

ASTERACEAE

DISTEPHANUS (ASTERACEAE: VERNONIEAE): A NEW COMBINATION AND A NEW RECORD FOR SOUTHERN AFRICA

The name *Distephanus* Cass. has been applied to species of Vernonieae with trinervate leaves, predominantly yellowish flowers (some are reddish or purplish), distinct basal stylar nodes, and sclerified basal appendages on the anther thecae. The genus occurs in Asia, the western Indian Ocean, Madagascar, and eastern Africa (Robinson & Kahn 1986). Although Robinson & Kahn (1986) recognised 26 species in *Distephanus*, they indicated that others probably belonged to it as well, anticipating the future addition of new species, and the most recent tribal treatment (Keeley & Robinson 2009: Table 28.1) estimated 50 species of *Distephanus*. Neither of these treatments suggested that *Vernonia in hacensis* G.V.Pope should be included in the genus, but it has the defining morphological features for *Distephanus*. Robinson & Kahn (1986) stated that a distinct puck-like node at the base of the style is 'almost totally restricted to and characteristic of *Distephanus* among the paleotropical Vernonieae' and also pointed out the simple broad sclerified shield of the anther endothecium. Both of these features, as well as the trinervate leaves are present on plants of *V. in hacensis*. We transfer *V. in hacensis* to the genus *Distephanus* and distinguish it from *D. divaricatus* (Steetz) H.Rob. & B.Kahn and *D. anisochaetoides* (Sond.) H. Rob. & B. Kahn.

***Distephanus in hacensis* (G.V.Pope) Boon & Glen**, comb. nov. *Vernonia in hacensis* G.V.Pope in Kew Bull. 43: 280 (1988); G.V. Pope in Flora zambesiaca 6: 81 (1992). Type: Mozambique, Xai-Xai, Praia Sepulveda, Barbosa & Lemos 7843 (K—ALUKA image!, holo.; COI—ALUKA image!, LISC—ALUKA image!, iso.).

[*Distephanus* sp. nov. Boon: 584 (2010)]

Distribution and ecology: known from just north of the Tongati River at the Zimbali Estate to southern Mozambique near Xai Xai. Pope (1988) describes the distribution as 'Mozambique, South Africa (Natal and Zululand)' but subsequently (Pope 1992) states that the species is 'not known from outside the Flora Zambesiaca area'. The species is a component of dune scrub thickets and forest and coastal woodlands. Flowering is (July–)Aug.–Oct.(–Nov.).

Common name: a suggested English name is coastal bitter-tea.

Discussion: South African material of *D. in hacensis* has often been misidentified as *D. divaricatus* (= *Vernonia aurantiaca* (O.Hoffm.) N.E.Br.) (Hilliard 1977). In the FSA Region, *D. divaricatus* is restricted to Mpumalanga, Limpopo Province, Namibia and Botswana, while *V. in hacensis* has an eastern coastal distribution in KwaZulu-Natal and southern Mozambique (Figure 1). Although Hilliard (1994) recognized *V. in hacensis* as a separate species in these coastal areas, the species remained poorly understood and was treated as *Distephanus* sp. nov. (Boon 2010). *Vernonia in hacensis* can easily be distinguished from *D. divaricatus* by its con-

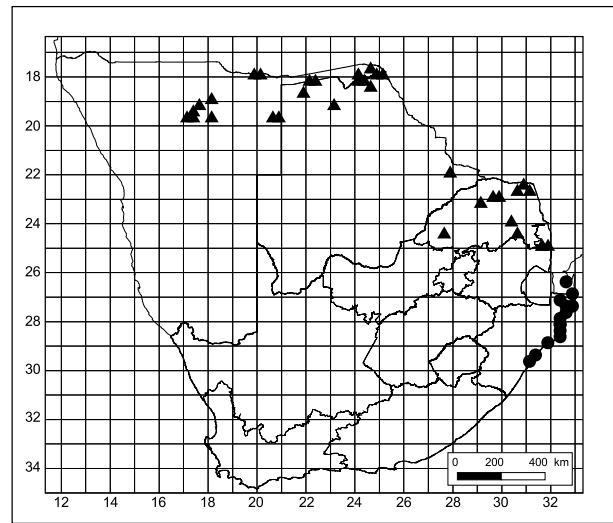


FIGURE 1.—Distribution of ●, *Distephanus in hacensis* and ▲, *D. divaricatus* in southern Africa based on specimens at NU, CPF, NH, PRE.

colourous leaves and white to cream flowers with yellow anthers whilst *D. divaricatus* has leaves that are pale grey to whitish below, and orange-yellow flowers. *D. divaricatus* also has a conspicuous tuft of white hairs at the base of the petiole, which is absent in *V. in hacensis*. Specimens of *V. in hacensis* from southern Mozambique were reported by Pope (1992) to have purplish flowers, as was the collection of Ngwenya 2458, but Hilliard (1994) was of the opinion that these descriptions were in error and that the species had only white to cream-coloured flowers. We have not seen any purplish flowers among those observed in the field nor is that colour mentioned on any herbarium sheet examined besides Ngwenya 2458. Interestingly, two of the five southern African species, the subject of this note and *D. anisochaetoides* have white flowers, a colour not mentioned by Robinson & Kahn (1986) and Keeley & Robinson (2009).

Distephanus in hacensis is a liana growing to about 8 m and the deeply furrowed stems reach about 120 mm in diameter (Figure 2A). *D. divaricatus* also grows to about 8 m, but is a shrub or climber. Leaves, inflorescences and young stems usually have scattered short, whitish to brown hairs in *V. in hacensis*, whilst in *D. divaricatus* young branches are whitish tomentellous or puberulous to glabrescent (Pope 1992). In *V. in hacensis* leaves are alternate, ovate(elliptic), green above and below, trinerved, entire and usually mucronate (Figures 2A, B, C). They reach $\pm 60 \times 35$ mm (*D. divaricatus* has leaves reaching 120×100 mm) and may be slightly succulent and glabrous when growing on coastal dunes; more inland they tend to be thinner and hairier. Inflorescences are terminal and sub-terminal panicles, and immature heads may persist for some weeks along the branches of the inflorescences before opening to flower (Figure 2A,

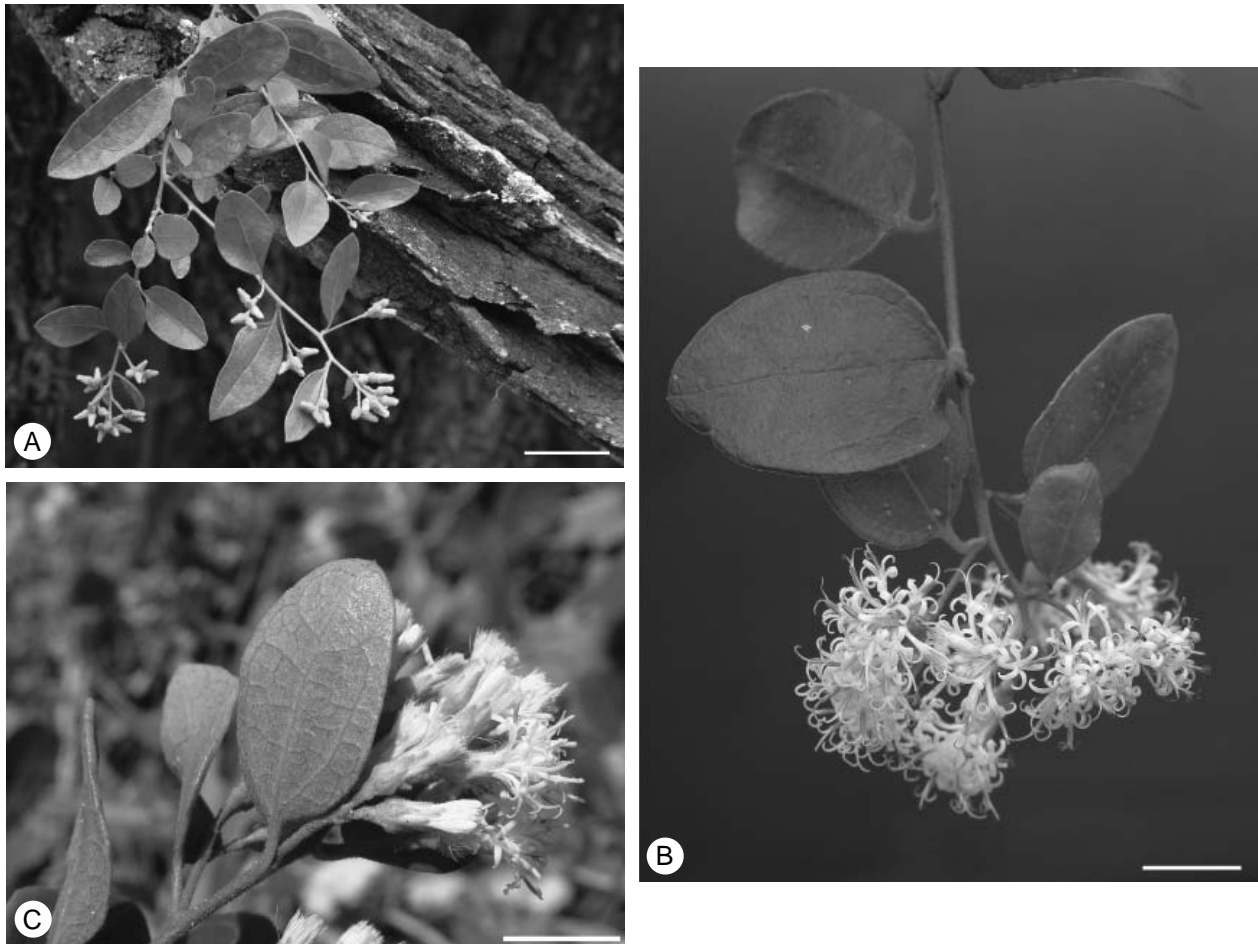


FIGURE 2.—*Distephanus in hacensis*. A, branchlet with inflorescence in bud. Large stem with a diameter of approximately 100 mm in the background; B, flowering branchlet; C, flowering branchlet showing succulent leaves with three prominent nerves (abaxial view). Note vestiture on branches and petioles. Photographs: Richard Boon. Scale bars A, 30 mm; B,C, 10 mm.

B, C). The cypselas are sparsely hispidulous with a pappus of both scales and setae. In *D. divaricatus* the cypselas are densely strigose and the pappus is composed of scale-like setae (Pope 1992). Additional characters of both species are described by Pope (1992).

Although *D. in hacensis* has been most often confused with *D. divaricatus*, another species, *D. anisochaetoides*, is the most similar South African species, with similar habit and white to cream flowers. *D. anisochaetoides* is distinguished from *D. in hacensis* by its larger, $\pm 85 \times 70$ mm, slightly discolorous and broadly ovate to cuneate-rhomboid leaves with cuneate bases and usually coarsely toothed margins, especially on the upper half. It has larger capitula, with ± 15 – 20 florets per capitulum versus ± 9 in *D. in hacensis*. Additionally, *D. anisochaetoides* has a generally more temperate distribution in coastal, scarp and mistbelt forest margins from the Eastern Cape to Mozambique, although the two species may grow side-by-side in coastal forests and thickets. Additional characters of *D. anisochaetoides* and *V. in hacensis* are described by Pope (1992).

Conservation status: *D. in hacensis* is both quite common and fairly widespread, and so should be listed as being of Least Concern (*sensu* Raimondo *et al.* 2009) throughout its range.

Additional specimens

KWAZULU-NATAL.—**2732** (Ubombo): Sihangwane, (–AD), 14 Sept. 1973, *E.S. Pooley 1664* (NU); Mazengwenya, dune bush, (–BB), 11 Sept. 1971, *R.G. Strey 10454* (PRE); Lake Sibaya, Camp Abandon, (–BC), 4 Sept. 1996, *I. Felton and M. Thornhill 143* (PRE); Kosi Bay Coastal Forest Reserve, Lake Sibaya, eastern side along road between lake and first dune, forest, (–BC), 24 Aug. 1994, *R.A. Lubbe 253* (NH); Mazengwenya Coastal Forest, (–BD), 25 Feb. 1982, *E. Retief 851* (PRE); Manzengwenya, margin of dune forest, (–BD), 17 Aug. 1985, *M.C. Ward 1009* (NH, PRE); Mazengwenya Coastal Forest, (–BD), 25 Feb. 1982, *E. Retief 851* (PRE); Hlabisa District, False Bay, in bush at edge of bay, (–CD), 14 Sept. 1953, *Ward 1473* (NH); Sodwana Bay, (–DA), 05 Sept. 1982, *J.P. Kluge 2529* (PRE); Road to Sodwana Bay, (–DA), 29 Aug. 1978, *L. Smook 1306* (PRE); Sodwana Bay, forest, (–DA), 17 Sept. 1965, *J. Vahrmeijer 1157* (NH, PRE). **2831** (Nkandla): Mtunzini, (–DD), 14 Oct. 1973, *O.M. Hilliard & B.L. Burt 6845* (NU); Mtunzini, (–DD), *J. Gerstner* (NH); Mtunzini dunes, (–DD), 30 Sept. 1951, *G.S. Lawn 2131* (NH). **2832** (Mtubatuba): Eastern Shores State Forest, developing dune woodland, (–AB), 31 July 1985, *D.R. MacDevette 834* (NH); Nyalazi State Forest, Kentron area, in forest canopy, (–AB), 10 Sept. 1986, *G.F. van Wyk 914* (CPF, NH); St Lucia, Eastern Shores, Perriers Rocks forestry hut, seaward facing dune thicket, (–AB), Sept. 1982, *D.R. MacDevette 253* (NH); St Lucia, False Bay, (–AD), 26 Aug. 1978, *Johannesburg Botanical Garden 1781* (PRE); Eastern Shores State Forest, foredune at Perriers, dune forest, (–AD), 23 July 1986, *K. MacDevette 1007* (CPF); Dukuduku State Forest, Transect E, in forest, (–AD), 3 Sept. 1986, *K. MacDevette 1054* (CPF, NH); Mapelane, margin of dune forest, (–AD), 24 Sept. 1971, *C.J. Ward 7214* (NU, PRE); Lake Nhalabane area, South Lake, southern shores, dune woodland, (–CB), 05 Jan. 1992, *C.J. Ward & A. Rajih 11705* (NH); Futululu, Dukuduku, forest scrub, (–CC), 9 Sept. 1971, *R.G. Strey 10412* (PRE); Umhlatuzi Lake Bluff, in forest patch on dunes, (–CC), 11 July 1967, *H.J.T. Venter 3851* (PRE). **2931**

(Stanger): Mvoti River mouth, (–AD), 14 Oct. 1965, *E.J. Moll* 2568 (NU, PRE); Gingindhlovu, (–BA), Sept. 1932, *J. Gerstner* (NH); Bal-litoville, Zimbali dune forest, scrambling over foredune scrub, (–CA), 5 Sept. 1985, *K. MacDevette* 317 (NH, PRE).

MOZAMBIQUE.—2632 (Bela Vista): Ponta Milibangalala, (–BC), 29 Nov. 2001, *A.M. Ngwenya* 2458 (NH).

ACKNOWLEDGEMENTS

J.E. Burrows, C.J. Curry, V.A. Funk, M.F. Glen, M. Koekemoer, G.R. Nichols, H. Robinson, E. Schmidt, C.R. Scott-Shaw, H. Steyn, D.A. Styles, N. Swelankomo and E. van Wyk are thanked for their assistance in the preparation of this note. We thank two anonymous referees for their suggestions that have improved this paper.

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R. BOON* & H.F. GLEN**

*Environmental Planning and Climate Protection Department, eThek-wini Municipality, Box 680, Durban, 4000 South Africa.

**SANBI Kwazulu-Natal Herbarium, Box 52099, Berea Road, 4007 South Africa.