

ADDITIONS TO THE MYCOTA OF THE SEYCHELLES

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Eleven species of fungi and one slime-mould are added to the previous list of fungi from Indian Ocean islands made by the authors in 2004. Two other species in the area are confirmed. Our knowledge of fungal distributions in these remote islands is extended and comments are made on some immature collections. This small collection does, however, indicate a palaeotropical element to the mycota with bias towards species found in Southeast Asia, although some have a worldwide distribution.

Keywords. Ascomycota, Basidiomycota, bracket fungus, foliicolous, slime-mould.

INTRODUCTION

Watling & Seaward (2004) listed the fungal material which had accumulated from several expeditions to the Seychelles and neighbouring islands. A few more specimens have come to hand and are the subject of this communication. Macromycetes are mostly featured in this study. Several microfungi were also collected from a range of genera and orders but, unfortunately, most were immature. Undoubtedly the drying winds have an adverse effect on ascocarp fruiting as observations on temperate taxa suggest many foliicolous fungi require at least a sustained period of humid weather to encourage maturation (cf. Watling, unpubl. data on *Capnobotrys dingleae* Hughes; Watling & Eggeling, ined., data on antennarioid material from the Falklands Archipelago). The collections on *Cocos nucifera* L. leaves could only be identified, at most, to generic level. The parasitic foliicolous fungi on *Cocos nucifera* have been covered by Holliday (1980), but do not include the present taxa. Some of the angiosperm leaves showed mixtures of meliolaceous (obligate parasites with characteristic superficial lobed haustoria) and capnodiaceous fungi (sooty moulds). Unfortunately few features are present to identify them.

In addition to the above, several microfungi were included in the Chagos Archipelago report (Seaward, 1999) and numerous foliicolous lichens have been studied for the compilation of checklists (summarised in Seaward & Aptroot, 2009) of the Indian Ocean islands included in this and the previous study (Watling & Seaward, 2004).

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MATERIALS AND METHODS

Materials and methods follow Watling & Seaward (2004) and collections have been deposited in the herbarium of M. R. D. Seaward (MRDS), currently at the University of Bradford, with some duplicates in the Royal Botanic Garden Edinburgh (E) and The Natural History Museum (BM).

RECORDS OF FUNGI

Although only a few characters useful for identification were present on the foliicolous fungi, we confirm (a) a *Capnophialophora* S.Hughes species on *Cinnamomum verum* J.Presl from Silhouette Island (21 vii 2000, *M.R.D. Seaward*), which could be the imperfect state of a *Euantennaria* Speg. or *Antennatula* Fr. ex F.Strauss, and (b) a *Hormiscium* Kunze stage of a *Hormisciomyces* Bat. & Nascim. species on *Cocos nucifera* also from Silhouette (25 vii 2000, *M.R.D. Seaward*). Some may represent sterile and immature colonisation of the widespread *Euantennaria tropicola* Speg., noted from the Seychelles on *Cinnamomum* Schaeff. species by Watling & Seaward (2004). It is common to find more than one capnodiaceous fungus growing intermingled (Hughes, 1966). A single collection found on Grande Anse, Praslin (6 vi 1974, *A.H. Norkett*) could be *Macrophoma collabens* Berg. & Vogl. A definitive identification was not possible because the genus is in need of critical revision. A specimen of a *Tripospermum* Speg. species, close to *T. acerinum* P.Syd., was collected by A. H. Norkett from the Botanic Garden of Mahé.

Only a single slime-mould (Myxogastria) was collected, namely *Lycogala epidendrum* (L.) Fr., from Menai, Cosmoledo Atoll (17 xiii 2005, *J. Gerlach*). This is a common slime-mould with a worldwide distribution.

Other new records are presented below.

BASIDIOMYCOTA

Agaricales

*Agaricaceae**Tulostoma bonianum* Pat.

[Substratum unknown], Grande Terre, Aldabra, 15 xii 2005, *J. Gerlach* (MRDS 115771).

This collection was mixed with *Pycnoporus sanguineus* mentioned below. With such a different morphology it was surprising to find a stalked puffball in association with a bracket fungus. *Tulostoma bonianum* has a wide distribution in the palaeotropics and also in the Caribbean and Hawaii. It also occurs in several provinces of China and is recorded from India and South Africa. It grows in woodland, often in small groups.

*Entolomataceae**Leptonia gnopholodes* (Berk. & Br.) Sacc.

On soil, Jardin Marron, Silhouette, 23 ix 2004, *J. Gerlach* (MRDS 115762).

This species was described from Peradeniya, Sri Lanka, based on collections made by Petch (1924), and is also known from Tanzania. It is characterised by the heterodiametric-ovate, angular basidiospores and brown, infundibuliform pileus. It is not surprising that this species has been found in the Seychelles but its overall distribution is poorly known. There are good descriptions and diagrams in both Pegler (1977) and Pegler (1986). All species of *Leptonia* (Fr.) P.Kumm. are placed in *Entoloma* (Fr.) P.Kumm. by some authors.

Favolaschiaceae

Mycena ? chlorophos (Berk. & Curt.) Sacc.

On leaf litter, Jardin Marron, Silhouette, 19 xii 2004, *J. Gerlach* (MRDS 115760).

This collection, which is in rather poor condition, was mixed with *Marasmius haematocephalus* noted below. *Mycena chlorophos* is widely distributed on old wood on the forest floor. It ranges in distribution from Southeast Asia to Australasia. It is placed in *Mycena* sect. *Basipedes* (Fr.) Kühner because the stipe emerges from a small basal pad. When fresh, it gives off a phosphorescent glow in the dark.

Marasmiaceae

Marasmius haematocephalus (Mont.) Fr.

On leaf litter, Jardin Marron, Silhouette, 19 xii 2004, *J. Gerlach* (MRDS 115761).

This is a very common pantropical species growing on fallen leaf litter. It is instantly recognisable by the deep purplish-red pileus, which in the field may fade to maroon. This species is recorded from Sri Lanka where Pegler (1986) gives a good, illustrated description. *Marasmius haematocephalus* is placed in *Marasmius* sect. *Sicci* Singer which is characterised by setulose elements in the pileus. A good colour illustration also appears in Singer (1965). *Marasmius* Fr. is a very large genus in both the palaeotropics and neotropics.

Strophariaceae

Gymnopilus hybridus (Sowerby) Maire

On rotten wood, Jardin Marron, Silhouette, 19 xii 2004, *J. Gerlach* (MRDS 115767).

This collection is *Gymnopilus hybridus*, a fungus generally taken as a synonym of the north temperate *G. penetrans* (Fr.) Murrill. *Gymnopilus hybridus* differs in its distinctive, white velar ring zone on the stipe, and unspotted gills, characters not seen in *G. penetrans* although the basidiospores are very similar. It has a smooth, as opposed to scaly, pileus so separating it from the closely related *Gymnopilus sapineus* (Fr.) Maire. *Gymnopilus hybridus* grows on coniferous wood and might have been introduced. There are several palaeotropical species of *Gymnopilus* P.Karst. but none agree with this collection.

Auriculariales

Auriculariaceae

Auricularia cornea (Ehrenb.: Fr.) Ehrenb. ex Engel

On old track, Grande Anse, Praslin, 9 i 1994, *A.H. Norkett* (MRDS 115775; BM 18483A).

This is probably better known by the widespread but later synonym *Auricularia polytricha* (Mont.) Sacc. and is a common, widespread palaeotropical jelly fungus (Judas' ear) being found

throughout China, Japan, Thailand and Malaysia, southwards to Australia. It is also found in the Philippines and in Chagos and the Seychelles (Watling & Seaward, 2004). It is cultivated extensively throughout Southeast Asia for food and is characterised by its rather thick and tough texture and hairy upper surface.

Phallales

Geastraceae

Geastrum dubowskii Pat.

On ground, Jardin Marron, Silhouette, 23 ix 2004, *J. Gerlach* (MRDS 115763).

This is an African earthstar, the epithet of which is often misspelt 'dybowskii'. It has been synonymised with *Geastrum javanicum* by Ponce de Leon (1968), described from Southeast Asia, which would give it a palaeotropical distribution. It grows on the forest floor. A good colour illustration of Congo material appears in Dissing & Lange (1964).

Polyporales

Coriolaceae

Corioloopsis aspera (Jung) Teng

[Substratum unknown], Astove, Farquhar, 17 xii 2005, *J. Gerlach* (MRDS 115768); [Substratum unknown], St Pierre, Farquhar, 19 xii 2005, *J. Gerlach* (MRDS 115765); [Substratum unknown], Menai, Cosmoledo Atoll, 17 xii 2005, *J. Gerlach* (MRDS 115766).

This bracket fungus is widely distributed in the palaeotropics. Its distribution ranges from China and Taiwan to Australia. It can be easily identified when in good condition by the erect, forked hairs in the pileal mat. Corner (1989) does not discuss this species from Malaysia but does describe *Trametes badia* Berk. which Ryvarden (1977) synonymised under *Corioloopsis aspera*, erroneously according to Corner (1989). *Trametes badia* certainly has a dark pileus but lacks the distinctive hairs and scrupose surface. It has a similar distribution to *Corioloopsis aspera*, but Teng (1996) treats them as separate entities. Both grow on dead trunks and branches of hardwoods in secondary forest and primary rainforest.

Pycnoporus sanguineus (L.: Fr.) Murrill

[Substratum unknown], Grande Terre, Aldabra, 15 xii 2005, *J. Gerlach* (MRDS 115770); On *Cocos nucifera*, Desroches, Amirantes, 21 xi 2005, *J. Gerlach* (MRDS 115625).

This is a common and widespread palaeotropical bracket fungus. Its distribution ranges from China, Taiwan and Japan through Vietnam, Thailand and Malaysia. It also occurs in North America. This species differs only from *Trametes* Fr. species in its bright orange-red basidiome. *Pycnoporus cinnabarinus* (Jacq.) P.Karst. also occurs in Southeast Asia, but is distinguished by its thicker basidiome. It is genetically distinct and probably has a more northerly distribution (Lesage-Meessen *et al.*, 2011). *Pycnoporus sanguineus* is found in forest clearings, margins of woodland and beside woodland tracks and trails growing on fallen branches and limbs, generally of hardwood hosts. These records extend our knowledge of its distributional range within the Indian Ocean (cf. records from the Seychelles and Chagos in Watling & Seaward, 2004). This bracket fungus is replaced by *Pycnoporus coccineus* (Fr.) Bond. & Singer in Australia.

Trametes pubescens (Fr.) Pilát sensu lato

[Substratum unknown], Astove, Farquhar, 17 xi 2005, *J. Gerlach* (MRDS 115769).

This bracket fungus is circumpolar and common in boreal temperate areas. According to Corner's (1989) interpretation adopted here, it also extends to Malaysian tropical woodland. He suggested that the tropical Southeast Asian collections of *Trametes hirsutus* (Schum.: Fr.) Pilát and *T. occidentale* (Klotzsch) G.H.Cunn. are also this taxon, although Núñez & Ryvar den (2001) separate the former on the basis of the grey colour of the pileal surface. The latter is a truly neotropical species. *Trametes pubescens* occurs on fallen branches and limbs especially in open gaps in the forest or at the forest margin.

ASCOMYCOTA

Dothideomycetes

Botryosphaeriales

Botryosphaeriaceae

Botryosphaeria sp. Immature.

On *Cocos nucifera*, E of Belle Vue, Silhouette, 25 vii 2000, *M.R.D. Seaward* (MRDS 112856).

Botryosphaeria sp. Immature.

St Anne's Isle, 28 viii 1973, *A.H. Norkett* s.n. (BM).

Sadly both these collections are immature and it is only on the external appearance that the genus *Botryosphaeria* Ces. & De Not. is suggested. Both possess the black, relatively large pseudothecia characteristic of the genus. These pseudothecia are immersed in the leaf mesophyll of the dead leaves. Several members of this genus are important plant pathogens and there is a very wide range of imperfect stages associated with the genus which have been placed in several morpho-anamorphic genera. Recent molecular work defines a rather narrow species concept (Crous *et al.*, 2006; Schoch *et al.*, 2006). Such a concept is narrower than that based purely on morphological identification of field material. Holliday (1980) does not indicate any pathogenic members of this genus on *Cocos*. A specimen of *Botryosphaeria cocoicola* (Sivan.) K.D.Hyde & P.F.Cannon [MRDS 112856] recorded by Watling & Seaward (2004) from a Silhouette Island collection, although immature, may be the same taxon.

Sordariomycetes

Capnodiales

Capnodiaceae

Tripospermum sp.

[Substratum unknown], Botanic Garden, Mahé, 10 ix 1973, *A.H. Norkett* s.n. (BM).

Members of this genus are the anamorphic stages of members of the Capnodiales. The present collection comes close to *Tripospermum myrti* (Lind) Hughes and *T. acerinum* (P.Syd.) Speg., the latter being the type of the genus. Both of these species possess mid-brown to olivaceous, multiseptate, 3- to 5-armed conidia and are widespread in Europe. As the branching is very variable and the feature is found in other sooty moulds it is impossible to be definitive. Although the Capnodiales are a particular feature of the New Zealand mycota, they are an important order in both the palaeotropics and neotropics. *Tripospermum myrti* has been found as an aeroaquatic fungus. Other species in the genus are found in

foam on the surface of water (Ingold, 1975). Probably these have washed off from vegetation, as *Tripospermum myrti* is known to do. It occurs on grasses, myrtaceous plants and *Fraxinus* L.

Xylariales

Xylariaceae

Nemania aff. *serpens* (Pers.: Fr.) Gray

As *Diatrypella* sp., on dead wood, Île Polymnie, Grande Terre, Aldabra, 5 ii 1974, R.J. Hnatiuk (MRDS 115774; BM 731866).

The irregular, confluent, cushion-shaped ascoma covered in small papillae from the emergent perithecia is characteristic of the genus *Nemania* Gray. *Nemania serpens* is probably better known as its synonym *Hypoxylon serpens* (Pers.) J.Kickx f. and, with other closely related, pulvinate fruiting xylariaceous fungi, is a very important wood-rotter in both the palaeotropics and neotropics. All species are characterised by dark-brown ascospores sometimes with a prominent germ-slit, in contrast to *Diatrypella* which is characterised by its small, allantoid, hyaline ascospores produced in multi-spored asci. The similar cushion-shaped ascoma of the Diatrypaceae has probably led to its misidentification in the field.

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