

PTERIDOPHYTA

NEW DISTRIBUTION RECORDS AND NOTEWORTHY COLLECTIONS OF PTERIDOPHYTES IN KWAZULU-NATAL

Rediscovery of Didymoglossum erosum

During a field trip to Ngoye Forest in Zululand in early April 2009, a colony of *Didymoglossum erosum* (Willd.) Beentje (syn. *Trichomanes erosum* Willd.) was encountered on a dry vertical rock face in deep shade. This small, easily overlooked, filmy fern (Figure 11) had not been gathered in the FSA region since John Medley Wood (1907, 1908) initially collected material from Ngoye in 1887.

Didymoglossum erosum (Hymenophyllaceae) is easily distinguished from most other filmy ferns by the simple fronds. The only other species in southern Africa with simple fronds is *D. reptans* (Sw.) C.Presl (syn. *Trichomanes reptans* Sw.) from which it differs by being variably pinnatifid and having sori that do not protrude from the lamina but are rather winged by it. Furthermore, they lack marginal hairs, and possess a false marginal vein (Burrows 1990). The most recent literature considers *D. erosum* as a single taxon (Beentje 2008; Roux 2009), whereas historically, distinction has been made between *Trichomanes erosum* var. *erosum* and *T. erosum* var. *aerugineum* (Bosch) C.Chr. ex Bonap. (Schelpe 1970; Burrows 1990; Roux 2001). This was based on morphological differences, reinforced by habitat preferences (Schelpe 1970; Burrows 1990). *Didymoglossum erosum* is a rare fern that occurs from the eastern highlands of Zimbabwe through eastern and central Africa (Figure 12) and into western Africa to Sierra Leone and Guinea, as well as Madagascar and the small islands of Annobon, Bioko, Pemba, Príncipe, Réunion and São Tomé (Burrows 1990; Roux 2009). In South Africa this fern is only known from the Ngoye Forest Reserve (specimens earlier ascribed to *Trichomanes erosum* var. *aerugineum*, Schelpe & Anthony 1986), where it has eluded re-collection, despite ongoing botanical survey work (Huntley 1965).

In recent years, links in the pteridophyte flora of Ngoye and the rainforests of eastern Zimbabwe have also been highlighted: *Christella buchananii* (Schelpe) J.P.Roux and *Christella hispidula* (Decne.) Holttum have recently been collected from Ngoye (Burrows & Burrows 2001), both of which are also known from the forests of southeastern Zimbabwe, as is *Asplenium blastophorum* Hieron. (Burrows 1990).

*Specimens examined**Didymoglossum erosum*

KWAZULU-NATAL.—2831 (Nkandla): Ngoye Forest Reserve, ± 800 m northwest of Zululand Birding Route prefabricated accommodation, in valley below, colony growing in deep shade on dry vertical rock face in view of a perennial stream 15 m distant. Growing in close proximity to, but separate from colonies of both *Didymoglossum reptans* and *Crepidomanes melanotrichum*, 280 m, (–DC), 01-04-2009, N. Crouch 1231 (NH, PRE); Ngoye Forest, (–DC), 23-03-1907, J. Medley Wood 11947 (BOL; NBG; NH; PRE); Ngoye, (–DC), 26-03-1907, J. Medley Wood 11948 (K).

New distribution record for Amauropelta oppositifomis

Amauropelta oppositifomis (C.Chr.) Holttum [Thelypteridaceae, syn. *Thelypteris oppositifomis* (C.Chr.) Ching] is a rare fern found along fast-flowing mountain streams in high altitude grassland in full sun or light shade of evergreen forest margins. It has tufted fronds that are narrowly elliptic in outline and 2-pinnatifid, with the basal pinnae gradually decreasing in size. The pinnae are opposite and the pinnae lobes acute, with the basal pair of veins not meeting below the sinus. It is easily confused with *A. bergiana* (Schltdl.) Holttum [syn. *T. bergiana* (Schltdl.) Ching], but is distinguished from this species by the presence of small golden to red glands and the lack of hooked hairs on the lower surface of the frond (Burrows 1990). Within southern



FIGURE 11.—Detached fronds of *Didymoglossum erosum*, Ngoye Forest Reserve. Photograph: N. Crouch.

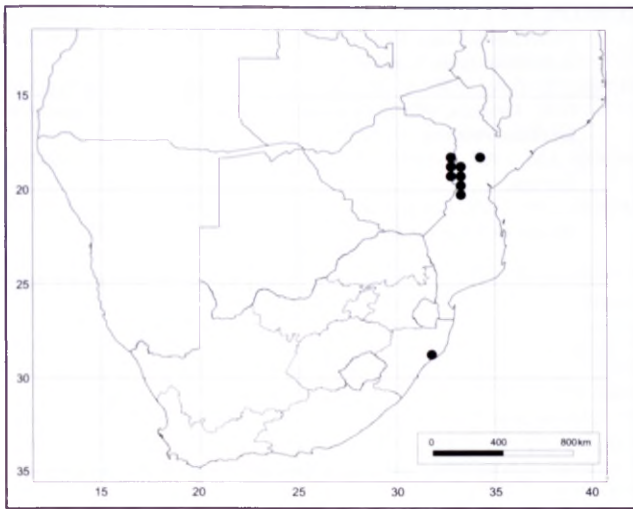


FIGURE 12.—Distribution of *Didymoglossum erosum*, adapted from Burrows (1990), ●.

and Central Africa it has been collected at Die Berg in Mpumalanga, South Africa, Nyanga Mountain in Zimbabwe, and the Zomba Plateau in Malawi. It occurs further into eastern, central and western Africa as far north as Ethiopia, Sudan, the DRC and Nigeria, and is also present on Madagascar (Burrows 1990; Roux 2001, 2009). The current record extends its distribution into the southern Drakensberg range from Mpumalanga by 500 km and is a first record for KwaZulu-Natal (Figure 13).

Specimen examined

KWAZULU-NATAL.—2929 (Underberg): Cobham Forest Reserve, 200 m northwest of Pinnacle Rock, growing on side of sinkhole in montane grassland, 2 000 m, (-CB), 19-10-2008, *N. Crouch 1241* (PRE).

First record of *Amauropelta bergiana* var. *calva* in South Africa

Amauropelta bergiana (Schltdl.) Holttum is a fairly commonly encountered fern in deeply shaded forests associated with mountainous regions receiving high rainfall. It grows along permanent or seasonally moist streambanks, riverine scrub and earthbanks in forests (Burrows 1990; Roux 2001). *Amauropelta bergiana* var. *bergiana* occurs throughout the Afromontane regions of southern and eastern Africa, from the Cape Peninsula, through Central Africa to Ethiopia, as well as on Bioko, Madagascar and Réunion (Burrows 1990; Roux 2001, 2009). Two other varieties of *A. bergiana* were described by Holttum (1974): *A. bergiana* var. *calva* Holttum occurs in West Africa, the Comoro Islands and Réunion; while *A. bergiana* var. *tristanensis* Holttum is confined to the islands of Gough, Inaccessible and Tristan da Cunha (Roux 2009).

Amauropelta bergiana is a rather large fern with tufted, deeply 2-pinnatifid fronds of up to 1 m long. The basal pinnae gradually decrease in size with a pair of very small, vestigial pinnae usually present. Basal veins of the pinnae do not unite below the sinus between each lobe. The typical variety of this species is characterized by the presence of hooked hairs on the abaxial surface of the pinnae, and very small indusia. It can easily be

confused with *A. knysnaensis* (N.C. Anthony & Schelpe) Parris (endemic to the Knysna area); this latter species possesses larger indusia set with minute stalked glands, and lacks the characteristic hooked hairs of *A. bergiana* var. *bergiana*. Another close relative is *A. oppositifomis*, which is distinguished by the absence of hooked hairs and the presence of small golden to red glands on the lower surface of the frond (Burrows 1990).

On a recent trip to the Umtamvuna Nature Reserve in southern KwaZulu-Natal, a plant was found that matched the description of *A. bergiana*. However, on closer inspection, it was found that the hairs on the abaxial surface were not hooked. Furthermore, the plant lacked glands on either indusia or lamina surfaces, so eliminating the two aforementioned related species. This represents the first record of *A. bergiana* var. *calva* in South Africa (Figure 13). This Umtamvuna taxon has previously only been recorded on mainland Africa from Cameroon, and as far south as Réunion in the Indian Ocean (Roux 2009). It is characterized by the presence of straight hairs on the rachis, costae and costules and the absence of hairs on the abaxial surface of the lamina between the veins. It is without hooked hairs (Holttum 1974).

Specimen examined

KWAZULU-NATAL.—3130 (Port Edward): Umtamvuna Nature Reserve, growing at the base of a waterfall tumbling into the Bololo River, 225 m, (-AA), 15-03-2009, *N. Crouch 1228* (PRE).

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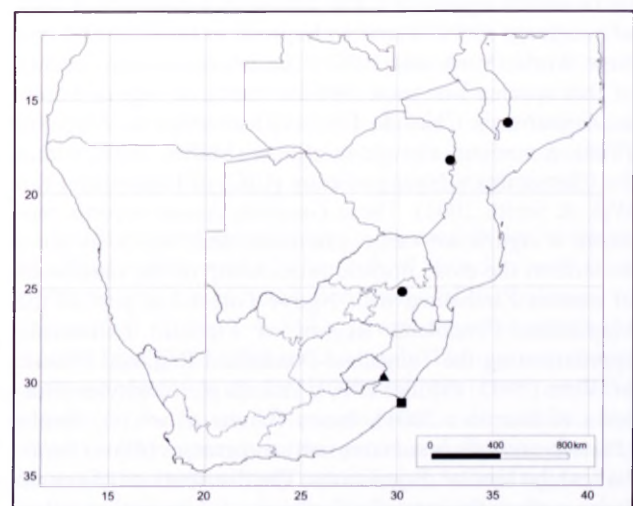


FIGURE 13.—Distribution of *Amauropelta oppositifomis*, adapted from Burrows (1990), ●; new locality in KwaZulu-Natal, ▲. Distribution of *A. bergiana* var. *calva* in the FSA region, ■.

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