Microfungi associated with *Podocarpus* leaf litter in South Africa

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Received 8 September 1995; revised 24 November 1995

Nine microfungi are listed from leaf litter of *Podocarpus* spp. New species include *Chaetopsis mellitoluinae* Crous & Seifert, *Rhinitrichella elegans* R.F. Castañeda & Crous, *Parasympodiella podocarpi* Crous & Seifert, *Guignardia podocarpi* Crous and its probable anamorph *Phyllosticta podocarpi* Crous. A key is provided to distinguish the accepted species of *Parasympodiella*, *Gyrothrix verticillata* (Goerd.) S. Hughes & Piroz., which was found to be morphologically variable, is discussed in detail. New records for South Africa include *Camposporium antennatrum* Harkn., *Dactylaria irregularis* de Hoog, *Endophragmiella boewei* (J.L. Crane) S. Hughes, and *Phaeoisaria clematidis* (Fuckel) S. Hughes.

Keywords: Follicolous fungi, *Chaetopsis mellitoluinae*, *Guignardia podocarpi*, *Parasympodiella podocarpi*, *Phyllosticta podocarpi*, *Rhinitrichella elegans*, *Podocarpus*, taxonomy, new species.

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Introduction

The follicolous microfungi occurring on woody hosts in South Africa have been poorly studied. However, progress has been made on fungi occurring on genera such as *Eucalyptus* L'Hérit. and *Syzygium* Gaertn. in the Myrtaceae (Crous 1993; Crous & van der Linde 1993; Crous et al. 1995). On *Podocarpus* L'Hérit. ex Pers. species, which are endemic to South Africa, only a few foliar fungi have been recorded (Doige 1950).

The aim of the present study was to collect leaf litter of the various *Podocarpus* spp. at Kirstenbosch and Stellenbosch botanical gardens, as well as from Knysna, where these trees occur in their natural environment. Three species were commonly encountered, namely *P. henkelii* Stapf ex Dallim. & Jacobs., *P. elongatus* (Ait.) L'Hérit. ex Pers. and *P. latifolius* (Thunb.) R. Br. ex Mirb. Of these, leaf litter of *P. henkelii* proved to have hardly any microfungi, whereas litter of the other two were particularly rewarding. Several of the fungi isolated proved to be new records for South Africa, or apparently undescribed taxa. Four new species are described, and five listed as new records. Several fungi correlating closely with their original descriptions are merely listed, while other more variable taxa are discussed in detail.

Materials and Methods

Leaf litter samples were incubated in Petri dish moist chambers at 25°C on the laboratory bench, and examined at regular intervals for the presence of microfungi. Single-conidial isolates were made on 2% malt extract agar (MEA) (Oxoid), and plated onto fresh MEA and carnation-leaf agar (CLA) (Crous et al. 1992) plates, incubated at 25°C under near-ultraviolet light, and examined. Cardinal temperature requirements for growth were determined after 8 days at 5–35°C in 5° intervals, with three replicate plates per temperature. The experiment was repeated once. Mounts were prepared in lactophenol, and measurements were made at 1000× magnification. Averages were derived from at least 30 observations, and the range is given in parentheses. Unless otherwise noted, all microscopic structures are hyaline with smooth, thin walls. Descriptions are based on living material from the natural substrata unless otherwise noted.

Taxonomy

*Chaetopsis mellitoluinae* Crous & Seifert sp. nov. (Figure 1)

Mycelium consists in hyphus ramosis septates in vitro, 1.5–2.5 μm diam. Conidiophora setiformia, recta, parietibus crassiss (basi usque ad 2 μm), apicem versus verrucosa, 8–16-septata, 180–360 μm longa, 3–4 μm lata ad septum subapicale, 6–10 μm lata ad septum basale, lutea, pallidiora vel hyalina supra regionem conidiogram, 2–6 aggregata in stroma cellularum brunneurn; apicibus saepe fertili-bus in vitro. Cellulae conidiogeneae monophialidicae, rare polyphialidicae in vitro, ampulliformes, 8–13 × 3–4 μm, collis inconspicuous divergentibus vel cylindricis usque ad 2 μm longis; saepe in hyphus in vitro dispositae. Conidia non-septate, cylindrica, recta, in apice obtusa vel acuta, basim obtusa hilo parvo complanato, (11–)14–17 × (1.5–)2(–3) μm, in massis mucosis aggregata.

Mycelium consisting of branched, septate, hyphae in vitro, 1.5–2.5 μm diam. Conidiophores setiform, straight, thick-walled (up to 2 μm at base), becoming verrucose at apex, 8–16-septate, 180–360 μm long, 3–4 μm wide at subapical septum, 6–10 μm wide at basal septum, yellow, becoming pale yellow to hyaline above conidiogenous region; most conidiophores with equivalent, appressed lateral branches near the mid-point, which sometimes branch again, giving rise to phialidic conidiogenous cells directly, or to branches that are cylindrical, ellipsoid or globose and 4–6 μm long; conidiophores aggregated in groups of 2–6 on a stroma of brown cells on CLA; conidiophore apices frequently becoming fertile in vitro. Conidiogenous cells monophialidic, rarely polyphialidic in vitro, ampulliform; 8–13 × 3–4 μm, collarettes inconspicuous, divergent or cylindrical, up to 2 μm long; occurring singly, in pairs or whorls on branches, sometimes singly at the apex of the setae, or directly on mycelial hyphae in vitro. Conidia non-septate, cylindrical, straight, with apex obtuse to slightly acute, base obtuse with a small flattened hilum, (11–)14–17 × (1.5–)2(–3) μm on CLA, aggregated in slimy masses.

Colonies on MEA attain a radius of 8–9 mm after 8 days at 20°C in the dark. Cultures are shiny with sparse aerial mycelium; initially white, turning orange. Cardinal temperatures for growth are minimum: above 5°C, optimum: 20°C, and maximum: below 35°C.
Specimen examined: Southern Cape, Knysna, 'big tree', Podo-
1995, PREM 51901 (holotype), DAOM 221070, culture STE-U
891.

Chaetopsis mellitolutanae is morphologically similar to C.
nimbae Ant. Rambelli, which was described from Lophira alata
Banks ex Gaertn. collected in south-western Africa (Merli et al.
1992). The present collection closely matched the original
description in its yellow conidiophores and conidial dimensions.
An examination of the type specimen (ROBB 138 A) proved C.
nimbae to be distinct from our collection. Conidiophores of C.
mellitolutanae are generally straight, not curved, and the conidi-
genous cells are not restricted to only one side of the conidio-

phore. Furthermore, the conidiophores are lighter in colour and
taper to more bluntly rounded apices, whereas those of C. nimb-
bae are yellow-brown (in vivo), and have more acute apices.
Phialides and conidiophore branches are also slightly larger, and
cultures are generally lighter in colour on potato-dextrose agar
than reported for C. nimbae. Conidiogenous cells are either mono-
or polyphialdic, and in culture on CLA some setal conidi-
ophores have fertile setal apices, as reported for C. fulva Ant.
Rambelli by Merli et al. (1992).

Guignardia podocarpi Crous sp. nov. (Figure 2)
Mycelium immersum, consistens in hyphis septatis, ramosis, laevi-
bus, mediobrunneis, 5–8 μm diam. Asccarpi sparsi, immerse, sub-

Figure 1  Chaetopsis mellitolutanae (PREM 51901). A. Conidiophores in vivo. B. Setal apices becoming fertile in vitro. C. Conidia and conidiogenous cells on a conidiophore and hypha in vitro (bar = 10 μm).
globosi, usque ad 200 μm diam. et 150 μm alti, inter pycnidia, atrobrunnei, solitarii, uniloculares, collo prominenti; partites 3–6 cellulis crassis, ex textura angulare medio vel atro brunnea, 10–20 × 5–6 μm. Asci clavati vel cylindrici, biniunciati, 8-spore, 60–85 × 14–18 μm. Ascosporae hyalinae, guttulatae, unicellularae, (19–)20(–23) × (7–)8(–9) μm, fusiformes vel ellipsoideae, latiores in mediano, in apice obtusae appendice gelatinae exhibentes.

Mycelium immersed, consisting of septate, branched, medium-brown hyphae, 5–8 μm diam. Asccarcps sparse, immersed, subepidermal, subglobose, up to 200 μm diam. and 150 μm in height, intermixed amongst pycnidia, dark brown, solitary, uni-locular with a prominent neck; wall consisting of 3–6 layers of textura angularis, cells 10–20 × 5–6 mm, medium to dark brown. Asci clavate to cylindrical bitunicate, 8-spored, 60–85 × 14–18 μm. Ascospores evenly distributed in asci, hyaline, guttulate, unicellular, (19–)20(–23) × (7–)8(–9) μm, fusiform-ellipsoidal, wider in middle, guttulate, ends obtuse with polar gelatinous appendages.

**Figure 2** Guignardia podocarpi (PREM 51902). A. Bitunicate asci and guttulate ascospores with mucous caps. The horizontal line in the second ascospore is a fold in the exterior cell wall, presumably induced during slide preparation. B. Vertical section through a pseudothecium (bars = 10 μm).

**Specimen examined:** Western Cape Province, Stellenbosch, Botanical Garden, Podocarpus elongatus leaf litter, P.W. Crous, Jun. 1994, PREM 51902 (holotype).

As far as we could establish, no taxa of this group have been described from Podocarpus. Pseudothecia of *G. podocarpi* occurred on several leaves in close association with pycnidial conidiomata of a Phyllosticta species and a Leptodothiorella Höhn. microconidial synanamorph. In his review of the genus, van der Aa (1973) accepted that different Phyllosticta species are generally associated with different hosts. As Phyllosticta spp. are well established anamorphs of Guignardia (Bissett 1986a, 1986b), this species is subsequently described below as the suspected anamorph of *G. podocarpi*.

**Phyllosticta podocarpi** Crous sp. nov. (Figure 3)

Conidiomata pycnidialia, dispersa, immersa, subepidermalia, erumpescetia, subglobo, solitarii, unilocularia, usque ad 60 μm diam.,

Conidiomata pyenidial, scattered, immersed, subepidermal, becoming erumpent, subglobosus, solitary, unilocular, up to 60 µm diam, and 90 µm high; wall composed of 3–4 layers of brown cells of textura angularis, 7–20 × 4–7 µm, and an inner layer of flattened cells. Conidiogenous cells cylindrical, 7–12 × 3–5 µm, with 1–3 inconspicuous percurrent proliferations at the apex. Conidia unicellular, guttulate, broadly ellipsoidal to sub-globose, (10–)14–(17) × (8–)9–(10) µm with persistent mucous coats, ca. 1 µm thick; apical appendages 10–40 µm long, ca. 1.5–2 µm diam. at the base, tapering to an acutely rounded apex. Microconidia exuding as white cirri from immersed, subepidermal pyenidial conidiomata. Microconidiophores irregularly branched, 0–2-septate, 10–25 × 3–4 µm. Microconidiogenous cells cylindrical, with prominent periclinal thickening, 7–11 × 3–3.5 µm. Microconidia bacillaria with swollen, obtuse ends, unicellular, (6–)10 (–11) × (2–)2.5 (–3) µm.


Parasypodiella podocarpì Crous & Seifert sp. nov. (Figure 4)

Mycelium ex hyphis septatis, ramosis, laevibus, olivaceis vel brun-neis, 2–4 µm diam compositum. Conidiophora mononematosa, macronematosa, non ramosa, cylindrica, recta, parietibus crassis, basim brunnea et subtiliter verrucosa, palliádora et laeviora versus regionem conidiogerem versus basim 10–14 µm lata, apicem 6–11 µm lata, regione fertili terminantia, 95–270 µm longa et 8–14 µm
Parasymodiella podocarpi (PREM 51904). Conidiophores and conidia in vivo (A), and in vitro on CLA (B) (bar = 10 μm).

Mycelium consisting of septate, branched, smooth, olivaceous to brown hyphae, 2–4 μm diam. Conidiophores mononematous, macronematous, unbranched, cylindrical, straight, thick-walled (up to 1.5 μm), dark brown and finely verrucose at the base, becoming smoother and lighter brown towards the conidiogenous region, 10–14 μm wide at the apex, terminating in a smooth fertile region, 95–270 μm long and 8–14 μm wide, 4–11-septate (in vivo), giving rise to chains of conidia; conidiophores up to 1 000 μm in length in vitro. Conidiogenous cells terminal, integrated, indeterminate, irregularly sympodial, 25–65 × 5–6 μm, light brown to hyaline, with 5–65 μm between conidiogenous loci. Conidia holothallic, dry, catenate, guttulate, straight to slightly curved, cylindrical, apex and base of intercalary conidia truncate, apical conidia with obverse apices and truncate bases, (0–)3–7– septate, (30–)62–140 × (6–)7–9 μm in vivo, 1–3–septate, (30–)45–70 × (5–)8–14 μm in vitro; conidial chains appear sinuous as the conidia are developing.

Colonies on MEA attain a radius of 4–6 mm after 6 days at 15°C in the dark. Cultures are diffuse, spreading, with irregular margins of black fascicles of hyphae, extending beneath the agar surface, forming swollen, brown, chlamydospore-like cells, 12–25 × 8–15 μm; colony centres are dark brown to black with sparse aerial mycelium. Cardinal temperatures for growth are minimum: below 10°C, optimum: 15°C, and maximum: below 30°C.


Of the remaining described species of Parasymodiella Ponnapa with conidia devoid of septal plugs, P. podocarpi is most similar to P. elongata Crous, M.J. Wingf. & W.B. Kendr. (1995), P. minima J.L. Crane & Schokn. (1982), P. clarkii B. Sutton (1978) and P. longispora (Tokum. & Tubaki) Tokum. However, it can easily be distinguished from P. elongata (20–40 × 6–12 μm; 0–2-septate), P. minima (11. 5–14.5 × 1. 5–2 μm; 3-septate), and P. clarkii (15–19 × 2.5–3 μm; 3-septate) which all have smaller conidia. In conidial dimensions, P. podocarpi is most similar to P. longispora, which produces 1–3-septate conidia in vitro, 32–68 × 9–15 μm (Tokumasu & Tubaki 1983), rather similar to
those we report for *P. podocarpi*. In culture, conidia of the type strain (CBS 544.84) produced 1–2(–5)-septate conidia, 35–130 × 6–9 μm. Chlamydospore-like structures were also observed to occur in the conidiophores (as nodal swellings) and in the mycelium. The growth rate of *P. longispora* at 25°C is 6 cm in 10 days, whereas that of *P. podocarpi* is reported to be 1–3 mm after 10 days at this temperature. Furthermore, although *P. longispora* produces abundant chlamydospores on malt agar (Tokumasu & Tubaki 1983), *P. podocarpi* only exhibited sparse chlamydospore formation, embedded in the agar of old cultures. Sutton et al. (1982) reported the presence of a *Stylaspegillus* B. Sutton et al. synanamorph for *P. laxa* (Subram & Vittal) Ponnapa. Tokumasu (1987) reported a similar *Stylaspegillus* anamorph from needles of *Pinus* in Japan that also had *P. longispora* present, but he was unable to confirm the connection in culture because conidia of the former anamorph did not germinate. We have not observed such a synanamorph in our cultures or specimens of *P. podocarpi*.

Discrepancies between conidiophore proliferation, conidial septation and conidial dimensions observed in vitro and in vivo for *P. podocarpi* bring to light problems in describing species from cultures alone. Although pure cultures can be grown under standardized conditions and thus make careful comparisons possible, there is a tendency for variation to occur in culture for some fungi. In many fungi with phragmoconidia, for example, conidia produced in culture have fewer septa than those produced in nature. In the cercosporoid complex, however, conidia again tend to be longer and develop numerous septa in culture (Crous et al. 1989). In contrast to *P. longispora*, cultures of *P. podocarpi* had shorter conidia and longer conidiophores than observed in nature.

A key to distinguish the species presently accepted in *Parasympodiella* is provided below.

**Key to species**

1. Conidia 3-septate, less than 20 μm in length ........................................ 2
2. Conidia if 3-septate, longer than 20 μm ........................................ 3
   Conidia 11.5–14.5 × 1.5–2 μm ........................................ *P. minima*
   Conidia 15–19 × 2.5–3 μm ........................................ *P. clarkii*
3. Conidia 3-septate with punctiform septal plugs, 18–50 × 6–8 μm .................. *P. laxa*
4. Conidia 3–4-septate, 31–33 × 2 μm ........................................ *P. africana*
   Conidia 0–multi-septate, more than 5 μm wide ................................ 5
5. Conidia 0–2-septate, 20–40 × 6–12 μm ........................................ *P. elongata*
   Conidia with 1–5 septa on MEA, up to 70 μm long ................................ 6
   Conidia 30–140 × 6–9 μm in vivo, 30–70 × 5–14 μm in vitro, chlamydospores sparse, embedded in agar, 12–25 × 8–15 μm, growth stunted at 25°C, occurring on *Podocarpus* .................................................. *P. podocarpi*

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**Figure 5** Setae, conidia and conidiogenous cells of *Gyrothrix verticiclada in vitro* on MEA (PREM 51906) (bar 10 = μm).


Mycelium immersed and superficial, consisting of branched, septate, hyaline to brown hyphae, 1.5–3 μm diam.; forming a large stroma consisting of smooth, brown, isodiametric cells on which the setae and conidigenous cells are situated. The stroma is embedded in the host tissue (Hughes & Pirozynski 1971), or is formed beneath the agar surface in culture, giving colonies a dark brown to black appearance; strains lose some of their ability to form stromatic tissue with subsequent subculturing. Setae straight, erect, thick-walled, dark brown, becoming lighter brown in the upper two cells, occurring singly, or arranged in tight clusters, 50–80 μm tall (measured from base to below primary branch), 3.5–6 μm wide (at first basal septum), 4–7-septate, seldom unbranched, frequently branching at the same locus to form 2–6 lateral branches nearly equal in length, 10–50 × 4–6 μm, 1–3-septate, primary branches sometimes branch dichotomously to form secondary branches, 17–35 × 3.5–4 μm, 1–3-septate; branch apices obtuse when immature, becoming swollen and fertile via small denticles or bumps, finally bursting open to appear like collarettes typical of phialides of Dictyoachaeta Speg. spp. Conidigenous cells smooth, olivaceous, irregular, straight, or geniculate-sinuous, amorphiform to lageniform, 5–10 × 3–4 μm in vivo, 10–23 × 3–4.5 μm in vitro, giving rise to conidia via inconspicuous annelations. Conidia forming in a slimy mass around the base of setae (rarely at branch apices), hyaline, falcate, tapering to blunt apices, non-septate with a few minute guttules, (15–)17–(21) × (1.5–)2 μm.

Colonies on 2% malt-extract agar (MEA) attain a radius of 8–11 mm after 8 days at 25°C in the dark. Cultures are dark brown to black with little aerial mycelium on MEA. Cardinal temperatures for growth are minimum: below 10°C, and maximum: below 30°C.


This fungus was originally described in Italy from leaf litter of Laurus nobilis L. and Prunus cerasus L. by Goidanich (1935), who erected a new genus Peglionia Goid. with P. verticiclada as type. Verona and Benedek (1967) commented that this fungus closely resembled species of Gyrothrix (Corda) Corda and Circinotrichum Nees. In 1963 two collections of this fungus were obtained from Knightia excelsa R. Br. in New Zealand. In a subsequent study, Hughes & Pirozynski (1971) reduced Peglionia to synonymy with Gyrothrix, and also introduced a new name for this species as G. verticiclada (Goid.) S. Hughes & Piroz. The latter decision was chiefly based upon the branched setae present in both Peglionia and Gyrothrix, but that are lacking in Circinotrichum. In these genera, conidia are formed on conidigenous cells that are situated around the base of the setae. The exact mode of conidigenesis is unclear, but minute annelations can be seen at the apices of conidigenous cells in Circinotrichum and Gyrothrix (Ellis 1971) (Figure 7). Furthermore, Castañeda and Kendrick (1990) introduced the genus Selenodrephys Castañeda & W.B. Kendr. for species with minute denticles at the apices of their conidigenous cells (Figure 8). In G. verticiclada, however, we could distinguish indistinct annelations at the apices of conidigenous cells (Figures 9–13). Conidia were observed to be borne in whorls of 2–6 at the apices of conidigenous cells. In a scanning electron microscopy study of the conidigenesis of Gyrothrix cinnabarita (Berk. & M.A. Curtis) S. Hughes, Nakagiri and Ito (1991) illustrated the same arrangement of conidia. Conidigenous cells were shown to have a collarette, with several denticle-like structures situated within the apex of the conidigenous cell. These illustrations suggest, therefore, that the first conidium is probably produced holoblastically, and that the flat-tipped structures may be a compressed form of percurrent proliferation. The proliferation period of ontogeny is reduced, giving rise to inconspicuous scars on the apex within the collarette. Conidia then develop laterally to each other, and are borne in whorls as also seen in G. verticiclada. Onofri (1995) showed a similar mode of conidigenesis in a culture of Circinotrichum maculiforme Nees, where the first conidium is produced holoblastically. Additional conidia are produced enteroblastically, with several loci forming laterally on the enteroblastic wall of the conidigenous cell, appearing as small, flat-tipped scars in the illustrations of Nakagiri and Ito (1991) for G. cinnabarita.

A closer examination of the apices of the dichotomously branching setae of G. verticiclada showed them to frequently become swollen, and to be open at maturity, appearing like a giant phialide. When young material is studied, however, small denticles are observed at the branch apices, to which conidia are attached in clusters. With age, these apices become swollen to the outside, whereupon they burst, appearing like an open phialide with a flared collarette, somewhat resembling that of the genus Dictyoachaeta.

Figure 6 Conidia and conidiophores of Rhinotrichella elegans (PREM 51905) (bar 10 μm).
**Rhinitrichella elegans** R.F. Castañeda & Crous sp. nov. (Figures 6, 14)

Mycelium copiosum, ex hyphis septatis, ramosis, laevisus, hyalinis, 1.5–2 μm diam. compositum. Conidiophora conspicua mononematosa, erecta, flexuosa, simplicia, interdum ramosa, cylindrica, septata, apice leviter geniculata, hyalina, basim 300–780 μm alta et 4–6.5(–8) μm crassa. Cellulae conidiogeneae polyblasticae, terminales et intercalares, sympodialiter extendentes, in conidiophoris incorporatae, incoloratae, denticulate, denticulis conspicuis, cylindricis, transluxicis, 1–2 μm longis praeditae. Conidia obovata, interdum obpyriformia vel ellipsoidoidea, minime verrucosa vel levia, primo hyalina, tarde pallide brunnea vel dilute cinnabarina, unicellularia, acropleurogena, sicca, (19)–29(–37) × (14)–18.5(–22) μm ad basim rotunda, appendice, truncato, translucido, conspicuo, 1–2.5 μm longo (reliquis cellularum conidiogeri) praedita. Teleomorphosis ignota.

Mycelium abundant in culture, composed of septate, branched hyphae, 1.5–2 μm diam. Conidiophores undifferentiated, mononematous, erect, flexuous, mostly unbranched, cylindrical septate, slightly geniculate at the apex, colourless, 300–700 μm tall; 4–6.5(–8) μm wide at the base. Conidiogenous cells polyblastic, terminal and intercalary, proliferating sympodially, integrated, denticulate, with conspicuous, cylindrical denticles, 1–2 μm long. Conidia obovata, sometimes obpyriform or ellipsoid, finely verrucose to smooth-walled, initially hyaline, becoming pale brown to orange-red, thick-walled, 0-septate, acropleurogenous, dry, (19)–29(–37) × (14)–18.5(–22) μm, base rounded but with a conspicuous, clear, truncate, hyaline appendage (remains of the conidiogenous cell), 1–2.5 μm long. Teleomorph unknown.

Colonies on MEA attain a radius of 18–30 mm after 8 days at 15°C in the dark. Cultures are floccose to cottony, initially white, turning orange. Cardinal temperatures for growth are minimum: below 5°C, optimum: 15°C, and maximum: below 30°C.

**Specimen examined:** Western Cape Province, Stellenbosch, Botanical Garden, *Podocarpus elongatus* leaf litter, P.W. Crous, 31 Aug. 1993, PREM 51905 (holotype), DAOM 221068, culture STE-U 668.

The genus *Rhinitrichella* G. Arnaud ex de Hoog was erected by Arnaud (1953) without a Latin diagnosis, and was validated by de Hoog (1977) with *R. globulifer* de Hoog as type species. The latter has globose, smooth or finely verrucose, pale ochraceous conidia, 9–12 μm diam. Matsushima 1983 described an additional species, *R. macrospora* Matsush., with smooth, pale brown, globose conidia, 15–19 μm diam., and a synanamorph resembling a species of *Aspergillus* P. Micheli ex Link (not illustrated). Both these species are clearly distinct from *R. elegans*, which has larger conidia.

During the course of this study numerous other hyphomycetes were also isolated. As far as we could establish, several have not previously been recorded from South Africa. However, as their morphology closely corresponds with that of their respective descriptions, they are merely listed below.

**Other new records**

**Camposporium antennatum** Harkn., Bull. Calif. Acad. Sci. 1: 37–38 (1884) (Figure 15) (fide Ellis 1971).

**Specimen examined:** Western Cape Province, Stellenbosch, Botanical Garden, *Podocarpus elongatus* leaf litter, P.W. Crous, 31 Aug. 1993, STE-U 667.

**Dactylaria irregularis** De Hoog, Stud. Mycol. 26: 124 (1985) (Figure 16)

**Specimen examined:** Western Cape Province, Stellenbosch, Botanical Garden, *Podocarpus elongatus* leaf litter, P.W. Crous, 31 Aug. 1993, PREM 51908.


Acknowledgements

The senior author gratefully acknowledges the assistance of Dr. T.R. Nag Raj (Dept. of Biology, Univ. of Waterloo, ON, Canada) for his assistance and advice in preparing material of Guignardia podocarpi, and to the Foundation for Research Development for financial support in the form of a research grant. Drs J. Bissett and S.J. Hughes are also thanked for their critical reviews of the manuscript.

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