NOTES ON SOME PLANTS OF SOUTHERN AFRICA CHIEFLY FROM NATAL: VIII*

O. M. HILLIARD** & B. L. BURTT

ABSTRACT. Fifty-four items are annotated. Ten are new species, in the genera *Cynoglossum* (1), *Tysonia* (1), *Senecio* (1), *Gladiolus* (1), *Hesperantha* (2), *Alectra* (1), *Manulea* (1), and *Zaluzianskya* (2). New combinations are *Anisopappus latifolius* (transferred from *Anaglypha* and becoming the first epaleate species of *Anisopappus*); *Diclis rotundifolia* (transferred from *Diascia* and the correct name for a common plant previously confused with *D. reptans*), and *Glumicalyx nutans* (transferred from *Selago*, and an earlier name for *G. alpestris*). There is a new key to the Natal genera of Campanulaceae; the nomenclatural history of *Gladiolus dalenii* (= *G. natalensis*, = *G. psittacinus*) is set out; *Stenosemis* (Umbelliferae) currently regarded as a synonym of *Annesorhiza*, is reinstated as an independent genus. There are also 17 new records for Natal and a number of uncertain species and records are documented.

The patterns of geographical distribution shown by Natal Compositae were recently analysed by Hilliard (in *Notes R.B.G. Edinb.* 36:407–425. 1978). One group consisted of species having their major centre of distribution in the highveld of the southern Transvaal and Swaziland, but penetrating into northern Natal (Hilliard, *op. cit.* group 6, p. 417, fig. 3A). In the present paper this same pattern of distribution is recorded for a number of plants that are not enumerated in J. H. Ross's *Flora of Natal* (*Bot. Survey Memoir* no. 39, Pretoria, 1973). The northern areas of Natal are still far from well known botanically and we must expect additions to this group both from further collecting and from a more critical study of material already in herbaria. The relevant species that are annotated below are: *Cephalaria foliosa* (no. 268), *Anagallis pumila* (no. 281), *Peucedanum magalismontanum* (no. 297), *Khadia acutipetala* (no. 279), *Antherotoma naudinii* (no. 277), *Commelina subulata* (no. 263), *Wahlenbergia banksiana* (no. 259), *W. pinnata* (no. 261).

Jacquemontia ovalis (no. 267) is also a new record for Natal from the Tongaland plain: it is a tropical species growing at the edge of pans. The richness of this area in wetland tropical species has been emphasised for Compositae by Hilliard (*op. cit.*: 420, 421. 1978). It is worth noting here the position in the typically wetland family Cyperaceae. Out of 168 species recorded for Natal as a whole, 15 are restricted to Tongaland while a number of others extend further south only along the coast region (data from Gordon-Gray in Ross, *Fl. Natal*: 99–113. 1973).

As from April 1 1978 those parts of East Griqualand that had not been incorporated in the Transkei were transferred for administrative purposes from Cape Province to Natal. Plants from this area will therefore be cited in future under Natal, not under Cape.

As always we are greatly indebted to the authorities of herbaria cited for free consultation of their collections. We have received much help from friends and colleagues, and we particularly wish to thank Mr Ian Garland,

* Continued from *Notes R.B.G. Edinb.* 36:76 (1978).

** Dept of Botany, University of Natal, Pietermaritzburg, S Africa.

Mtunzini, for the trouble he took to send in fresh material of *Alectra dunensis* (no. 286). We could not have re-collected typical *Tysonia africana* (no. 274) without the help of Mr N. E. Shirley and Mr & Mrs D. Button: we are most grateful to them. We also thank Mr R. Mill (Edinburgh) for providing the diagnosis of *Tysonia glochidiata* (no. 275) in advance of his revision of the genus, thus allowing the plant names to be put straight without further delay. The illustrations were prepared by Miss Linda Cowan and we thank her for her careful work. Financial help for field work in 1977 is gratefully acknowledged to C.S.I.R. Pretoria (O.M.H.) and the Stanley Smith Horticultural Trust (B.L.B.).

AMARYLLIDACEAE
(incl. Hypoxidaceae)

250. Hypoxis decumbens L., Pl. Jam. Pugill. 11 (1759) et in Amoen. Acad. 5:396 (1760); Brackett in Rhodora 25:129 (1923).
Type: Jamaica, *P. Browne* (n.v.).
NATAL. Lion's River distr., Dargle, Edwards Farm, damp woody area, shady, large populations on floor in forest clearings, long ovaries dehiscing in 3 valves, 19 ii 1975, *S. E. Wood* 175 (E, NU); Benvie, in mossy paths and short grass in arboretum, 11 i 1978, *Hilliard & Burtt* 11191 (E, NU). Pietermaritzburg distr., Pietermaritzburg, Botanic Gardens, 1975, *M. Ram* s.n. (E, NU).

There appears to be no previous record of this American species occurring as an alien in S Africa. The arboretum at Benvie was established about 1885 and Mr J. A. Geekie, the present owner and grandson of its founder, tells us that American trees were introduced at an early date. It thus seems possible that Benvie was the original site where *Hypoxis decumbens* was introduced.

APOCYNACEAE

251. Gonioma kamassi E. Mey., Comm. Pl. Austr. Afr. 189 (1837); Stapf in Fl. Cap. 4(1):503 (1907); Codd in Fl. Southern Afr. 26:262 (1963); Breitenbach, Indig. Trees Southern Afr. 5:1028 (1965); Palmer & Pitman, Trees Southern Afr. 3:1905 (1972); Compton, Fl. Swazi. (Journ. S. Afr. Bot. Suppl. vol. 11) 439 (1976).
Types: Cape, prope Vanstaadensrivier, *Drège;* prope Meulrivier, *Drège.*
NATAL. Ngotshe distr., Louwsburg, Itala Nature Reserve, c. 1500 m, foot of dolerite cliffs, tree 20 ft in patch of forest on boulders, locally common, flowers scented, white limb, greenish tube, 11 xii 1975, *Hilliard & Burtt* 8549 (E, NU).

Gonioma kamassi has its main distribution in the SE and E Cape, from George to East London. Breitenbach adds that it occurs "sparingly also in the Transkei and Zululand"; Palmer & Pitman say "as far eastwards as Pondoland with one or two freak occurrences in Zululand and Swaziland". The Swaziland record has now been documented by Compton who cites the locality as Gobolo. We have not traced precise records in Zululand and it therefore seems desirable to publish the above citation from N Natal.

BORAGINACEAE

252. Cynoglossum spelaeum Hilliard & Burtt, **species nova** e subgenere *Paracynoglosso* (M. Pop.) Riedl; inter species austro-africanas nulli arcte affinis; habitu caulibus foliis radicalibus axillaribus, rosula centrali persistente, foliis pro genere molliusculis pubescentibus, floribus albis distincta.

Syn.: [*Cynoglossum basuticum* [Weim. ex] Guillarmod, Fl. Lesotho 233 (1973)—nomen nudum].

Herba perennis radice palari 10 mm usque diametro; caules foliis radicalibus axillares, 1 mm usque alti, inferne simplices, superne ramosi, herbacei, pilosi, foliati. *Folia* radicalia rosulata (rosula centrali persistente), usque ad 40 × 5 cm; lamina elliptica utrinque angustata regioni petiolari aequalis vel ea paulo brevior, apice acuto vel subacuto mucronato, marginibus integris vel obscure serrulatis, utrinque pilis basi leviter bulbosis praedita; caulina similia sed sursum mox sessilia et magnitudine cito decrescentia. *Inflorescentia* paniculam magnam laxam patentem corymbosam formans; pedicelli filiformes, anthesi 5 mm longi, sub fructu usque ad 20 mm et reflexi. *Calyx* fere ad basin 5-lobus; lobi c. 2 × 1·5 mm, sub fructu ad 5 × 3 mm ampliati, lanceolato-oblongi vel ovato-oblongi, apice acuto vel subacuto mucronato, dorso et marginibus asperiter pilosi, intus glabri. *Corolla* alba, tubo cylindrico c. 2 × 2 mm; fornices leviter bilobi, obtusi, dense papillosi; lobi 5, c. 3 × 3 mm, patentes, suborbiculares. *Stamina* e medio tubo orientia, inclusa, filamentis minus quam 0·5 mm filiformibus, antheris 0·75 mm obtusis. *Ovarium* 4-lobum, in receptaculo plano; stylus 0·75 mm, crassiusculus, stigmate subcapitato. *Nuculae* c. 5 × 4 mm, plus minusve pyriformes, supra vix convexae carina media et margine elevato praeditae, infra plus minusve rotundatae cicatrici triangulari in dimidio superiore, carina margine et pagina inferiore glochidiatis, ceterum supra pilis basi bulbosis praeditae.

Type: Natal, Underberg distr., Cobham Forest Reserve, Polela valley, in loose sandy soil at edge of overhang, flowers white, 20 iii 1977, *Hilliard & Burtt* 9728 (holo. E; iso. NU).

LESOTHO. Mafeteng distr., Maboloka Mt, slope, small white flower, 12 iii 1915, *Dieterlen* 1093 (PRE); Likhaele Mission Station, cave on slope of Lai Kopile Mt, white flowers, i 1918, *Dieterlen* "better specs. of 1093" (PRE); *ibidem*, slope above mission, under damp rock, iii 1918, *Dieterlen* 1354 (PRE).

NATAL. Lion's River distr., "Allandale", at foot of sandstone cliffs (Molteno beds), 24 i 1978, *Hilliard & Burtt* 11258 (E, NU). Mpendhle distr., Vergelegen Nature Reserve, 1860 m, foot of Cave Sandstone overhang and cliffs, white flowers, 2 i 1978, *Hilliard & Burtt* 11172 (E, NU). Underberg distr., Bamboo Mt, N face, c. 2010 m, few rather poor plants under sandstone overhang, white flowers, 9 iv 1977, *Hilliard & Burtt* 10104 (E, NU); Bamboo Mt, S side above Restmount, c. 1800 m, under sandstone overhang at top of forest, white flowers, 10 iv 1977, *Hilliard & Burtt* 10120; Garden Castle Nature Reserve, track towards Bushman's Nek, c. 1860 m, amongst rocks under sandstone overhang, flowers white, 2 ii 1975, *Hilliard & Burtt* 7920 (E, NU); Bushman's Nek, Thamathu Cave, 2150 m, coarse herb in damp spots under overhang, white flowers, 3 ii 1976, *Hilliard & Burtt* 8904 (E, NU).

CAPE. Albert distr., Broughton, near Molteno, 1980 m, xii 1892, *Flanagan* 1632 (PRE, K).

Cynoglossum spelaeum is a characteristic plant of sandstone caves and overhangs in the southern Natal Drakensberg. It likes to grow in the loose sandy soil at the edge of an overhang, often slightly within the drip-line but obviously drawing its water from this. It forms untidy patches up to 1 m high and is clearly a perennial (though perhaps a short-lived one) with a persistent central rosette. This habit, the white flowers and the large radical leaves that are, for its genus, somewhat more softly hairy than usual, mark it off sharply from the other South African species. Only in one locality, on the farm "Allandale" near Kamberg in Lion's River district, have we found it at the foot of cliffs in very wet ground mixed with other vegetation. Mrs Dieterlen's notes show that in Lesotho it occupies similar habitats to those where we have seen it in the southern Drakensberg.

Within the genus, *C. spelaeum* should probably be placed in subgen. *Paracynoglossum* (M. Pop.) Riedl (see Riedl in *Österr. Bot. Zeit.* 109:390–393. 1962). However it differs from Riedl's description in the fornices being distinctly notched at the top and the nutlets being 5 mm (not up to 3 mm) long. In subgen. *Eleutherostylum* it would be out of place because of the papillose fornices and the full complement of nutlets.

Paracynoglossum, based on *Cynoglossum denticulatum* DC., was segregated as a distinct genus by M. Popov (in *Fl. U.R.S.S.* 19:715, 673. 1953). It was reduced to a subgenus of *Cynoglossum* by Riedl (*loc. cit.*) and this status was accepted by S. K. Czerepanov (in *Add. & Corrig. Fl. U.R.S.S.*, 109. 1973).

253. Lappula squarrosa (L.) Dumort. subsp. **heteracantha** (Ledeb.) Chater in Bot. Journ. Linn. Soc. 64:380 (1971), et in Tutin & al., Fl. Europ. 3:118 (1972).

Syn.: *Echinospermum heteracanthum* Ledeb., Suppl. Ind. Sem. Hort. Dorpat. 3 (1823)—n.v.

Lappula echinata Gilib. var. *heteracantha* (Ledeb.) O. Kuntze in Acta Hort. Petrop. 10:214 (1887); Brand in Pflanzenr. Heft 97 (Borrag.—Borrag.—Cryptanth.) 139 (1931).

Echinospermum lappula (L.) Lehm.; Wright in Fl. Cap. 4(2):15 (1904).

Lappula echinata Gilib.; Henderson & Anderson, Common weeds in S Africa (Bot. Surv. Mem. No. 37) 254 (1966).

NATAL. Underberg distr., Sani Pass, 2400–2640 m, loose soil at roadside, pale blue flowers with white central boss divided by yellow lines, 23 iii 1977, *Hilliard & Burtt* 9802 (NU).

C. H. Wright (*op. cit.*) cited "Natal, *Cooper* 2801", but the species is not in Ross's Flora, and no localized record seems to have been published. The opportunity is taken to bring the nomenclature up to date. Brand (*op. cit.*) remarks that subsp. *heteracantha* is the exclusive form of the species found in South Africa, where it has long been established.

L. squarrosa is distinguished from the two native species of the genus by having the fruit spines in two rows round the margins of the nutlets; they

are in a single row in *L. eckloniana* Brand and *L. cynoglossoides* (Lam.) Guerke (from which Brand considers *L. capensis* (DC.) Guerke is not specifically distinct).

254. Tysonia africana Bolus in Hook. Ic. Pl. 20, t. 1942 (1890); Wright in Fl. Cap. 4(2):12 (1904).
Type: [Transkei, Umzimkulu] rivulets above Clydesdale, 3000 ft, *Tyson* 2117 (K).
TRANSKEI. Umzimkulu, farm 'Ebuta', slopes below Mt Malowe overlooking Clydesdale, 17 i 1978, *Hilliard & Burtt* 11219 (E, NU).
NATAL. Ixopo distr., Sutton Estates, flower buds and pedicels maroon, flowers white, xii 1976, *Shirley* s.n. (NU); *ibidem*, 16 i 1978, *Hilliard, Burtt & Shirley* 11210 (E, NU).

We were alerted to the need for re-collecting typical *Tysonia africana* by Robert Mill (University of Edinburgh). He pointed out that the type differed from the plant commonly known by this name (*T. glochidiata* below), not only in its winged fruits (recently alleged, without obvious reason, to belong to a different plant), but also in its smaller corolla and calyx and less dense indumentum. A search in Natal University herbarium showed just one herbarium sheet matching up to the type characters; it was a flowering specimen collected by Mr N. E. Shirley near Ixopo in December 1976. Mr Shirley kindly took us back to the same site in January 1978. It had clearly been a poor flowering season (probably because of a late burn) but eventually one fruiting specimen was found. This had the characteristic winged fruit, confirming that it was the true *T. africana*. The basal leaves are dark green and distinctly broader than those of *T. glochidiata*, which look grey because of the dense indumentum.

We then visited the farm 'Ebuta' at Umzimkulu, belonging to Mr D. Button. Mrs Button enthusiastically joined our search and took us up the slopes of Mt Malowe. Clydesdale, Tyson's locality, is in the next valley to 'Ebuta' and 'the rivulets above Clydesdale' came down from 'Ebuta'. Here *Tysonia africana* was found; we could now easily recognise its basal leaves. It grew along stream-banks, on hummocks in the water and at the foot of steep grass slopes. Unfortunately not a single plant was in flower or fruit; again this may have been due to severe grass fires. Nevertheless there was much satisfaction in confirming its presence after so many years, and in being confident of its identity from leaf-characters.

The account of the following species is contributed by Mr R. Mill, Flora of Turkey Unit, Botany Dept, University of Edinburgh. Specimens marked ! have been seen by Mr R. Mill while we have examined all specimens cited.

255. Tysonia glochidiata R. Mill, **species nova** a *T. africana* Bolus nuculis exalatis glochidiatis ovoideis (4–)7 mm diametro, corollis 4–6 mm longis, calycis lobis brevioribus, foliis canescentibus dense strigillosis, basalibus angustioribus ellipticis ad basin cuneatis differt.
Type: Natal, Alfred District, Weza, Zuurberg, 1585 m, in forest margin scrub, corolla lobes creamy, tube mauvish, 3 iii 1974, *Hilliard* 5487 (holo. E!; iso. K! NU).

NATAL. Polela distr., Bulwer, 1525 m, i 1931, *Bayer* 369 (NU); Glengariff, 1680 m, 5 i 1976, *Rennie* 718 (NU). Lion's River distr., Vergelegen N. R., Mahlengubo R. valley, 1 i 1978, *Hilliard & Burtt* 11158 (E! NU). Estcourt distr., Giant's Castle G. R., 10 ii 1964, *McKeown* 88 (E! NU); *ibidem*, 13 ii 1964, *McKeown* 107 (E! NU); *ibidem*, 3 ii 1966, *Trauseld* 562 (K!); Kamberg, 1920 m, 2 iii 1974, *Wright* 1727 (NU). Bergville distr., Champagne Castle, 1645 m, i 1942, *Bayer* 1255 (NU); Cathkin Peak, 6 i 1968, *Strey* 7819 (NU); National Park, 1910 m, 3 ii 1955, *Edwards* 541 (NU); 'The Cavern', 1465 m, i 1956, *Hodson* 10 (NU). Klip River distr., Van Reenen, 1525 m, 22 i 1908, *Wood* 10742 (NU).

This differs from the true *T. africana*, with which it has long been confused, by the wingless glochidiate nutlets, the smaller calyx and corolla, and the densely strigillose greyish leaves, the basal ones being distinctly narrower than those of *T. africana*.

A fuller account of this plant and of its confusion with *T. africana* will be given in a forthcoming revision of the genus.

CAMPANULACEAE

The account of Campanulaceae in J. H. Ross, *The Flora of Natal* (*Bot. Survey Memoir* no. 39, 1973) omits the genera *Grammatotheca* and *Laurentia*; in addition *Craterocapsa* has been described since the Flora was published (Hilliard & Burtt in *Notes R.B.G. Edinb.* 32:314, 1973). A revised key for the Natal genera is therefore needed and is attempted here.

Recent workers on the Campanulaceae of other areas (Tuyn in *Flora Malesiana* ser. 1, 6:107–141, 1960, for Malesia; Thulin in *Symb. Bot. Ups.* 21(1):1–223, 1975, for Tropical Africa and Madagascar) have concluded that *Lightfootia* should not be retained as a genus distinct from *Wahlenbergia*: and indeed Brehmer was of the same opinion (see *Engl. Bot. Jahrb.* 53:9–71, 1915), although he never implemented it. Adamson (in *Journ. S. Afr. Bot.* 21:155–218, 1955) revised the South African species of *Lightfootia* and argued that its retention as a separate genus is desirable. Unfortunately all these discussions have been in general terms: no one has said categorically where the type species of *Lightfootia, L. parvifolia* (Berg.) Adamson, is to be placed in *Wahlenbergia* nor whether all the rather varied species of *Lightfootia* are to be kept together as one group. Despite the fact that *Lightfootia* is an illegitimate name, we are unwilling to make specific transfers to *Wahlenbergia* until more critical studies of all the species have been made. *Lightfootia* is therefore retained at this juncture.

Ross (*op. cit.*) characterized *Roella* in his key by "capsule at length dehiscing by a large hole at the apex, not splitting into valves". This is true of many of the Cape species, but not of *R. glomerata*, the only species native to Natal. *R. glomerata* agrees in dehiscence with *R. secunda*: the mouth of the capsule is firmly plugged by the enlarged style base, the capsule walls develop longitudinal slits and eventually gape like a Chinese lantern, permitting the escape of the seeds (see Hilliard & Burtt in *Notes R.B.G. Edinb.* 32:318 & fig. 7, Ca, Cb. 1973).

It is not easy to construct a simple key to the genera with zygomorphic flowers (subfam. Lobelioideae) because of variation within the genera as circumscribed by Wimmer, whose system we accept here. It seems,

however, that in Natal only *Lobelia thermalis* is likely to be difficult to assign to its genus, as it is unusual in *Lobelia* in having bracteoles and (? always) a non-resupinate flower; it also has an elongate ovary, but this is decidedly tapered to the base, not subcylindric as in *Grammatotheca*.

KEY TO GENERA OF CAMPANULACEAE IN NATAL

1a Flowers actinomorphic 2
1b Flowers zygomorphic 6

2a Flowers sessile, in dense spikes, angular by compression; corolla lobes imbricate; filaments arising on corolla tube just below each sinus, very short; ovary semi-inferior, capsule dehiscing by a lid below calyx lobes . . . . . *Sphenoclea*
2b Flowers pedicellate; corolla lobes valvate; filaments free from corolla tube, expanded at base; ovary inferior or semi-inferior; capsule dehiscence variable, but not by a lid below the calyx lobes 3

3a Ovary partly superior, capsule dehiscing by valves above calyx . 4
3b Ovary wholly inferior 5

4a Corolla shallowly lobed . . . . . *Wahlenbergia*
4b Corolla deeply cleft . . . . . *Lightfootia*

5a Prostrate; capsule dehiscing by apical lid above calyx lobes . . . . . *Craterocapsa*
5b Erect; capsule dehiscing by longitudinal slits . . . *Roella*

6a Anthers free from one another; corolla lobes free nearly to base or coherent in upper part, always 3 upper, 2 lower . *Cyphia*
6b Anthers united; corolla lobes united in lower part . . . 7

7a Corolla tube cylindric, not split . . . . . *Laurentia*
7b Corolla tube split nearly to base above or below . . . 8

8a Ovary elongate, subsessile; bracteoles well developed *Grammatotheca*
8b Ovary more or less turbinate, distinctly pedicellate; bracteoles present or not 9

9a Lobes of stigma short, rounded; flowers usually resupinate (2 lobes above, 3 below) and ebracteolate . . . . . *Lobelia*
9b Lobes of stigma linear; flowers not resupinate, usually bracteolate (& cf. *Lobelia thermalis*) . . . . . *Monopsis*

256. Grammatotheca bergiana (Cham.) Presl, Prod. Lobel, 44 (1836); Wimmer in Pflanzenr. Campan. Lobelioid. 696 (1953).
Type: Cape, Hangklip, *Mund*; sine loc., *Bergius* (n.v.).
Syn.: *Lobelia bergiana* Cham. in Linnaea 8:217 (1833).
NATAL. Pinetown distr., Kloof, 540 m, 17 xii 1949, *Williams* 13 (NU); Hillcrest, 660 m, 10 iv 1946, *Nieuwoudt* 25 (NU). Umzinto distr., Dumisa, 'Friedenau', 800 m, 6 ii 1909, *Rudatis* 605 (E). Port Shepstone distr., Paddock, 22 xii 1965, *Strey* 6199 (NU); Port Edward, stream along road beyond

Post Office, 22 m, i 1951, *Huntley* 711 (NU); 'Skyline', St Michaels-on-sea, 28 iv 1977, *Hilliard & Burtt* 10300 (E, NU). Durban, marshy ground, 30 m, 4 vi 1897, *Wood* 6351 (K).

In herbaria this plant is often confused with *Lobelia* (*L. radicans* or *L. anceps*), but the elongate ovary, which is no thicker than a pedicel in flower but becomes thickened and decurved in fruit, and the well-developed bracteoles provide easy distinguishing characters. When seen alive the rather thick terete stem is also a distinctive feature. The species has a wide range from the Cape northeastwards to Natal. It is not a plant of the higher ground and the record quoted by Wimmer "Van Reenen, 800 m, *Wood*" is difficult to understand. At Van Reenen an altitude as low as 800 m is impossible; even the foothills stand at 1500 m, Van Reenen itself is nearer 2000 m. *G. bergiana* has not otherwise been found at this altitude, nor in this area. Regrettably it is known that some of Medley Wood's labels are unreliable.

257. Laurentia arabidea (Presl) A.DC., Prodr. 7:410 (1839); Sond. in Harv. & Sond., Fl. Cap. 3:552 (1865); Wimmer in Pflanzenr. Campan. Lobelioid. 394 (1953).
Types: Cape, ad Bergrivier, 400 ft, *Drège*; ad montem Paarlberg, 1000 ft, *Drège*; Dutoitskloof, 1500–2000 ft, *Drège* (iso. K).
Syn.: *Rapuntium arabideum* Presl, Prodr. Lobel. 18 (1836).
NATAL. Nkandla distr., Qudeni, 1500 m, 16 ii 1945, *Fisher* 828 (NU). New Hanover distr., Noodsberg, Glenside, 900 m, 20 xi 1963, *Hilliard* 2092 (NU). Mapumulo distr., 4 miles Mapumulo/Kranskop, 780 m, 20 i 1966, *Moll* 2971 (NU). Lion's River distr., 'The Dargle', 1500 m, 8 xii 1963, *Hilliard* 2149 (NU); Karkloof range, 'Benvie', 11 i 1978, *Hilliard & Burtt* 11192 (NU). Richmond distr., Byrne, Peak of Byrne, c. 1650 m, 3 xi 1976, *Hilliard & Burtt* 9121 (E, NU). Greytown, 1025 m, xi 1931, *Wylie* s.n. (K).

258. Wahlenbergia androsacea A.DC., Mon. Campan. 150, t. 19 f.1 (1830); Sonder in Fl. Cap. 3:582 (1865); Thulin in Symb. Bot. Upsal. 21(1):87 (1975).
Type: Cape Province, *Burchell* 2273 (iso. K).
NATAL. Underberg distr., Sani Pass, c. 2250 m, on rather bare level terrace on slopes above road on south side, 6 i 1977, *Hilliard & Burtt* 9628 (E, NU).

M. Thulin, dealing with the tropical species of *Wahlenbergia*, includes Natal in the South African distribution of this species. However it is not in Ross, *Flora of Natal*, and in the absence of a documented published record it seems advisable to provide the above citation.

259. Wahlenbergia banksiana A.DC., Mon. Campan. 154 (1830); Sonder in Fl. Cap. 3:574 (1865); Thulin in Symb. Bot. Ups. 21(1):119 (1975); Compton, Fl. Swazi. 600 (1976).
Type: Cape (without locality), *Oldenburg* (BM).
NATAL. Vryheid distr., Paulpietersburg, outskirts of town on main Vryheid road, dryish ground, 12 xii 1975, *Hilliard & Burtt* 8579 (E, NU); Hlobane, rather dry areas, 22 x 1950, *Johnstone* 482 (E, NU). New Hanover distr., Noodsberg, 900 m, dry slopes, 24 i 1912, *Rudatis* 1586 (E).

Thulin includes Natal in the South African range of this species, but the only dot on his map is placed near Durban ('Port Natal') and there are many old specimens in herbaria so labelled which certainly did not come from there. The occurrence of *W. banksiana* near Durban is unlikely. It is thus desirable to provide documented records for the occurrence of this species in Natal. As might be expected some are from northern Natal, for *W. banksiana* is primarily a species of the highveld; however it penetrates as far as the Noodsberg.

260. Wahlenbergia lobulata Brehmer in Engl. Bot. Jahrb. 53:87 (1915).
Type: Cape, Barkly East div., Witteberg, Ben McDhui, c. 3100 m, *Galpin* 6761 (iso. PRE).
Syn.: *W. galpinii* Phillips in Ann. S. Afr. Mus. 16:182 (1917). Type: *Galpin* 6761, as above.
W. monotropa Killick in Bothalia 8:164 (1964). Type: Lesotho, Drakensberg area, between Indumeni Dome and Cleft Peak, 2940 m, *Killick* 2334 (PRE).
NATAL. Underberg distr., Sani Pass, 2670 m, 25 i 1966, *Killick & Vahrmeijer* 3756 (K); *ibidem*, c. 2700 m, 17 i 1976, *Hilliard & Burtt* 8847 (E, NU). One plant was also seen on Sani Top, in Lesotho, NE of chalet at c. 2910 m.

261. Wahlenbergia pinnata Compton in Journ. S. Afr. Bot. 33:299 (1967); Fl. Swazi. 600 (1976).
Type: Swaziland, hills W of Mbabane, 1350 m, *Compton* 25723 (iso. PRE).
NATAL. Ngotshe distr., Itala Nature Reserve, c. 1500 m, 5 iv 1977, *Hilliard & Burtt* 10060 (E, NU).

Thulin (in *Symb. Bot. Ups.* 22(1):113. 1975) points out that *W. pinnata* var. *simplicifolia* Compton is *W. capillacea* (L.f.) A.DC., and suggests that *W. pinnata* should be given infraspecific rank within *W. capillacea*. That may be the correct final solution: here, however, we are concerned to record that *W. pinnata* has a wider distribution than hitherto recognized. Until more is known about this plant in the field, the retention of the binomial seems the best course.

CARYOPHYLLACEAE

262. Cerastium indicum Wight & Arn., Prodr. Fl. Penins. Ind. Or. 1:43 (1834); Möschl in Mem. Soc. Brot. 7:53 (1951); Turrill in Fl. Trop. E. Afr., Caryophyllaceae 19 (1956); Wild in Fl. Zam. 1:346, tab. 63, A (1960); Agnew, Upl. Kenya Wild Fl. 112 (1974)..
Type: S India, *Wight* cat. 149 (iso. E).
TRANSVAAL. Wakkerstroom distr., 'Oshoek', in Leucosidea scrub, 1920 m, 14 xii 1962, *Devenish* 964 (K).
ORANGE FREE STATE. Harrismith distr., 7 miles W of top of Normandien Pass, under trees along stream, 1860 m, 13 ii 1966, *Acocks* 23823 (K). Drakensberg, *Cooper* 1952 (K).
LESOTHO. Butha Buthe, 3 miles to the south, under rocks, 2190 m, 5 xi 1934, *Galpin* 13560 (K).
NATAL. Lion's River distr., Kamberg, in scrub forest at western end of

south-facing slope, c. 1770 m, 31 xii 1974, *Wright* 2073 (NU). Mpendhle distr., Vergelegen Nature Reserve, c. 1800 m, foot of SW-facing sandstone cliffs, 2 i 1978, *Hilliard & Burtt* 11171 (E, NU). Polela distr., 'Sunset', 1500 m, 9 iv 1973, *Rennie* 364 (NU). Underberg distr., Bamboo Mt, 26 ii 1974, *Grice* s.n. (NU); *ibidem*, iii 1975, *Grice* s.n. (NU); *ibidem*, S side above 'Restmount', forest floor in light-gaps and on shady rock outcrops, 1800 m, 10 iv 1977, *Hilliard & Burtt* 10126 (E, NU, K, MO, PRE, S); Garden Castle Nature Reserve, valley of Pillar Cave, on shady bank under trees by stream, c. 1900 m, 6 xi 1977, *Hilliard & Burtt* 10459 (NU); *ibidem*, valley S of Pillar Cave, ground cover in shade of Leucosidea scrub, c. 1900 m, 8 xi 1977, *Hilliard & Burtt* 10506 (E, NU).
TRANSKEI. Mt Ayliff distr., Mt Insiswa, 1830 m, 26 i 1895, *Schlechter* 6449 (K).

C. indicum has long been reported from South Africa but details are scanty, and it is not listed in Ross's *Flora of Natal*. The above records, which make no claim to be exhaustive, give some precise localities and emphasise its range along the Drakensberg in shady places. For synonymy see Wild in *Flora Zambesiaca*.

C. indicum has much smaller flowers than *C. arabidis* Fenzl, but the petals distinctly exceed the calyx, which they do not do in *C. capense* Sond. *C. indicum* is also distinguished from *C. capense* by its short capsule and by its acute, shortly acuminate, leaves.

COMMELINACEAE

263. Commelina subulata Roth, Nov. Pl. Sp. 23 (1821); C.B.Cl. in Fl. Cap. 7:9 (1897); Compton., Fl. Swaz. (Journ. S. Afr. Bot. Suppl. vol. 11) 82 (1976).
Type: India, *Heyne* (n.v.).
NATAL. Ngotshe distr., Ngome, near sawmill, edges of rock sheets, annual, very variable in size, side branches often rooting at nodes, apricot petals, 4 yellow staminodes (1 often semi-fertile), 2 fertile anthers, c. 1050 m, 1 iv 1977, *Hilliard & Burtt* 9924 (E, NU).

This species has a wide distribution in southern India and tropical Africa. In South Africa it is a plant of the Transvaal highveld, just penetrating northern Natal.

COMPOSITAE

264. Anisopappus latifolius (S. Moore) B. L. Burtt, **comb. nov.**
Type: Transvaal, Pilgrims Rest distr., Sabie, *Rogers* 14319 (BM, K, PRE).
Syn.: *Anaglypha latifolia* S. Moore in Journ. Bot. 55:105 (1917).
TRANSVAAL. Kemp's heights, 14½ miles S of Lydenburg, 1800 m, mountain sourveld, slender erect 12–18 inch stems, yellow ray flowers, 21 i 1954, *Codd* 8304 (K, PRE). Pilgrims Rest distr., Mt Sheba Nature Reserve, 1950m, *Festuca* grassland and fairly exclusive,warty rootstock, every plant showing these swollen protuberances, i 1977, *Kerfoot, Goodyer & Eastman* 85, 86 (E, NU).

This plant was mentioned in a previous note when the type species of *Anaglypha, A. aspera* DC.,was shown to be a synonym of *Gibbaria scabra* (Thunb.) T. Norlindh (see *Notes R.B.G. Edinb.* 34:255. 1976). The transfer to *Anisopappus* was there suggested but was left in abeyance till additional material should provide opportunity for further study. That material has now been supplied by Mrs L. Davidson of the Moss herbarium, University of the Witwatersrand, to whom our thanks are due. It has been possible to show the specimens to Professor H. Wild, who monographed *Anisopappus* (in *Kirkia* 4:45–73. 1964), and to Mr C. Jeffrey, the specialist on Compositae at Kew. They agree that the affinity of this plant with *Anisipappus* is close. The decision to be taken, therefore, was whether to include *Anaglypha latifolia* in *Anisopappus* or to make a separate genus for it on account of its lack of paleae on the receptacle. While this remains an important character, it is becoming more and more obvious that it cannot be relied upon as the major discriminatory feature between genera that are otherwise closely allied.

Besold (in *Diss. Bot.* 14:20, and fig. 12 p. 38. 1971) and Leins (in *Bot. Jahrb.* 91:122. 1969) have already pointed out that the pollen of this plant is similar to that of *Anisopappus*, and there seems little likelihood that any major differences will now come to light. The absence of paleae on the receptacle is inadequate justification for the formation of a distinct genus and the transfer to *Anisopappus* is accordingly made. Most generic keys to *Inuleae* make use of the receptacular character and *Anisopappus* will now need to be included among both paleate and epaleate genera. It is noteworthy that this one genus is now known to show both presence and absence of three major characters: ray flowers, pappus, and receptacle paleae.

265. Crassocephalum sarcobasis (DC.) S. Moore in Journ. Bot. 50:211 (1912); Belcher in Kew Bull. 10:463 (1955); Humbert, Fl. Madag. fam. 189(3):839 (1963).
Type: Madagascar, Prov. Emirne, *Bojer* (G–DC n.v.).
Syn.: *Gynura sarcobasis* DC., Prodr. 6:300 (1837).
NATAL. Ngotshe distr., Ngome, c. 1200 m, at roadside edge of pine plantation, one only in flower, i iv 1977, *Hilliard & Burtt* 9890 (NU).

This species is common in Madagascar and has also been recorded from south-eastern tropical Africa. It seems not to have been found previously in South Africa. The erect capitula on long peduncles make the living plant easy to distinguish from *S. crepidioides* (Benth.) S. Moore which has nodding capitula and short peduncles. In Natal the light reddish purple flowers were very different in colour from the dull orange-red usual there in *S. crepidioides*: flower colour may not be constant over the whole species range and Humbert writes of *S. crepidioides* with rose-violet flowers; however the colour also seems to change in drying.

266. Senecio byrnensis Hilliard, **species nova** fortasse *S. lyrato* Linn. fil. affinis, sed capitulis majoribus, involucri bracteis 4–5 mm longis (haud 3–3·5 mm), floribus radii 8 (haud 5) et disci 50 (haud 30) facile distinguitur.

Herba perennis usque ad c. 1 m alta, stolones tenues tandem rosula foliorum nova terminatos emittens; caulis florifer infra inflorescentia

simplex, basi lignosus, c. 4 mm diam., remote foliatus, tenuiter pilosus pilis longis multicellularibus. *Folia* radicalia anthesi pro maxima parte emarcida, petiolo incluso usque ad 20 × 5 cm, plerumque lyrato-pinnatifida, lobo terminali deltoideo-ovato 5–7 × 4–5 cm marginibus lobatis et grosse et irregulariter calloso-dentatis, lobis inferioribus paucis parvis irregulariter et acute serratis, chartacea, supra tenuiter pilosa, infra pilis ad venas plerumque limitatis, petiolus ad 8 cm longus; folia caulina ad 10 × 1·8 cm, sursum decrescentia et mox sessilia, irregulariter et acute dentata vel lobulata, marginibus iterum dentatis vel denticulatis, apice acuto et mucronato, basi auriculato, lobis lanceolato-acuminatis majoribus dentatis. *Capitula* radiata, ad 20 in pedunculis longis sparsim bracteatis in paniculam corymbosam patentem disposita. *Involucrum* campanulatum; bracteae c. 20, 4–5 mm longae, disco paulo breviores, glabrae; calyculi bracteae paucae, longae, marginibus glandulosis. *Flores* radii 8, limbo 5 mm longo patente, ut ei disci vivide flavi, linea media in corollae lobis in tubum decurrente. *Achaenia* 2·5 mm longa, cylindrica, costata, pilosa.
Type: Natal, Richmond distr., ridge leading to Peak of Byrne, c. 1500 m, 29 iv 1976, *Hilliard* 8086 (holo. NU; iso. E, K, MO, PRE, S).
NATAL. Nkandla distr., Qudeni forest, c. 1370 m, 10 iii 1963, *Hilliard* 1419 (E, NU).

S. byrnensis is without clear affinity among species recorded from Natal, but was listed as species no. 52, close to no. 50 *S. hieracioides* DC., in Hilliard, *Compositae in Natal* (p. 445, 1977). When this book went to press, *S. byrnensis* was known only by a rather poor collection from Qudeni forest in Zululand. Good material collected at Byrne in southern Natal in April 1976 (and mentioned in the Addenda to *Compositae in Natal*) is used to typify the name.

S. byrnensis favours partly shaded rather damp situations near forest. At Byrne the plants were in loose black soil with numerous sterile rosettes among the flowering stems. The rosettes are produced at the tips of underground runners radiating from the flowering stems, and appear to be biennial.

CONVOLVULACEAE

267. Jacquemontia ovalifolia (Vahl) Hall. f. in Engl. Bot. Jahrb. 18:96 (1893); Verdcourt in Fl. Trop. E. Afr. Convolv. 34 (1963).
Type: "Probably Trinidad, *von Rohr* (C. holo)" ex Verdcourt l.c.; n.v.
Syn.: *Convolvulus ovalifolius* Vahl, Eclog. Amer. 2:16 (1798).
NATAL. Ubombo distr., Mkuze Game Reserve, Nsumu Pan, covering large areas of the muddy pan floor, vii 1973, *J. Scotcher* s.n. (E, NU).

A wide-spread species characteristic of the muddy edges of pans and seasonal pools. It is not recorded in the account of South African Convolvulaceae by Meeuse (in *Bothalia* 6:699. 1957), but is known in East Africa.

DIPSACACEAE

268. Cephalaria foliosa Compton in Journ. S. Afr. Bot. 33(4):298 (1967) et in Fl. Swazi. 591 (1976).

Type: Swaziland, Mbabane distr., Fyfe's Swamp, c. 1350 m, 29 iii 1957, *Compton* 26807 (PRE).
NATAL. Vryheid distr., Kambula Mt, 13 iii 1944, *Gerstner* 4622 (PRE).

This species is well distinguished by the even-sized leaves spaced up the stem: most species have large radical leaves sharply reduced in size upwards. In this feature *C. foliosa* resembles *C. rigida* (Thunb.) Roem. & Schultes from the Cape. *C. rigida* has been recorded from Natal, but this is almost certainly due to old specimens mislabelled "Port Natal", not to earlier findings of this species.

ELATINACEAE

269. Elatine triandra Schkuhr, Handb. 1:345, t. 109 b, fig, 2 (1787–91); Niedenzu in Engl. & Prantl, Nat. Pflanzenfam, 2 Aufl. 21:276, fig. 120 K, L (1925); Obermeyer in Fl. Southern Africa 22:32, fig. 7 (1976).
TRANSVAAL. Bankfontein, 23 miles N of Brits, 15 ii 1965, *Mauve* 4339 (PRE); Birchleigh, iii 1925, *Wager* (PRE 49576); Loskop Dam, 15 i 1968, *Theron* 1739 (PRE); Kruger National Park, Mbiamide, 600 m, 29 i 1953, *v.d. Schijff* 1965 (PRE); *ibidem*, 8 i 1955, *v.d. Schijff* 4167 (PRE).
NATAL. Pietermaritzburg distr., 5 miles on Richmond road, 840 m, 24 iv 1963, *Edwards* 3124 (NU, PRE). Lion's River distr., Barlow's Dam, Balgowan, 22 ii 1972, *Musil* 60 (PRE). Mooi River, 3½ miles on Rietvlei road, 1200 m, 23 iv 1963, *Edwards* 3121 (PRE). Ingwavuma distr., Sankhunti Pan, Pongola flood plain, 30 m, 26 viii 1959, *Tinley* 478 (PRE). Hlabisa distr., Hluhluwe Game Reserve, *Ward* 4778 (PRE).

This species has been so persistently misidentified as *Rotala* (Lythraceae) that its distribution is sadly under-recorded. It therefore seems desirable to publish the above list of specimens so that the range and frequency of this tiny aquatic can be better assessed. *Edwards* 3121 is quoted in Ross's *Flora of Natal* (p. 257) as *Rotala* sp. This entry needs to be deleted.

IRIDACEAE

270. Gladiolus dalenii Geel, Sert. Bot. fasc. 28 (1829).
Type: cult. hort. Dalen, Rotterdam (not preserved?); lectotype, painting by M. van Hulle and associated description in Geel, Sert. Bot. fasc. 28 (1829).
Syn.: *Watsonia natalensis* Eckl., Top. Verz. 34 (1827).
Gladiolus psittacinus Hook. in Bot. Mag. t. 3032 (Dec. 1830).
Gladiolus natalensis Hook. in Bot. Mag. sub t. 3084 (Aug. 1831), nom. illegit.; Lewis, Obermeyer & Barnard, Gladiolus (Suppl. 10 to Journ. S. Afr. Bot.) 41 (1972)— as G. natalensis (Eckl.) Reinw. ex Hook.; Nordenstam in Journ. S. Afr. Bot. 38:290, fig. 2 (1972); Geerinck in Fl. Males. ser. 1, 8(2):83 (1977).

The full synonymy given by Lewis, Obermeyer & Barnard (*loc. cit.*) does not need to be repeated here. The purpose of this note is to show that the

correct name for the plant is *G. dalenii**. If the citation *G. natalensis* (Eckl.) Reinw. ex Hook. were correct, then the name would stand. But it is not. Hooker merely took up Reinwardt's unpublished epithet *natalensis*, saying that it had been in use in the garden at Leiden and had precedence over his own *psittacinus*. He made no mention of *Watsonia natalensis* Eckl. Now it might be possible to stretch the Code of Nomenclature a little if it could be demonstrated that Reinwardt's name was based on Ecklon's *Watsonia*. As we shall show, however, no such link can be found.

Hooker took up Reinwardt's epithet in 1831, but Reinwardt himself had then abandoned it, for the *Enumeratio plantarum quae in horto Lugduno-Batavo coluntur*, published in that year, has the entry:—

Gladiolus

Dalenii Sert. Bot. (psittacinus H. Leid.) *Natal.*

This catalogue does not bear the author's name on the title-page, but as Reinwardt was the director of the garden, he must be presumed to have approved it, even if it is not his own work.

The old sheets of this species in the Rijksherbarium at Leiden were examined in 1974. The names *Gladiolus natalensis* Reinw., *G. psittacinus* and *G. dalenii* all appear but there is no reference to *Watsonia natalensis* Eckl. This failure to establish any link between Reinwardt's use of *natalensis* and the validly published *Watsonia natalensis* Eckl. means that Reinwardt's name must be regarded as a new one. Its publication by Hooker as a substitute for his *G. psittacinus* was misguided and is now nomenclaturally illegitimate.

It remains to show that *G. dalenii* antedates *G. psittacinus*.

The *Sertum Botanicum* edited by P. C. van Geel was a periodical publication, each livraison consisting of six (unnumbered) plates and accompanying text (publisher's announcement, undated, in the Kew copy). In the British Museum copy there is another publisher's 'Avis', dated 1 December 1832, stating that *Sertum Botanicum* would not be extended beyond 600 plates and would be completed shortly. It seems therefore that there will have been 100 livraisons. No copy in the original livraisons is yet known to us. Copies have been bound in various ways. The work concluded with two index lists, one gave the Latin names alphabetically and indicated the Linnaean Class to which each genus belonged: the other gave the French names in alphabetical order, their Latin equivalents and the number of the family in the Jussieuan system. Here then were two ways of binding, implicitly suggested by the indexes; other copies are simply bound with genera arranged alphabetically. Some copies are bound in four volumes [as indicated in catalogues of British Museum (Nat. Hist.), Arnold Arboretum, Linnean Society, Sotheby's catalogue of Arpad Plesch's library and by Nissen]. The Kew and Edinburgh sets, however, are in six volumes; that this is not a vagary of local binding is shown by the fact that the Edinburgh set has

* A part of this investigation was carried out by Dr T. T. Barnard; in particular he studied the copies of *Sertum Botanicum* in the libraries at Kew, the British Museum and the Linnean Society of London. We are most grateful to him for contributing his findings. One of us (B.L.B.) has looked at the old herbarium sheets at Leiden and the Edinburgh copies of *Sertum Botanicum* and is responsible for putting together the nomenclatural account. Mrs A. A. Mauve (Miss A. A. Obermeyer) agrees with the outcome and suggested that this note be published.

printed title pages that include the volume numbers. These are all dated 1832. At Kew, however, the title page of volume 1 is dated 1828. At the British Museum also the first volume has 1828 on the title page but duplicated title pages are bound in: vol. 1, 1829; vol. 2, 1829; vol. 3, 1831. Pritzel (*Thes. Litt. Bot.* p. 357) gives (1828–)36 for the whole work, and the British Museum catalogue (1828–)1829–32[–36]; Nissen suggests 1827–32. The Arnold Arboretum catalogue and Sotheby's sale catalogue of the Plesch library give 1828–32. There is even inconsistency about the total number of plates: although usually given as 600, Nissen only quotes 594, the Plesch copy had 1 plain and 591 coloured plates, and Sotheby's quote Junk (Cat. 101) as having offered a copy with 1 plain and 598 coloured. The Edinburgh copy, however, has the full 600 coloured plates. Obviously collation of a number of copies is needed to elucidate the position fully: perhaps there was trouble with the last livraison, resulting in some incompleteness, some uncoloured plates and the suggested late completion date of 1836. This need not concern us now.

In the Linnean Society's copy there is a pencilled list relating the plates to the livraisons in which they were published. According to this *Gladiolus dalenii* appeared in No. 28. This is confirmed by a label on one of the old sheets in the Rijksherbarium, Leiden: it reads "Gladiolus daleni Sert. Bot. fasc.28" If volume one of the British Museum four volume copy is correctly dated 1828 and contained livraisons 1–25, then livraison 28 is likely to have been published early in 1829; or if, as at Kew, 1828 is the date for volume 1 of a six volume set, then only 16–17 livraisons have been included and No. 28 may have been correspondingly later.

Fortunately we do not have to solve this problem in detail. There is a second set of the work at Edinburgh. It lacks volume 1, but the other five volumes have improvised title pages made of livraison covers on which the volume number has been added in pencil. The livraisons concerned are Nos 71, 72, 74, 75, 76 and all are dated 1830. Thus livraison 28 must have come out long before December 1830 when *Gladiolus psittacinus* was published. In fact the dating of livraisons 71–76 in 1830 makes it very probable that appearance was fairly regular and we may guess that publication was roughly as follows: 1–25 (1827–8), 26–50 (1829), 51–76 (1830), 77–100 (1831–2 or later). It seems very unlikely that future corrections to this scheme will shift livraison 28 out of the year 1829. The name *Gladiolus dalenii* must be adopted.

271. Gladiolus pugioniformis Hilliard & Burtt, **species nova** inter *G. woodii* Bak. et *G. parvulum* Schlechter ponenda et olim pro hybrida eorum habita. A *G. woodii* tepalis haud unguiculatis uniformiter ochraceo-luteis, a *G. parvulo* floribus majoribus, ochraceo-luteis (haud pallide roseis) facile distinguenda.

Cormi solitarii, depresso-globosi, 10–15 mm diam.; tunicae fibris brunneis verticalibus collum breve et angustum formantibus. *Caulis* 30–49 cm altus, gracilis, rectus, superne arcuatus; vaginae basales 2 vel interdum 3, 10 cm longae membranaceae, apice obtusae vel acutae et apiculatae, partibus aereis viridibus vel purpurascentibus pilosis. *Folium* basale in planta florifera absens; caulina 2, vaginata, internodiis conspicuis, superius

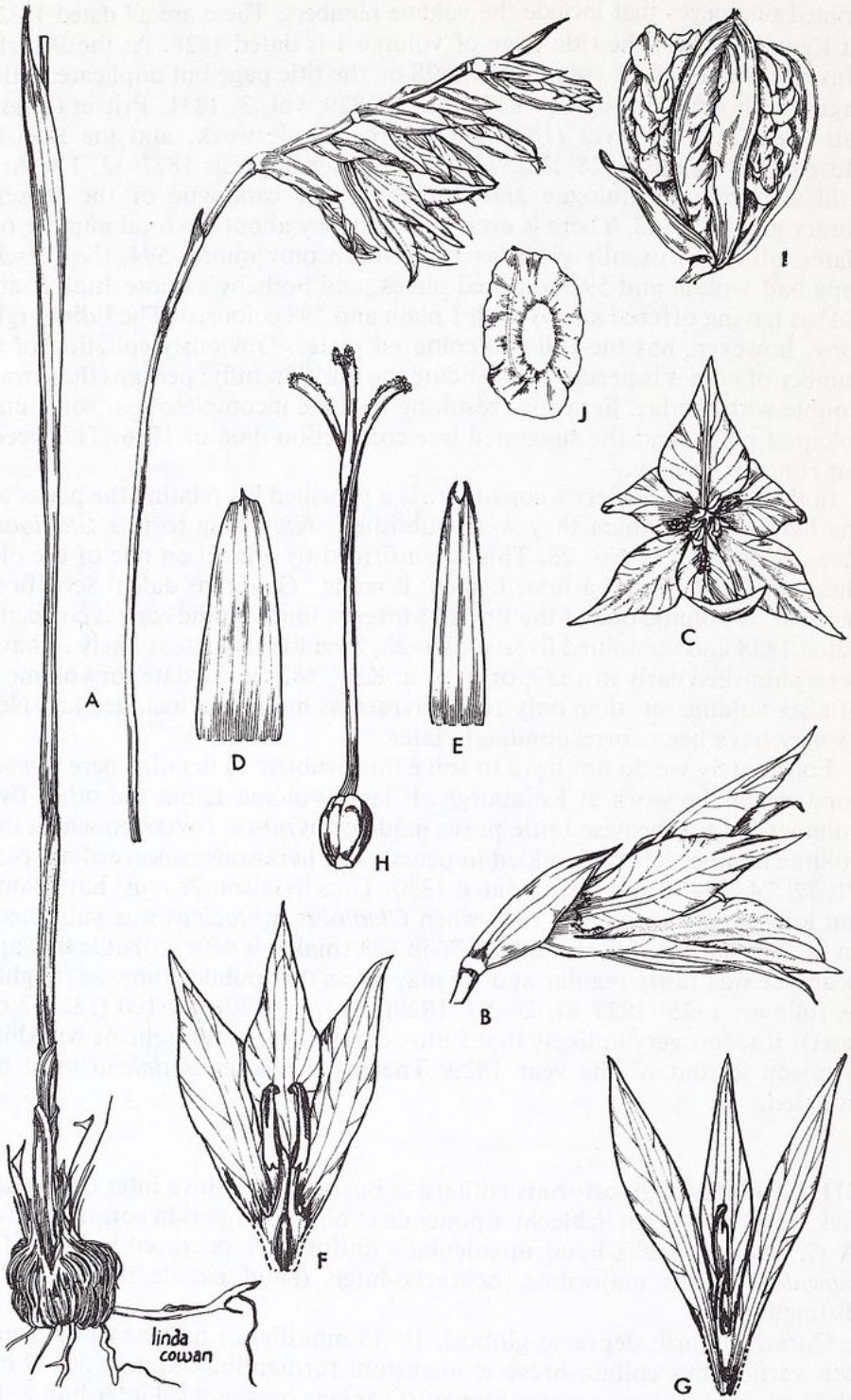

FIG. 1. *Gladiolus pugioniformis* Hilliard & Burtt. A, whole plant; B, flower and bract, side view; C, flower, front view; D, outer bract; E, inner bract; F, flower cut longitudinally, upper segments; G, flower cut longitudinally, lower segments; H, gynoecium; I, ripe capsule; J, seed. Mag.: A × slightly less than 1; B–G, & I × 2·7; H & J × 4. Drawn from *Wright* 2416 & 2418.

redactum 15–40 mm longum, inferius ad 30 cm; lamina 30–35 × 6 mm lanceolata, acuminata, glabra vel pilis paucis secundum venas et numerosioribus in basi vaginante. *Inflorescentia* secunda, laxe 2–6(–8)-flora. *Bractea* 15–17 mm longa, lanceolata, subacuta; bracteola bracteam paulo superans, profunde bidentata, dentibus acuminatis, et bractea et bracteola viridescens griseo-brunneo-tincta, apicibus torsivis. *Flos* 20–30 mm longus, non nisi parum zygomorphicus, pallide viridi-flavus demum brunnescens, in tubo rubro-notatus; tubus leviter curvatus, infundibuliformis, 7 × 4 mm; lobi subaequales, antico parum angustiore, c. 20 × 5–7 mm, anguste rhomboidei, superne sensim acuminati, inferne in unguem 2–2·5 mm latum angustati. *Stamina* e medio tubo orientia; filamenta 4–6 mm, duo superiora breviora et basin styli amplectentia; antherae 6 mm, sub labio superiore arcuatae et sub styli ramis approximatae, duo superiores introrsae, inferior extrorsa, omnes ad labium inferius spectantes. *Ovarium* 4 mm longum, cupiforme; stylus 18 mm, ad apices antherarum attingens, ramis 4 mm longis lineari-spathulatis. *Capsula* subovoidea, 9–12 × 6–7 mm. *Semina* late alata, 5 × 3 mm. **Fig. 1.**

Type: Natal, Mpendhle distr., farm 'Umgeni Vlei', grassland at edge of marsh, buds and young flowers yellowish green turning pale brown, 27 x 1976, *Hilliard & Burtt* 9077 (holo. NU; iso. E, K, PRE).

NATAL. Estcourt distr., Giant's Castle Game Reserve, 1735 m, in deep black soil on bank of Bushman's River, pale yellow, 27 x 1966, *Trauseld* 671 (NU, PRE). Lion's River distr., Nottingham Road, 1460 m, grassy plains, rare, flowers cream, 20 x 1928, *Galpin* 10269 (PRE); Kamberg, 1890 m, 31 x 1975, grassveld, S-facing slope, flowers light yellow, *Wright* 2231 (NU); Fort Nottingham Commonage, summit plateau, grassveld, c. 1700 m, 16 x 1977, *Wright* 2416 (E, NU). Mpendhle distr., Loteni, *Gibson* s.n. (NU). Polela distr., "Glengariff", 1800 m, in grass, flowers yellow, *Rennie* 77 (NU); "Sunset Farm", 1580 m, rocky grassland, flowers greenish-yellow, 3 x 1976, *Rennie* 773 (NU); *ibidem*, 10 x 1971, *Rennie* 46 (NU). Underberg distr., Bamboo Mt, xii 1973, *Grice* s.n. (NU).

TRANSVAAL. Barberton distr., Saddleback Mt, flowers cream, 4 xi 1972, *Nel* 251 (PRE). Lydenburg distr., Witklip plantation, 1320 m, flowers yellow, 17 viii 1973, *Kluge* 125 (PRE). Pilgrims Rest distr., 1950 m, x 1978, *Kerfoot* 8106 (J).

When the recent account of *Gladiolus* was written (Lewis, Obermeyer & Barnard, Gladiolus, *Journ. S. Afr. Bot.* suppl. vol. 10, 1972), this plant was known only from two herbarium specimens (*Galpin* 10269 and *Trauseld* 671). It was mentioned (*op. cit.* p. 296) as a possible hybrid between *G. parvulus* Schlechter and either *G. woodii* Bak. or *G. longicollis* Bak. It is certainly true that morphologically it lies somewhere between these species. However in the last few years the plant has been found in a number of different localities and it can now be seen to have a distributional range of some 40 miles along the foothills of the Drakensberg and outlying high ground. There is then a break of some 250 miles to the Barberton locality. The Transvaal specimens were recognized by Mrs A. A. Mauve, and she kindly sent them on loan for our examination. *G. pugioniformis* is quite constant in its features and the single dagger-like cauline leaf blade, from which we have taken the specific epithet, permits easy recognition.

272. Hesperantha crocopsis Hilliard & Burtt, **species nova** perigonio erecto infundibulari et gemmis floriferis et foliiferis distinctis ab speciebus omnibus (*H. schelpeana* multo majore sequenti excepta) differt.

Cormus depresso-globosus c. 7–9 × 4·5 mm, tunicis tenuibus chartaceis brunneis collum breve formantibus. *Folia* synanthia sed post anthesin elongata, e gemma ad floriferam adjaciente orientia, 1–2 , basi cataphyllo vaginante membranaceo apice pallide brunneo 20–40 mm longo circumcincta; lamina tempus florendi flori aequalis, 20 mm supra terram longa, 1–1·5 mm lata, linearis, glabra, post anthesin ad 7 cm supra terram elongata. *Flos* solitarius (raro binatus), basi vaginis 2–3 suprema interdum breviter laminata circumcinctus. *Pedunculus* subterraneus, 20–30 mm longus, teres, albus, sub fructu ad 6 cm elongatus. *Perigonii* tubus 9–14 mm longus, inferne cylindricus et albus c. 0·5 mm diametro, superne ad faucem c. 2 mm diametro saepe roseum vel purpurascentem abrupte ampliatus; tepala 3 exteriora c. 6 × 3 mm, elliptica, obtusa et vix cucullata, alba facie exteriore praecipue secundum medium roseo- vel purpureo-tincta; 3 interiora paulo minora, alba. *Stamina* in fauce tepalis exterioribus opposita orientia; filamenta 0·75 mm longa, filiformia; antherae c. 5·25 mm longae. *Ovarium* c. 2 × 1·5 mm, teres, in vagina folii inclusum et admodum subterraneum; ovula in loculo 2–3, e basi placentae orientia, c. 0·5 mm longa, ellipsoidea. *Capsula* elongatione pedunculi aeria, 5 mm longa. *Semina* brunnea, 1·5 × 1 mm.

Type. Lesotho, Mokhotlong distr., above Mashai pass, c. 2870 m, 7 xi 1977, *Hilliard & Burtt* 10489 (holo. E; iso. NU).

LESOTHO. Mokhotlong distr., Black Mts between Sani and Mokhotlong, c. 3050 m, 5 xi 1973, *Hilliard & Burtt* 7074 (E, NU); also seen at Sani Top in valley leading to Hodgson's Peaks.

This species grows in short wet turf or in wet silt patches. Only the upper part of the perigone tube and the limb and the tip of the foliage leaf are visible above ground at flowering time. The fruiting stages are described from plants that were taken home in a sod of turf and allowed to develop. The peduncle then elongates so that the capsule is borne well above ground. This is the growth-pattern of the northern genus *Crocus*. Some other Drakensberg plants with subterranean ovaries retain the capsule at ground level when it ripens: such are *Apodolirion buchananii* and *Rhodohypoxis rubella*.

273. Hesperantha schelpeana Hilliard & Burtt, **species nova** in genere adhuc *H. crocopsi* Hilliard & Burtt (vide supra), perigonio etiam erecto infundibulari, tantum affinis. Ab hac folio majore unico serius hysterantho, flore multo majore, ovario haud subterraneo, facile distinguitur.

Cormus globosus, ad 10 × 10 mm, tunicis papyraceis brunneis. *Folium* e gemma vegetativa tantum oriens, unicum, hysteranthum, levissime falcatum, late lineare, c. 80 × 5 mm, basi cataphyllo membranaceo unico circumcinctum. *Cataphylla* (folia sub flore vaginantia) plerumque 2, 25–65(–120) mm, inferius dimidio brevius, membranacea, albida, pro maxima parte subterranea, apicibus acutis emergentibus viridescentibus. *Flos* solitarius. *Pedunculus* c. 40–100(–250) mm longus, dimidio supra vaginas emergens, filiformis. *Bracteae* 2, basibus longe vaginantibus pedicellum

amplectentibus, laminis basem floris tegentibus; lamina exterioris c. 17 × 7 mm, interioris paulo minor, uterque lanceolata, acuta, membranacea, brunneo-venosa, inter venas saepe guttata. *Perigonii* tubus c. 7 × 3 mm, infundibuliformis; tepala tria exteriora c. 14 × 6 mm, elliptica, obtusa, intus alba vel rosea, extra rubro-purpurea vel raro alba, interiora paulo breviora, utrinque alba vel rosea. *Stamina* in fauce perigonii orientia, tepalis exterioribus opposita; filamenta 1·5 mm longa, teretia; antherae 7 mm longae. *Ovarium* c. 4 × 3 mm, teres, ovulis in loculo numerosis c. 1 mm longis ellipsoideis. *Stylus* c. 4 mm longus; rami 3, 8 mm longi, filiformes, integri, acuti, facie interiore papillosi. *Capsula* (*Wright* 1030) 6 × 4 mm. *Semina* 4–8 in loculo, 2 × 1 mm, testa (? immatura) laete viridi apice fusco-viridi, embryone alba.

Type: Lesotho, Mokhotlong distr., Black Mts between Sani and Mokhotlong, c. 3050 m, 5 xi 1973, *Hilliard & Burtt* 7075 (holo. E; iso. NU).

LESOTHO. Without locality, x 1946, *Staples* 15 (PRE). Mokhotlong distr., Kotisephola Mt, 29°13′ S, 29°13′ E, 3350 m, *Trewren* 446 (PRE); between Mashai Pass and head of Mashai river, c. 2740 m, 7 xi 1977, *Wright* in *Hilliard & Burtt* 10494 (E, NU); Sani Top, 22 ix 1973, *Smook & Shaw* 518 (NU).

NATAL-LESOTHO BORDER. Cathedral Peak area, near Organ Pipes Pass, 2900 m, ix 1944, *Schelpe* 815 (E, NU); between Indumeni Dome and Cleft Peak, 2960 m, 3 x 1963, *Killick* 3515 (PRE); top of Organ Pipes Pass, 23 x 1973, *Hilliard & Burtt* 6900 (E, NU). Giant's Castle Pass, 1970, *Wright* 1011, 1030 (E).

CAPE. Maclear distr., Naude's Nek Pass, 4 x 1977, *Bigalke* s.n. (NU).

The following two specimens may represent a white-flowered form of this species:—

NATAL. Giant's Castle Game Reserve, "Gable" area, vertical south-facing basalt cliffs, 2900 m, 25 x 1966, *Trauseld* 670 (PRE); *ibidem*, 2550 m, 29 x 1969, *Trauseld* 1104 (PRE). (See Trauseld, *Wild Fl. Natal Drakensberg* 41, 1969).

It is a pleasure to name this species after Professor E. A. Schelpe and thus to commemorate the early collecting that he carried out in the Cathedral Peak area of the High Drakensberg. Although the material was never worked out in detail, it includes the first specimens of several high level endemics, amongst them this fine *Hesperantha*.

H. crocopsis and *H. schelpeana* are anomalous in *Hesperantha* in two respects. They have a distinctive erect chalice-shaped flower, and the foliage leaf or leaves are produced on a separate shoot alongside the flowering one. Elsewhere in the genus the foliage leaves are at the base of the flowering shoot. Lest undue importance be attached to this feature, it is worth noting that a similar pattern of growth is found in the two Drakensberg species of *Wurmbea* sect. *Wurmbea, W. elatior* B. Nord. and *W. pusilla* Phill., but is lacking in the species of *Wurmbea* sect. *Heterophyllae* in the same area (see B. Nordenstam in *Notes R.B.G. Edinb.* 36:211–233. 1978).

It should be emphasised that both species have the relatively short style and long style arms characteristic of *Hesperantha*. It is always unwise to rely exclusively on a single character to diagnose a genus, but in this case there seems to be no other to which *H. crocopsis* and *H. schelpeana* have any

greater affinity. Until work on the other summer-rainfall species of the genus is further advanced, and correlated with the study of the winter rainfall species being carried out by Dr P. Goldblatt, it is premature to discuss whether a distinct infrageneric category is required for these species.

Schelpe's field notes read "common in grassland on escarpment summit; scented; flowers purplish, occasionally white." We also found it in rough grass, still brown when the *Hesperantha* is in flower, and along streamlines. In the Black Mountains and near the Mashai pass it was in wet turf and marsh. It seems to like habitats with plenty of moisture, but will evidently flower without it. One record, reading "between stones in short montane turf, very dry" (*Smook & Shaw* 518), no doubt refers to a dry spring. That area can easily become completely water-logged, as we well know.

LABIATAE

274. Pycnostachys urticifolia Hook. in Bot. Mag. tab. 5365 (1863); Cooke in Thiselton-Dyer, Fl. Cap. 5(1):291 (1910).
Type: A cultivated plant from Zomba (Malawi), seeds coll. Dr Livingstone.
NATAL. Pinetown distr., Kloof, top of Field's Hill, c. 600 m, 16 v 1970, *Hilliard* 5041 (E, NU). Umzinto distr., Ifafa-Dumisa road, 28 iv 1977, *Hilliard & Burtt* 10301 (E, NU).

Not listed in Ross's Flora. *P. urticifolia* is easily distinguished from *P. reticulata* Benth., the only other species recorded from Natal. *P. urticifolia* has distinctly petiolate more or less ovate leaves and is, in Natal, a roadside plant. *P. reticulata* has narrower leaves gradually attenuate to the base but not distinctly petiolate; it is found on stream banks in grassland and in marshy places. *P. urticifolia* has very bright blue flowers, in *P. reticulata* they are normally a rather greyish mauve but a light-blue flowered form is known at St Lucia (*Pooley* 1708, *Hilliard & Burtt* 10356, both E, NU).

LYTHRACEAE

275. Rotala capensis (Harv.) Fernandes & Diniz in Bull. Jard. Bot. Brux. 27:105 (1957); A. Fernandes in Fl. Zam. 4:229 (1978).
Type: Orange Free State, *Cooper* 1044 (E, K).
Syn.: *Suffrenia capensis* Harv., Thes. Cap. 2: t. 189 (1863).
[*Rotala filiformis* auctt. quoad pl. austro-afric., non (Bellardi) Hiern, sens. strict.; Hiern in Fl. Trop. Afr. 2:468 (1871)].
NATAL. Alfred distr., Zuurberg, 2650 m, 3 iii 1974, *Smook* 543 (E, NU); *ibidem*, 17 ii 1976, *Hilliard & Burtt* 9025 (E, NU). Underberg distr., Polela valley just above Cobham Forest station, 20 iii 1977, *Hilliard & Burtt* 9733 (E, NU).

Recorded by Ross *Fl. Natal* only for N Natal. These small aquatics (cf. also *Elatine*, no. 269) are badly undercollected and should be more carefully sought.

276. Rotala dinteri Koehne in Mem. Herb. Boiss. no. 20:24 (1900); Pflanzenreich, Lythraceae, 37 (1903); Fernandes & Diniz in Bol. Soc. Brot. 33:21, tab. 2 (1959).
Type: SW Africa, Hereroland, *Dinter* 1898 (n.v.).
NATAL. Estcourt distr., Griffin's Hill, *Rehmann* 7298 (K).

Koehne quoted the specimen collected by Rehmann, and Fernandes & Diniz actually took their illustration of *R. dinteri* from this specimen. Nevertheless it must be noted that N. E. Brown has marked the Kew sheet as distinct from *R. dinteri*. The species is not in Ross's Flora and it should be added, with a note that it needs confirmation. The third, unnamed, species of *Rotala* in Ross's Flora, is *Elatine triandra* (see no. 269).

MELASTOMATACEAE

277. Antherotoma naudinii Hook. f. in Benth. & Hook. f., Gen. Pl. 1:745 (1862) et in Fl. Trop. Afr. 2:444 (1871); Burtt Davy, Man. Fl. Pl. Ferns Transv. 1:242 (1926); Compton, Fl. Swaz. (Journ. S. Afr. Bot. suppl. vol. 11) 398 (1976); A. Fernandes in Fl. Zam. 4:229 (1978).
Type: Madagascar, *Naudin* (K).
NATAL. Ngotshe distr., Ngome, near sawmill, in wet short grass around rock sheets, c. 1050 m, 1 iv 1977, *Hilliard & Burtt* 9913 (E, NU); Itala Nature Reserve, Louwsburg, in wet ground around rock sheets, c. 1500 m, 4 iv 1977, *Hilliard & Burtt* 10043 (E, NU). Port Shepstone distr., Izingolweni, *Wood* (K).

Widespread in eastern Africa from the Sudan to the Transvaal. Burtt Davy gave Natal as part of its range, but it is not listed in Ross's *Flora of Natal*. Burtt Davy's record was clearly based on a single specimen at Kew, said to have been collected at Izingolweni in Southern Natal. This is a surprising locality for a northern species and needs confirmation; the collections from Itala and Ngome, however, form a natural extension of its range.

MESEMBRYANTHEMACEAE

We are indebted to Mrs O'Connor Fenton, Bolus Herbarium, Cape Town, for the determinations of nos 278, 279 and 280.

278. Delosperma repens L. Bolus, Notes Mesemb. 2:421 (1934); Jacobsen, Handb. Succ. Pl. 3:1104 (1960).
Type: "Transkei" [Cape?], near Maclear, on rocky ridge, v 1932, *Pillans* 6726 (NBG 1107/33).
NATAL. Ngotshe distr., Ngome, near sawmill, edge of rock sheets in damp earth, leaves dull red, flowers white, plentiful, 7 xii 1975, *Hilliard & Burtt* 8437 (E, NU).

The type was described as having reddish pink flowers.

279. Khadia acutipetala (N.E. Br.) N.E. Br. in Gard. Chron. 3 ser. 89:279 (1931); Jacobsen, Handb. Succ. Pl. 3:1188 (1960); Devenish in Journ. S. Afr. Biol. Soc. 4:52 (1963).
Type: Transvaal, near Johannesburg, *Turner* (K).
Syn.: *Mesembryanthemum acutipetalum* N.E. Br. in Kew Bull. 1908, 407.
NATAL. Utrecht distr., 'Nauwhoek', c. 2100 m, dryish open stony slopes and bare rock sheets, palest pink flowers, 6 xi 1976, *Hilliard & Burtt* 9173 (E, NU).

Mrs Fenton added a note to her determination to say that the specimen was smaller than usual. *K. acutipetala* was first found in this area by N. J. Devenish, but his published list of the local flora does not differentiate between plants on the Natal and Transvaal sides of the provincial boundary and this species is not included in Ross's *Flora of Natal*.

280. Ruschia putterillii (L. Bolus) L. Bolus, Notes Mesemb. 3:220 (1950).
Type: Lesotho, Butha Buthe, coll. *Ashton*, cult. N. B. G. Kirstenbosch, fl. vi 1924, 1147/22.
Syn.: *Mesembryanthemum putterillii* L. Bolus in Ann. Bolus Herb. 4:4 (1925).
ORANGE FREE STATE. Harrismith, *Putterill* ("Grey Univ. Herb. No. 1443"—paratype, n.v.); Platberg, summit above One Man Pass, 2160 m, 13 xii 1976, *Hilliard & Burtt* 9503 (E, NU).
NATAL. Underberg distr., Sani Pass, c. 2460–2640 m, 9 xi 1973, *Hilliard & Burtt* 7144 (E, NU); Cobham Nature Reserve, near Upper Polela Cave, c. 2400 m, 21 xi 1976, *Hilliard & Burtt* 9307 (E, NU).
NATAL-LESOTHO border. Sani, saddle on escarpment N of pass, c. 2970 m, 8 i 1977, *Hilliard & Burtt* 9644 (E, NU).

When first describing this species Mrs Bolus cited both the plant collected by Putterill near Harrismith (almost certainly from Platberg where we found it) and Ashton's plant from Butha Buthe. However she clearly says that the description was made from a plant that flowered at Kirstenbosch; this was Ashton's plant and it must, therefore, be taken as the type.

Ruschia putterillii is conspicuous on the north-facing summit cliffs of the Sani Pass in spring. The hard woody bushes are up to 60 cm high and the bright magenta flowers stand out against the dark basalt rocks. The genus has not previously been recorded for Natal.

PRIMULACEAE

281. Anagallis pumila Swartz, Prodr. 1:40 (1788); P. Taylor in Kew Bull. [9]:342 (1955); Dyer in Fl. Southern Afr. 26:15 (1963).
NATAL. Ngotshe distr., Itala Nature Reserve near Louwsburg, c. 1550 m, 1 xii 1975, *Hilliard & Burtt* 8561 (E).

The distribution of this widespread species is in general tropical. It has been recorded from the Transvaal, but this is the first time it has been found in Natal. There was only a single small plant in wet gravelly ground by a stream and it was not found when the area was re-visited in 1977. It may prove not to be an established member of the Natal flora, but these small plants of wet places are very poorly collected.

It should be mentioned that *A. pumila* var. *natalensis* Pax & Knuth does not belong to this species, but is a synonym of *A. tenuicaulis* Bak.

RANUNCULACEAE

282. Knowltonia transvaalensis Szyszyl., Polypet. Thalam. Rehm. 99 (1887); Burtt Davy, Man. Fl. Pl. Ferns Transv. 1:110 (1926); Exell & Milne-Redhead in Fl. Zam. 1:97 (1960).
Type: Transvaal, Pietersburg distr., Houtbosch, *Rehmann* 6402 (iso. K).
NATAL. Utrecht distr., farm 'Retirement', c. 1770 m, 7 xi 1976, *Hilliard & Burtt* 9196 (E, NU).

This species has not previously been recorded for Natal. The locality is very close to the Transvaal border, but at the time of Burtt Davy's Manual the southernmost record given was Barberton.

RESEDACEAE

283. Reseda lutea L., Sp. Pl. 449 (1753).
Lectotype. None yet chosen(?). Represented by 629.18 in LINN.
NATAL. Underberg distr., Bushman's Nek, roadside weed between border post and hotel, 22 xi 1973, *Hilliard & Burtt* 7438 (E, NU).

An introduction from Europe, known elsewhere in S Africa, but not previously recorded from Natal. We also collected it (*Hilliard & Burtt* 7378) near Franklin in the Mt Currie district of Griqualand East (now incorporated into Natal, see introductory note). On the Cape Peninsula it is "rare on disturbed ground" (Adamson in Adamson & Salter, *Fl. Cape Penins.* 425. 1950). The present collections are worth recording as it will be interesting to see if it becomes established.

RUBIACEAE

284–285. Richardia L., Gen. Pl. ed. 5, 153 (1754); Lewis & Oliver in Brittonia 26:271-301 (1974).

Richardia is an American genus, but there are two species that are widespread as weeds; they have been much confused. These two species are *R. scabra* L., the type of the genus, and *R. brasiliensis* Gomes: they have been clearly distinguished by Lewis & Oliver (*op. cit.*) and the differences between them are set out in the key given below and shown in fig. 2.

It appears that *R. scabra* is a more tropical species than *R. brasiliensis*. In Natal the former is restricted to the north-eastern coastal strip, while *R. brasiliensis* is widespread and is a common weed of gardens, roadsides and fields. Both species are mapped by Lewis & Oliver for the southern Transvaal and also for East Africa. It might be instructive if a critical comparison of their habitats could be made in these areas where both species occur.

1a Inner (adaxial) face of mericarp open, with a median keel . . . *brasiliensis*

1b Inner (adaxial) face of mericarp almost closed by the incurved margins, leaving only a narrow groove . . . . . *scabra*

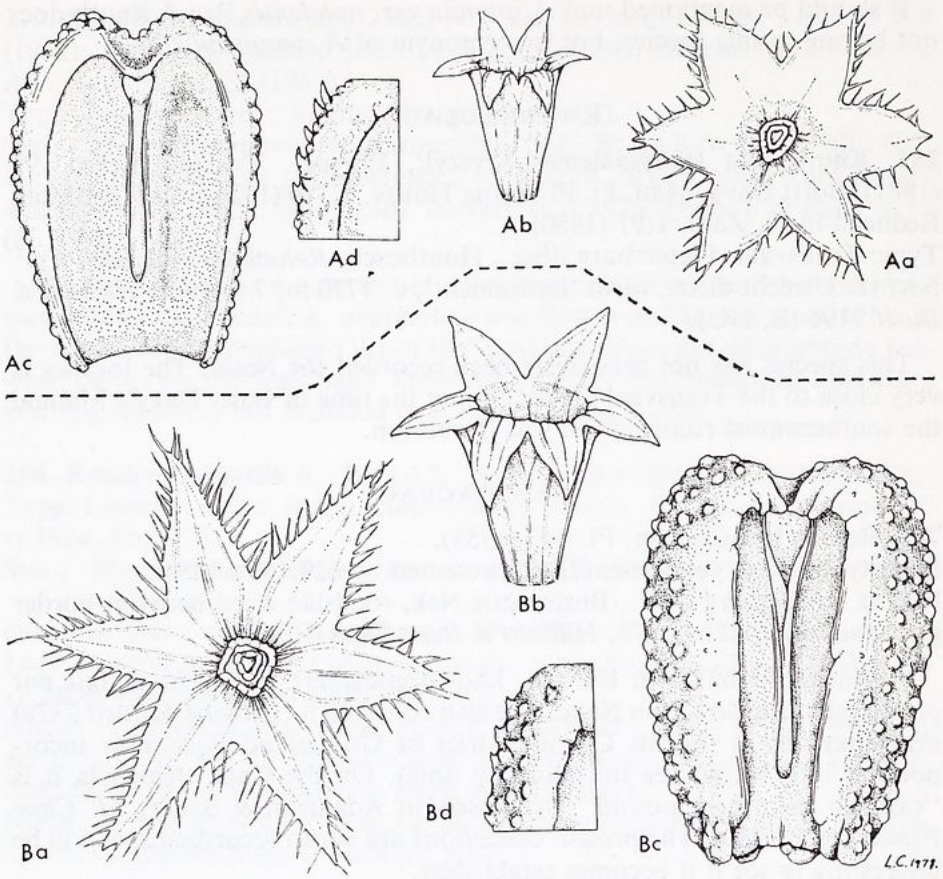

FIG. 2. A, *Richardia brasiliensis* Gomes; B, *R. scabra* L.: a, calyx from inside (× 10); b, corolla (× 6); c, mericarp, inner face (× 20); d; mericarp, portion of shoulder enlarged. Aa, c, d from *Hilliard & Burtt* 7574; Ab from *Ward* 976; Ba, c, d from *Pooley* 1691; Bb from *Hilliard & Burtt* 10354.

284. Richardia brasiliensis Gomes, Mem. Ipecac. Bras. 31, t. 2 (1801); Lewis & Oliver in Brittonia 26:276 (1974). **Fig. 2A.**
Type: Brazil, *Gomes* s.n. (LISU n.v.).
Common in Natal: selected records:—
NATAL. Ngotshe distr., Itala Nature Reserve, c. 1550 m, short grass and rocks near cliff-top, 5 iv 1977, *Hilliard & Burtt* 10051 (E, NU). Pinetown distr., Hillcrest, Brackenhill road, roadside weed, 29 xii 1974, *Hilliard & Burtt* 7568 (E, NU); Mariannhill, weed at edge of mealie field, 29 xii 1974, *Hilliard & Burtt* 7574 (E, NU).

285. Richardia scabra L., Sp. Pl. 330 (1753). Lewis & Oliver in Brittonia 26:282 (1974). **Fig. 2B.**
Type: Mexico, Vera Cruz, *Houston* (LINN 451.1).
NATAL. Ingwavuma distr., Ndumu Game Reserve, *Pooley* 1691 (NU). Hlabisa distr., St Lucia Game Park, 24 v 1977, *Hilliard & Burtt* 10354 (E, NU).

SCROPHULARIACEAE

286. Alectra dunensis Hilliard & Burtt **species nova** nulli arcte affinis; fere certe ad sectionem *Orobanchoidium* Melch. referenda, sed inter species hujus ob folia ad 15 mm longa viridia et filamenta inter se longitudine aequalia sed inferiora tantum parce pilosa praestans.

Herba erecta hemiparasitica in vivo laete viridis in sicco nigrescens; caulis subterraneus simplex, 4–10 cm longus, glaber, intense aurantiacus, foliis paucis aurantiacis squamiformibus; caulis aerieus simplex vel ramis uno vel duobus brevibus prope basin praeditus 3–10 cm altus, pilis patentibus albis acutis hispidus, crebre foliatus. *Folia* opposita et decussata, erecto-patentia, 4–15 × 5–10 mm sursum majora, ovato-orbicularia, obtusissima, subsessilia, marginibus integris raro dentibus uno vel duobus obtusis, utrinque minute puberula, marginibus et costa in pagina inferiore pilis patentibus acutis ornata, textura crassa, venis immersis, in siccitate manifeste trinervia. *Bracteae* foliaceae, sursum decrescentes, lineari-spathulatae, cetera foliis similes. *Flores* sessiles. *Calyx* campanulatus, c. 10 × 7 mm; lobi 5, 5 × 3·5 mm, late triangulares, in marginibus et medio extra hispidi intus glabri. *Corolla* bilabiata, flavida venis intensioribus; tubus late infundibuliformis, c. 8 mm longus, fauce 7 mm diametro, extra pilis paucis minute glanduloso-capitatis praecipue sub sinubus praeditus; lobi duo superiores 8 × 7 mm, suborbiculares, 3 inferiores similes sed minores, c. 6 × 5·5 mm. *Stamina* 4, aequalia; filamenta 4 mm longa, interdum inferiora glabra vel pilis paucis debilibus patentibus in parte superiore induta et superiora glabra, interdum omnia in parte superiore dense pilosa; antherae muticae, thecis inaequalibus. *Ovarium* 3 × 3 mm, subglobosum; ovula pernumerosa; stylus 4 mm; stigma 4–5 mm longum, oblongo-lingulatum, curvatum. *Capsula* subglobosa, c. 7 × 7 mm, valvis 4 dehiscens. *Semina* c. 1·25 mm longa, elongato-turbinato; testa reticulata, diaphana, embryone minuto intus manifesto. **Fig. 3.**

Type: Natal, Hlabisa distr., St Lucia, sand dunes, on Scaevola and Gazania, buried stems and roots orange, flowers yellow, 24 v 1977, *Hilliard & Burtt* 10372 (holo. NU; iso. E).

NATAL. Mtunzini distr., Mtunzini, 'Twin Streams', sand dunes, 14 x 1973, *Hilliard & Burtt* 6854 (E); *ibidem*, second dune from beach, on Gazania rigens and Launaea sarmentosa, pale golden flowers, 23 viii 1976, *Garland* s.n. (NU). Hlabisa distr., St Lucia, 10 x 1978, *Cowan & Taylor* s.n. (NU). MOÇAMBIQUE. Porta do Ouro, on dunes, parasite on Tephrosia sp. [also on Gazania rigens and Launaea sarmentosa judging from specimen], 28 xii 1948, *Gomes e Sousa* 3928 (K).

In spite of the fact that it does have bright green leaves, *A. dunensis* certainly belongs to sect. *Orobanchoides*. In their thick texture and enlarged squamiform shape the leaves are unlike those of sect. *Alectra*. There is another possible difference between the sections: as far as our limited observations go, species of sect. *Alectra* are parasitic on grasses; species of sect. *Orobanchoides* are parasitic on dicotyledons, for instance *A. orobanchoides* Benth. is often found on Acanthaceae. The hosts of *A. dunensis* are also dicotyledons: *Tephrosia, Gazania, Scaevola* and *Launaea*.

The presence or absence of hairs on the filaments is an important character in Melchior's revision of *Alectra* (see *Notizbl. Bot. Gart. Berlin*,

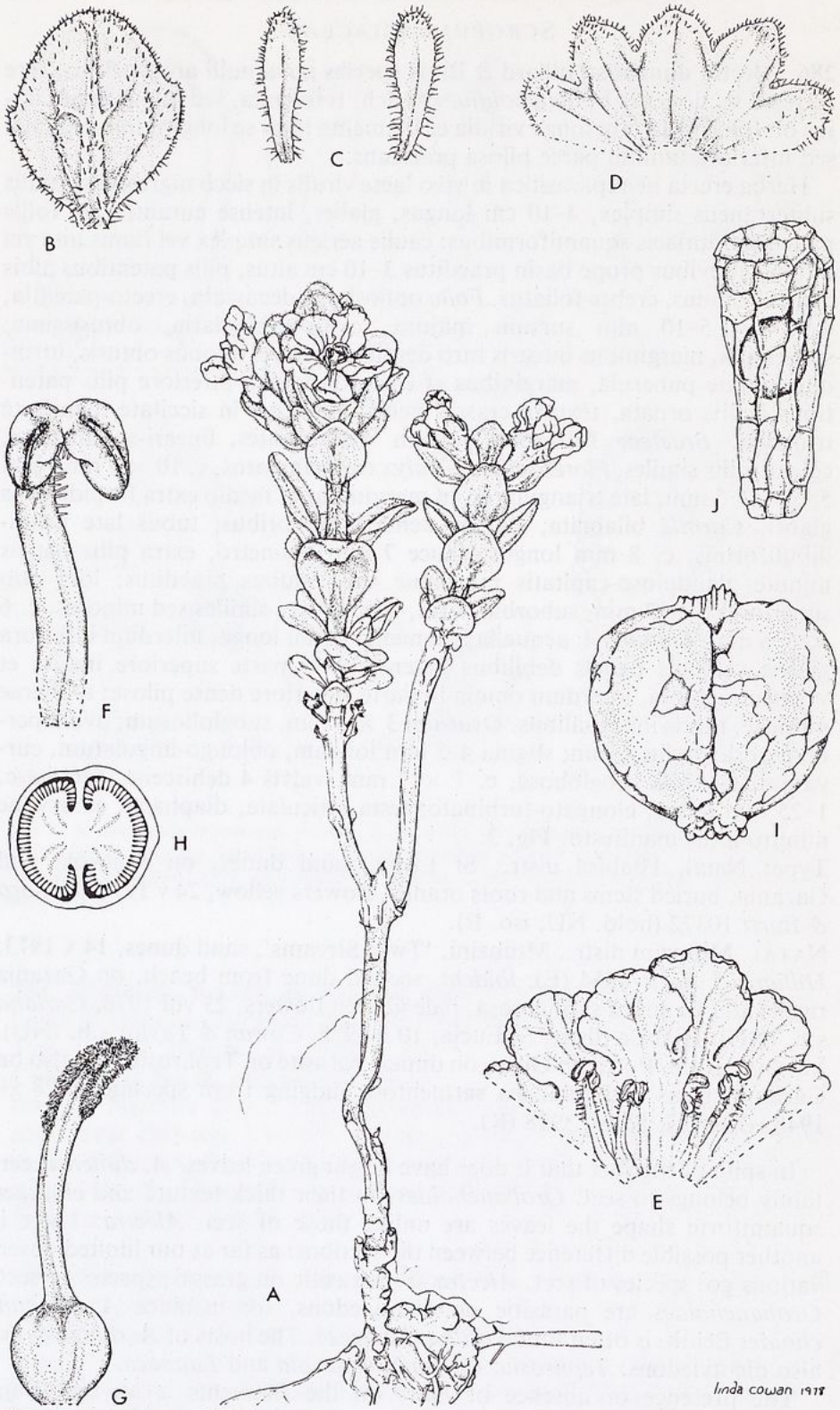

FIG. 3. *Alectra dunensis* Hilliard & Burtt. A, whole plant (× 1); B, leaf (× 2); C, bracteoles (× 2); D, calyx opened out (× 2); E, corolla opened out (× 2); F. stamen (× 10); G, gynoecium (× 5); H, transverse section of ovary (× 6); I, capsule, (× 6); J, seed (× 40). A—H from *Cowan & Taylor* s.n.; I, J from *Hilliard & Burtt* 10372.

15:423–447. 1941). Its value has been rightly questioned by Hepper for *A. sessiliflora* (Vahl) O. Kuntze (see *Kew Bull.* 14:402. 1960), and we hope to present more data on this for Natal shortly. It is therefore important to draw attention to the variation in *A. dunensis*. Plants collected at Mtunzini both in 1973 and again in 1978 have the filaments glabrous or the lower pair only with a few scattered hairs in the upper part; plants from St Lucia have both pairs of filaments densely hairy in the upper part.

287. Diclis reptans Benth. in Comp. Bot. Mag. 2:23 (1836) pro parte; Hiern in Dyer, Fl. Cap. 4(2):200 (1904) pro parte; Letty, Wild Fl. Transv. 297, tab. 148 fig. 3 (1962); Batten & Bokelmann, Wild Fl. E. Cape 132, tab. 105, fig. 1 (1976); Gibson, Wild Fl. Natal 93, tab. 93 fig. 1 (1975); Compton, Fl. Swazi. 521 (1976). **Fig. 4B.**

Lectotype: [Transkei] between Port St John's and Umsikaba River [= Amaponda sens. Benth.] *Drège* 3615c (K—Herb. Benth.).

Syn.: *D. reptans* Benth. var. *serratodentata* O. Kuntze, Rev. Gen. 3(2):231 (1898). Type: Natal, Van Reenen's Pass, *O. Kuntze* (K).

Distribution. Ranges from George and Knysna on the southern Cape coast eastwards along the coastal ranges, penetrating inland to the environs of Grahamstown, Katberg, the Amatola Mts, the King William's Town–Keiskammahoek area, Cathcart and Queenstown, through the Transkei and all Natal to an altitude of c. 2000 m, the NE part of Lesotho and neighbouring Orange Free State, to the eastern highlands of the Transvaal, western Swaziland and the Zoutpansberg. Possibly also in Tropical Africa.

Selected citations:—

CAPE. Knysna, in aquosis ad Vlugt, *Bolus* 2409 (K). George, 18 iii 1893, *Schlechter* 2354 (E, GRA). 70 miles from Port Elizabeth, Zuurberg, 2300 ft, 29 viii 1932, *Long* 744 (K, PRE). Grahamstown, 2000–2500 ft, ix 1888, *Galpin* 84 (PRE). Pirie Mts, 2500 ft, 24 v 1896, *Galpin* 3264 (PRE). Queenstown, Gwatyn Farm, 4400 ft, xii 1911, *Galpin* 8319 (GRA, PRE).

NATAL. Durban distr., Isipingo Beach, 2 x 1949, *Ward* 975 (PRE). Pinetown distr., Everton, Eskotene, c. 600 m, 21 ix 1976, *Hilliard* 8111 (E, NU). Estcourt distr., Kamberg Mt, c. 6000 ft, 22 x 1973, *Wright* 1576 (E, NU). Underberg distr., Garden Castle Forest Reserve, headwaters of Umzimkulu river, 4 xi 1973, *Hilliard & Burtt* 7056 (E, NU). Mtunzini distr., Ngoye, ii 1964, *Huntley* 860 (E, NU).

LESOTHO. Leribe, *Dieterlen* 329 (PRE).

TRANSVAAL. Wakkerstroom distr., Mt near Laing's Nek road, 15 i 1932,*Galpin* 11805 (K, PRE). Letaba distr., Duiwelskloof, 3200 ft, 10 ix 1958, *Scheepers* 463 (K, PRE). Sebasa distr., 13 miles S of Lake Funduzi, 17 xi 1954, *Meeuse* 9416 (K, PRE).

SWAZILAND. Mbabane, Ukutula, 4 x 1954, *Compton* 24526 (PRE).

Bentham's concept of *D. reptans* included *D. rotundifolia* (see below). His original citation of material reads "Vanstadensriviersberge and Zuurberge in Uitenhage, the Winterberg in Neutral Territory and Katberg in Cafferland, *Ecklon*; Amakosa and Amaponda countries, *Drège* (v.s.)". There appear to be no Ecklon specimens in Bentham's own herbarium, now at Kew, nor in other collections there; nor are they cited by Hiern in *Flora Capensis*. Drège's collections are represented by three specimens written up

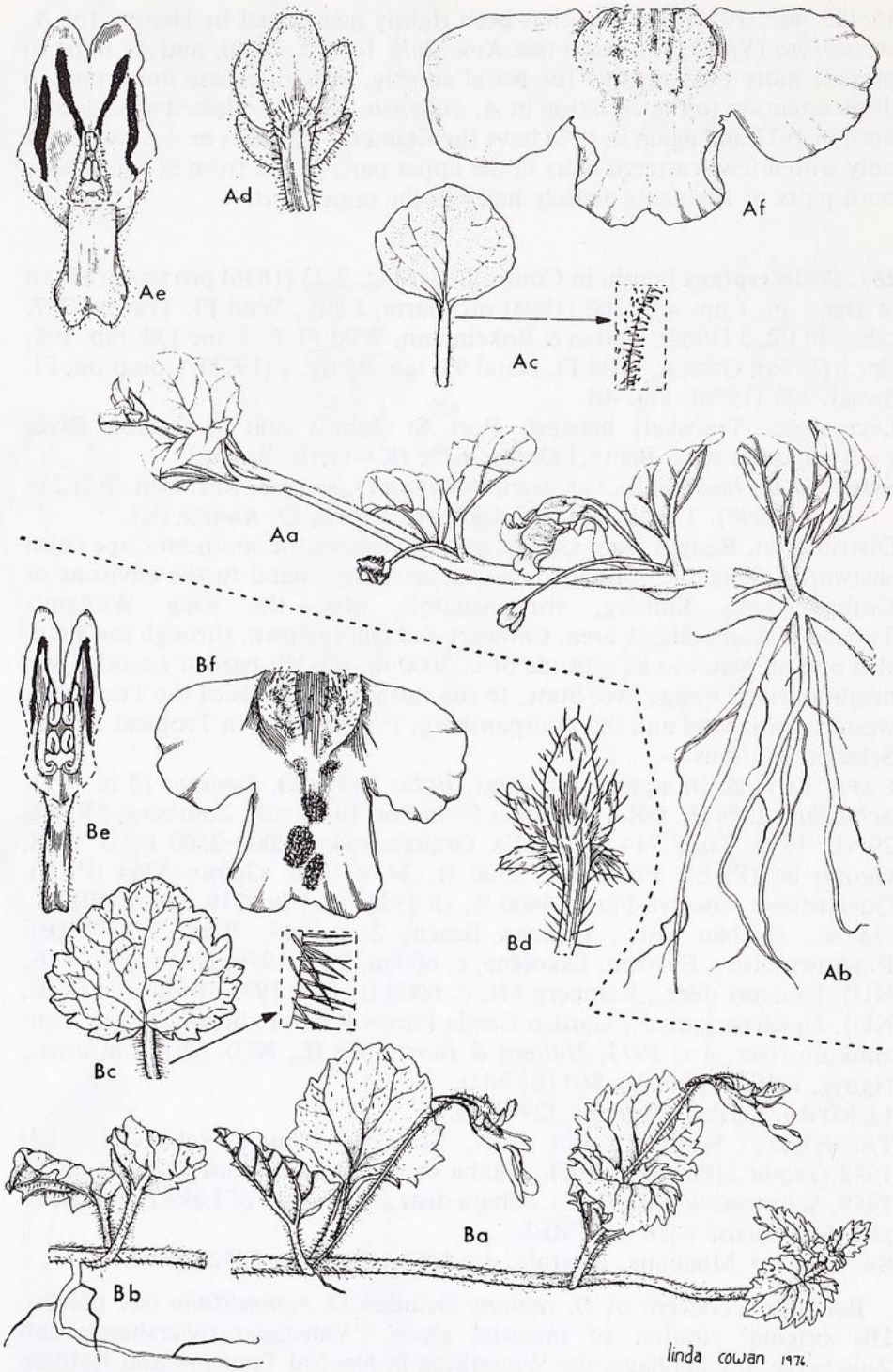

FIG. 4. A, *Diclis rotundifolia* (Hiern) Hilliard & Burtt; B, *D. reptans* Benth. a, flowering shoot (× 1); b, node from lower part of stem with roots (× 1); c, leaf (× 1) with petiolar indumentum enlarged; d, calyx from back (× 4); e, corolla front view, lower lip removed (× 4); f, lower lip of corolla (× 4); A, from *Hilliard* 8110 (hort. Hilliard ex Weza, Zuurberg, Natal). B, from *Hilliard* 8111 (Eskotene, Everton, Pinetown distr., Natal).

by Bentham himself: 4848a (near Gekau R.), 3615a (near Bashee) and 3615c (between St John's R. and Umsikaba R.). These are enough to justify Bentham's "Amakosa and Amaponda countries". Of these, Drège's specimen 3615c is here proposed as lectotype of *D. reptans*: 3615a and 4848a represent the following species, *D. rotundifolia*. In making choice of a lectotype Bentham's original description offers no clear guidance. In later usage, however, it may be noted that O. Kuntze made his var. *serratodentata* var. α; that Moss indicated *D. rotundifolia* as a new species; and that three recent coloured illustrations (cited above) have all shown the plant to which the name is here restricted. Equally important is the fact that *Drège* 3615c is a good, easily determinable specimen and that another epithet, *rotundifolia*, is available for the excluded part. Specific differences are discussed below under *D. rotundifolia*.

288. Diclis rotundifolia (Hiern) Hilliard & Burtt, **comb. nov. Fig. 4A.**

Type: Natal, between Pietermaritzburg and Greytown, *Wilms* 2182 (holo. BM; iso. K).

Syn.: [*Diclis reptans* Benth. in Comp. Bot. Mag. 2:23 (1836), pro parte excl. lecto.; Hiern in Dyer, Fl. Cap; 4(2):200 (1904) pro parte].

D. reptans var. *subedentata* O. Kuntze, Rev. Gen, 3(2):231 (1898). Type: Natal, Highlands Station, *O. Kuntze* (K).

Diascia rotundifolia Hiern in Dyer, Fl. Cap. 4(2):152 (1904).

Distribution. Ranges from the Tsitzikama Forest on the southern Cape coast eastwards through the coastal areas (and inland to the Amatola Mts) to the Transkei, Natal, Lesotho, Orange Free State, Transvaal Highveld, and NE Cape (Barkly West Distr.).

Selected citations:—

CAPE. Komgha, 200 ft, xi 1891, *Flanagan* 1198 (GRA). Barkly West distr., Warrenton, left hand bank of Vaal river, 3 x 1936, *Acocks* 953 (PRE); *ibidem*, 29 ix 1902, *Adams* 96 (GRA).

TRANSKEI. Willowvale distr., Qora River mouth, 15 vii 1956, *Meeuse* 9697 (K).

NATAL. Underberg distr., Underberg to Drakensberg Gardens, c. 5 miles from Bushman's Nek turn off, 2 xi 1973, *Hilliard & Burtt* 7013 (E, NU). Umzinto distr., Dumisa, Campbellton, 8 ix 1912, *Rudatis* 1750 (PRE). Babanango distr., 8 miles W of Babanango, 4500 ft, 8 x 1946, *Codd* 1768 (PRE). Ngotshe distr., Ngome, 6 xii 1975, *Hilliard & Burtt* 8411 (E, NU). Lion's River distr., farm "Drayton", 5 x 1973, *Wright* s.n. (E, NU).

LESOTHO. Leribe, *Dieterlen* 242 (PRE); Mamathes, 5800 ft, x 1941, *Jacot Guillarmod* 93 (PRE); Pulane distr., near Mateka, 6000 ft, 22 iii 1951, *Bruce* 349 (K, PRE).

TRANSVAAL. Wakkerstroom distr., farm Oshoek, 6400 ft, 22 x 1961, *Devenish* 704 (PRE). Carolina distr., farm Bergendal, 5400 ft, 20 x 1932, *Galpin* 12473 (PRE). W. Witwatersrand, Geduld, 15 x 1927, *Moss* 15635 (BM). Belfast distr., roadside west of Machadodorp, 7 xii 1965, *Burtt* 3108 (E).

ORANGE FREE STATE. Witzieshoek, ii 1917, *Junod*, TM 17527 (PRE); Parys, 15 ii 1929, *Hutchinson* 2981 (K); Harrismith, xi 1904, *Sankey* 208 (K).

It has been known for a long time that there were two components within *Diclis reptans* Benth. In 1883 Wilms collected between Pietermaritzburg, Greytown and Newcastle, and it is obvious from the numbering of his specimens that he knew he was collecting two different plants. They were first formally distinguished by O. Kuntze in 1898 as var. *serratodentata* and var. *subedentata*, these names being based on his own collections. Later Professor C. E. Moss labelled a specimen he collected on the Witwatersrand (*Moss* 15635, BM) "*Diclis* sp. nov." Thus recognition of the two components has come from field observations: not from herbarium studies. This is to be expected: in the field the two plants can scarcely be put together, in the herbarium many specimens are difficult to determine. Typical forms of the two species are contrasted in fig. 4, but not all the differences shown between these plants (for example, indumentum of petiole) are constant through both species.

The basis for the field distinction lies in habit and habitat. True *D. reptans* (as lectotypified above) is associated with moist shade, at least at the roots. It is found under or among rocks and boulders, on banks or in scrub. The sprawling stems tend to be ascending at the tips. *D. rotundifolia*, on the other hand, is a plant of open places, often creeping on bare earth between grass tussocks. It is completely prostrate.

The distribution of the two species in the Transvaal reflects their different ecological preferences very well: *D. reptans* is recorded only from the forested highlands in the east and the Zoutpansberg; *D. rotundifolia* is not recorded there, but is widespread on the Highveld, and records along the Vaal river (at Vereeninging, Parys and Warrenton) extend its range well to the west.

Undoubtedly the best distinguishing character is one pointed out to us some years ago by Mr F. B. Wright: *D. reptans* has thin fibrous roots, those of *D. rotundifolia* are fleshy and fusiform. We have tested this character on numerous occasions and found it reliable; but roots are often absent from herbarium specimens and the feature is more obvious in living than in dried material.

The most obvious floral distinction in the field lies in the corolla-spur: long and narrow in *D. reptans*, generally shorter and broader in *D. rotundifolia*. Both species however vary considerably in flower size,and absolute measurements are therefore not necessarily diagnostic. In *D. reptans* the spur has a range from (1·5–)2·5–3(–4) mm and *D. rotundifolia* (1·5–)2–2·5 mm: these measurements refer to the narrow part (the spur proper) and do not include the suddenly expanded base.

A safer distinguishing character in the herbarium is in the shape of the calyx-lobes, especially of the larger dorsal one. In *D. reptans* the lobes are subacute and the dorsal one is narrowly elliptic: in *D. rotundifolia* they are obtuse and the dorsal one is more or less obovate. Once again there is an overlap in absolute measurements: (2–)3–3·5(–4) mm for the central lobe in *D. reptans*, (1·5–)1·75–2·5(–3·25) mm in *D. rotundifolia*.

When O. Kuntze named his varieties from the leaf-toothing, he drew attention to another feature that is frequently distinctive: the toothing in *D. reptans* is usually sharper and deeper than in *D. rotundifolia*. Similarly he might have referred to the petioles, which are commonly longer in *D. reptans*. But in both these characters there is so much variation within the

species that they are in no way diagnostic. Indumentum is often longer and eglandular in *D. reptans*, shorter and glandular in *D. rotundifolia*; and so it was in the plants illustrated, but again the range of variation in the species shows a distinct overlap.

The availability of the epithet *rotundifolia* results from a slip by W. P. Hiern when preparing the account of Scrophulariaceae for *Flora Capensis*. He described the specimen of *Wilms* 2182 in the British Museum as *Diascia rotundifolia*, even ascribing 2 spurs to the corolla, although the same collector's *number* (presumably referring to the specimen at Kew) is also cited under *Diclis reptans*. The species that we now segregate from *D. reptans* must therefore bear the epithet *rotundifolia*.

289. Glumicalyx nutans (Rolfe) Hilliard & Burtt, **comb. nov.**

Syn.: *Selago nutans* Rolfe in Journ. Linn. Soc. Bot. 20:354, 358 (1883), et in Thiselton-Dyer, Fl. Cap. 5(1):159 (1901).

Glumicalyx alpestris (Diels) Hilliard & Burtt in Notes R.B.G. Edinburgh 35:169 (1977)—which see for full synonymy.

By an inexcusable mistake the later epithet *alpestris* was taken up for this species in our revision of *Glumicalyx*. *Selago nutans* was at first thought to be distinct from the much better known *Zaluzianskya alpestris*, but was eventually reduced to synonymy, instead of the other way round.

290. Manulea paniculata Benth. in Comp. Bot. Mag. 1:383 (1836); Hiern in Fl. Cap. 4(2):237 (1904).

Type: E Cape, Stormberg and near the Kraai River, *Drège* (K).

Syn.: *Sutera elliotensis* Hiern in Fl. Cap. 4(2):251 (1904). Type: Tembuland, by the Slang River, near Elliot, *Bolus* 8762 (K).

[*Manulea elliotensis* [Overkott ex] Guillarmod, Fl. Lesotho 245 (1971)—nomen invalidum].

The type sheet of *Sutera elliotensis* was long ago annotated by N. E. Brown 'this is a *Manulea*'. However, the new combination written up, but never published, by Overkott is not necessary. The plant is not distinct from *Manulea paniculata* and the type locality falls well within the range of this species. Guillarmod's use of the name *M. elliotensis* does not constitute valid publication as no bibliographical reference was given.

Sutera elliotensis was instanced by E. A. Bruce (in *Kew Bull.* 1940, 64) as a species of *Sutera* having a two-lobed stigma, and thereby invalidating the use of that character to separate *S. dissecta* as the genus *Jamesbrittenia* O. Kuntze. This particular objection now falls to the ground. The status of *Jamesbrittenia* needs further study.

291. Manulea platystigma Hilliard & Burtt, **species nova** a *M. crassifolia* Benth. et *M. thodeana* Diels habitu humiliore, stigmate applanato e stylo abrupte distincta recedit.

Herba perennis, rosulata, radice palari crasso. *Folia* omnia radicalia, congesta, 20–80 × 4–12 mm, oblanceolata vel spatulata, in basim petiolarem planum dimidium folii formantem attenuata, apice obtuso, marginibus vel integris vel repandis vel obscure dentatis vel lobulatis, subcarnosa, utrinque glanduloso-puberula. *Inflorescentia* racemum cymarum

formans; pedunculi communes solitarii vel ad 30 ex axillis foliorum, 50-200 mm alti, minute puberuli; cymae inter se distantes; bracteae primariae parvae, usque ad 4 mm longae, ad pedunculos cymarum breviter adnatae, secundariae ad pedicellorum bases adnatae; pedicelli brevissimi, glanduloso-puberuli. *Calyx* 3·5–7 mm longus, profunde 5-fissus; lobi subaequales, plus minusve oblongi, membranacei, haud carinati, extra glanduloso-puberuli. *Corollae* tubus 5–7 mm longus leviter curvatus, inferne et superne dilatatus, extra glanduloso-pubescens, intus glaber pilis longis clavatis in fauce prope insertionem staminum exceptis; lobi 5, subaequales, 3·5–6·5 mm longi, basi 0·75–2 mm lati, oblongi, obtusi, marginibus valde reflexis itaque ambitu lanceolato acuto; lobus anticus deflexus, alii sursum et retrorsum flexi, fusco- vel aurantiaco-flavi, nitentes, supra glabri, subtus pallidiores et praecipue prope bases loborum glanduloso-pubescentes. *Stamina* 4; antherae duae parvae transversae in ore tubi visae, duae longae verticales inclusae. *Ovarium* 2–3 mm longum, lateraliter compressum; stylus brevis abrupte ampliatus in stigma dorsoventraliter compressum 2–3 mm longum lineis stigmatosis marginalibus circumcirca praeditum. *Capsula* (ex *Stewart* 1893) 5 × 2·5 mm, ellipsoidea, superne angustata; semina (immatura) transverse rugosa, numerosa.
Type: Lesotho, Sani Top, rocky ridge across Sani R, N of mountaineer's chalet, 2895 m, 2 i 1974, *Hilliard* 5432 (holo. NU; iso. E, K, PRE).
LESOTHO. Mokhotlong distr., Black Mts, 3170–3230 m, 13 i 1976, *Hilliard & Burtt* (E, K, NU); Thabana Ntlenyana, 3300 m, 18 i 1955, *Guillarmod* 2328 (herb. JG).
CAPE. Barkly East distr., near top of Naude's Nek on Rhodes side, c. 2280 m, 13 xii 1976, *Stewart* 1893 (E, K, NU).

M. platystigma grows in silt patches over rock sheets, loose scree or other rocky open places. As we have seen them plants have been scattered, never plentiful.

The genus *Manulea* is not an easy one and there are problems connected with *M. bellidifolia* Benth., *M. crassifolia* Benth. and *M. thodeana* Diels, and plants related to these, on which we are not yet prepared to give decisions. However, *M. platystigma* is a well-marked high altitude species that has been collected several times but never named.

292. Zaluzianskya lychnidea (D. Don) Walp., Repert. 3:307 (1844–45); Hiern in Thiselton-Dyer, Fl. Cap. 4(2):337 (1904).
Lectotype: Sweet, Brit. Flow. Gard. ser. 2, 3: t. 239 (1835), based on plant cultivated by Patrick Neill at Canonmills, Edinburgh.
Syn.: *Nycterinia lychnidea* D. Don in Sweet, Brit. Flow. Gard, ser. 2, 3: t. 239 (1835); Benth. in Comp. Bot. Mag. 1:369 (1836) et in DC., Prodr. 10:349 (1846).

In a note dealing with the conservation and type species of *Zaluzianskya* (in *Taxon* 24:394. 1975), Paclt has queried the nomenclature of *Z. lychnidea* as that name is used by Hiern in *Flora Capensis*. It seems desirable to correct his comments before anyone is tempted to alter the name.

The genus *Nycterinia* was established by D. Don in 1835, and the species he assigned to it he named *N. lychnidea*. He said that this plant was "*Erinus lychnidea* Linn. Suppl. p. 287 (excluso synonymo)." Now, if we look at the

Supplementum of the younger Linnaeus, we find that *Erinus lychnidea* has as its synonym "*Selago lychnidea* Syst. veg. ed. 13, 476". Nomenclaturally *Erinus lychnidea* is clearly a new combination based on *Selago lychnidea* L. Don however perceived that the description given by Linnaeus filius did not belong to *Selago lychnidea* L., and he associated it with the plant he was naming as a new genus, *Nycterinia*. In excluding the synonym of *Erinus lychnidea* L.f. he was in fact excluding the basionym. In modern nomenclature it is accepted that when a new combination is made it must always stand for the basionym, even if the plant under consideration was wrongly identified. *Erinus lychnidea* (L.) L.f. is not a synonym of *Nycterinia lychnidea* D. Don. Don has bred confusion by retaining the same, highly appropriate, epithet: but he was not infringing any Article of our modern Code in so doing. Bentham accepted *N. lychnidea* D. Don, and Walpers quite correctly transferred it to *Zaluzianskya* where it was retained by Hiern. No change is necessary. *Selago lychnidea* L. [=*Erinus lychnidea* (L.) L.f. excl. descr.] is correctly cited by Hiern as *Sutera lychnidea* (*L.*) Hiern.

The botanical identity of *Z. lychnidea* remains somewhat in doubt. The group including *Z. maritima, Z. lychnidea, Z. capensis, Z. dentata* and others is a difficult one and names have been much misused. We are accumulating materials for a study of the genus, and additional specimens, and seed or roots for growing, would be welcome. Field notes should cover flower colour, actinomorphy or zygomorphy of corolla, presence or absence of glands (they are very small) on inside of lobes and of a circlet of hairs at mouth, time of opening (day or evening), duration of plant and presence or absence of subterranean buds at the base. These characters promise to be helpful and are often difficult to see in dried material.

293. Zaluzianskya rubrostellata Hilliard & Burtt, **species nova** *Z. elgonensi* Hedberg affinis, sed caulibus foliatis (haud nudis), foliis bracteisque majoribus, floribus majoribus (corollae tubo 22–27 mm, haud 10–12 mm, lobus 5 mm, haud 1·5–2 mm), limbo supra flavo rubro-notato (haud cremeo et aurantiaco) differt.

Herba annua, radice longo tenui. *Caules* 3–10 cm longi, singuli vel plerumque plures e foliis rosulatis, simplices vel raro parce ramosi, decumbentes vel suberecti, fusci, parce pubescentes et distanter foliati. *Folia* radicalia usque ad c. 20 × 5 mm, spatulata, crassa, fusco-viridia, patentia, apice subacuto, marginibus dentibus paucis obscuris praeditis et parce pilosis praecipue in dimidio inferiore; caulina similia sed minora, opposita in paribus paucis distantibus. *Bracteae* ad apices ramorum congestae, oblongae superne paulo ampliatae, apicibus subacutis recurvis, marginibus pilis longis patentibus et pilis parvis glandulosis praeditae. *Calyx* c. 7 mm longus, ad bracteam per 4 mm connatus, glanduloso-puberulus. *Corollae* tubus c. 22–27 × 1 mm, glanduloso-puberulus, fusce purpureo-brunneus; limbus regularis; lobi c. 5 mm longi, apices versus ad 2 mm lati ampliati, obtusissimi, haud vel vix bilobati, extra fusce purpureo-brunnei et glanduloso-puberuli fulvo-marginati, intus vivide canarini basi stella vivide kermesina notata, pilis minutis paucis glandulosis basin versus et circum orem pilis validis clavatis praediti. *Stamina* 4; 2 antheris longis verticalibus in fauce inclusis, 2 antheris brevibus horizontalibus paulo exsertis. *Stigma* tandem

leviter exsertum. *Capsula* c. 8 × 3·5 mm. *Semina* 1 mm longa, pallida.
Type: Lesotho, above Sani Pass, east of chalet, 2820 m, 17 i 1976, *Hilliard & Burtt* 8849 (holo. E; iso. NU).
LESOTHO. Berea distr., near Molimo Nthuse hotel (road from Roma to Blue Mt pass), 2300 m, 6 xi 1975, *Schmitz* 6293 (ROMA). Mokhotlong distr., 33 km NW Mokhotlong, 6 x 1972, *Werger* 1594 (PRE); Thabana Ntlenyana, c. 3250 m, 20 i 1955, *Guillarmod* 2356 (K, PRE); Magapune Valley, c. 3250 m, 20 i 1955, *Coetzee* 589 (PRE); above Sani Pass, c. 2850 m, 17 ii 1973, *Hilliard* 5315 (E, NU); *ibidem*, c. 2875 m, 30 xii 1973, *Hilliard* 5398 (E, NU); *ibidem*, ii 1972, *Grice* s.n. (NU). Mohaleshoek distr., slope of Mohlehli ravine, Quang Mt, Matelile high Malutis, 6 i 1918, *Dieterlen* 1302 (PRE).
NATAL-LESOTHO-O.F.S. BORDER. Mont aux Sources, 2500 m, iv 1913, *Dyke* 5405 in herb. Marloth (PRE).
CAPE. Barkly East–Maclear border, base of Doodman's Krans Mt, 2550 m, iii 1904, *Galpin* 6794 (PRE).

Z. rubrostellata grows in silt patches among rock sheets on the summit plateau of the Drakensberg. The plants, with their dark stems, dark foliage and chocolate-coloured buds are difficult to see against the dark silt; at dusk or in low light intensities, when the flowers open, the bright yellow limb with scarlet star-shaped central patch shows up brilliantly. The colour-combination of chocolate-brown, bright yellow and scarlet is unusual in *Zaluzianskya* and, to our knowledge, is paralleled only by the "purplish-brown outside and cream-coloured inside with 5 orange-coloured spots around the throat" that Hedberg records for *Z. elgonensis*. This appears to be the closest ally of *Z. rubrostellata*.

Among South African species *Z. rubrostellata* is most likely to be confused with *Z. crocea* Schlechter, another small annual with entire, or scarcely notched, corolla lobes. *Z. crocea* favours the same sort of habitat as *Z. rubrostellata* and the spreading–erect stems are similarly tufted from the base. The inflorescence, however, is a short dense spike, not a head, the bracts and calyx are markedly spreading–pilose, and the flowers open during the day. *Z. crocea* has the upper surface of the corolla limb opening white and gradually changing to pink: it contrasts prettily with the coppery-orange underside.

Z. crocea has been recorded from the top of Andriesberg, near Queenstown, Broughton near Molteno, the top of the Witteberg near Lady Grey, and Naude's Nek across the Cape Drakensberg between Rhodes and Maclear, all in the NE Cape. North-eastwards on the main Drakensberg it seems to be replaced by *Z. rubrostellata*.

294. Zaluzianskya turritella Hilliard & Burtt, **species nova** nulli arcte affinis.

Herba annua, radice palari longa tenui. *Caulis* simplex vel ramis 2–pluribus e basi orientibus, erectus vel paulo decumbens, dense foliatus. *Folia* inferiora opposita et decussata, c. 6-jugata, sursum alterna in bracteas celeriter transeuntia, recurvo-patentia rhomboideo-ovata, 5–6 × 4–5·5 mm, apice subacuta, basi in parte petiolari 3–4 × 2 mm contracta, marginibus obscure crenatis vel obtuse dentatis, utrinque parce glanduloso-

pubescentia pilis paucis longis patentibus intermixtis, et folia et bracteae crassa supra fusco-viridia subtus cruenta, aromatica. *Bracteae* quam folia majores, sursum auctae, c. 10–25 × 5–12 mm, rhomboideo-ovatae et petiolatae, sursum oblong-obovatae, apice late rotundatae et obtuse dentatae, ceterum marginibus integris dorso et supra in dimidio superiore glanduloso-pilosae pilis longis patentibus intermixtis. *Calyx* 9 mm longus, per 4 mm ad bracteam adnatus, praecipue in costis glanduloso-pubescens. *Corolla* tubo 22–27 × 1·5 mm atro-rubente glanduloso-pubescente, limbo regulari; lobi 5–6 mm longi, alte bifidi, extra glanduloso-pubescentes et atrorubentes, intus candidi et glabri circulo pilorum robustorum unicellularium circum orem excepto. *Stamina* 4, 2 in fauce inclusa, 2 breviter exserta. *Stigma* demum semi-exsertum. *Capsula* (immatura) 9 × 5·5 mm.

Type: Lesotho, Mokhotlong distr., Sani, c. 2940 m, hill slopes behind escarpment S of Sani Pass, in gravel-silt patches between flat rocks on table above cliffs, 18 i 1976, *Hilliard & Burtt* 8876 (holo. NU; iso. E).

LESOTHO. Mokhotlong distr., on slope of Thabana Ntlenyana, on screes, 3300 m, 21 i 1955, *Coetzee* 590 (PRE); Thabana Ntlenyana, 3300 m and over, scree, 18 i 1955, *Guillarmod* 2327 (PRE).

NATAL. Estcourt distr., Giant's Castle Game Reserve (upper Injasuti), growing in coarse sand on top of ridge, 3300 m, 28 i 1966, *Trauseld* 546 (NU, PRE); *ibidem*, 3150 m, 23 i 1968, locally common amongst small stones on summit of Giant's Castle, *Killick* 3901 (PRE). Underberg distr., saddle on escarpment N of Sani Pass, gravel patches and terraces above escarpment edge, 8 i 1977, *Hilliard & Burtt* 9661 (E, NU).

The plants look oddly top-heavy, with the big floral bracts diminishing in size downwards to the relatively few and small leaves, and look so much like little leaning towers that the specific epithet suggested itself. They are wonderfully camouflaged during the day, the dark red corollas and dark green foliage scarcely showing against the dark basalt-derived gravel of their natural habitat. Only at dusk when the flowers open must the white starry corollas stand out brilliantly.

UMBELLIFERAE (by B. L. Burtt)

295. Annesorhiza schlechteri Wolff in Bot. Jahrb. 48:277 (1912).

Type: Transkei, Mt Ayliff distr., Mt Insizwa, 1950 m, in paludibus, 27 i 1895, *Schlechter* 6488 (iso. GRA, Z).

TRANSKEI. Tabase, near Baziya, c. 750 m, November, *Baur* 422 (K); between Engcobo and Cala, i 1896, *Flanagan* 2685 (PRE).

E CAPE. Maclear distr., road to Waainek, in nearly dry marsh, 28°13′ E 31°03′ S, 16 xii 1976, *Stewart* 1934 (E, NU); sine loc., *Murray* 22 (GRA); 'Sarat', in vlei, occasional, leafless, 29 i 1923, *L. L. Britten* 4593 (GRA). Victoria East div., Hogsback, i 1919, *Rattray* 18 (GRA).

No published records of *Annesorhiza schlechteri*, apart from the original one, are known to us. The above citations show that it has an extended range from Mt Insizwa south-west to the Hogsback. All these plants are typical *A. schlechteri*. *A. flagellifolia* Burtt Davy (*Man. Fl. Pl. Ferns Transv.* 2:519. 1932) was described from the Transvaal without reference to

A. schlechteri; however, the only difference between them seems to be that *A. schlechteri* has slightly longer, more pointed and less membranous calyx lobes. If this difference holds, then Burtt Davy was quite correct in suggesting that *Wood* 3870 (NH) from the Lower Tugela belongs to *A. flagellifolia*: *Wood* 717 (BM) is the same. It is premature to take a decision, but it seems probable that *A. flagellifolia* is no more than a northern variant of *A. schlechteri*.

The material quoted as *A. flagellifolia* by Compton (*Fl. Swazi.* 410. 1976) has decompound leaves with short ultimate segments. It might be *A. wilmsiana* Wolff, based on *Wilms* 554 (B†: no duplicate has been found so far): it is not *A. flagellifolia*.

296–300. Peucedanum L., Sp. Pl. 245 (1753) et Gen. Pl. ed. 5, 116 (1754); Sonder in Harv. & Sond., Fl. Cap. 2:553 (1862); Benth. & Hook. f., Gen. Pl. 1:918 (1867); Drude in Engl. & Prantl, Nat. Pfanzemfam. 3(8):234 (1898); Engl., Pfanzenwelt Afrikas, 3(2):823 (1921); Norman in Journ. Linn. Soc. Bot. 49:530 (1934); Cannon in Garcia de Orta 1:45 (1973); Dyer, Gen. S. Afr. Fl. Pl. 1:427 (1975).

Peucedanum is a large and widespread genus whose precise definition is quite uncertain. The South African species, which currently include those placed in the genus *Bubon* in *Flora Capensis*, are very diverse. This is borne out by the last infrageneric arrangement for all the African species, that by Engler (*Pflanzenwelt Afrikas*, 3(2):823. 1921). Engler recognised 14 groups, of which the first nine are tropical, the last five South African. However the groupings are not satisfactory. *P. caffrum* (for which Engler inexplicably took up MacOwan's manuscript name *P. meisnerianum*) is the only species of § Meisneriana; its close allies *P. platycarpum, P. connatum* and *P. magalismontanum* jostle the rather different *P. capillaceum* and others in § Basifoliata, while their relative *P. natalense* is an uneasy bedfellow with the cane-like *P. capense* in § Sciothamnus. No useful purpose would be served by adopting Engler's arrangement. The simple fact is that the South African species of *Peucedanum* are little known and less understood.

The first four species, if such they be, annotated below are clearly close allies and have overlapping but differently centred distributions. Reading from north to south they are *P. magalismontanum* (No. 297), *P.* aff. *magalismontanum* (no. 298), *P. caffrum* (no. 296), and *P. platycarpum* (no. 299). These notes do no more than set out the situation, but the chaos in herbaria demonstrates that the shape of the problem has not previously been clear. Differences between the species rest largely on the involucel. *P. magalismontanum* and the species close to it are distinct in their more finely cut leaves which are more or less oblong in outline. However, differences in the decompound leaves of Umbelliferae are notoriously difficult to express, and all the species are variable in leaf-cutting. More field work is needed, especially in the areas where species overlap.

P. magalismontanum, P. platycarpum and *P. wilmsianum*, which last belongs to a different affinity, are all missing from the list in Ross's *Flora of Natal*; *P. connatum*, accepted there, is now reduced to *P. caffrum*, but *Strey* 6138, quoted by Ross, is *P. platycarpum*.

We are indebted to Dr B. Nordenstam, Curator of the Botanical Section of the Naturhistoriska Museet, Stockholm, for the loan of types from Sonder's herbarium.

296. Peucedanum caffrum (Meisn.) Phillips in Ann. S. Afr. Mus. 16:108 (1917); Burtt Davy, Man. Fl. Pl. Ferns Transv. 2:520 (1932).
Type: Natal, in graminosis circa Port Natal, viii 1839, *Krauss* 403.
Syn.: *Seseli caffrum* Meisn. in Hook. Lond. Journ. Bot. 2:533 (1842); Sond. in Harv. & Sond., Fl. Cap. 2:549 (1862).
Peucedanum connatum [E. Mey ex] Sond. in Harv. & Sond., Fl. Cap. 2:557 (1862). Types: "Grassy places and on the sea-shore from Omtendo to Port Natal", *Drège* (S).
Annesorhiza caffra (Meisn.) Drude in Engl. & Prantl, Nat. Pflanzenfam. 3(8):215 (1898).
Peucedanum meisnerianum [MacOwan ex] Engl., Pflanzenwelt Afrikas 3(2):827 (1921). Type as for *P. caffrum*.
NATAL. Utrecht distr., Kaffir Drift, v-x 1923, *Thode* A273 (PRE). Vryheid distr., Nhlazatshe, road below mountain on S side, 17 xii 1965, *Hilliard & Burtt* 3327 (E, NU). Bergville distr., Cathedral Peak, 1800 m, 19 x 1950, *Killick* 1047 (PRE); *ibidem*, 1500 m, 6 x 1959, *Ruch* 1464 (PRE). Estcourt distr., Giant's Castle Game Reserve, 1440–1700 m, 6 xi 1965, *Trauseld* 427 (PRE). Lion's River distr., D 16 road to 'Boschhoek', 30 x 1973, *Hilliard & Burtt* 6998 (E, NU). Pietermaritzburg distr., Foxhill, 30 xi 1966, *Hilliard* 4040 (E, NU). Hlabisa distr., St Lucia Game Park, 24 v 1977, *Hilliard & Burtt* 10360 (E, NU). Pinetown distr., Chelmsford Park, c. 600 m, 17 xi 1967, *Hilliard* 4711 (E, NU). Durban distr., Amanzimtoti, 15 m, 29 ix 1898, *Wood* 7284 (E). Umzinto distr., 'Ellesmere', 23 ii 1908, *Rudatis* 493 (E). Underberg distr., Coleford Nature Reserve, 'Sunnyside', c, 1500 m, 25 xii 1976, *Hilliard & Burtt* 9542 (E, NU); *ibidem*, above Ngwangwane R., 27 xii 1976, *Hilliard & Burtt* 9588 (E, NU).
ORANGE FREE STATE. Besters Vallei, Harrismith [? Witzieshoek], 1860 m, xii 1893, *Bolus* 8167 (GRA).
LESOTHO. Leribe distr., Malavaneng, *Dieterlen* 875 (PRE); Makokoana, i 1911, *Dieterlen* 937 (PRE). Maseru, 22 i 1968, *Schmitz* 464 (PRE).
TRANSKEI. Qumbu-Shawbury, 1080 m, i 1921, *Schonland* 4112 (GRA).
CAPE. Aliwal North div., Wittebergen, 1350–1800 m, i, *Drège* (E).

In the distributed set of Drège's specimens there are three sheets of *P. connatum*: 'a' from Omtendo–Omsamsculo: 'b' Omcomas to Omlas: 'c' Wittebergen. Although Sonder quotes Herb. Hk. (Kew) as well as his own herbarium, there are no representatives of the 'a' & 'b' sheets at Kew: only of the 'c' sheet of which the locality, Wittebergen, is not quoted by Sonder. The sheet of Sonder's herbarium at Stockholm carries a single specimen, though the label, in Sonder's hand, has both the 'a' & 'b' localities. It has the typical broad veined involucellar bracts of *P. caffrum*, although they are scarcely connate. Nevertheless *P. connatum* can safely be reduced to a synonym of *P. caffrum*.

297. Peucedanum magalismontanum Sond. in Harv. & Sond., Fl. Cap. 2:558 (1862); Burtt Davy, Man. Fl. Pl. Ferns Transv. 2:520 (1932).

Types: Transvaal, Magalisberg, and near Vaal River, *Burke* 277; *Zeyher* 118, 744.

Syn.: *P. schlechterianum* Wolff in Engl. Bot. Jahrb. 48:283 (1912), ex descr. Type: Vaal River, *Burke* s.n. (n.v.).

There are numerous records for Transvaal (where it is common in the highveld around Pretoria), Swaziland and Orange Free State.

NATAL. Utrecht distr., 'Tweekloof', ix–xi 1924, *Thode* A 380 (PRE). Ngotshe distr., Nongoma, grasslands of township, 3 x 1943, *Gerstner* 4663 (PRE); road from Ngome to Louwsburg, before dropping to Mkuze valley, *Hilliard & Burtt* 8483 (E, NU). Between Greytown and Newcastle, xi 1883, *Wilms* 2000 (E).

In describing *P. schlechterianum*, Wolff made no mention of *P. magalismontanum* Sond., though both species came from the same area and both were collected by Burke. The description of *P. schlechterianum* does not contain anything that would differentiate it from *P. magalismontanum*, and the umbel is clearly stated to lack an involucre, which is also the distinctive character of *P. magalismontanum*.

298. Peucedanum aff. **P. magalismontanum** Sond.

TRANSVAAL. Wakkerstroom distr., 'Oshoek', *Devenish* 339 (PRE); between Wakkerstroom and 'Oshoek', c. 1680 m, 5 x 1976, *Hilliard & Burtt* 9133 (E, NU).

NATAL. Newcastle distr., Ingogo, Valley Inn hotel, 1320 m, 8 xi 1976, *Hilliard & Burtt* 9206 (E, NU). Klip River distr., Biggarsberg, Cundy Cleugh, 1500 m, 10 xi 1976, *Hilliard & Burtt* 9229 (E, NU). Mooi River distr., Mooi River, 15 xi 1900, *Johnston* 205 (E); *ibidem*, 30 xii 1901, *Johnston* 776 (E). Estcourt distr., Kamberg Nature Reserve, Stillerust Vlei, 7 i 1976, *Hilliard & Burtt* 8728 (E, NU).

This taxon is very close to *P. magalismontanum* and is probably not distinct specifically. The only major difference noted is in the presence of an involucre of linear-lanceolate bracts. There is no involucre in *P. magalismontanum*. This character, in fact, brings it closer to the more southerly *P. platycarpum* (no. 299), but it differs from that species in the more finely cut leaves.

299. Peucedanum platycarpum [E. Mey. ex] Sond. in Harv. & Sond., Fl. Cap. 2:557 (1862).

Type: "in the Katriver and Kachu or Geelhoutriver, 2–3000 ft, Nov–Jan., *Drège*" (S).

CAPE. Port Elizabeth div., Redhouse, vii 1908, *Paterson* 5 (K). Bathurst div., near Date Tree Station, 28 ix 1813, *Burchell* 3837 (K); Glen Heath, Martindale, xi 1915, *Salisbury* s.n. (GRA). King William's Town div., King William's Town, 1888, *Sim* s.n. (NU); Pirie, 1892, *Sim* s.n. (PRE); Mt Coke, SE of King William's Town, 14 xii 1977, *Hilliard & Burtt* 11015 (E, NU). Stutterheim div., Fort Cunnynghame, 1900 m, i 1924, *Schonland* 25, 53, 94 (GRA); 3 miles from Amabele, 26 xi 1939, *de Vries* 36 (PRE); Dohne Res. Stn., 900 m, 26 x 1942, *Acocks* 9260 (PRE); *ibidem*, xii 1953, *Perks* (GRA). Aliwal North div., Wittebergen, *Drège* (K). East London div., 18 miles from E London on Transkei road, 11 xi 1955, *Comins* 1363 (PRE).

Komgha div., Komgha, 600 m, xi 1891, *Flanagan* 1090 (GRA, PRE); road west of Komgha, 15 xii 1977, *Hilliard & Burtt* 11102 (E, NU).
TRANSKEI. Baziya, 600–750 m, *Baur* 372 p.p. (K).
NATAL. Port Shepstone distr., Izingolweni, 17 xii 1965, *Strey* 6138 (K, PRE). Griqualand East, Kokstad, 23 xi 1930, *Goossens* 174 (PRE).

In the distributed set of Drège's specimens the 'a' sheet is from Kachu or Geelhoutriver, the 'b' sheet is from Katriver. Although Sonder quotes both localities, his herbarium (now at Stockholm) contains only one sheet, from Kachu or Geelhoutriver: this must therefore be taken as the type. The 'b' sheet is represented in Bentham's herbarium at Kew: it has broad, veined, blunt, sub-connate involucellar bracts and appears to be *P. caffrum* (Meisn.) Phillips.

Sonder's description of the involucel reads "of 4–7 small linear leaflets". On the old fruiting type specimen these are simply persisting as small points. The other specimens quoted above agree in this feature. This involucel is very different from that of *P. caffrum*, which has broad veined bracts usually connate into a more or less cupular structure.

There are however two specimens, not quoted above, in which the bracteoles are free but have a slightly dilated margin. They are:—Queenstown div., Berry reservoir east of Queenstown, i 1920, *Hilne* 33 (GRA). Griqualand East, Mvenyane, near Cedarville, 18 xi 1930, *Baudert* 64 (GRA). Specimens such as these suggest that the gap between *P. platycarpum* and *P. caffrum* is very slight. Unfortunately we have not yet found such specimens ourselves: we do not know if they were isolated specimens or represent uniform populations, and we do not know if any other forms grew in their vicinity. These are the situations that need field study.

300. Peucedanum wilmsianum Wolff in Engl. Bot. Jahrb. 48:280 (1912).
Type: Natal, Alexandra [=Umzinto] distr., 'Umgaye', 600 m, moorige Orte, 23 i 1910, *Rudatis* 812 (iso. E).

Peucedanum wilmsianum was omitted from Ross's *Flora of Natal*, and the main purpose now is to remedy this. However, in advance of a more critical study, it may be recorded that the species, or species group, is not a simple one. We have not yet been able to re-collect from the type locality. Plants from Ngome, Ngotshe distr. (*Hilliard & Burtt* 8388, 9840) are more glabrous than the type and have distinctly *Thalictrum*-like foliage: they were growing in grass on forest margins. Plants from near Ixopo (*Crewe* 29, *Hilliard & Burtt* 9038, 10125A) have more finely cut foliage and were growing in a marsh in standing water. Despite the foliage differences, these plants have similar fruits: mericarps strongly compressed, elliptic, c. 7–12 × 3–4·5 mm, the 3 dorsal ribs raised, the lateral ones flat, wing thin c. 1 mm broad. Ripe fruits of the typical form are not yet known.

Another plant seems to belong to the same group. It was collected on grass slopes on Mt Malowe, Umzimkulu distr., Transkei (*Hilliard & Burtt* 11220). The leaves have the same rough hairs as the type specimen, but the segments are differently cut and have much shorter stalks than do the other forms. This plant has not yet been collected in fruit.

These notes are included to emphasise the need for more thorough collec-

ting of these large Umbelliferae. Until a wider range of material is available we cannot hope to reach a decision whether these plants all belong to one variable species.

301–302. Stenosemis [E. Mey. ex] Sond. in Harv. & Sond., Fl. Cap. 2:551 (1862).

Syn.: *Annesorhiza* subgen. *Stenosemis* (Sond.) Drude in Engl. & Prantl, Nat. Pflanzenfam. 3(8):215. 1898.

Stenosemis was first proposed by E. Meyer, but not validly published by him. Sonder took it up in *Flora Capensis* and correctly equated the plant Meyer had proposed to call *S. teretifolia* with *Krubera caffra* Eckl. & Zeyh. *Krubera* is a European genus, and Sonder therefore called this plant *Stenosemis caffra*. He maintained the second species proposed by E. Meyer, *S. angustifolia*, and no others have been discovered since.

Stenosemis was reduced to *Annesorhiza* by Bentham (in Benth. & Hook. fil., *Gen. Pl.* 1:913. 1867), thus:—"*Glia* Sond. in *Fl. Cap.* ii, 547 (inclusa *Stenosemide* E. Mey.: Sond. *l.c.* 551) sectionem format *Annesorhizae* caule basi duriore magisque foliato. Juga saepius (nec semper) aequaliter alata, quod etiam in *A. filicauli* et interdum in aliis speciebus accedit juga tamen *Gliae* saepius crassiora et acutioraque sunt quam in *Annesorhiza* typica". It will be noted that no specific transfers are made to *Annesorhiza*.

Drude (in Engl. & Prantl, *Nat. Pflanzenfam.* 3(8):215. 1898) made *Stenosemis* a distinct subgenus of *Annesorhiza*, with a comment that the two species of *Stenosemis* were placed here by Bentham & Hooker "obwohl sie in Gattungscharakter mehr zu den Angelicinae als zu Annesorhiza Anschluss zeigen". Yet *Stenosemis* lacks the strong marginal fruit-wings, stronger than the dorsal ones, that are needed for Peucedaneae and its subtribe Angelicinae. Drude, despite his doubts, did effectively make the specific combination for *S. angustifolia* usually attributed to 'Benth. & Hook. f.', but for *S. caffra* he went back to E. Meyer's epithet *teretifolia* since he had another plant as *A. caffra*.

Glia is now again accepted as a distinct genus (Dyer, *Gen. S. Afr. Fl. Pl.* 1:426. 1975), but *Stenosemis* has been neglected. The only comment we have found is a note on the cover in the Kew herbarium by the late Cecil Norman: "I doubt if this reduction is correct." It is indeed difficult to see why *Stenosemis* should be included in *Annesorhiza*: without going into any great detail the two genera may be contrasted simply:—

Flowers white; fruits suborbicular with rather thick somewhat fleshy and undulate wings . . . . . *Stenosemis*
Flowers yellow; fruits elongate turbinate with hard ridge-like wings . . . . . *Annesorhiza*

Whether these two genera are closely related needs to be discussed in a much wider context. There is no doubt that they should be kept distinct.

301. Stenosemis angustifolia [E. Mey. ex] Sond. in Fl. Cap. 2:551 (1862).

Type: Transkei, between Morley and Umtata, *Drège* (holo. S; iso. K).

Syn.: *Annesorhiza angustifolia* (Sond.) Drude in Engl. & Prantl, Nat. Pflanzenfam. 3(8):215 (1898).

CAPE. Stockenstrom div., Katberg, *MacOwan* 852 (K). Cathcart div., summit of mountain above Toise River railway station, iii 1894, *Flanagan* 2282 (K).

TRANSKEI. Tsolo distr., 1 mile E of Tsolo on Umtata road, 29 i 1966, *Hilliard & Burtt* 3755 (E, NU). Port St Johns, 180 m, i 1896, *Flanagan* 2597 (PRE).

NATAL. Port Shepstone distr., Umtamvuna river cliffs, 3 i 1937, *Mogg* 13374 (PRE); Mgongongo, 5 viii 1967, *Strey* 7627 (NH). Alfred distr., Murchison, 3 v 1884, *Wood* 1991 (K).

None of the above material, other than the type, has previously been correctly determined. It shows that the species is variable especially in stature: the Cape specimens (c. 8 cm) are decidedly smaller than those from the northern Transkei and Natal (c. 30 cm), with Drège's type intermediate. There is also some variation in indumentum, from glabrous to distinctly puberulous.

302. Stenosemis caffra (Eckl. & Zeyh.) Sond. in Fl. Cap. 2:551 (1862).
Type: Cape, Albany div., in rock crevices on Bothasberg, near Grahamstown, *Ecklon & Zeyher*.

Syn.: *Krumbera caffra* Eckl. & Zeyh., Enum. 353 (1835).
[*Stenosemis teretifolia* E. Mey. in Drège, Zwei Pflanzengeogr. Doc. 141, 224 (1843), nomen nudum].
Annesorhiza teretifolia Drude in Engl. & Prantl, Nat. Pflanzenfam. 3(8):215 (1898)—non *A. caffra* (Meisn.) Drude = *Peucedanum caffrum*. Type as for *S. caffra*.
["*Annesorhiza caffra* Eckl. & Zeyh."; Martin & Noel, Fl. Albany & Bathurst 82 (1960)].

The only purpose in enumerating this species is to make the nomenclature quite clear.

ZINGIBERACEAE

303. Kaempferia ethelae J. M. Wood in Gard. Chron. ser. 3, 23:94 (1898).

This species was included without comment by Ross in his *Flora of Natal* (p. 137), but should be deleted from the Natal list. It was described from a cultivated plant that had been brought in from Massikessi. Wood gives no further details of the locality, but Macequece (as it is spelt in *The Times Atlas*) is Vila Manica, the first station on the Salisbury–Beira railway line after it crosses the border into Mocambique at Umtali.