

## NEW RECORDS FROM KWAZULU-NATAL, SOUTH AFRICA

### INTRODUCTION

Eastern coastal links between the flora of southern Africa and tropical East Africa are well established but authors have concentrated on arborescent taxa (White 1965, 1971; Moll & White 1978). The southern extension of tropical species on the eastern coast of Africa is largely the result of the ameliorating effects of the Mozambique Current. Moll & White (1978) briefly outlined the vegetation of the Indian Ocean Coastal belt and drew attention to the strong links which exist between Tongaland-Pondoland and Zanzibar-Inhambane woody floras. Recently *Microcoelia obovata* Summerh. (Orchidaceae) and *Pseuderanthemum hildebrandtii* Lindau (Acanthaceae) were collected in northern KwaZulu-Natal. These records further reflect the vegetation links between the northern areas of KwaZulu-Natal and tropical East Africa. The new records also highlight the importance of amateur botanists, such as Mr E. Harrison, in the further discovery of our flora.

### ACANTHACEAE

1. ***Pseuderanthemum hildebrandtii*** Lindau in Botanischer Jahrbücher 20: 39 (1895a); Lindau: 330 (1895b); C.B.Clarke: 172 (1899); Milne-Redh.: 260 (1936). Type: Tanzania, Zanzibar, at Kidoti, *Hildebrandt* 981 (syn., designated by Milne-Redhead l.c. as 'type').

The genus *Pseuderanthemum* Radlk. includes about 120 species and has a pantropical distribution (Dyer 1975). The genus was created to include species of the tribe Justiceae which had formerly been placed in *Eranthemum* (Ruelliaeae), *Eranthemum sensu stricto* does not occur in Africa (Milne-Redhead 1936). *Pseuderan-*

*themum* is most closely related to *Ruspolia*, the latter being distinguished by its monothealous anthers (Figure 5). In general the African species of *Pseuderanthemum* occur in closed forests and produce long, narrow corollas which are usually white or insipidly coloured. Formerly only one species was recorded from South Africa, namely *P. subviscosum* (C.B.Clarke) Stapf which occurs as a herb of subtropical forest and is characterised by its long, narrowly tubular white flowers. *P. hildebrandtii* (Figure 5) diverges from this typical pattern in producing brick-red flowers very similar to those of *Ruspolia hypocrateriformis* (Vahl) Milne-Redh. from which it is distinguished by its bithealous anthers, slender habit and smaller leaves. The floral similarity to *R. hypocrateriformis* transcends colour to the extent that Clarke (1899) omitted a detailed description of floral dimensions in his description of *Eranthemum hildebrandtii* C.B.Clarke (= *Pseuderanthemum hildebrandtii*) substituting 'otherwise as *E. hypocrateriforme* Roem. & Schultes'. This uncanny floral convergence correlates with a similarity in habitat for the two species and probably indicates shared pollinators. *P. hildebrandtii* occurs in woodland and along forest margins (not on forest floors like *P. subviscosum*); this difference in habitat is likely to be associated with different pollinators and different floral pigments.

The sculpturing of the seeds of *P. hildebrandtii* is also atypical for *Pseuderanthemum* in that the inner and outer seed surfaces have different patterns (Figure 6), a trend common in *Ruspolia*.

Although the distributions of other African species of *Pseuderanthemum* are patchy, no major disjunctions occur. By contrast, the collection of *P. hildebrandtii* in South Africa, produces a disjunction which mirrors that of



FIGURE 5.—A, C, D, *Pseuderanthemum hildebrandtii*, Harrison 1041: A, flowering branch,  $\times 0.8$ ; C, anthers,  $\times 47$ ; D, calyces,  $\times 8$ . B, *Ruspolia hypocrateriformis*, S. Venter 12915, monothealous anther,  $\times 31$ .

*Ruspolia hypocrateriformis*. The main concentration of *P. hildebrandtii* occurs in eastern Tanzania and eastern and central Kenya between  $0^\circ$  and  $10^\circ$  south of the equator. The main populations of *Ruspolia hypocrateriformis* tra-

verse similar but wider latitudes on the West Coast from Senegal in the north, to northern Angola in the south (Figure 7). Both species then display large disjunctions to their southern outliers. The southern populations of *P.*



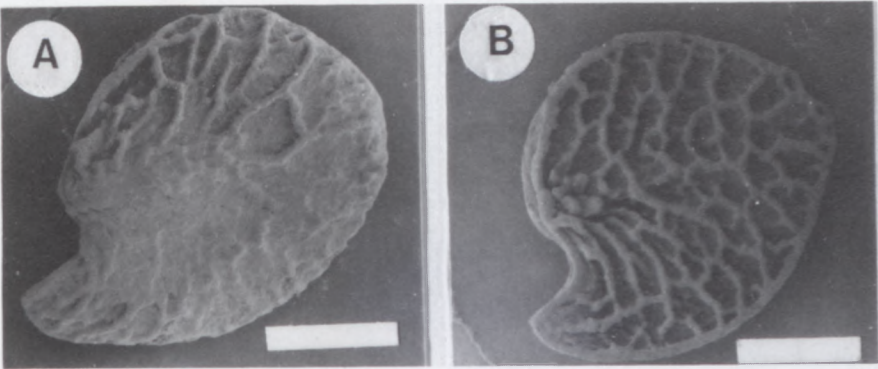


FIGURE 6.—Seed of *Pseuderanthemum hildebrandtii*, Harrison 1041. A, outer surface; B, inner surface. Scale bars: 2 mm.

*hildebrandtii* occur in the Lebombo Mountains of KwaZulu-Natal, some 2 400 km to the south. Likewise the southern variety of *R. hypocrateriformis* is recorded from Northern Province (Arnold & De Wet 1993) displaying a disjunction of some 2 300 km. The Acanthaceae are characterised by explosive capsules with elastic funicles (jaculators) which are effective short-distance distributors of seed and it is difficult to conceive that the species are capable of long-distance dispersal. From their similar flowers, dispersal capabilities and habitat, it seems likely that similar historical events may have led to the vicarious distributions these two allies display.

KWAZULU-NATAL.—2731 (Louwsburg): between Ingwavuma and Jozini Dam, (–AA), Harrison 1041 (NU, PRE).

ORCHIDACEAE

2. *Microcoelia obovata* Summerh. in Botanical museum leaflets 11: 253 (1945); Piers: 276 (1968);

Jonsson: 83 (1981). Type: Tanzania, Lushoto, Lwengera Valley, Moreau 445a (K, holo.).

*Microcoelia* Lindl. includes about 27 species and is limited in distribution to Madagascar and tropical and southern Africa (Cribb 1989). Currently this leafless genus of epiphytes is represented by a single species, *M. exilis* Lindl. in South Africa. This species is widespread in Uganda, Kenya, Tanzania, Zaïre, Zambia, Malawi, Mozambique, Zimbabwe, South Africa and Madagascar. Unlike the distributional patterns of African *Pseuderanthemum* species, disjuncts are common in *Microcoelia*. Species such as *M. macrorrhynchia* (Schltr.) Summerh., *M. konduensis* (De Wild.) Summerh. and *M. microglossa* Summerh. are scattered patchily through tropical Africa, whereas *M. koehleri* (Schltr.) Summerh. displays wide tropical disjunctions. In fact one species, *M. physophora* (Rchb.f.) Summerh., traverses the ocean barrier between mainland Africa and Madagascar (Jonsson 1981). These patterns are probably the product of seed vagility.

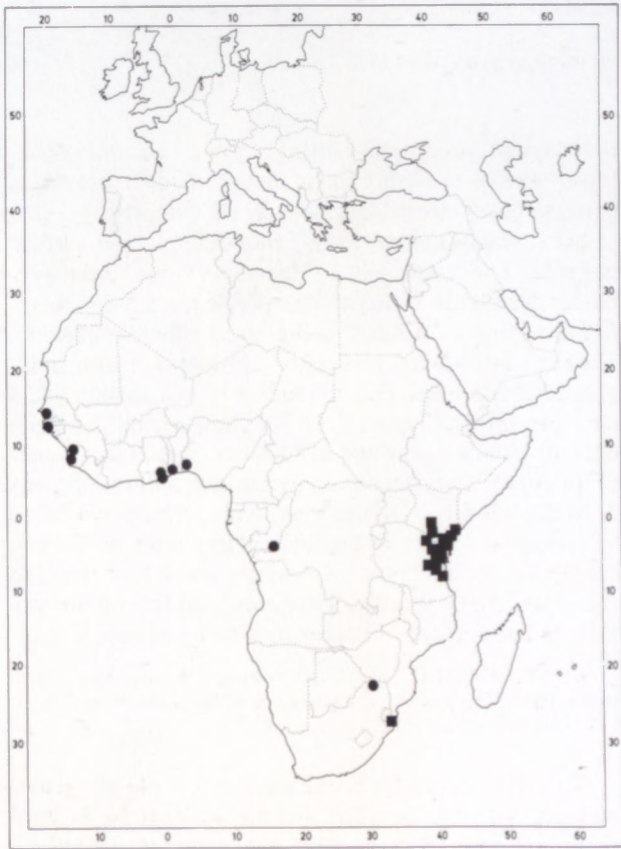


FIGURE 7.—Distribution of *Ruspolia hypocrateriformis*, ●; *Pseuderanthemum hildebrandtii*, ■.



FIGURE 8.—Distribution of *Microcoelia obovata*.

*M. obovata* was recorded from Kenya, Tanzania and northern Mozambique in a recent revision (Jonsson 1981). The South African collection was made at Lake Sibaya some 1 440 km to the south of the southernmost point recorded in Jonsson (l.c.) (Figure 8). In South Africa the species appears to be restricted to sparse populations in fairly dense coastal forest at Lake Sibaya, Veld Type no. 1, Coastal Thornveld & Forest (Acocks 1988).

*M. obovata* is distinguished by its semicircularly incurved spur, (2.0–)3.5–5.6 mm long and conspicuously elongate labellum, (4.9–)7.6(–9.0) × 3.1–6.0 mm, which exceeds the remaining perianth parts by a third to half their length.

KWAZULU-NATAL.—2732 (Ubombo): Lake Sibayi, (–BC), Harrison & Rolfe 1044 (NU).

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