

*Neochaetothyрина-syzygii*



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***Neochaetothyрина* Crous, gen. nov.**

*Etymology.* Name refers to its morphological similarity to *Chaetothyрина*.

*Classification* — *Phaeothecoidiaceae*, *Mycosphaerellales*, *Dothideomycetes*.

*Leaf spots* absent, saprobic. *Ascomata* hypophyllous, superficial on leaf tissue, brown, developing beneath a brown mycelial layer, globose, cupulate when dry, surface of brown *textura epidermoidea*, wall of 2–3 layers of brown *textura angularis*; outer wall of ascomata forming brown, radiating superficial hyphae, branched, septate, anastomosing, with mucoid sheath, constricted at septa; hyphopodia not seen. *Setae* arising from outer wall of ascoma, dark brown, verruculose to warty, thick-walled,

flexuous, multi-septate, tapering to subobtusate apex, at times also arising from superficial mycelium surrounding ascoma, with basal T-cell, slightly swollen. *Pseudoparaphyses* hyaline, smooth, cellular, constricted at septa, anastomosing. *Asci* arranged in basal layer, obovoid to broadly ellipsoid, bitunicate, 8-spored, with apical chamber. *Ascospores* multiseriate, hyaline, smooth, thick-walled, guttulate, granular, fusoid-ellipsoid, straight or curved, apex subobtusate, tapering to obtuse base, constricted at median septum, widest above septum, encased in mucoid sheath.

*Type species.* *Neochaetothyрина syzygii* Crous  
Mycobank MB 839531.

***Neochaetothyрина syzygii* Crous, sp. nov.**

*Etymology.* Name refers to the host genus *Syzygium* from which it was isolated.

*Leaf spots* absent, saprobic. *Ascomata* hypophyllous, superficial on leaf tissue, brown, developing beneath a brown mycelial layer, globose, 100–200 µm diam, cupulate when dry, surface of brown *textura epidermoidea*, wall of 2–3 layers of brown *textura angularis*; outer wall of ascomata forming brown, radiating superficial hyphae, branched, septate, anastomosing, with mucoid sheath, constricted at septa, 3–6 µm diam; hyphopodia not seen. *Setae* arising from outer wall of ascoma, dark brown, verruculose to warty, thick-walled, flexuous, 4–15-septate, tapering to subobtusate apex, 3–4 µm diam, up to 300 µm long, 7–10 µm diam at base, at times also arising from superficial mycelium surrounding ascoma, with basal T-cell, slightly swollen. *Pseudoparaphyses* hyaline, smooth, cellular, constricted at septa, anastomosing, 3–4 µm diam. *Asci* arranged in basal layer, obovoid to broadly ellipsoid, bitunicate, 8-spored, with apical chamber, 5–6 µm diam, 30–40 × 20–25 µm. *Ascospores* multiseriate, hyaline, smooth, thick-walled, guttulate, granular, fusoid-ellipsoid, straight or curved, apex subobtusate, tapering to obtuse base, constricted at median septum, widest above septum, encased in mucoid sheath, (16–)17–18(–22) × (5–)6(–7) µm. *Ascospores* germinating from both ends, becoming brown and verruculose, swollen and distorted, 7–8 µm diam, but not developing additional septa in ascospore.

*Culture characteristics* — Colonies erumpent, with sparse aerial mycelium and smooth, lobate margin, reaching 4 mm diam after 2 wk at 25 °C. On MEA, PDA and OA surface and reverse olivaceous grey.

*Typus.* SOUTH AFRICA, Mpumalanga, Mbombela, Lowveld Botanical Garden, on leaves of *Syzygium cordatum* (*Myrtaceae*), Nov. 2018, P.W. Crous, HPC 3157 (holotype CBS H-24537, culture ex-type CPC 39051 = CBS 147073, ITS, LSU and *rpb2* sequences GenBank MZ064443.1, MZ064500.1 and MZ078207.1, MycoBank MB 839532).

*Colour illustrations.* *Syzygium cordatum*. *Ascomata* on leaf surface with setae; setae; asci and ascospores; germinating ascospores. Scale bars = 200 µm (ascomata), 10 µm (all others).

*Notes* — When freshly collected leaves colonised by *Neochaetothyрина syzygii* are incubated in moist chambers, ascomata develop within 1 wk. However, the upper wall is a covering membrane of hyphae, that easily separates during slide preparation, leaving a layer of near naked asci embedded in a brown mucilaginous mass. *Neochaetothyрина* is reminiscent of *Chaetothyрина* (Hongsanan et al. 2017), but the latter species lacks superficial hyphae and setae.

*Neochaetothyрина syzygii* was also compared to *Chaetothrium syzygii* (on *Syzygium cordatum*, Kwazulu-Natal, PREM 33103), but the latter had hyaline, fusoid ascospores that become brown and 3-septate at maturity, 20 × 6–7 µm. Furthermore, *Asterina syzygii* (on *Syzygium gerrardi*, Woodbush, Limpopo Province, PREM 17755) had 1-septate, slightly constricted, brown, finely verruculose ascospores, 27.5–35 × 14–17 µm.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the ITS sequence had highest similarity to *Chaetothyрина guttulata* (strain MFLUCC 14-0539, GenBank MN462949.1; Identities = 412/481 (86 %), 23 gaps (4 %)), *Xenosonderhenia syzygii* (strain MEFC132, GenBank MK732144.1; Identities = 354/399 (89 %), 17 gaps (4 %)) and *Pseudosasa guanxiensis* (clone 8, GenBank KT006327.1; Identities = 353/399 (88 %), 17 gaps (4 %)). Closest hits using the LSU sequence are *Chaetothyрина artocarp*i (strain MFLUCC 15-1082, GenBank MF614834.1; Identities = 802/823 (97 %), one gap (0 %)), *Chaetothyрина guttulata* (strain MFLUCC 14-0539, GenBank MN462949.1; Identities = 830/852 (97 %), one gap (0 %)) and *Houjia yanglingensis* (strain CBS 125225, GenBank NG\_064220.1; Identities = 835/860 (97 %), one gap (0 %)). Distant hits using the *rpb2* sequence had highest similarity to *Houjia pomigena* (strain CBS 125224, GenBank MF951422.1; Identities = 640/801 (80 %), two gaps (0 %)), *Hyalocerosporidium desmodii* (strain CBS 142179, GenBank MF951503.1; Identities = 660/880 (75 %), 26 gaps (2 %)) and *Stromatoseptoria castaneicola* (strain CBS 102322, GenBank MF951681.1; Identities = 665/888 (75 %), 24 gaps (2 %)).