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Two new records of *Fissidens* (Fissidentaceae, Bryophyta) for South Africa

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Abstract

Two pluripapillose semilimbate species of *Fissidens*, the East African *F. ferrugineus* and the wide-spread African *F. schweinfurthii* are for the first time recorded from the Republic of South Africa.

Key words: Bryophyta, Fissidens, new records, South Africa

Introduction

Although the moss flora of southern Africa is the best known in Africa, new species and new records of mosses are continually reported from this region (Ochyra *et al.*, 2020). Here we report two new records of *Fissidens* Hedwig (1801: 152) for South Africa. Magill (1981) recognized 28 species of *Fissidens* in the *Flora of Southern Africa* region, while Van Rooy (2006) listed 27 species in the latest checklist for the country of South Africa.

Bruggeman-Nannenga (1993, 1997) subsumed several semilimbate, pluripapillose species under *F. intramarginatus* (Hampe 1862: 531) Jaeger (1869: 14), a species with many expressions. Of these, *Fissidens ferrugineus* Müller (1864: 341) and *F. schweinfurthii* (Müller, 1875: 369) Paris (1896: 484) appear to be good, distinct species.

This will be discussed in a separate paper.

Magill (1981) included only one papillose species with limbidia on the vaginant lamina of all leaves for southern Africa: *F. submarginatus* Bruch in Krauss (1846: 133) that is quite distinct from the two newly recorded species by being mammillose rather than pluripapillose.

Fissidens ferrugineus was collected in two South African locations: Mpumalanga, Graskop, Fairyland. On humus-rich soil of stream bank, in shade in forest, 1500 m, 5 II 1992, *H. F. Glen 2993* (PRE) and Transvaal (Limpopo), Drakensberge. Woodbush, in Bachnähe, 1400 m., 19 VIII 1992, *Lübenau SA 329* with *F. ovatus* Bridel (1819 [1818]: 120) (STU, private herbarium Bruggeman-Nannenga). A small collection of pluripapillose, semilimbate, poorly developed plants, yet clearly belonging to *F. ferrugineus*.

The geographical distribution of this species includes eastern Africa, Madagascar and Réunion.

Fissidens schweinfurthii is reported from a single collection: South Africa, (Eastern) Cape Province, Hogsback, in forest south of the village, on wet earth slope near well, 1120 m., 25 III 1995, *Arts RSA 21/25* (BR, private herbarium Bruggeman-Nannenga).

This species is widely distributed in Africa and Madagascar.

Both these species are pluripapillose with limbidia that reach the apex of the vaginant laminae on all leaves. The two differ in that the laminal cells in *F. ferrugineus* have 1–2 or 2–4 punctate to complicate papillae over the lumen, whereas *F. schweinfurthii* has 5–8 marginal papillae. Similar papillae are illustrated by Magill, (1981 in fig.14, 14) for *F. borgenii* Hampe (1870: 35) and in fig. 14, 22 for *F. subobtusatus* Müller (1899: 56). Moreover, limbidia in *F. ferrugineus* reach the insertion and are marginal throughout, while in *F. schweinfurthii* limbidia reach the insertion or

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end slightly above and are marginal throughout or intramarginal in the proximal part. In South Africa, *F. ferrugineus* and *F. schweinfurthii* are most likely to be confused with *F. submarginatus* which also has completely semilimbate leaves, but differs from both by having high, sharp, mammillose laminal cells. Other pluripapillose South African species have limbidia restricted to the upper leaves of perichaetial stems or have elimbate leaves.

In South Africa, *F. ferrugineus* is found in the Mpumalanga Centre of Moss Diversity, the second most diverse Centre of Moss Diversity in South Africa (Van Rooy & Phephu, 2016). *Fissidens schweinfurthii* occurs in the Amathole Centre of Moss Diversity, a comparatively small centre situated in the Eastern Cape Province of South Africa. Both species are restricted to the Drakensberg Domain, the northern division of the Afromontane phytogeographical Region of Van Rooy & Van Wyk (2010) (Fig. 1).

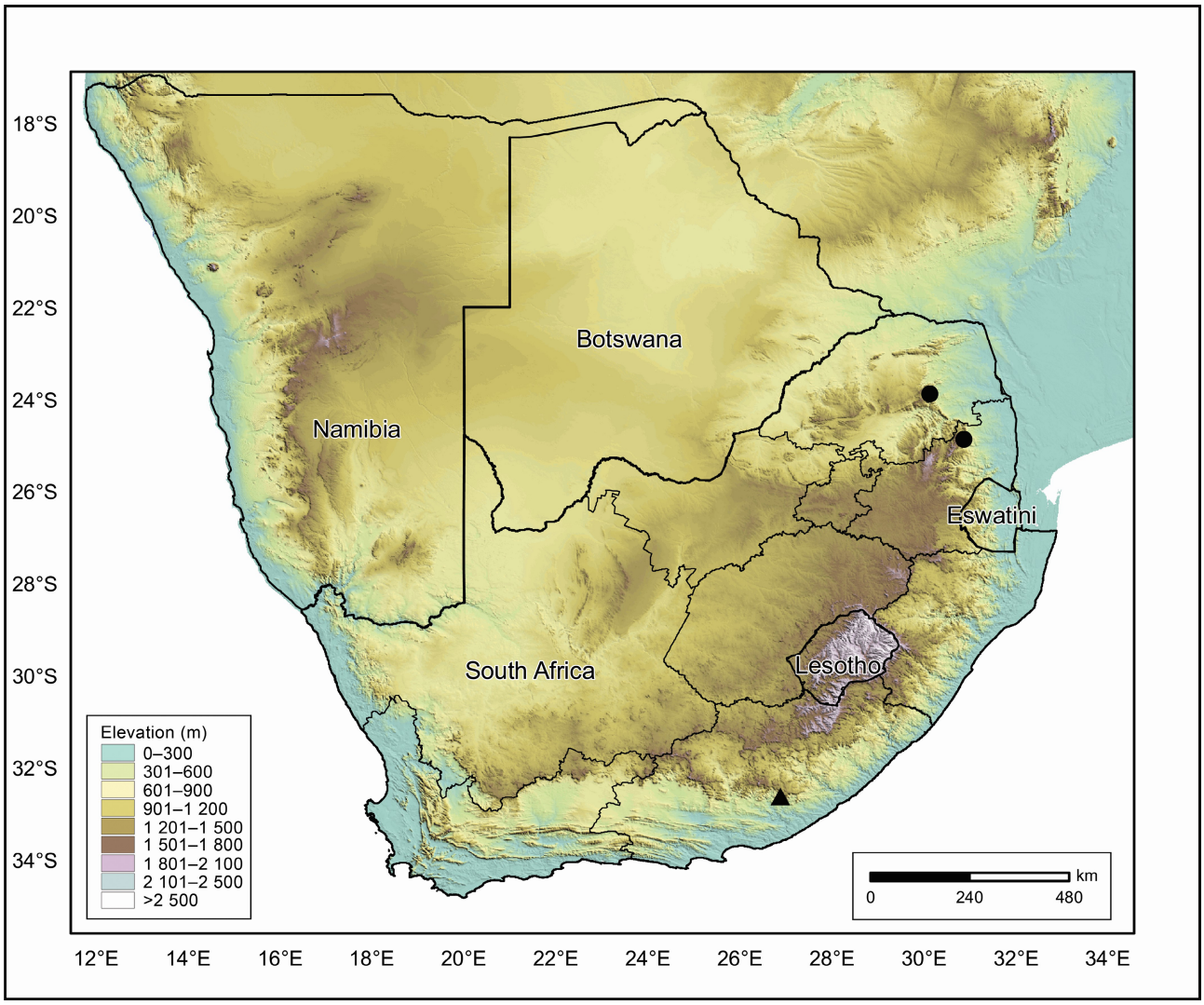

FIGURE 1. Geographical distribution of *Fissidens ferrugineus* (circles) and *F. schweinfurthii* (triangle) in South Africa.

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