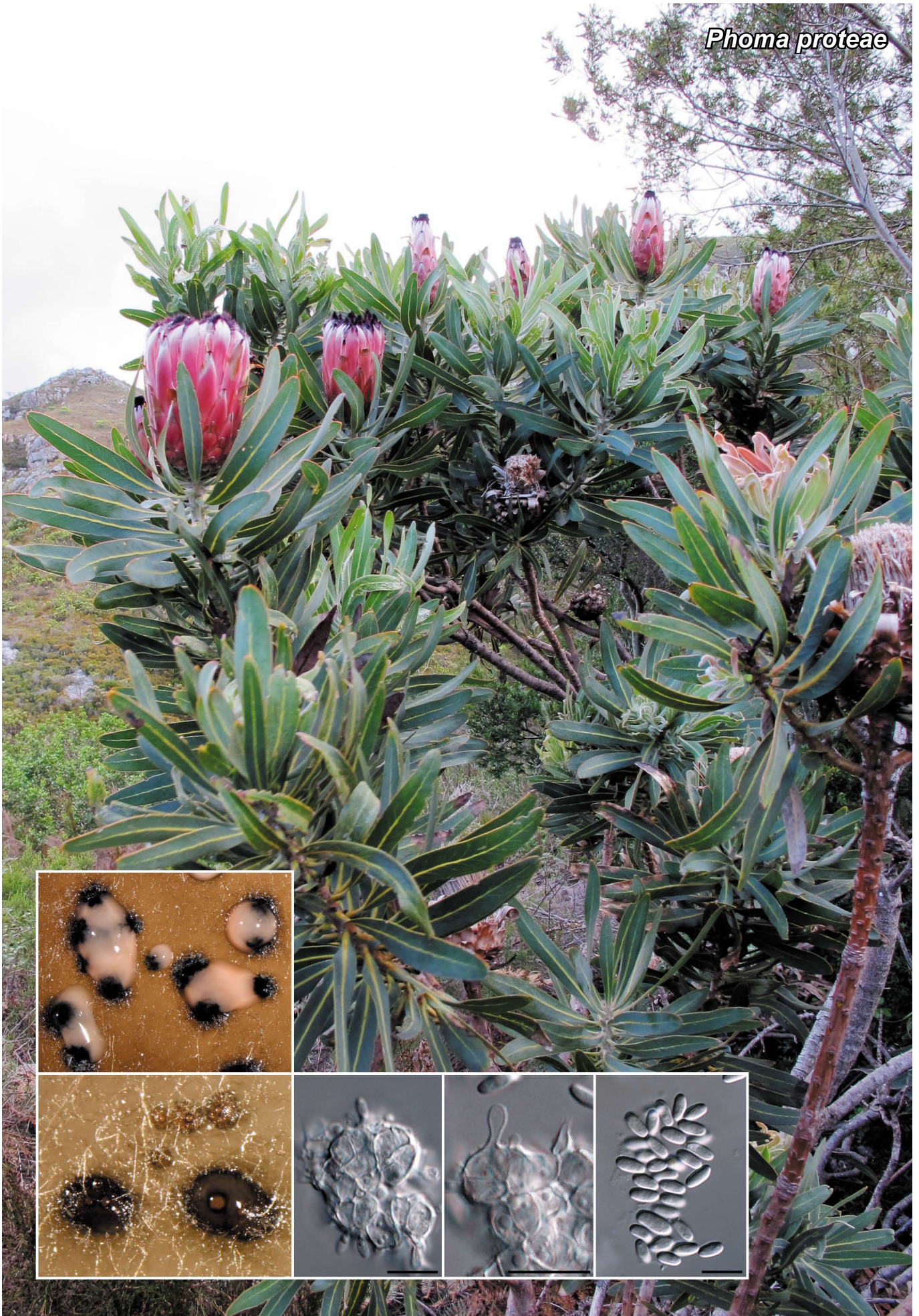


Phoma proteae



Fungal Planet 101 – 6 December 2011

Phoma proteae Crous, *sp. nov.*

Phomae huancayensis similis, sed conidiis minoribus, (4.5–)5–6.5(–7) × (2.5–)3(–3.5) µm, discernitur.

Etymology. Named after the host genus from which it was collected, *Protea*.

Leaf spots circular to subcircular, up to 2 cm diam, dark brown, amphigenous, or associated with leaf tip dieback. On pine needle agar. **Conidiomata** pycnidial, brown, globose, erumpent, solitary or aggregated, smooth, with central ostiole, up to 50 µm diam, darker brown at ostiolar area, with elongated, globoid cells extending into cavity, brown at base, hyaline at apex, up to 15 µm long and 4 µm wide; wall consisting of 2–3 layers of brown *textura angularis*. **Conidiogenous cells** phialidic, ampulliform to doliiform, lining the inner cavity, hyaline, smooth, with visible periclinal thickening, 5–7 × 5–7 µm. **Conidia** hyaline, smooth, broadly ellipsoid with obtuse ends, (4.5–)5–6.5(–7) × (2.5–)3(–3.5) µm. **Chlamydospores** not seen (also not on other agar media).

Culture characteristics — (in the dark, 25 °C, after 2 wk): Colonies flat, spreading, with moderate aerial mycelium and regular, even margins, covering the dish in 2 wk. On oatmeal agar surface grey olivaceous, with salmon spore masses in centre. On malt extract agar olivaceous grey in centre, dirty white to smoke-grey in outer region; iron-grey on reverse, cinnamon in outer region. On potato-dextrose agar olivaceous grey on surface, and iron-grey on reverse.

Typus. SOUTH AFRICA, Western Cape Province, Somerset West, Karibia Farm, on leaves of *Protea* cv. Carnival (*P. compacta* × *P. neriifolia*) (*Proteaceae*), 21 July 1998, J.E. Taylor & S. Denman, holotype CBS H-20771, cultures ex-type CPC 1854 = CBS 114179, ITS sequence GenBank JQ044433 and LSU sequence GenBank JQ044452, MycoBank MB560705.

Notes — Crous et al. (2004) report *Phoma sorghina* to be associated with Phoma brown stem canker of *Leucospermum cordifolium* (*Proteaceae*), while Marinowitz et al. (2008) report several *Phoma* spp. as saprobes on *Proteaceae* leaf and twig litter. *Phoma proteae*, which is associated with leaf spots on *Protea* 'Carnival', appears to represent a novel species, not matching any of those recently circumscribed (Aveskamp et al. 2009, 2010, de Gruyter et al. 2009, 2010). A megablast search of the NCBI's GenBank nucleotide sequence database using the ITS sequence of *P. proteae* retrieves as closest hits *Coniothyrium fuckelii* (GenBank AB665314; Identities = 518/523 (99 %), Gaps = 2/523 (0 %)) and several *Phoma* species with identical similarities (Identities = 517/522 (99 %), Gaps = 1/522 (0 %)), e.g. *Phoma herbarum* (GenBank AB456575), *Phoma glomerata* (GenBank EU273521) and *Phoma pomorum* (GenBank AY904062), amongst others. Performing a similar search against the *Phoma* database present in Q-bank (www.q-bank.eu), retrieves high identity to *Phoma huancayensis* strain CBS 105.80 (conidia larger, 4–12 × 2.5–4.5 µm; Boerema et al. 2004) (Identities = 483/486 (99 %), Gaps = 0/486 (0 %)). A megablast search of the NCBI's GenBank nucleotide sequence database using the LSU sequence of *P. proteae* confirms the placement based on ITS.

Colour illustrations. *Protea neriifolia* growing on the mountain slopes; conidiomata sporulating on malt extract agar and oatmeal agar; conidiogenous cells, and conidia. Scale bars = 10 µm.