Mussaenda belilla</i> Buch.- Ham. (<i>Mussaenda laxa</i> Hook.f.) Hutch. ex	Rubiaceae	<i>Meliola anceps</i> Sydow & Sydow	Udayan & Balachandran (2009)
158	<i>Myristica malabarica</i> Lam.	Myristicaceae	<i>Asterina myristicae</i> Hosag. & Sabeena <i>Asterina myristicearum</i> Hosag. & Sabeena <i>Asteridiella myristicearum</i> Hosag.	Anilkumar et al. (2014)
159	<i>Naravelia zeylanica</i> (L.) DC.	Ranunculaceae	<i>Asterina naraveliae</i> Hosag., C.K. Biju & Agarwal	Udayan & Balachandran (2009)
160	<i>Neolitsea scrobiculata</i> (Meisner) Gamble, (<i>N. zeylanica</i> Merr.)	Lauraceae	<i>Meliola neolitseae</i> Yamam. <i>Meliola tetradeniae</i> (Berk.) Theiss. & Sydow	Udayan & Balachandran (2009)
161	<i>Nephelium longana</i> (Lam). Cambess	Sapindaceae	<i>Meliola capensis</i> (Kalch. & Cooke) Theiss. var. <i>malayensis</i> Hansf. <i>Meliola capensis</i> (Kalch. & Cooke) Theiss. var. <i>ermerginati</i> Hosag., Pillai & P.A. Raghu <i>Meliola commixta</i> Sydow	Kirtikar & Basu (2012)

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162	<i>Nothapodytes nimmoniana</i> (Graham) Mabblerly	Icacinaeae	<i>Meliola chandrasekharanii</i> Hosag.	Udayan & Balachandran (2009)
163	<i>Olea dioica</i> Roxb.	Oleaceae	<i>Meliola malabarensis</i> Hansf. <i>Meliola oleacearum</i> Hosag. <i>Zhaghounia oleae</i> (Butler) Cummins	Udayan & Balachandran (2009)
164	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	<i>Meliola crescentiae</i> Stev.	Anilkumar et al. (2014)
165	<i>Pachygone ovata</i> (Poir.) Miers ex Hook. f. & Thoms.	Menispermaceae	<i>Maheshwaramyces pachygonae</i> Hosag. Archana & Dan	Udayan & Balachandran (2009)
166	<i>Pajanelia longifolia</i> (Willd.) K.Schum. <i>Pajanelia rheedii</i> DC. (Willd.) K.Schum. (<i>P. rheedii</i> DC.)	Bignoniaceae	<i>Meliola crescentiae</i> Stev.	Udayan & Balachandran (2009)
167	<i>Pambrus missionis</i> (Wight) Swingle	Rutaceae	<i>Meliola toddaliae</i> Doidge	Anonymous (2013)
168	<i>Pandanus odorifer</i> (Forssk.)Kuntze. <i>Pandanus odoratissimus</i> L.f.	Pandanaceae	<i>Meliola pandanacearum</i> Hosag. & Abraham <i>Echidnoides pandanicola</i> Hosag. & Hanlin <i>Zygosporium minus</i> Hughes	Udayan & Balachandran (2009)
169	<i>Passiflora edulis</i> Sims	Passifloraceae	<i>Schiffnerula mirabilis</i> Hohn.	Vaidyanathan et al. (2013)
170	<i>Pavetta indica</i> Linn.	Rubiaceae	<i>Acrodictys balladynae</i> (Hansf.) M.B. Ellis <i>Asterostomula pavettae</i> Hosag. & Sabeena <i>Sporidesmium aburiense</i> M.B. Ellis	Kirtikar & Basu (2012)
171	<i>Pedilanthus tithymaloides</i> Poit.	Euphorbiaceae	<i>Sphaerotheca euphorbiae-hirtae</i> Braun & Somani	Ambasta (1986)
172	<i>Persea macrantha</i> (Nees) Kosteerm. (<i>Machilusmacrantha</i> Nees)	Lauraceae	<i>Periconiella perseae-macranthae</i> Hosag. & Braun <i>Armatella katumotoi</i> Hosag. <i>Meliola machili</i> Yamam.	Udayan & Balachandran (2009)
173	<i>Phyllanthus niruri</i> Linn.	Euphorbiaceae	<i>Phyllachora keralica</i> Hosag., Abraham & C.K. Biju	Kirtikar & Basu (2012)
174	<i>Piper nigrum</i> L.	Piperaceae	<i>Asterina piperina</i> Sydow <i>Meliola stenospora</i> Wint.	Anilkumar et al. (2014)
175	<i>Pittosporum neelgherrense</i> Wight & Arn.	Pittosporaceae	<i>Meliola polytricha</i> Kalch. & Cooke	Binu & Nayar (2005)
176	<i>Plumeria rubra</i> L.	Apocynaceae	<i>Coleosporium plumeriae</i> Pat.	Udayan & Balachandran (2009)
177	<i>Pogostemon pubescens</i> Benth.	Lamiaceae	<i>Meliola pogostemonis</i> Hansf. <i>Asteridiella anastomosans</i> (Wint.) Hansf.	Ambasta (1986)
178	<i>Polyalthia longifolia</i> (Sonn.) Thawaites.	Annonaceae	<i>Echidnodella polyalthiae</i> Hosag. <i>Phyllachora travancorica</i> Ramakrishnan, K., J. <i>Prillieuxina polyalthiae</i> Hosag. & Abraham	Udayan & Balachandran (2009)
179	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	<i>Asperisporium pongamiae</i> (H. Sydow) Deight. <i>Meliola pongamiae</i> Hosag. & Abraham <i>Phyllachora pongamiae</i> (Berk. & Br.) Petch	Udayan & Balachandran (2009)
180	<i>Pothos scandens</i> L.	Araceae	<i>Lembosia malabarensis</i> (Sydow & Sydow) Hosag. & Goos	Udayan & Balachandran (2009)
181	<i>Premna corymbosa</i> Rottl. & Willd.	Verbenaceae	<i>Asterina pusilla</i> Sydow & Sydow	Kirtikar & Basu (2012)
182	<i>Pseudarthria viscida</i> (L.) Wight & Arn.	Fabaceae	<i>Meliola pseudarthriae</i> Hosag. & Manoj. <i>Meliola pseudarthriae</i> Hosag. & Manoj. var. <i>indica</i> Hosag. & Jacob Thomas	Udayan & Balachandran (2009)
183	<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	<i>Meliola pterocarpi</i> Yates	Udayan & Balachandran (2009)
184	<i>Pterospermum acerifolium</i> (L.) Willd.	Sterculiaceae	<i>Irenopsis tjobodensis</i> Hansf.	Kirtikar & Basu (2012)
185	<i>Quisqualis indica</i> L.	Combretaceae	<i>Asterina escharoides</i> Sydow <i>Sarcinella quesqualidis</i> Hosag. & Jacob Thomas	Udayan & Balachandran (2009)
186	<i>Rhinacanthus nasutus</i> (L.) Kurz	Acanthaceae	<i>Asterina tertia</i> Racib.	Udayan & Balachandran (2009)
187	<i>Ruellia prostrata</i> Poir.	Acanthaceae	<i>Asterina tertia</i> Racib.	Kirtikar & Basu (2012)
188	<i>Samadera indica</i> Gaertn. {(= <i>Quassia indica</i> (Gaertn.) Nooteboon)}	Simaroubaceae	<i>Meliola samaderae</i> Hosag.	Kirtikar & Basu (2012)
189	<i>Santalum album</i> L.	Santalaceae	<i>Asterina congesta</i> Cooke	Udayan & Balachandran (2009)
190	<i>Sapindus laurifolius</i> Vahl	Sapindaceae	<i>Meliola otophorae</i> Yates var. <i>indica</i> Hosag. & Ravikumar <i>Meliola serjaniae</i> Stev. var. <i>major</i> Hansf.	Udayan & Balachandran (2009)
191	<i>Saraca asoca</i> (Roxb.) de Willd.	Caesalpiniaceae	<i>Asterina saracae</i> Hosag., Abraham & Crane	Udayan & Balachandran (2009)
192	<i>Schleichera oleosa</i> (Lour.) Oken	Sapindaceae	<i>Meliola capensis</i> (Kalch., & Cooke) Theiss. var. <i>schleicherae</i> Hosag. & Pillai	Udayan & Balachandran (2009)

	Medicinal plant species	Family	Corresponding Fungi	For medicinal use of plants refer
193	<i>Scleria</i> sp.	Cyperaceae	<i>Clasterosporium cyperacearum</i> Hosag. <i>Clasterosporium flagellatum</i> (Sydow) Ellis <i>Diplococcium atrovolutinum</i> Braun & Hosag.	Rajasekharan & Latha (2011)
194	<i>Sebastiania chamaelea</i> (L.) Mull.	Euphorbiaceae	<i>Asteridiella sebastianiae</i> Hosag, Sabeena & Jacob Thomas	Kirthikar & Basu (2012)
195	<i>Semecarpus anacardium</i> L.f.	Anacardiaceae	<i>Meliola sanjappae</i> Hosag., J. Thomas & D.K. Agarwal <i>Meliola shivarajui</i> Hosag. & Kamar. <i>Meliola semecarpi-anacardii</i> Hosag.	Anilkumar et al. (2014)
196	<i>Semecarpus travancorica</i> Bedd.	Anacardiaceae	<i>Phyllachora thiruvananthapurica</i> Hosag. & Abraham	Rao (1914)
197	<i>Sida cordata</i> (Burm. f.) Borssum	Malvaceae	<i>Asterina diplocarpa</i> Cooke <i>Irenopsis sidae</i> (Rehm) Hughes var. <i>indica</i> Hosag. & Manoj.	Udayan & Balachandran (2009)
198	<i>Smilax zeylanica</i> L.	Smilacaceae	<i>Meliola smilacis</i> Stev., <i>Spiropes dialii</i> (Bat.) Ellis	Ambasta (1986)
199	<i>Solanum seaforthianum</i> Andr.	Solanaceae	<i>Oidium seaforthiani</i> Hosag.	Udayan & Balachandran (2009)
200	<i>Solanum torvum</i> Sw.	Solanaceae	<i>Schiffnerula palodensis</i> Hosag. & Riju	Anilkumar et al. (2014)
201	<i>Spatholobus parviflorus</i> (Roxb. ex DC.) Kuntze	Fabaceae	<i>Meliola spatholobii</i> Hosag., H. Biju & Manoj.	Udayan & Balachandran (2009)
202	<i>Stachytarpheta jamaicensis</i> (L.) Vahl	Verbenaceae	<i>Asteridiella callista</i> (Rehm) Hansf.	Udayan & Balachandran (2009)
203	<i>Streblus asper</i> Lour.	Moraceae	<i>Asteridiella strebli</i> Hosag., H. Biju & Manoj.	Udayan & Balachandran (2009)
204	<i>Strychnos nux-vomica</i> L.	Strychnaceae	<i>Meliola cannonii</i> Hosag., <i>Meliola gamsii</i> Hosag. & Shiburaj <i>Meliola spigeliae</i> Hansf. <i>Meliola strychnacearum</i> Hosag. & Abraham <i>Questieriella strychni</i> Hosag.	Udayan & Balachandran (2009)
205	<i>Symplocos cochinchinensis</i> (Lour.) Moore ssp. <i>laurina</i> (Retz.) Nooteboom	Symplocaceae	<i>Meliola symplocicola</i> Yamam.	Udayan & Balachandran (2009)
206	<i>Symplocos laurina</i> (Retz.) Wallich ex Rehder & Willis	Symplocaceae	<i>Asterina indica</i> Sydow	Ambasta (1986)
207	<i>Syzygium cumini</i> (L.) Skeels (<i>Eugenia jambolana</i> Lam.)	Myrtaceae	<i>Asterina jambolana</i> Kar & Maity <i>Asterostomula syzygii</i> Hosag, Sabeena & Jacob Thomas <i>Lembosia hosagoudarii</i> Sivanesan & Shivas <i>Sporidesmium aburiense</i> M.B.Ellis <i>Meliola densa</i> Cook <i>Meliolina pulcherrima</i> (H. Sydow & P. Sydow) H. Sydow & P. Sydow <i>Phyllachora ambigua</i> (Sydow) Sydow <i>Asterina claviflori</i> Kar & Maity	Udayan & Balachandran (2009)
208	<i>Syzygium jambolanum</i> (Lam.) DC.	Myrtaceae	<i>Asterina jambolana</i> Kar & Maity <i>Asterina claviflori</i> Kar & Maity	Binu et al. (2003)
209	<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roemer & Schultes	Apocynaceae	<i>Meliola pepparaensis</i> Hosag. & Abraham	Udayan & Balachandran (2009)
210	<i>Tamarindus indica</i> L.	Fabaceae	<i>Meliola tamarindi</i> Sydow & Sydow <i>Oidium tamarindi</i> (Yen) Braun	Anilkumar et al. (2014)
211	<i>Tectona grandis</i> L.f.	Verbinaceae	<i>Schiffnerula tectonae</i> (Thite & Patil) Hosag <i>Acremoniella sarcinellae</i> (Pat. & Har.) Arn. ex Deight.	Udayan & Balachandran (2009)
212	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	Combretaceae	<i>Asterina combreti</i> Sydow	Nudrat & Mukundan (2015)
213	<i>Terminalia bellerica</i> (Gaertner) Roxb.	Combretaceae	<i>Colemaniella ossoorii</i> Agnihothrudu	Anilkumar et al. (2014)
214	<i>Terminalia bellirica</i> (Gaert.) Roxb.	Combretaceae	<i>Asteridiella combreti</i> (Stev.) Hansf. var. <i>leonensis</i> Hansf.	Nudrat & Mukundan (2015)
215	<i>Terminalia catappa</i> L.	Combretaceae	<i>Meliola pelliculosa</i> Sydow Philip. <i>Schiffnerula terminaliae</i> Hosag. & Riju	Udayan & Balachandran (2009)
216	<i>Terminalia chebula</i> Retz.	Combretaceae	<i>Asterostomella terminaliae</i> Hosag., Balakr. & Goos <i>Lembosia terminaliae-chebulae</i> Hosag., Abraham & Crane	Anilkumar et al. (2014)
217	<i>Terminalia cuneata</i> Roth. {(<i>T. arjuna</i> (Rox. ex DC.) Wight & Arn.)}	Combretaceae	<i>Asterina combreti</i> Sydow	Udayan & Balachandran (2009)
218	<i>Thea sinensis</i> (L.) Kuntze	Theaceae	<i>Schiffnerula camelliae</i> (Sydow, Sydow & Butler) Hughes	Varier (1993)
219	<i>Thespesia lampas</i> (Cav.) Dalz. ex Dalz. & Gibs.	Malvaceae	<i>Irenopsis thespesiae</i> Hansf.	Nadnakunjidam (2003)

	Medicinal plant species	Family	Corresponding Fungi	For medicinal use of plants refer
220	<i>Thepesia populnea</i> (L.) Sol. ex Corr. Serr.	Malvaceae	<i>Irenopsis thespesiae</i> Hansf.	Anilkumar et al. (2014)
221	<i>Thottea siliquosa</i> (Lam.) Ding Hou.	Aristolochiaceae	<i>Asterina thotteae</i> Hosag. & Hanlin	Nadnakunjidam (2003)
222	<i>Thunbergia</i> sp.	Acanthaceae	<i>Asterina thunbergicola</i> Hansf. var. <i>Indica</i> Hosag. & Jacob-Thomas	Udayan & Balachandran (2009)
223	<i>Toona ciliata</i> M. Roem.	Meliaceae	<i>Meliola toonae</i> Hosag. & Sabu	Udayan & Balachandran (2009)
224	<i>Torenia travancorica</i> Gamble	Scrophulariaceae	<i>Meliola toreniae</i> Hosag.	Ambasta (1986)
225	<i>Trema orientalis</i> (L.) Blume	Ulmaceae	<i>Asterina dallasica</i> Petrak <i>Schiffnerula hughesii</i> Hosag. <i>Asteridiella tremae</i> (Speg.) Hansf.	Udayan & Balachandran (2009)
226	<i>Triumfetta rhomboidea</i> Jacq.	Tiliaceae	<i>Irenopsis triumfettae</i> (Stev.) Hansf. & Deight. var. <i>indica</i> Hosag. & Abraham <i>Asterina triumfeticola</i> Yamam.	Kirtikar & Basu (2012)
227	<i>Tylophora indica</i> (Burm.f.) Merr. { <i>T. asthamatica</i> (L.f.) Wight & Arn.}	Asclepiadaceae	<i>Meliola tylophorae-indicae</i> Hosag. & Manoj.	Udayan & Balachandran (2009)
228	<i>Urena lobata</i> L.	Malvaceae	<i>Irenopsis molleriana</i> (Wint.) Stev.	Udayan & Balachandran (2009)
229	<i>Vallis solanacea</i> (Roth) Kuntze [V. <i>heynei</i> Spreng.]	Apocynaceae	<i>Meliola vallaridis</i> Hosag., Sabeena, Archana & Jacob	Udayan & Balachandran (2009)
230	<i>Vateria indica</i> L.	Dipterocarpaceae	<i>Asterolibertia vateriae</i> Hosag. <i>Echidnodella vateriae</i> Hosag. & Kamar. <i>Domingoella asterinarum</i> Petrak & Ciferri	Anilkumar et al. (2014)
231	<i>Vernonia arborea</i> Buch.-Ham.	Asteraceae	<i>Asteridiella cyclopoda</i> (Stev.) Hansf.	Ambasta (1986)
232	<i>Vetiveria zizanioides</i> (L.) Nash	Poaceae	<i>Meliola panici</i> Earle var. <i>vetivericola</i> Gawande, Agarwal & Hosag.	Udayan & Balachandran (2009)
233	<i>Vigna pilosa</i> (Willd.) Baker	Fabaceae	<i>Ampullifera foliicola</i> Deight.	Udayan & Balachandran (2009)
234	<i>Vitex altissima</i> L.	Verbenaceae	<i>Meliola altissimae</i> Hosag. <i>Meliola cookeana</i> Speg. var. <i>viticis</i> (Hansf.) Hansf.	Udayan & Balachandran (2009)
235	<i>Vitex pubescence</i> Vahl	Verbenaceae	<i>Meliola cookeana</i> Speg.	Ambasta (1986)
236	<i>Wedelia chinensis</i> (L.) Merr.	Asteraceae	<i>Schiffnerula wedeliae</i> Hosag., Sabeena & Riju	Udayan & Balachandran (2009)
237	<i>Woodfordia fruticosa</i> (L.) Kurz	Lythraceae	<i>Pseudocercospora sydowiana</i> (Chupp) U. Braun	Udayan & Balachandran (2009)
238	<i>Wrightia tinctoria</i> (Roxb.) R. Br.	Apocynaceae	<i>Meliola tabernaemontanae</i> Speg. var. <i>wrightiae</i> Hosag., Agarwal, H. Biju & Archana <i>Asterina wrightiae</i> Sydow in Sydow & Petrak <i>Hemileia wrightiae</i> Rac.	Udayan & Balachandran (2009)
239	<i>Xeromphis uliginosa</i> (Thunb.) Keay	Rubiaceae	<i>Irenopsis xeromphidis</i> Hosag. & Sabeena	Retnam & Martin (2006)
240	<i>Zizyphus oenoplia</i> Miller	Rhamnaceae	<i>Meliola zizyphi</i> Hansf. & Thirum.	Anilkumar et al. (2014)
241	<i>Ziziphus rugosa</i> Lam.	Rhamnaceae	<i>Meliola zizyphi</i> Hansf. & Thirum.	Ranjith & Mohanan (2013)





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