

*Brunneiapiospora austropalmicola*





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## ***Brunneiapiospora austropalmicola* A.E. Bell & Mahoney, sp. nov.**

*Etymology.* *austropalmicola*, meaning *Southern palm* referring to the Nikau palm (*Rhopalostylis sapida*) upon which the fungus was found.

*Ascomata* perithecial, in small clusters developing on blackened stroma bursting through the plant tissue. Individual ascomata black, c. 1 mm diam, densely covered with brown, septate hairs mixed with host tissue, each with small papillate ostiole. Outer peridium black, brittle and structure less, inner peridium composed of areolate tissue. Copious centrum contents embedded in sticky material. *Paraphyses* hyaline, free-ended, longer than asci with densely granular contents c. 3–4 µm wide. *Asci* cylindrical, c. 250 × 7 µm, (tapering stipe constituting approx. a quarter of the length), ascus with prominent apical J+ ring, each ascus containing 8 uniseriate to overlapping ascospores. *Ascospores* 2-celled, septate in the lower part, upper cell pale brown, fusiform and symmetrical in one view, but flattened on one side sometimes strongly so, rather variable in size ranging from 19–30 × 3–5 µm (n = 50), lower hyaline cell 3–4 µm long.

*Typus.* NEW ZEALAND, on dead water-soaked fibrous *Rhopalostylis sapida*, Rimutaka Forest Park, 9 Nov. 2011, Bell & Mahoney Herb. no. 1172 (holotype PDD 102614), MycoBank MB800261.

*Notes* — During a recent foray into Rimutaka Forest Park near Wellington a new species of *Brunneiapiospora* was found on dead portions of *Rhopalostylis sapida* (Nikau palm). For a full description of the former placement of fungi with apiosporous ascospores the reader is referred to the paper by Hyde et al. (1998). In it the genus *Brunneiapiospora* was established to accommodate apiosporous species with cylindrical asci and whose ascospores consist of a larger brown cell and a smaller basal hyaline cell. It differs from the apiosporous genus *Anthostomella* which have broadly cylindrical asci and ascospores usually provided with a prominent longitudinal germ slit in the darker ascospore cell. Hyde et al. (1998) provide a key to the six known species of *Brunneiapiospora* all of which are pan-tropical in origin found on decaying material of palms in Ecuador, tropical Australia, Sierra Leone, Tanzania and Indonesia. They placed the genus (together with other genera), in a new family the *Apiosporaceae*. Kang et al. (1999) redefine the family *Clypeosphaeriaceae*, and indicate that the genus *Brunneiapiospora* might be placed therein, although their earlier molecular studies on the *Amphisphaeriales* (Kang et al. 1998) did not include any *Brunneiapiospora* samples. Our species *B. austropalmicola* differs in the ascospore dimensions from those previously described. They are approximately the length of *B. deightoniella* but much narrower (3–5 µm wide vs 7.5–10 µm for *B. deightoniella*). It is also the first described species of the genus from the cooler climates typical of the temperate rain forests of New Zealand.

The substrate upon which this species was found was quite unlike the woody substrate, which we normally collect on forays. It was quite friable and light in both colour and weight. At first we considered it could be from a tree fern trunk but this was proved not to be the case when we consulted those with a good knowledge of fern anatomy. Since all other species of *Brunneiapiospora* have been found on palms, we set about making several slides of the substrate together with portions of freshly collected *Rhopalostylis sapida*. By examination of these and conferring with the article by Tomlinson (2006), we are confident that the abraded material upon which *B. austropalmicola* was growing is a stem portion of the palm *Rhopalostylis sapida*. This palm is common in the Rimutaka Forest Park.

*Colour illustrations.* Forest of *Rhopalostylis sapida* in Nikau Reserve, Paraparaumu, New Zealand (www.wikimedia.org). Photo plate: A–A'. *Paraphyses*, *asci* and *ascospores*; B. *ascus* and *ascospores*; C, D. *ascospores*; E. areolate peridial fragment; F. *ascus* apical ring complex in Melzer's reagent. All except F in Shear's mounting fluid. A–A' phase microscopy, others brightfield. Scale bars: A–A', B, E = 25 µm, C, D = 10 µm, F = 5 µm. Water colour: A. Perithecia on substrate; B. excised perithecium showing vestiture; C. areolate inner perithecial tissue; D. *paraphyses* and *asci*; E. mature *ascospores*; F. *scus* apical rings showing J+ reaction in Melzer's reagent.