

Zasmidium scaevolicola



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Zasmidium scaevolicola R.G. Shivas, McTaggart, A.J. Young & Crous, *sp. nov.*

Maculae foliorum amphigenae, circulares ad irregulares, usque ad 2 cm diametro, canae ad brunneolas, margine atrorubella-brunnea cinctae. *Conidiomata* sporodochialia, amphigena, abundissima in superiore pagina foliorum, pulvinata, atrorubella-brunnea. *Mycelium* internum. *Stromata* erumpentia, usque ad 75 µm diametro. *Conidiophora* numerosa, compacta, in fasciculis densis tegentibus stromatum paginam, erecta, subcylindracea ad geniculata-sinuosa, haud ramosa, 20–80 × 3–3.5 µm, usque ad 10 septata, rosea-brunnea, apices pallidiores, paries levis. *Cellulae conidiogenae* terminales, brunneolae, proliferatio sympodialis, cicatrices conspicuae, terminales, laterales, incrassatae, fuscatae, subdenticulatae. *Conidia* solitaria vel in catenis breviramosis, subcylindracea ad fusioidea, recta ad paulum curvata, pallidissima ad brunneola, 12–70 × 2.5–4 µm, 0–5-septata, verruculosa, fines rotundati, hila paulum incrassata et fuscata.

Etymology. Name derived from the host plant genus, *Scaevola* (Goodeiaceae).

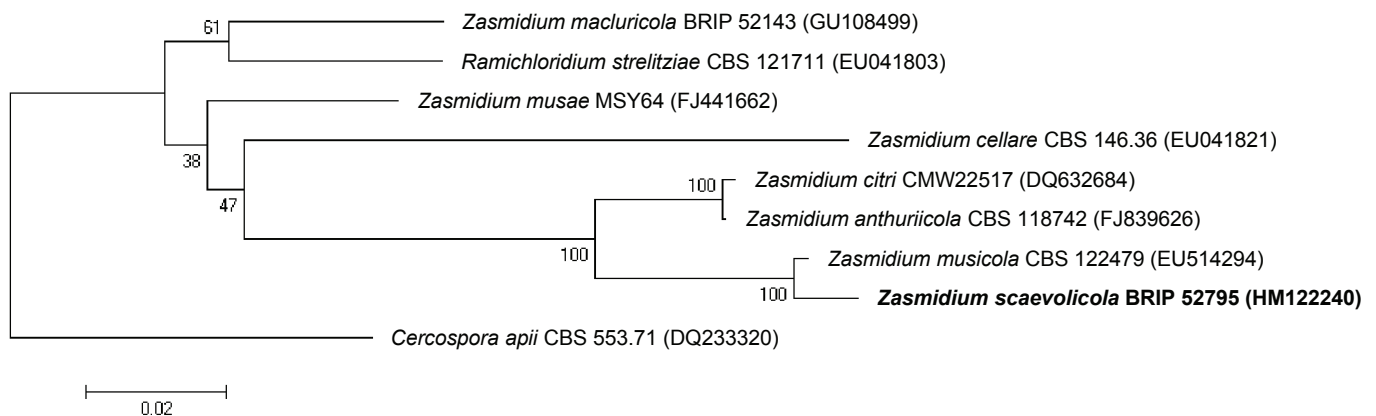
Leaf spots amphigenous, circular to irregular, up to 2 cm diam, grey to pale brown, surrounded by a dark reddish brown border. *Conidiomata* sporodochial, amphigenous, most abundant on upper leaf surface, pulvinate, dark reddish brown. *Mycelium* internal. *Stromata* erumpent, up to 75 µm diam. *Conidiophores* numerous, compact, in dense fascicles covering the surface of the stromata, erect, subcylindrical to geniculate-sinuuous, unbranched, 20–80 × 3–3.5 µm, up to 10-septate, pale reddish brown, tips paler, wall smooth. *Conidiogenous cells* terminal, pale brown, proliferation sympodial, scars conspicuous, terminal and lateral, thickened, darkened, subdenticulate. *Conidia* solitary or in short branched chains, subcylindrical to fusoid, straight to slightly curved, very pale to light brown, 12–70 × 2.5–4 µm, 0–5-septate, verruculose, ends rounded, hila slightly thickened and darkened.

Typus. AUSTRALIA, Queensland, Cape Tribulation, 16°04'02" S 145°27'50.9" E, *Scaevola taccada* (Gaertn.) Roxb., 8 Aug. 2009, R.G. Shivas & P.W. Crous, BRIP 52795, holotype, CBS H-20455, isotype; culture ex-type CPC 17344 = CBS 127009, ITS sequence GenBank HM122240, MycoBank MB518300.

Other specimens examined. Thornton's Beach, 2 Sept. 1977, J.H. Simmonds, BRIP 12368; same loc., 1 Oct. 1979, J.H. Simmonds, BRIP 13098; Cape Tribulation, 30 Sept. 1979, J.H. Simmonds, BRIP 13097; Potters Creek, Wongaling Beach, Sept. 1993, H.Y. Yip, BRIP 21434; same loc., 27 Nov. 1993, H.Y. Yip, BRIP 21479; same loc., 17 Apr. 1994, H.Y. Yip, BRIP 22037; Cape Tribulation, 18 Dec. 2009, R.G. Shivas & A.R. McTaggart, BRIP 50073.

Notes — *Zasmidium* is a paraphyletic genus within the *Mycosphaerellaceae*¹. *Zasmidium* s.str. has verruculose conidia that are formed singly or in chains, with planate, *Cercospora*-like scars. Morphological and DNA sequence data indicate that *Z. scaevolicola* belongs to the *Zasmidium* s.str. complex, which is currently unresolved¹. Only two cercosporoid hyphomycetes, *Pseudocercospora scaevolae* and *Cercospora scaevolae*, have been previously reported on *Scaevola*². *Zasmidium scaevolicola* differs from *P. scaevolae* and *C. scaevolae* (syn. *Ramularia scaevolae*), which both have smooth, solitary conidia^{2,3}.

BLASTn results of the ITS sequence of *Z. scaevolicola* (GenBank HM122240) had high identity to sequences of *Z. musicola* (as *Stenella musicola*) (EU514294, 99 % identical over 100 % query coverage), and *Zasmidium citri* (as *Mycosphaerella citri*) (DQ632684, 95 % identical over 100 % query coverage). Genomic DNA of *Z. scaevolicola* (holotype) is stored in the Australian Biosecurity Bank (www.padi.gov.au/pbt/).



An ITS neighbour-joining tree constructed using MEGA4. Distances were computed using Maximum Composite Likelihood from 453 positions in the dataset. Bootstrap values are from 1 000 replicates. Scale bar shows 0.02 changes per site. The tree was rooted to *Cercospora apii* (DQ233320).

Colour illustrations. *Scaevola taccada* at Cape Tribulation, northern Queensland; leaf with spots caused by *Z. scaevolicola*; leaf spots; conidia; conidiophores. Scale bars (from top to bottom) = 1 cm, 1 mm, 10 µm, 10 µm.

References. ¹Crous PW, Summerell BA, Carnegie AJ, Wingfield MJ, Hunter GC, Burgess TI, Andjic V, Barber PA, Groenewald JZ. 2009. Unravelling Mycosphaerella: do you believe in genera? Persoonia 23: 99–118. ²Braun U, Mouchacca J, McKenzie EHC. 1999. Cercosporoid hyphomycetes from New Caledonia and some other South Pacific islands. New Zealand Journal of Botany 37: 297–327. ³Braun U. 1992. Taxonomic notes on some species of the Cercospora-complex. Nova Hedwigia 55: 211–221.