

PTERIDOPHYTA

NEW DISTRIBUTION RECORDS OF SOUTH AFRICAN PTERIDOPHYTES

This note updates the last fern floras for southern Africa (Schelpe & Anthony 1986; Burrows 1990) by recording some recent collections which extend currently known distributions.

OPHIOGLOSSACEAE

1. ***Ophioglossum gracillimum*** *Welw. ex Hook. & Baker*, *Synopsis filicum*: 445 (1868); J.E.Burrows: 40 (1990); J.E.Burrows: 153 (1992); J.E.Burrows & T.J.Edwards: 186 (1993). Type: Angola, Pungo Andongo, near Catete, *Welwitsch* 36 (BM, lecto.!; K!, LISU, iso.).

This very small, and consequently undercollected, fern was found growing in mixed *Acacia* woodland on the margins of a seepage zone together with *Ophioglossum lusoafrikanum* Welw. ex Prantl and *Isoetes welwitschii* A.Braun ex Kuhn at an altitude of 1 260 m. This taxon was previously placed in synonymy with *O. lancifolium* Presl (Schelpe 1970) but has recently been recognized as distinct (Burrows & Edwards 1993). This collection, however, represents the first record of *O. gracillimum* from South Africa (Figure 3). It was previously recorded from northern Zimbabwe and northwards through tropical Africa.

NORTHERN TRANSVAAL.—2329 (Pietersburg): Blood River, 8.8 km NW of Pietersburg, (—CD), *J.E.Burrows & Venter* 5224 (NU, PRE).

2. ***Ophioglossum rubellum*** *Welw. ex A.Braun* in Kuhn, *Filices africanae*: 179 (1868); Hook. & Baker: 445 (1868); J.E.Burrows: 205 (1992); J.E.Burrows & T.J.Edwards: 189 (1993). Type: Angola, Pungo Andongo, next to streams near Catete, *Welwitsch* 33 (K, lecto.!; BM!, LISU, iso.).

Like the previous species, *O. rubellum* has probably been overlooked due to its extremely small size. Where it has been collected in Zimbabwe, it has been misidentified as *O. gomezianum* Welw. ex A. Braun (Schelpe 1970; Jacobsen

1983). However, the distinctive orange or reddish pigmentation of the plant, particularly on the stipes and spikes, make it quite distinct from *O. gomezianum*.

The two South African records were collected on shallow, seasonally wet soils overlying sheetrock. The Treur River collection was made in grassland near a river on quartzites, while the Nelspruit collection was made on granite in semi-deciduous woodland (Figure 3). In both localities three or more other species of *Ophioglossum* occurred.

EASTERN TRANSVAAL.—2430 (Pilgrim's Rest): Bourke's Luck, Goedgeloof Plantations, Treur River, (—DB), *J.E.Burrows* 5112 (K, PRE). 2531 (Komatipoort): Nelspruit, Nelsville, W of John Vorster Ave., (—AC), *J.E.Burrows* 5228 (PRE).

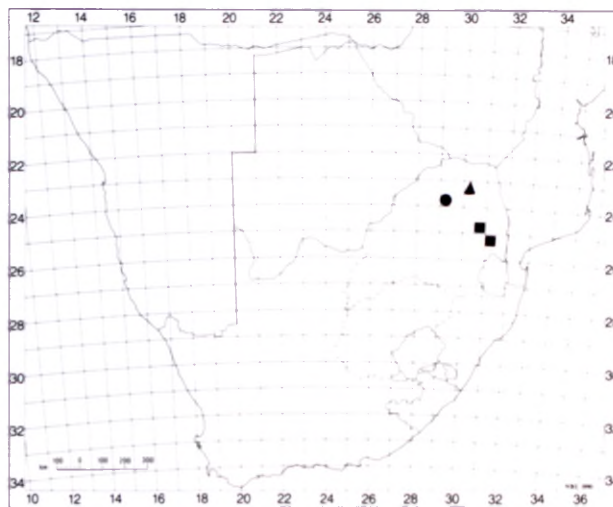


FIGURE 3.—Distribution of *Ophioglossum gracillimum*, ●; *O. rubellum*, ■; and *Asplenium obscurum*, ▲, in southern Africa.

PTERIDACEAE

3. *Pteris catoptera* Kunze var. *horridula* Schelpe in Boletim da Sociedade Broteriana, Ser. 2a, 41: 216 (1967); Schelpe: 118 (1970); W.Jacobsen: 241 (1983); J.E.Burrows: 164 (1990). Type: Zimbabwe, Umtali [Mutare] District, Inyamatshira Range, Chase 4890 (BOL, holo.; BM, SRGH!, iso.).

Pteris catoptera var. *catoptera* is considered one of the most common forest floor ferns occurring in evergreen forests along the eastern escarpment of southern Africa (Burrows 1990). In contrast, the finely prickly variety *P. catoptera* var. *horridula* is apparently much less common. Until recently, the only record of this taxon from South Africa was a single collection from the Lydenburg District of the Eastern Transvaal (J.E.Burrows 3101).

In Natal, a population of var. *horridula* has been observed growing together with the typical variety in forest at the base of Sterkspruit Falls. This site, which is adjacent to the Mpopane River at an elevation of 1 450 m, is at the foot of the Natal Drakensberg escarpment (Figure 4).

Members of this population displayed considerable variation in the frequency of spinules on the rachises and stipes, a character consistent with the original description (Schelpe 1967). Specimens were found growing as understorey geophytes (sensu Jacobsen 1983) in forest litter on the damp forest floor, within 5 m of the Mpopane River. It would appear that var. *horridula* is more altitudinally restricted than var. *catoptera*, which has been collected at elevations ranging from sea level to 1 900 m (Schelpe & Anthony 1986). Although the Natal collection represents a considerable southerly extension of the taxon, it is envisaged that further collecting will result in the closing of the gaps between the rather disjunct records extending from eastern Zimbabwe to Natal.

KWAZULU-NATAL.—2929 (Underberg): Sterkspruit Falls at head of Waterfall Bush, Mpopane River. (—AB), Crouch 661 (NH).

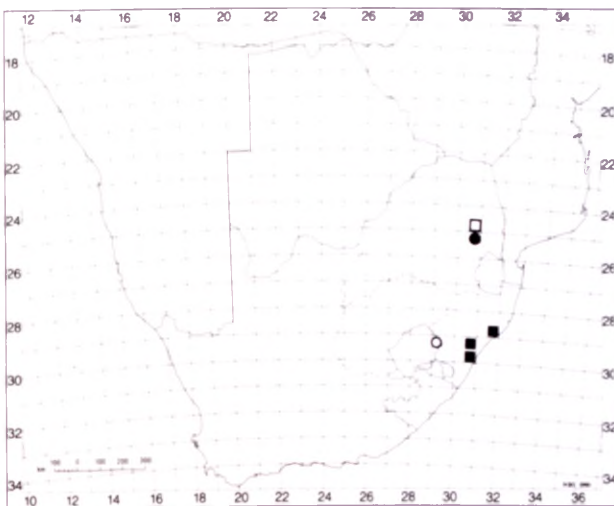


FIGURE 4.—Distribution of *Pteris catoptera* var. *horridula*, ● (new record, ○); and *Arthropteris monocarpa*, ■ (new record, □) in southern Africa.

OLEANDRACEAE

4. *Arthropteris monocarpa* (Cordem.) C.Chr. in Catalogue des Plantes de Madagascar, Pteridophyta: 32 (1932); Schelpe: 163 (1970); W.Jacobsen: 324 (1983); J.E.Burrows: 207 (1990). Type: Réunion, Boivin 881 (P, holo.).

The previously known distribution of this species was disjunct with records from central Natal and eastern Zimbabwe but with none from the region in between (Schelpe & Anthony 1986; Burrows 1990). It has now been found growing at the base of the eastern escarpment in the Mapulaneng Nature Reserve south of Mariepskop in the Eastern Transvaal, which effectively closes this gap. The plants were found growing over moss-covered boulders next to a mountain stream in evergreen forest at an altitude of 860 m (Figure 4). It occurs in association with *Thelypteris pulchra* (Bory de Willd.) Schelpe which was previously only known from a single record from South Africa, roughly 20 km to the north on the lower slopes of Mariepskop.

EASTERN TRANSVAAL.—2430 (Vaalhoek): Mapulaneng Nature Reserve, 3.3 km NNW (straight line) of Welgevonden. (—DB), 860 m, J.E.Burrows & S.M.Burrows 5238 (PRE).

ASPLENIACEAE

5. *Asplenium obscurum* Blume, Enumeratio plantarum Javae et insularum adjacentium: 181 (1828); Schelpe: 174 (1970); J.E.Burrows: 221 (1990). Type: Indonesia, Java, Burangrang Mountains (type not located).

During a collecting trip to the Soutpansberg in the Northern Transvaal, a small colony of *Asplenium obscurum* was discovered. This is the first record of this Afro-Pacific species for South Africa (Jacobsen 1983; Schelpe & Anthony 1986; Burrows 1990). The species has a mainly Asiatic distribution and in this region it has been recorded from Indonesia and the Philippines (Jacobsen 1983). It also occurs sporadically in the moist highlands of Zimbabwe and Mozambique, and in a few localities in Malawi, Tanzania and Madagascar.

In the Soutpansberg, *A. obscurum* was found growing between boulders in a rocky streambed in the deep shade of evergreen forest. The colony was located 5 m from the source of a perennial spring in association with *Tectaria gemmifera* (Fée) Alston and *Thelypteris madagascariensis* (Fée) Schelpe (Figure 3). This habitat is consistent with that noted for this sciophytic species from further north (Jacobsen 1983; Burrows 1990).

NORTHERN PROVINCE (TRANSVAAL).—2330 (Tzaneen): Hillendale Farm, spring source for homestead. (—AA), Crouch 640 (NU).

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