New Species of Ascomycetes and a New Genus of Sphaeropsidaceae from Transvaal*

by

W. F. O. Marasas

Plant Protection Research Institute, Department of Agricultural Technical Services, Pretoria

ABSTRACT

A new genus of Sphaeropsidaceae, Oncostroma Batista & Marasas, and its type species O. toddaliae Batista & Marasas, are described. Five new species of Ascomycetes, Brasiliomyces entadae Marasas & Rabie, Thyriopsis sphaerospora Marasas, Microcyclus halleriae Marasas & Rabie, Phyllachora ehriarhei Marasas and Trichopeltum africanaum Batista & Marasas, are described. Two new combinations, Trichopeltum carissae (Doidge) Marasas and Trichopeltum kentaniensis (Doidge) Marasas, are made.

In the course of an investigation of the foliicolous Ascomycetes and Deuteromycetes occurring in the indigenous forests of the northern Transvaal, the fungi described below were found to be new species. With the exception of Thyriopsis sphaerospora, all these fungi were collected on indigenous host plants growing in an ecological habitat described as Inland Tropical Forest by Acocks (1953). T. sphaerospora was collected on a Eucalyptus tree planted in a garden.

The type collections of the new species described below are deposited in the Mycological Herbarium, Plant Protection Research Institute, Pretoria and in the herbarium of the Commonwealth Mycological Institute, Kew, England.

Brasiliomyces entadae Marasas & Rabie, sp. nov.

Figs. 1, 5.

Colonies epiphyllous; mycelium superficial, white, very thinly effused over the leaf surface. Cleistothecia very numerous, gregarious, globose-depressed, attached to the mycelium at the base, at first hyaline, becoming orange, astomous, semi-transparent, without appendages, 47-74μ in diameter, 32.5-42.5μ high; wall composed of one layer of large, irregularly lobed cells. Asci four or five per ascocarp, ovate, thin-walled, briefly stipitate, five- to eight-spored, 45.0-52.5 × 25.0-32.5μ. Ascospores elliptical, hyaline, continuous, 15.0-17.5 × 7.5-9.5μ.

Conidiophores and conidia not seen.

On living leaves of Entada spicata (E. Mey.) Druce, Entabeni, Louis Trichardt, Transvaal, Apr. 1964, Marasas & Rabie in PRE 42626 (PRE, holotype); Mariepskop, Pilgrims Rest Dist., 1962, PRE 42627.

The asci were measured after squashing the cleistothecia in lactophenol. The cleistothecia were measured in microtome sections. Their dimensions were smaller than the correct values because of a certain amount of shrinkage which occurred during preparation.*

Two genera of Erysiphaceae with one-celled ascospores and cleistothecia lacking appendages are known. Viegas (1944) described the genus Brasiliomyces to accommodate a single species, B. malvastri. Blumer & Müller (1964) made a new genus Salmonia for Erysiphe malachrae Seaver. The distinction between Brasiliomyces and Salmonia is not at all clear. The author's collection could be placed in either of these two genera according to the original generic descriptions. Prof. Emil Müller (personal communication) is at present trying to obtain the type material of B. malvastri to undertake a critical study.

Brasiliomyces malvastri, Salmonia malachrae and B. entadae are compared in Table 1.

**Table 1.—Comparison of characters of Brasiliomyces malvastri, Salmonia malachrae and Brasiliomyces entadae**

<table>
<thead>
<tr>
<th></th>
<th>B. malvastri</th>
<th>S. malachrae</th>
<th>B. entadae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host.....</td>
<td>Malvastrum coronandeli-</td>
<td>Malachra capitata and</td>
<td>Entada spicata (Mimosa-</td>
</tr>
<tr>
<td></td>
<td>num (Malvaceae)</td>
<td>Gossypium hirsutum (Malvaceae)</td>
<td>ceae)</td>
</tr>
<tr>
<td>Habit.....</td>
<td>Amphigenous</td>
<td>Epiphyllous</td>
<td>Epiphyllous</td>
</tr>
<tr>
<td>Conidial Stage</td>
<td>Present and well developed</td>
<td>? Poorly developed</td>
<td>Absent</td>
</tr>
<tr>
<td>Cleistothecia...</td>
<td>Hyaline, later slightly coloured. 50-60μ in diameter</td>
<td>White, later pale brown. 45-80μ in diameter</td>
<td>Hyaline later orange, 47-74μ in diameter</td>
</tr>
<tr>
<td>Asci........</td>
<td>4-spored</td>
<td>3 per cleistothecium</td>
<td>4-5 per cleistothecium</td>
</tr>
<tr>
<td>Ascospores.....</td>
<td>22-24 x 15-17μ</td>
<td>40 x 30μ</td>
<td>5-8-spored</td>
</tr>
</tbody>
</table>

From this comparison it is evident that three closely related yet distinct species are involved. The fungus on Entada is tentatively proposed as a new species of Brasiliomyces until the matter is settled by Prof. Müller's researches.

**Brasiliomyces entadae** Marasas & Rabie, sp. nov.

Plagulae epiphyllae; mycelium superficiarium, albidum, sparse effusum; conidio-phora et conidia non visa. Cleistothecia numerosa, gregaria, globose-depressa, prima hyalina, deinde aurea, non ostiolata sine appendicibus, 47-74μ diam., 32·5-42·5μ alt.;

* The microtome sections were prepared according to the following technique suggested by van Warmelo (personal communication):

A small piece of leaf bearing cleistothecia was embedded in 2 per cent water agar. A small block of agar with the material embedded in it was then fixed in formal-acetic-alcohol (Johansen, 1940) for 24 hours and dehydrated for at least two hours in each of four changes of Cellosolve (2-ethoxy-ethanol) (Gurr, 1956). The dehydrated material was placed in xylene for two hours and embedded in molten wax (B.D.H. Paraffin Wax with Ceresin, congealing point 55°C). Sections of 8μ and 12μ were cut on a Jung rotary microtome and mounted on slides with Haupt's adhesive (Johansen, 1940). The wax was removed by placing the slides in xylene for two hours. The sections were then dehydrated in a mixture of equal parts of absolute alcohol and xylene and stained in Pianeze IIIb (Conn & Darrow, 1946) for 45 minutes. The sections were then washed with 70 per cent ethyl alcohol, briefly differentiated in acid alcohol, washed in 70 per cent alcohol, dehydrated in a mixture of equal parts of alcohol and xylene, cleared in xylene and mounted in Canada Balsam.
parietis ordinis unius cellularum magnarum irregulariter lobatum consistus. Asci in quoque cleistotheccio 5–8, ovati, breviter pedicellati, 5–8-spori, 45–0–52·5 × 25·0–32·5μ. Ascosporeae ellipsoideae, hyalinae, continuae, 15·0–17·5 × 7·5–9·5μ.

Hab. in foliis vivis Entadae spicatae (E. Mey) Druce, Entabeni, Louis Trichardt, Transvaal, Apr. 1964, Marasas & Rabie in PRE 42626 (PRE, holotypus).

Thyriopsis sphaerospora Marasas, sp. nov.

Figs. 9, 10, 11, 12.

Ascostromata scutellate to conical, suborbicular, irregularly tuberculate, amphigenous, subcuticular, black, 280–884μ in diameter, 65–120μ high, producing coralloid, hyaline haustoria in the epidermal cells, guard cells, cells surrounding the stomatal cavity and the first layer of mesophyll cells; unilocular or multilocular, opening by irregular apical fissures exposing the ascospores; upper wall stromatic, composed of several layers of dark brown flattened, very thick-walled cells; basal wall well developed, composed of two layers of cells, the outer layer composed of light brown, relatively thin-walled cells, 5–7·5μ high, which extend laterally for some distance beyond the base of the upper wall as an intracuticular, unicellular layer of radially elongated, hyaline cells, and an inner layer, 5–10μ high, of dark, thick-walled, stromatic cells. Asci parallel on the basal wall between hyaline, deliquescent pseudoparaphyses, broadly clavate, wall thickened, especially at the apex, bitunicate, deliquescent before spore maturation, 28–42·5 × 15–23μ. Ascospores hyaline when immature, becoming dark brown, thick-walled, subglobose to globose, finely verrucose, uni-septate, 10–15 × 10–12·5μ; mature spores collecting in the ascolocular cavity.

On leaves of Eucalyptus camaldulensis Dehn., Nylstroom, Transvaal, Aug. 1963, Marasas in PRE 42659 (PRE, holotype); Nylstroom, Apr. 1964, PRE 42660.

This fungus agrees with the genus Phaeothyriolum (=Micromycothelia sensu Müller & v. Arx, 1962) of the Stigmateaceae as defined by Hansford (1946) in respect of the subcuticular stromata and the coralloid haustoria. However, the structure of the upper walls of its stromata is not radial and the stromata open by irregular fissures and not by definite ostioles as in Phaeothyriolum.

With the key presented by Müller & v. Arx (1962) this fungus can be placed in the Order Dothiorales because of the bitunicate asci and the presence of ascostromata opening by fissures to expose the spores. Within that order it can be placed in the family Leptopeltaceae because of the shield-shaped, subcuticular stromata. Although most members of this family are saprophytes on ferns and conifer needles, some occur on phanerogams (Leptopeltella) and some penetrate the epidermis to form cell complexes or hyphae (Mülleer & v. Arx, 1962). Within the Leptopeltaceae it fits best into the genus Thyriopsis, which is however assumed to be limited to conifer needles by Müller & v. Arx (1962).

The fungus on Eucalyptus agrees with the genus Thyriopsis in the subcuticular, scutellate ascostromata opening by irregular fissures; the basal layer of parallel, broadly clavate, bitunicate asci developing between pseudoparaphyses and the uniseptate ascospores which are dark brown at maturity. The edge cells of the stromata of Thyriopsis halepensis (Cooke) Theiss. & Syd., the only known species of the genus, are radially elongated. The basal wall of the stromata of T. sphaerospora is extended radially as an intracuticular, unicellular layer of radially elongated cells. Numerous haustoria are produced by these radial extensions of the stromata. This can possibly be interpreted as a more highly developed adaptation to the parasitic habit than that found in T. halepensis.
T. sphaerospora differs from the type species of Thyriopsis by having the upper walls of the stromata composed of several layers of stromatic cells and the basal walls well developed and composed of two layers of cells. Furthermore it differs from T. halepensis in that it occurs on a phanerogam (Eucalyptus) and not on conifer needles, in the presence of well developed haustoria and in the characteristically subglobose to globose instead of oblong ascospores.

The author does not consider these differences to be of generic rank and this species on Eucalyptus is thus described as the second species of the genus Thyriopsis

Thyriopsis sphaerospora Marasas, sp. nov.

Ascostromata scutata, orbicularia, irregulariter tuberculata amphigena, subcuticularia, atra, 280-884 μ diam., 65-120 μ alta, haustoriis hyalinis, coralloidibus; unicellularia vel multilocularia, rimis irregularibus dehiscentia, strato tegente ordinum plurum cellularum complanetarum parietibus crassis composito; membrana basali duorum ordinum cellularum composita. Asci paralleli in membrana basali inter pseudoparaphyses hyalinos deliquescentos; lata clavati, bitunicati, octospori, deliquescenti, 28-0-42-5 × 15-23 μ. Ascosporae primum hyalinae, deinde atro-brunneae, subglobosae vel globosae, parietibus crassis, minute verrucolosae, uniseptatae, 10-15 × 10-12-5 μ.

Hab. in foliis Eucalypti camaldulensis Dehn., Nylstroom distr., Transvaal, Marasas in PRE 42659 (PRE, holotypus).

Microcyclus halleriae Marasas & Rabie, sp. nov.

Figs. 3, 15, 16.

Stromata hypophyllous, surrounded by reddish-brown haloes on yellowish discoloured areas of leaf tissue, erumpent, gregarious, irregularly tuberculate, 65-150 μ in diameter, 64-78 μ high; stroma not very well developed, causing a yellowish discolouration of the epidermal cells and the subepidermal layers of mesophyll cells; outer stromatic wall composed of several layers of dark-brown, thick-walled cells, 9-13 × 4-7 μ; attached to the hypostroma over its entire width or becoming narrower to form an indistinct foot, 38-80 μ wide; locules one to six in each stroma, subglobose to ellipsoidal, 32-80 μ wide, 42-58 μ high, opening by an apical, flat, rounded ostiole; filled with hyaline, thin-walled cells which are replaced by the asci. Asci few, ovate or obclavate, ventricose, stipitate, apical wall prominently thickened, a paraphysate, 8-spored, 30-38 × 12-5-17-5 μ. Ascosporae polystichous, oblong-elliptical, hyaline, immature spores uniseptate in the middle, mature spores three-septate, slightly constricted, rounded at both ends, 16-19 × 4-5 μ.


This fungus is not a typical representative of the genus Microcyclus and differs from the species of this genus described by Doidge (1948), Müller & Sanwal (1954) Vital (1956), Tilak (1959) and Müller & v. Arx (1962) in a number of characters.

The stroma is not connected with the hypostroma by a definite foot; the asci are ventricose and not clavate to cylindrical as in most of the other species; the spores become three-septate when mature.

It resembles other species of Microcyclus in the presence of erumpent, tuberculate, uni- or multi-locular stromata, the absence of paraphysoids, the immature one-septate spores of which each cell is later divided by a septum so that the mature spores are four-celled (see Fig. 3). This process appears to be similar to the division of contents
(Inhaltsteilung) described by Sydow (1939) as taking place in the ascospores of Gilletiella chusqueae. Gilletiella was however considered a didymosporous genus of the Pleosporaceae by Müller & v. Arx (1962) although some spores may have more than one septum.

This fungus is somewhat intermediate between Mycosphaerella and Microcyclus but because definite loculate stromata are present, it is placed in the latter genus rather than in Mycosphaerella. As this species differs in all respects from those described previously, it is proposed as a new species of Microcyclus:

**Microcyclus halleriae** Marasas & Rabie, sp. nov.


Hab. in foliis vivis Halleriae lucidae L., Entabeni, Louis Trichardt, Transvaal, Marasas & Rabie in PRE 42687 (PRE, holotypus).

**Phyllachora ehrhartae** Marasas, sp. nov.

Figs. 2, 13, 14.

Ascostromata amphigenous in straw-coloured discoloured areas, the whole leaf dying later and becoming straw-coloured, shiny-black, scattered, well-defined, convex, lengthened, oblong to ellipsoidal or irregular in outline, developing parallel to the veins, 0·5–2·5 × 0·2–0·5 mm. Clypeus well developed on both sides of the leaf but extending through more cells of the abaxial epidermis, completely filling the infected epidermal cells, very dense, opaque, black, 6·5–19 μ thick; stroma in the mesophyll rather poorly developed. Perithecia one to nine in each stroma, ellipsoid, occupying the entire thickness of the leaf, 109–330 μ in diameter, 109–182 μ high; ostiole, completely immersed in the clypeus, periphysate; perithecial wall well defined, merging above and below with the clypeus, brown, concentric fibrose, 6·5–12·5 μ thick. Ascii cylindrical, rounded at the apex, attenuated below to a short, straight or geniculate pedicel, paraphysate, eight-spored, 64–80 × 9·5 μ; paraphyses numerous, filiform, branched, hyaline, 1–2 μ in diameter. Ascospores obliquely monostichous, subglobose to broadly oval, hyaline, continuous, 6·5–13 × 5·0–6·5 μ.

On living leaves of Ehrharta erecta Lam., Mariepskop, Pilgrims Rest distr., Dec. 1963, Marasas in PRE 42628 (PRE, holotype); Entabeni, Louis Trichardt, Apr. 1964, PRE 42629.

According to Dr. D. G. Parberry (personal communication), Phyllachora species are usually confined to hosts in one or a few closely related tribes of grasses. At present the genera Ehrharta, Tetrarhena, Microlaena and Petriella are generally included in the tribe Ehrhartae (Tateoka, 1963). Only one record of a Phyllachora sp. on any one of these genera could be traced. Doidge (1950) cited: " ?Phyllachora sp. (Syn. Sphaeria graminis Pers. var. ehrhartae Berk.) on Ehrharta sp., Uitenhage Drège 83 ". This fungus was actually described by Berkeley (1843) from Zeyher 83 and not Drège 83 as cited by Doidge (1950). The asci were described as clavate, swollen in the middle, apiculate and with a double row of oblong-ovate spores. No material of this fungus is available in the Mycological Herbarium, Pretoria and it was not included in the
Sylloge Fungorum or in the treatise by Theissen & Sydow (1915). According to Berkeley’s description, it also differs from the present collection in the characters of the asci and ascospores. As no other species of *Phyllachora* are known on the tribe Ehrharteae, it was considered necessary to propose a new species:

*Phyllachora ehrhartae* Marasas, sp. nov.

Ascostromata amphigena, sine maculis definitis decoloratione flavobrunnea cincta, atra, nitida, sparsa, convexa, oblonga vel ellipsioidea aut irregularia, venis parallela evoluta, 0·5-2·5 × 0·2-0·5 mm; clypeo amphigeno bene evoluto sed in epidermide hypophyllo per plus cellulas extento, 6·5-19·0μ crasso. Perithecia in quoque stromate 1-9, ellipsoida, 10-330μ diam., 109-182μ alta; ostiolo plano, papilliformi, in clypeo omnino immerso; pariete perithecii 6·5-12·5μ crasso, brunneo, concentrice fibroso. Asci cylindracei, superne rotundati, inferne pedicello breve recto vel geniculato, octospori, 64-80 × 9·5μ; paraphyses numerosae, filiformes, ramosae, hyalinae, 1-2μ crassae. Ascosporia oblique monostichae, subglobosae vel late ovatae, hyalinae, continuae, 6·5-13 × 5·0-6·5μ.

Hab. in foliis vivis *Ehrhartae erectae*, Mariepskop, Pilgrims Rest distr., Transvaal, Marasas in PRE 42628 (PRE, holotypus).

Trichopeltum africanum Batista & Marasas, sp. nov.

Figs. 4, 6.

Free mycelium forming an epiphyllous, thalloid mycelial membrane; membrane radiate, prosenchymatous, linear, branched, brown-black, single or coalescing, 75-310μ broad, composed of narrow rectangular cells, 5·5-11·0 × 3·0-3·5μ. Ascostromata formed under the mycelial membrane by pycnosis, applanately hemispherical, dimidiate, darker than the membrane, 115-192μ in diameter; upper wall composed of two layers of cells, 9-11μ thick; basal wall inconspicuous. Asci ellipsoid to subclavate, broadly rounded at the apex, apical wall thickened, briefly stipitate, eight-spored, ap paraphysate, 28-33 × 10-16·5μ. Ascospores polystichous, oblong-clavate, straight, hyaline, one- to four-septate, slightly constricted, 10-15 × 4μ.

On leaves of *Clivia* sp., Mariepskop, Pilgrims Rest distr., Transvaal, 1962, Marasas & Rabie in PRE 42707 (PRE, holotype).

Also present: *Vitalia ekmanii* (Petr. & Cif.) Bat. & Cif. (PRE 42708).

Batista, Costa & Ciferri (1957) proposed the new genus *Trichopeltum* as a substitute for *Trichopeltis* Speg., which is a synonym of *Trichothyrium* according to Hughes (1953). The genus *Trichopeltum* accommodates fungi belonging to the Trichopeltinaceae sensu Batista, Costa & Ciferri and having a linear mycelial membrane, hyalophragmospores and lacking paraphysoids. In the genus *Trichopeltum* the ascostromata develop beneath the mycelial membrane by pycnosis and in this character it differs from *Trichothyrium* which has superficial ascostromata.

Two species of *Trichopeltula* were described by Doidge (1922). The genus *Trichopeltula* Theissen was considered to be a synonym of *Trichopeltis* by Clements & Shear (1931). *Trichopeltis* is however a synonym of *Trichothyrium* (Hughes, 1953). The type of the genus *Trichopeltula* (*T. hedycaryae* Theiss.) will have to be examined to determine whether it belongs in *Trichothyrium* or in the Trichopeltinaceae. *Trichopeltula* Theissen (Zentr. Bakteriol. 39: 636, 1914), is not a valid name because it is a later homonym of *Trichopeltulum* Speg. (Fung. Puigg. No. 342, 1889). If *Trichopeltula hedycaryae* is found to belong in the Trichopeltinaceae it may probably be placed in the genus *Trichopeltum*. 
The types of *Trichopeltula carissae* Doidge and *T. kentaniensis* Doidge in the Mycological Herbarium, Pretoria were examined. The asciostromata of both these species develop underneath the mycelial membrane. Accordingly the following new combinations are proposed for these two species: *Trichopeltum carissae* (Doidge) Marasas, comb. nov. (*Trichopeltula carissae* Doidge in Bothalia 1: 78. 1922) and *Trichopeltum kentaniensis* (Doidge) Marasas, comb. nov. (*Trichopeltula kentaniensis* Doidge in Bothalia 1: 79. 1922).

The fungus on *Clivia* is closely related to both these species and appears to be somewhat intermediate between them. These two species and PRE 42707 differ from the type of the genus (*Trichopeltum hawaiiensis* Bat. & Costa) in that their mycelial membranes are branched, the asciostromata are ostiolate and the spores are four-septate. Because the author’s collection cannot be satisfactorily placed in any one of these species and was also collected on a hitherto unreported host, it is described as a new species: *Trichopeltum africanum* Batista & Marasas, sp. nov.

**Thallus epiphyllus, ramosus, vittaeformis; vittae brunneo-atra, radiato-prosenchymaticae, 75—310 // latae, cellulis anguste rectangularibus, 5·5–11 × 3–3·5 //. Asciostromata sub thallo formata, applanato-hemisphaerica, thallo ateriora, 115–192 // diametro; ostiolo rotundato, 7·5–11 // diametro; paries superus ordinum duorum cellularum consistus. Asci ellipsoidei vel subclavati, hyaline, supra late rotundati, breviter pedicellati, octospori, 28–33 × 10–16·5 //. Ascosporae polystichae, oblongoclavatae, rectae, hyalinae, 1–4-septatae, leviter constrictae, 10–15 × 4 //.

Hab. in foliis *Cliviae* sp., Mariepskop, Pilgrims Rest distr., Transvaal, 1962, Marasas & Rabie in PRE 42707 (PRE, holotypus).

**Oncostroma** Batista & Marasas, gen. nov.

Mycelium superficial, brown, with hyphae radiating from the pycnostromata to form a loose mycelial network. Pycnostromata superficial, developing underneath the mycelial network, brown-blackish, membranous, uni- or bi-loculate, ostiole not defined. Conidiophores subulate, hyaline, simple or branched, at first continuous later becoming septate. Pycnidiospores ellipsoid to fusoid, continuous, smooth, hyaline.

**Type:** *Oncostroma toddaliae* Batista & Marasas.

**Etym.:** Gr. ὄγkos = bulk, mass and stroma.

**Oncostroma** Batista & Marasas, Sphaeropsidaecearum.

**Typos:** *Oncostroma toddaliae* Batista & Marasas.

**Oncostroma toddaliae** Batista & Marasas, sp. nov.

**Fig. 7, 8.**

Mycelium hypophyllous, superficial, composed of sparingly branched, few septate, brown hyphae, 2·5–4 // wide, radiating from the pycnostromata to form a loose mycelial network; haustoria coralloid, hyaline to olivaceous, developing in the leaf glands only. Pycnostromata formed underneath the mycelial network, brown-blackish, uni- or bi-loculate, without a defined ostiole, 144–384 // in diameter; walls stromatic, pseudo-parenchymatic, soft, composed of subglobose cells, 2–4·5 // in diameter. Conidiophores
subulate, hyaline, simple or branched, at first continuous but becoming septate, 4·0–7·5 × 1·5–3·0µ. Pycnidiospores abundant, ellipsoid or fusoid, continuous, smooth, hyaline, 7·5–12·5 × 2·0–2·5µ.


The stromata develop over the leaf glands and coralloid haustoria are present in the cells of these glands. For these reasons it is assumed that *Oncostroma toddaliae* is parasitic on leaf glands.

The new genus *Oncostroma* does not appear to be closely related to any other genus of stromatic Sphaeropsidaceae. The closest genera according to the key presented by Clements & Shear (1931) are *Phellostroma* and *Ascochytopsis*. The pycnostromata of *Phellostroma* are however, suberose and the conidia are falcate. According to the key presented by Barnett (1960), the new genus approximates *Creothryriella*, but the pycnostromata of the latter genus contain several well defined, globose loculi and catenate conidia.

The genus *Oncostroma* is characterised by the one- or two-loculate pycnostromata developing beneath the mycelial network, the haustoria in the leaf glands, the subulate conidiophores and the one-celled, hyaline, ellipsoid or fusoid pycnidiospores.

*Oncostroma toddaliae* Batista & Marasas, sp. nov.

Mycelium hypophyllum, superficiale, hyphis ab pycnostromatibus radiatis, paulo ramosis, paulo septatis, brunneis, 2·5–4·0µ latis, haustoriis in glandis foliorum, coralloidibus, hyalinis vel olivaceis. Pycnostromata superficialeia, sub reticulo hypharum, brunneo-atra, uni- vel biloculata, sine ostiolo definito, pseudoparenchymatica, mollia, 144–384µ diam., ex cellulis subglobosis, 2·4–5µ diam. composita. Conidiophorae subulatae, hyaline, simplices vel ramosae, primum continuae deinde septatae, 4·7–5 × 1·5–3µ. Pycnidiosporae copiosae, ellipsoidae vel fusoidae, continuae, hyalinae, leves, 7·5–12·5 × 2·0–2·5µ.

Hab. in foliis vivis *Toddaliae asiatica* (L.) Lam., Mariepskop, Pilgrim’s Rest distr., Transvaal, Marasas & Rabie in PRE 42662 (PRE, holotypus).

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REFERENCES


EXPLANATION OF FIGURES

Fig. 1–4.—Fig. 1. Brasiliomyces entadae, (a) asccarp; (b) ascus; (c) ascospores; (d) five asci being released from a squashed asccarp. Fig. 2. Phyllachora ehrhartae, (a) asc; (b) ascospores. Fig. 3. Microcyclus halleriæ, (a) asc; (b) immature and mature spores. Fig. 4. Trichopeltum africanum, (a) part of mycelial membrane showing a portion of an ascostroma; (b) ascospores; (c) asc.

Fig. 5–8.—Fig. 5. Brasiliomyces entadae, cleistothecia, × 500. Fig. 6. Trichopeltum africanum, mycelial membrane with ascostroma, × 125. Fig. 7, 8. Oncostroma toddaliae. Fig. 7. Pycnidia under hyphal network, × 125. Fig. 8. Pycnidiospores, × 500.

Fig. 9–12.—Thyriopsis sphaerospora. Fig. 9. Cross section of biloculate ascostroma, × 156. Fig. 10. Fig. 11. Cross section of stroma showing covering and basal membranes and ascospores in deliquescent asc, × 625. Fig. 11. Ascostromata on leaf surface, × 400. Fig. 12. Ascospores, × 1250.

Fig. 13–16.—Fig. 13. Longitudinal section of stroma showing five perithecia, × 156. Fig. 14. Cross section of stroma, × 400. Fig. 15. Microcyclus halleriæ. Fig. 15. Cross section of uniloculate stroma, × 500. Fig. 16. Cross section of stroma showing three loculi, × 625.