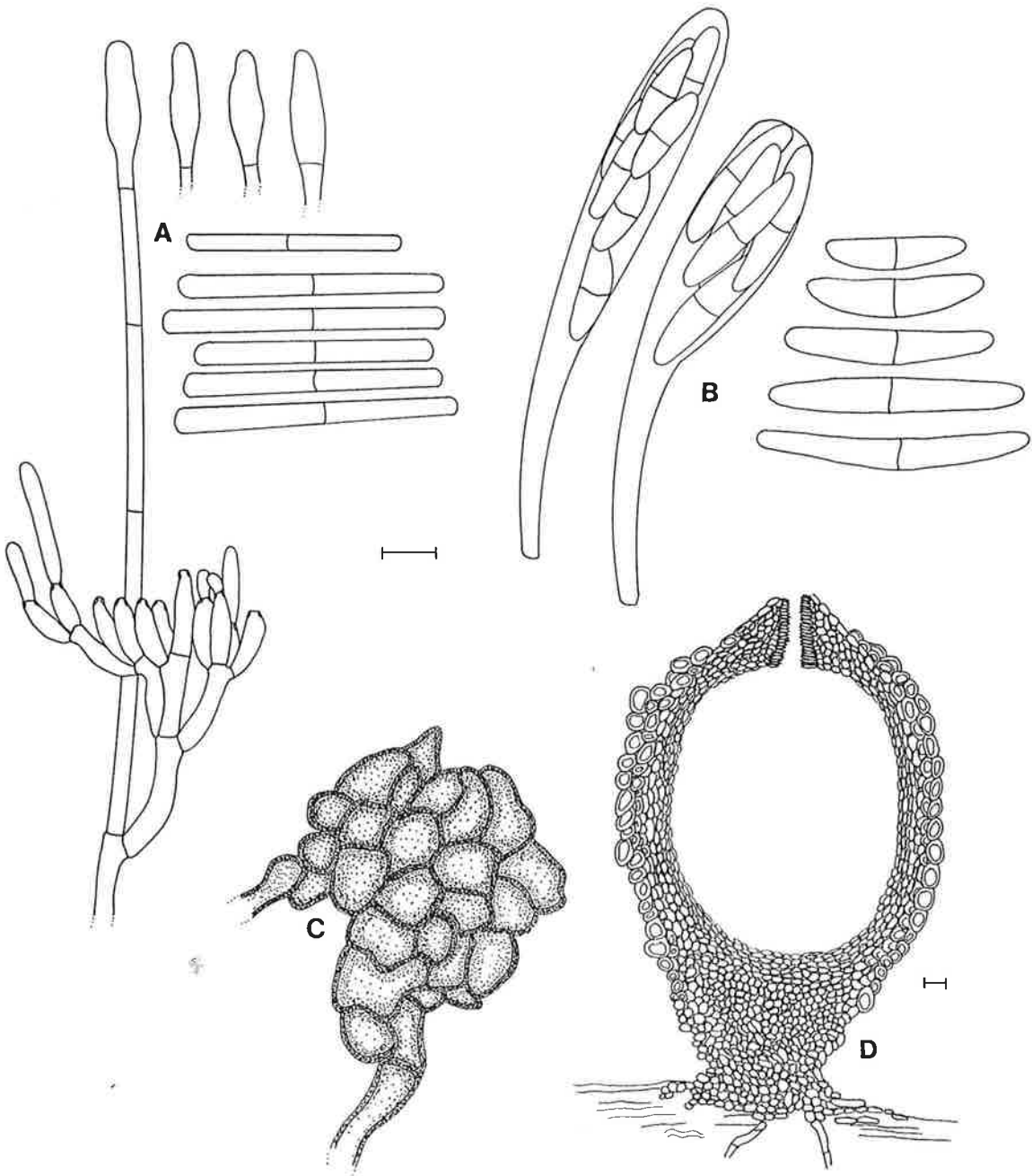


CALONECTRIA SCOPARIA



A. conidiophore, vesicles and conidia; B. asci and ascospores; C. chlamydospores (bar = 10 μm); D. v.s. through a perithecium (bar = 20 μm).

Calonectria scoparia Ribeiro & Matsuoka ex Peeraly, *Mycotaxon* **40**: 341, 1991.

Calonectria scoparia Ribeiro & Matsuoka, Ribeiro, M.Sc. Thesis, Heterotalismo em *C. scoparium* Morgan p. 28, 1978, *nom. nud.*
Anamorph: *Cylindrocladium candelabrum* Viegas, *Bragantia* **6**: 370, 1946.

Perithecia superficial, borne singly or in small groups, globose or subglobose, 280–520 × 280–400 μm, red-brown to red, with rough warted outer wall and papillate ostiole. Asci hyaline, clavate, (72-)90(-120) × (6-)8(-15) μm, tapering to a long thin stalk, containing 1–8 ascospores. *Ascospores* hyaline, straight to falcate, 1-septate, not or slightly constricted at central septum, (28-)41(-68) × (4-)5(-6.5) μm; developing up to three septa once discharged from ascus. *Conidiophore* filament septate, hyaline, terminating in an ellipsoid to obpyriform vesicle, (6-)8(-10) μm diam.; stipes (105-)180(-290) μm long. *Conidiophore branches*: primary branches non-septate or rarely 1-septate, (13-)18.5(-27) × (3-)3.5(-4) μm; secondary branches non-septate, (10-)15(-22) × (3-)3.5(-4) μm; tertiary branches non-septate, (10-)14(-16) × (3-)3.5(-4) μm. *Phialides* doliiform to reniform, hyaline, (7.5-)13(-19) × (3-)3.5(-4) μm. *Conidia* cylindrical, hyaline, 1-septate rounded at both ends, (33-)45(-66) × (3.5-)4(-4.5) μm. *Colony colour* after 6 d on 2% Malt extract agar (reverse) amber brown to buckthorn brown or sayal brown. Chlamydospores abundant, in chains or clusters, forming microsclerotia in moderate numbers. *Temperature requirements for growth*: minimum temp. above 5°C; maximum temp. above 35°C; optimum temp. between 25–30°C.

HOSTS: *Acacia* spp. (**68**, 1566), *Araucaria heterophylla*, *Eucalyptus* spp., *Fragaria* sp., *Luma* sp., *Medicago sativa*, *M. truncatula*, *Persea americana*, *Pinus* spp., *Pisum sativum*, *Rhododendron* spp., *Prunus* sp., *Syncarpia gummifera*.

DISEASE: Damping off, root rot, cutting rot, stem cankers, leaf spotting, seedling and shoot blight.

GEOGRAPHICAL DISTRIBUTION: Australia, Brazil, India, Kenya, Mauritius, South Africa.

PHYSIOLOGIC SPECIALIZATION: None reported.

TRANSMISSION: Wind and splash dispersal.

NOTES: Although this species is heterothallic, and perithecia are obtained with difficulty in culture, the teleomorph occurs readily in nature. This species is morphologically similar to *Cylindrocladium floridanum* Sobers & Seymour, *C. ovatum* El-Gholl, Alfenas, Crous & Schubert and *C. scoparium* Morgan. It can be distinguished by the shape of its ellipsoid to obpyriform vesicles. Those of *C. floridanum*, *C. ovatum* and *C. scoparium* are sphaeropedunculate, ovate and pyriform respectively.

LITERATURE: Botha & Crous, *Phytophylactica* **24**: 75–78, 1992; Crous, Alfenas & Wingfield, *Mycological Research* **97**: 701–708, 1993 (teleomorph); Crous, Phillips & Wingfield, *South African Forestry Journal* **157**: 69–85, 1991 (life cycle); Crous, Phillips & Wingfield, *Mycologia* **84**: 497–504, 1992 (medium standardization); Crous, Phillips & Wingfield, *Plant Pathology*, **42**: 302–305, 1993 (pathogenicity); Ferreira, *Patologia Florestal: Principais Doenas Florestais No Brasil*, Viçosa MG, Brasil, 1989.

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

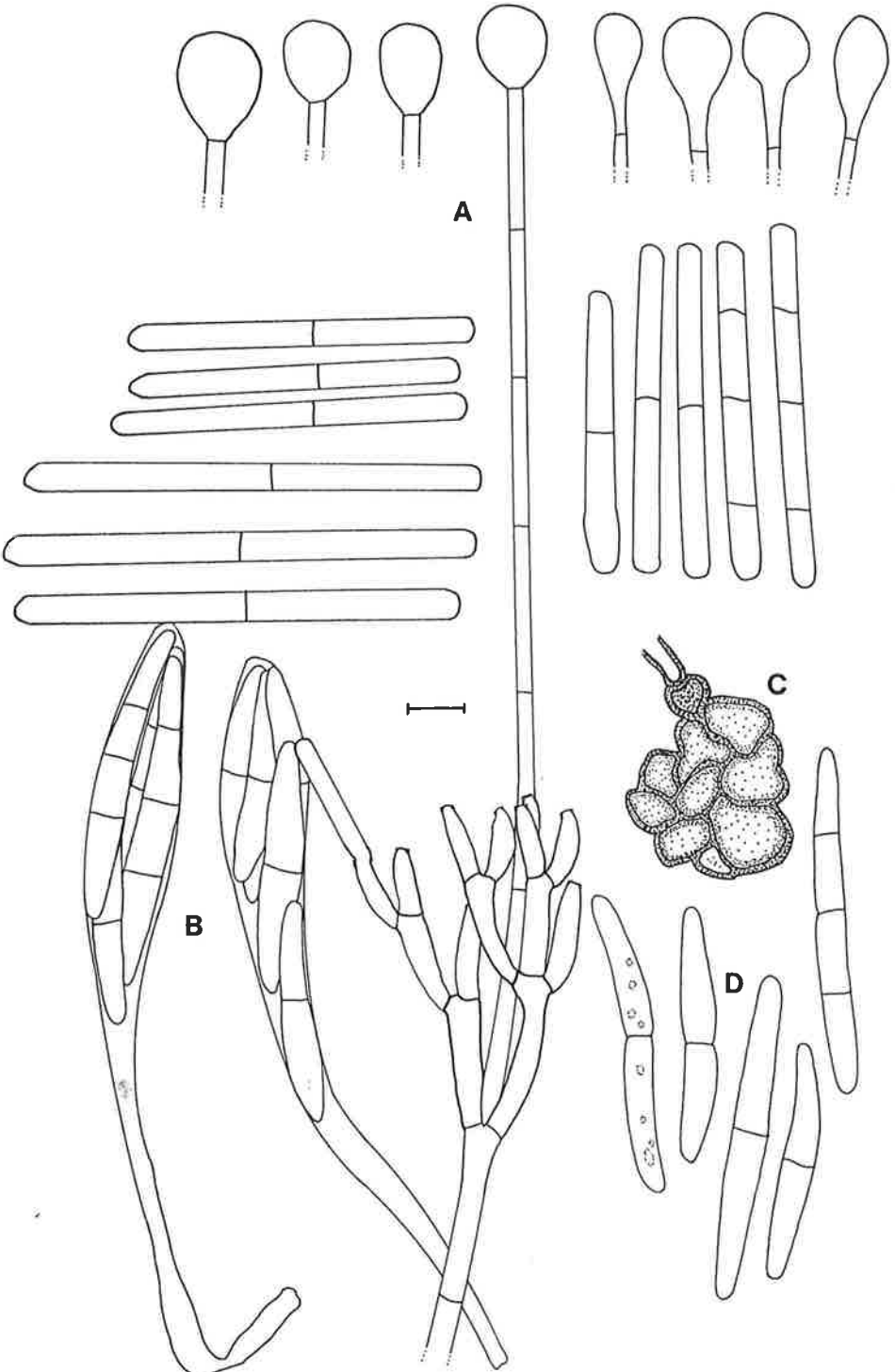
[Numbers in brackets, e.g. (**62**, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CALONECTRIA SPATHIPHYLLI



A. conidiophore, vesicles and conidia; B. asci; C. chlamydospores; D. ascospores (bar = 10 μm).

Calonectria spathiphylli El-Gholl, Uchida, Alfenas, Schubert, Alfieri & Chase, *Mycotaxon* **45**: 296, 1992.

Anamorph: *Cylindrocladium spathiphylli* Schoulties, El-Gholl & Alfieri, *Mycotaxon* **16**: 268, 1982.

Perithecia superficial, borne singly or in groups, globose or subglobose, 380–655 × 340–650 μm, orange to red, with rough warted outer wall and papillate ostiole. *Asci* hyaline, clavate, (120-)172(-230) × (7-)15(-25) μm, tapering to a long thin stalk, containing (2-)8 ascospores. *Ascospores* hyaline, straight to falcate, 1(-3)-septate, slightly constricted at septa, guttulate, (22-)45(-65) × (3-)5(-7) μm. *Conidiophore* filament septate, hyaline, terminating in a globose vesicle, (10-)12(-14) μm diam.; stipes (170-)217(-260) μm long. *Conidiophore branches*: primary branches non-septate or rarely 1-septate, (18-)29.5(-40) × (4-)5(-6) μm; secondary branches non-septate, (18-)21.5(-30) × (4-)4.5(-5.5) μm; tertiary branches non-septate, (16-)19(-25) × (4-)4.5(-5) μm; quaternary branches non-septate, (11-)15(-20) × 4(-4.5) μm. *Phialides* elongate, doliiform to reniform, hyaline, non-septate, (12-)16.5(-21) × (3-)4(-4.5) μm. *Conidia* cylindrical, hyaline, 1(-3)-septate, rounded at both ends, (45-)68(-120) × (5-)6(-7) μm. *Colony colour* after 6 d on 2% Malt extract agar (reverse) verona brown. *Chlamydospores*, abundant, dense, dispersed throughout the medium, forming microsclerotia. *Temperature requirements for growth*: minimum temp. above 10°C; maximum temp. below 35°C; optimum temp. 25°C.

HOSTS: *Araucaria heterophylla*, *Spathiphyllum* spp., *Heliconia* spp., *Strelitzia nicolai*, *Ludwigia palustris* (**62**, 1077).

DISEASE: Root and foliar disease (**62**, 1077) of *Spathiphyllum* spp.

GEOGRAPHICAL DISTRIBUTION: Australia, Italy (**70**, 3351), Florida, Hawaii, U.S.A.

PHYSIOLOGIC SPECIALIZATION: None reported.

TRANSMISSION: Probably wind and splash dispersed.

NOTES: Isolates of this species are heterothallic. *C. spathiphylli* is the only *Cylindrocladium* sp. with globose vesicles. This taxon is further distinguished from *C. parasiticum* Crous, Wingfield & Alfenas (= *C. crotalariae* (Loos) Bell & Sobers) (which has sphaeropedunculate vesicles), by having primarily 1-septate, and not 3-septate conidia. Other *Cylindrocladium* spp. with 1-septate conidia and sphaeropenunculate vesicles are distinguished from *C. spathiphylli* by having curved conidia (*C. curvatum*) or lateral stipes and smaller conidia (*C. floridanum*). *Spathiphyllum floribundum* cv. Mini, *S. cannifolium* and the hybrid *S. lechlerianum* × *S. floribundum* are reported to be resistant (**66**, 1507). Good disease control achieved with triflumizole (**67**, 816), prochloraz and triflumizole being more effective than benomyl (**66**, 3855).

LITERATURE: Carrai & Carribaldi, *Informatore Fitopatologico* **40**: 41–43, 1990; Forsberg, *Australasian Plant Pathology* **17**, 39–40, 1988 (pathogenicity); Schoulties, El-Gholl & Alfieri, *Mycotaxon* **16**: 265–272, 1982 (anamorph description); El-Gholl, Uchida, Alfenas, Schubert & Alfieri, *Mycotaxon* **45**: 285–300, 1992 (teleomorph description); Uchida & Aragaki, *Mycologia* **84**: 810–814, 1992 (variation in anamorph).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

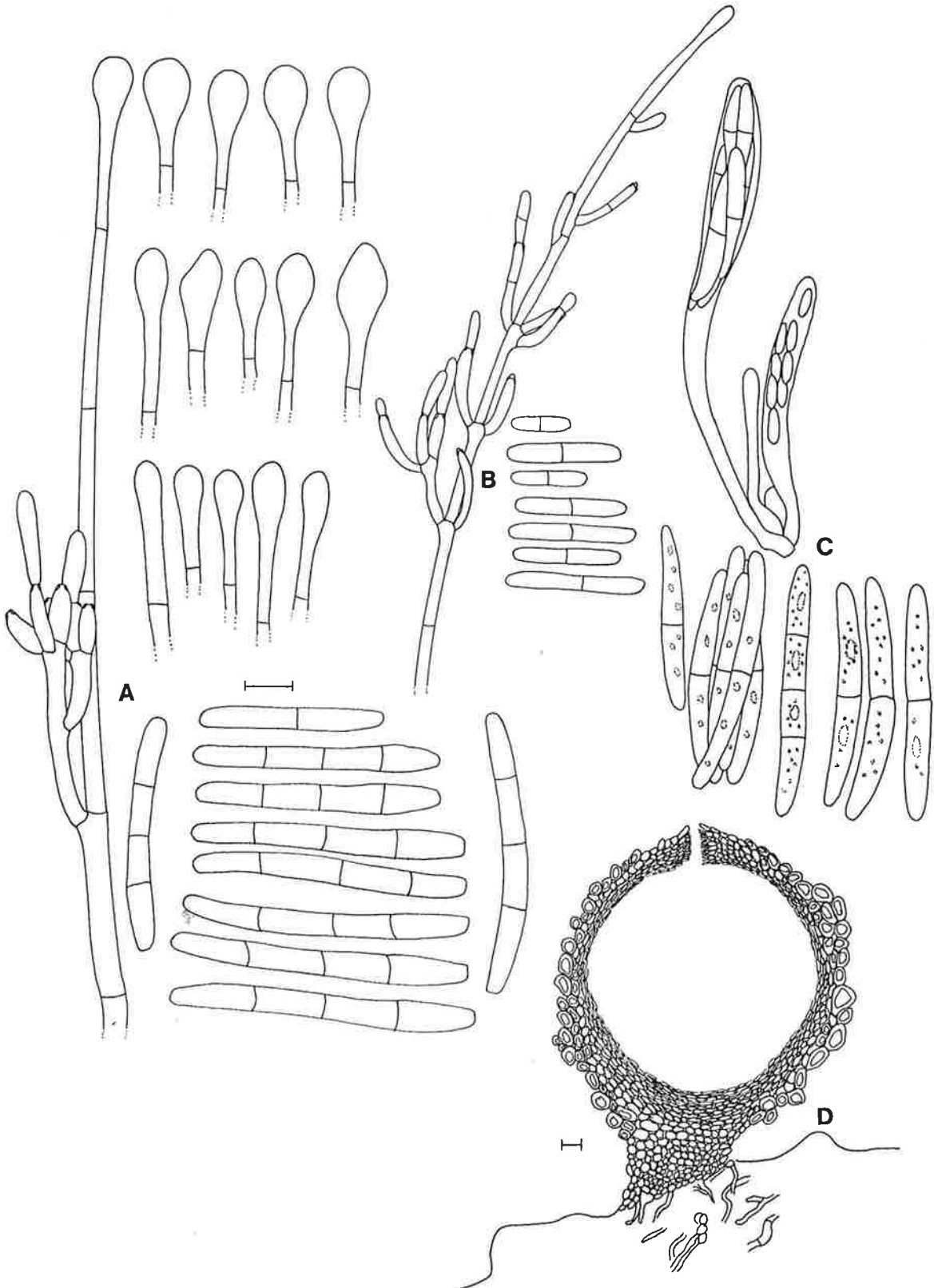
[Numbers in brackets, e.g. (**62**, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CALONECTRIA VARIABILIS



A. macroconidiophore, vesicles and conidia; B. microconidiophore and conidia; C. asci and ascospores (bar = 10 μm); D. v.s. through a perithecium (bar = 20 μm).

Calonectria variabilis Crous, Janse, Victor, Marais & Alfenas, *Systematic and Applied Microbiology* **16**: 272, 1993.

Anamorph: *Cylindrocladium variabile* Crous, Janse, Victor, Marais & Alfenas, *Systematic and Applied Microbiology* **16**: 272, 1993.

Perithecia superficial, solitary or in groups of 2–3, globose to ovoid, 260–450 \times 220–350 μm , with warty outer wall and papillate ostiole, red, turning blood-red in 3% KOH; perithecial wall consisting of two regions: outer region 35–60 μm wide, of elongate to angular cells (darkly pigmented), becoming globose on the very end (lighter pigmented), inner layer up to 20 μm wide, of hyaline, thin-walled, elongate cells; perithecial base 100–150 μm wide, consisting of angular cells, blackened around point of attachment. *Asci* hyaline, clavate, 90–120 \times 10–20 μm , tapering to a long thin stalk, containing eight ascospores. *Ascospores* hyaline, straight or falcate, 1(-3) septate, not or slightly constricted at septa, guttulate when young, becoming granular at maturity, (34-)42(-60) \times (4.5-)5(-6) μm . *Macroconidiophore* filament septate, hyaline, terminating in a sphaeropedunculate or ellipsoid to clavate vesicle, (6-)9(-11) μm diam.; stipes (130-)180(-250) μm long. *Conidiophore branches*: primary branches non-septate or rarely 1-septate, (15-)20(-30) \times (3.5-)4(-5) μm ; secondary branches non-septate, (10-)13(-18) \times (3.5-)4(-5) μm ; tertiary branches rare, non-septate, (8-)11(-14) \times (3.5-)4(-4.5) μm . *Phialides* elongate, doliiform to reniform, hyaline, non-septate, (9-)13(-18) \times (3-)3.5(-4) μm . *Conidia* cylindrical, hyaline, (1-)3(-4) septate, rounded at both ends, straight but frequently curved, widest in the middle of lower cell, with prominent taper to base, (48-)60(-75) \times (4-)5(-5.5) μm . *Microconidiophore*: filament septate, hyaline, terminating in a clavate to ellipsoid vesicle when present. *Conidiophore branches*: primary branches non-septate, (12-)15(-20) \times (3-)3.5(-4) μm ; secondary branches non-septate, (9-)10(-12) \times (2.5-)3(-3.5) μm . *Phialides* allantoid to navicular, hyaline, non-septate, (9-)13.5(-17) \times (3-)3.5(-4) μm , collarettes absent. *Conidia* cylindrical, hyaline, 1-septate with obtuse ends, (12-)26.5(-36) \times (3-)3.5(-4) μm . Colony colour after 6 d on 2% Malt extract agar (reverse) amber brown. Chlamydospores abundant, dense, forming microsclerotia. Temperature requirements for growth: minimum temp. above 8°C; maximum temp. below 35°C; optimum temp. 25°C.

HOSTS: *Didymopanax morototoni*, *Eucalyptus* spp., *Theobroma grandiflorum*.

DISEASE: Leaf spots.

GEOGRAPHICAL DISTRIBUTION: Brazil.

PHYSIOLOGIC SPECIALIZATION: None reported.

TRANSMISSION: Wind and splash dispersal of conidia and ascospores.

NOTES: Isolates of *C. variabile* readily produce a teleomorph and a microconidial state on carnation-leaf agar. Although isolates of *Cylindrocladium variabile* are similar to that of *C. parasiticum* Crous, Wingfield & Alfenas (= *C. crotalariae* (Loos) Bell & Sobers) regarding cultural characteristics, and in having sphaeropedunculate vesicles, they are distinct by also having clavate to ellipsoidal vesicles. Furthermore, using isozyme and total DNA banding patterns (Crous *et al.*, 1993), *C. variabile* could be distinguished from morphologically similar species such as *C. citri* (Fawcett & Klotz) Boedijn & Reitsma, *C. ilicicola* (Hawley) Boedijn & Reitsma, *C. spathulatum* El-Gholl, Kimbrough, Barnard, Alfieri & Schouties and *C. parasiticum*. All isolates thus far obtained of *C. variabile* were found to consistently produce a microconidial state. Macroconidia are primarily 3-septate, are frequently slightly curved, and widest at the first basal septum.

LITERATURE: Crous, Janse, Victor, Marais & Alfenas, *Systematic and Applied Microbiology* **16**: 266–273, 1993 (description).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

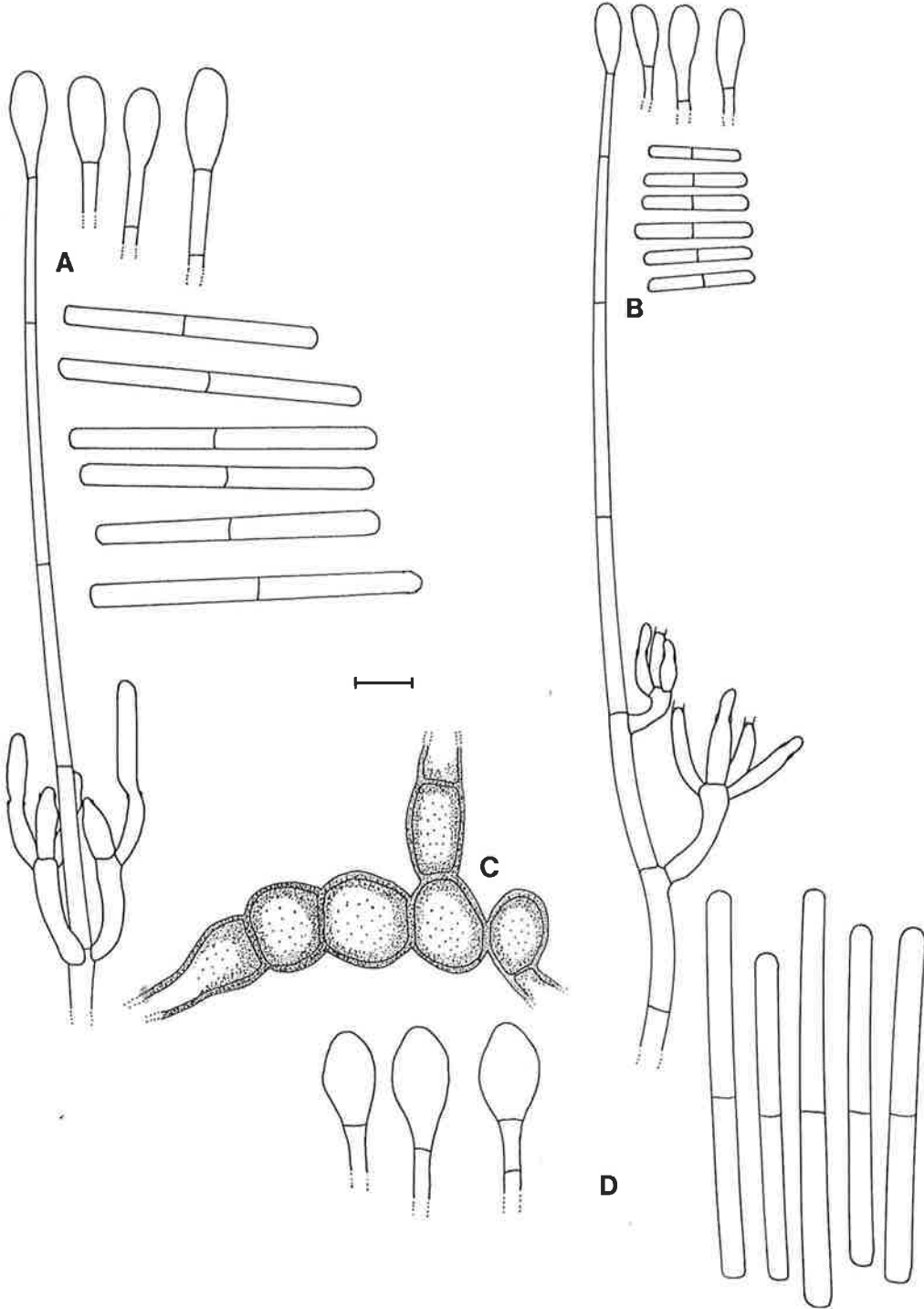
Numbers in brackets, e.g. (62, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CYLINDROCLADIUM OVATUM



A. macroconidiophore, vesicles and conidia; B. microconidiophore, vesicles and conidia; C. chlamydozoospores; D. macroconidia and vesicles (bar = 10 μm).

Cylindrocladium ovatum El-Gholl, Alfenas, Crous & Schubert, *Canadian Journal of Botany* **71**: 469–470, 1993.

Macroconidiophore filament septate, hyaline, terminating in an ellipsoid to oval vesicle, (8-)10(-14) μm diam.; stipes (185-)205(-230) μm long. *Conidiophore branches*: primary branches non-septate or rarely 1-septate, (15.5-)25.5(-40) \times (3.5-)4.5(-5) μm ; secondary branches non-septate, (10.5-)19.5(-29) \times (3.5-)4.5(-5) μm ; tertiary branches non-septate, (10.5-)17.5(-24) \times (3.5-)4(-4.5) μm . *Phialides* doliform to reniform, hyaline, (7.5-)14.5(-29) \times (3-)4(-4.5) μm . Conidia cylindrical, hyaline, 1(-3) septate, rounded at both ends, straight or slightly curved, (36-)65(-80) \times (4-)4.5(-5.5) μm . Microconidiophore filament septate, hyaline, terminating in an ellipsoid to oval vesicle when present. Conidiophore branches: primary branches non-septate or rarely 1-septate (9-)20(-30) \times (2.5-)3.5(-4) μm ; secondary branches non-septate, (8-)10(-12) \times (2.5-)3.5(-4) μm . Phialides allantoid to navicular or doliform, hyaline, with collarettes, (8-)15(-8) \times (2.5-)3(-3.5) μm . Conidia cylindrical, hyaline, 1-septate with obtuse ends, (11-)21(-28) \times (2-)2.5(-3.5) μm . Colony colour after 6 d on 2 % Malt extract agar (reverse) amber brown. Chlamydozoospores abundant, dense, forming microsclerotia. Temperature requirements for growth: minimum temp. above 10°C; maximum temp. above 35°C; optimum temp. 25°C.

HOSTS: Eucalyptus spp.

DISEASE: Leaf spot.

GEOGRAPHICAL DISTRIBUTION: Amazonia, Brazil.

PHYSIOLOGICAL SPECIALIZATION: None reported.

TRANSMISSION: Probably wind and splash dispersed.

NOTES: Not all isolates have the ability to form the microconidial state, and the majority can only produce 1-septate conidia (not curved as some in the holotype), and generally do not have septate vesicles as frequently produced by the type culture. Vesicles of *C. ovatum* are ovate (widest in the middle), and are between those of *C. candelabrum* Viegas which are obpyriform (widest below the middle), and *C. scoparium* Morgan which are pyriform (widest above the middle). It is probable that this species is heterothallic, as is the case for *C. scoparium* and *C. candelabrum*. However, although all available isolates of *C. ovatum* were paired, only protoperithecia were observed, suggesting that the correct strains have not yet been collected to produce a teleomorph with viable progeny. As expected, pairings with mating types of *C. scoparium* and *C. candelabrum* were also unsuccessful.

LITERATURE: El-Gholl, Alfenas, Crous & Schubert, *Canadian Journal of Botany* **71**: 466–470, 1993 (description); Blum, Dianese & Costa, *Tropical Pest Management* **28**: 155–159, 1992 (pathogenicity).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

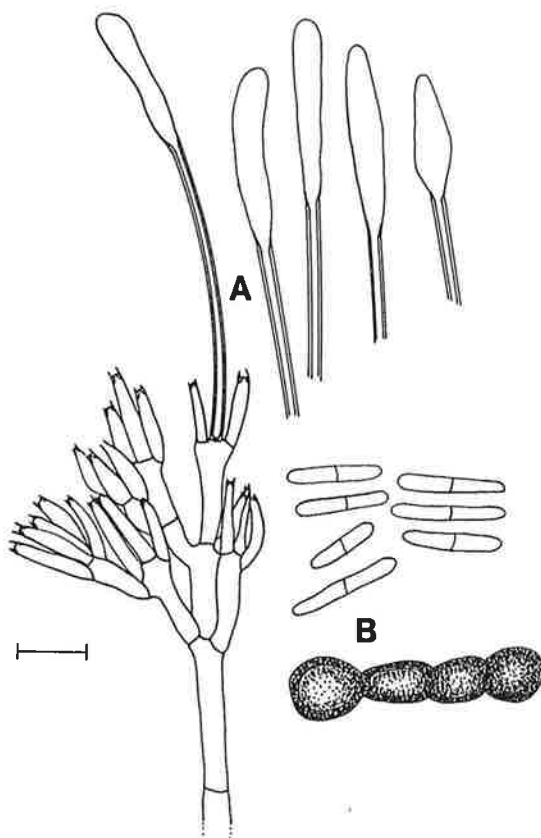
[Numbers in brackets, e.g. (62, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CYLINDROCLADIELLA ELEGANS



A. penicillate conidiophore and vesicles; B. conidia and chlamydospores (bar = 10 μm).

Cyliandrocladiella elegans Crous & Wingfield, *Mycological Research* 97: 438, 1993.

Penicillate conidiophore filament non-septate, hyaline, terminating in a clavate to ellipsoidal vesicle, (4-)5 (-6) μm diam.; stipes unbranched, in the middle of conidiophore, having one basal septum, (65-)92(-125) μm long; primary branches 0(-1)-septate, (10-)15(-20) \times 3(-3.5) μm ; secondary branches non-septate, (10-)11.5 (-16) \times 3(-3.5) μm . *Phialides* doliiform to reniform to cymbiform, (11-)12(-15) \times 3(-3.5) μm with collarettes. *Subverticillate conidiophores* sparse to absent. *Conidia* (0-)1-septate, (12.5-)14.5(-18) \times 2(-3) μm , abnormal conidia with 1-3 septa^s (up to 44 μm long) also formed. *Colony colour* after 6 d on 2% Malt extract agar (reverse) maize yellow. *Chlamydospores* form in medium numbers, and are arranged in chains. *Temperature requirements for growth*: minimum temp. above 5°C; maximum temp. below 30°C; optimum temp. 20°C.

HOSTS: *Arachis hypogaea*, *Eucalyptus* leaf litter.

DISEASE: Found on peanut roots, leaf litter and in soil. South African isolates have been found to be pathogenic to *Medicago truncatula* (alfalfa), *Arachis hypogaea* (peanut), *Glycine max* (soybean) and *Pisum sativum* (pea).

GEOGRAPHICAL DISTRIBUTION: South Africa.

PHYSIOLOGIC SPECIALIZATION: None reported.

TRANSMISSION: Probably occurs by wind and splash dispersal.

NOTES: No teleomorph has yet been found, and mating studies have thus far been unsuccessful. Some conidia formed in the type culture have the ability to stay attached longer to phialides than normal. These conidia become misformed, abnormally long, and can develop up to three septa. This phenomenon was observed after 7 d on Carnation Leaf Agar as well as on Malt extract agar, but disappeared with subsequent subculturing. No other obvious differences were observed between the type and other collections of *C. elegans* regarding their vesicle morphology or temperature requirements for growth. *C. elegans* can be distinguished from all other *Cylindrocladiella* spp. based on its colony colour in culture, temperature requirements for growth, and vesicle morphology.

LITERATURE: Crous, Phillips & Wingfield, *Plant Pathology* **42**: 302–305, 1993 (pathogenicity); Crous & Wingfield, *Mycological Research* **97**: 433–448, 1993 (description).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

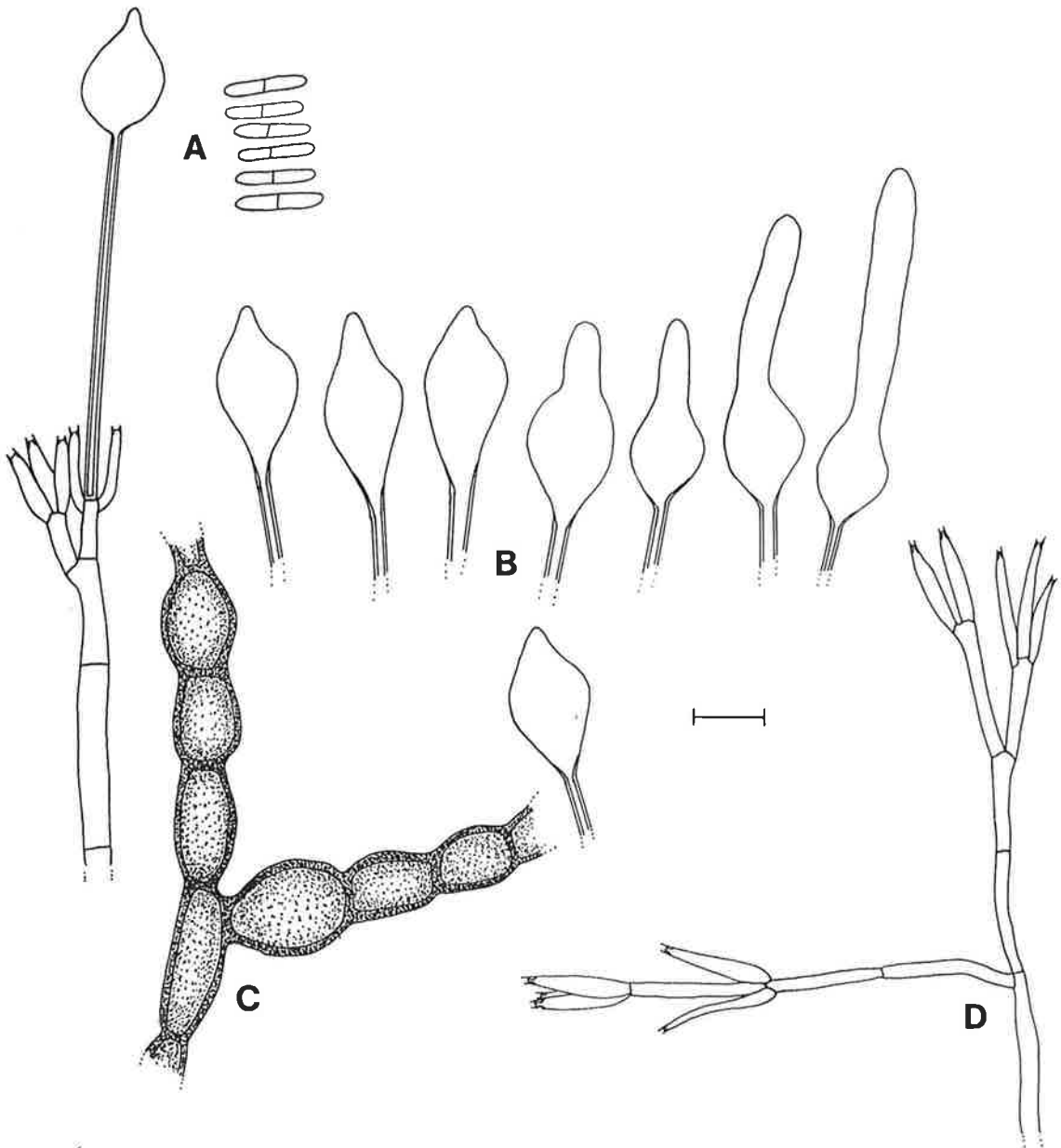
[Numbers in brackets, e.g. (62, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CYLINDROCLADIELLA LAGENIFORMIS



A. penicillate conidiophore and conidia; B. vesicles; C. chlamydospores; D. subverticillate conidiophore (bar = 10 μm).

Cylindrocladiella lageniformis Crous, Wingfield & Alfenas, *Mycological Research* 97: 441, 1993.

Penicillate conidiophore filament non-septate, hyaline, terminating in a lageniform to ovoid vesicle, (9-)12

(-18) μm diam.; stipes unbranched, in the middle of conidiophore, having one basal septum, (63-)80(-120) μm long; primary branches 0(-1)-septate, (10-)14(-20) \times (2.5-)3(-3.5) μm ; secondary branches non-septate, (8-)11(-15) \times (2-)2.5(-3) μm . *Phialides* doliiform to reniform to cymbiform, (8-)10(-14) \times (2-)2.5(-3) μm with collarettes. *Subverticillate conidiophores* sparse to medium in number. *Conidia* (0-)1-septate, (9-)11.5(-15) \times (1.5-)2 μm . *Colony colour* after 6 d on 2% Malt extract agar (reverse) sayal brown, while colonies give a diffuse reddish colour to the growth medium. Chlamydo-spores abundant, arranged in chains. *Temperature requirements for growth*: minimum temp. above 5°C; maximum temp. below 35°C; optimum temp. 25°C.

HOSTS: Eucalyptus sp.

DISEASE: Isolated from stems of dying Eucalyptus cuttings.

GEOGRAPHICAL DISTRIBUTION: Brazil.

PHYSIOLOGICAL SPECIALIZATION: None reported.

TRANSMISSION: Splash dispersal in Eucalyptus cutting nurseries.

NOTES: One isolate produced a few red, *Nectria perithecia* in culture. The ability to form perithecia was, however, lost with subculturing. This species is primarily distinguished from similar species such as *C. camelliae* and *C. infestans* by its wide, lageniform vesicles. A diffuse reddish pigment can also be observed in the growth medium. Although subverticillate conidiophores are present, they occur less commonly than in *C. camelliae* and *C. infestans*. Furthermore, they also frequently branch at more than one level, a characteristic previously ascribed only to *C. infestans*.

LITERATURE: Crous & Wingfield, *Mycological Research* **97**: 433-448, 1993 (description).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

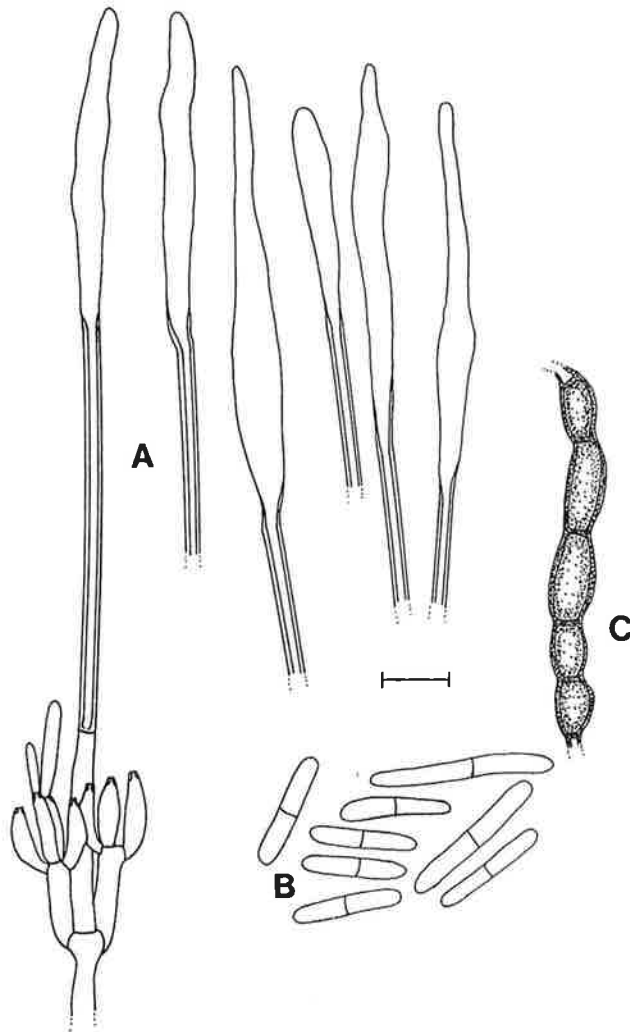
[Numbers in brackets, e.g. (62, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.

CYLINDROCLADIELLA NOVAE-ZELANDIAE



A. penicillate conidiophore and vesicles; B. conidia; C. chlamydospores (bar = 10 μm).

Cylandrocladiella novae-zelandiae (Boesew.) Boesewinkel, *Canadian Journal of Botany* 60: 2289, 1982.

Cylandrocladium novae-zelandiae Boesewinkel, *Transactions of the British Mycological Society* 76: 341, 1981.

Penicillate conidiophore filament non-septate, hyaline, terminating in a irregularly lanceolate vesicle, (3.5-)5 (-9) μm diam.; stipes unbranched, in middle of conidiophore, having one basal septum, (95-)103(-125) μm long; primary branches 0(-1)-septate, (9-)11.5(-16) \times (3-)3.5 μm ; secondary branches non-septate, (8-)10(-15) \times (3-)3.5 μm . *Phialides* doliiiform to reniform, (8-)10.5(-15) \times (3-)3.5(-4) μm , collarettes present in moderate numbers. *Subverticillate conidiophores* rare to absent. *Conidia* (0-)1-septate, (11.5-)14.5(-25) \times (2-)2.5(-3.5) μm . *Colony colour* after 6 d on 2% Malt extract agar (reverse) light orange-yellow. *Chlamydospores* slight in number, arranged in chains. *Temperature requirements for growth*: minimum temp. below 5°C; maximum temp. below 30°C; optimum temp. 20°C.

HOST: *Rhododendron indicum*.

DISEASE: Isolated from roots of *R. indicum*.

GEOGRAPHICAL DISTRIBUTION: New Zealand.

PHYSIOLOGICAL SPECIALIZATION: None reported.

TRANSMISSION: Probably wind and splash dispersed.

NOTES: This species is known from one collection only. The most distinct criteria distinguishing this species from others are its very slow growth rate, sparse chlamydospore formation, irregular lanceolate vesicle, and penicillate conidiophores.

LITERATURE: Boesewinkel, *Transactions of the British Mycological Society* **76**: 341–343, 1981 (description); Crous & Wingfield, *Mycological Research* **97**: 433–448, 1993 (key).

P.W. Crous¹

¹Department of Plant Pathology, University of Stellenbosch, Stellenbosch 7600, South Africa.

[Numbers in brackets, e.g. (62, 5055), refer to abstracts in the Review of Plant Pathology]

Issued by the International Mycological Institute, Bakeham Lane, Egham, Surrey, TW20 9TY, U.K.

Kluwer Academic Publishers. Printed in the Netherlands. © CAB INTERNATIONAL, 1993. All rights reserved.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording, or otherwise, without the prior permission of the copyright owner.