ALOE NEILCROUCHII, A NEW ROBUST LEPTALOE FROM KWAZULU-NATAL, SOUTH AFRICA

To facilitate the identification of species of *Aloe* L. (Asphodelaceae: Alooideae), formal infrageneric groupings, mostly based on growth form, have been proposed for the genus (Berger 1908; Reynolds 1950). Two of these, *Aloe* sect. *Graminialoe* Reynolds and *A.* sect. *Leptoaloe* A.Berger, include the grass-like aloes (Van Wyk & Smith 2004; Craib 2005). The former consists of species that are truly very small in stature with their leaves closely resembling blades of grass, whereas the latter includes plants that are considerably more robust, with leaves that are much broader and flatter.

The appropriate Afrikaans common names, *slank-* or *skraalaalwyne* (English: slender aloes) are widely applied to leptoaloe species, as opposed to *grasaalwyne* (English: grass aloes) which is reserved for the true grass aloes (Laubscher 1973). Although it has been proposed that these two groups should be combined under the oldest name, *A.* sect. *Leptoaloe* (Glen & Hardy 2000) to include all the grass-like aloes, keeping them separate considerably assists with conceptualizing the gross morphology of their constituent species. Only a few of the species of *Aloe* described from Africa after 2000 belong to the graminoid and leptoaloid groups [see for example Smith (2003) on *A. craibii* Gideon F.Sm. and Van Jaarsveld & Van Wyk (2006) on *A. chalissii* Van Jaarsv. & A.E.van Wyk]; their comparatively small stature make them difficult to locate in their often grassy habitats (Smith 2005). Grass aloes and leptoaloes are absent from the Arabian Peninsula, the Mascarene Islands off the east coast of Africa, and Madagascar.

The species described here, *Aloe neilcrouchii* Klopper & Gideon F.Sm., belongs to *A.* sect. *Leptoaloe* and represents the largest and most robust species known in this group.

FIGURE 34.—*Aloe neilcrouchii, Crouch & Johnson 1247* (PRE). A, plant, × 0.33; B, inflorescence, × 0.66; C, tuberculate leaf surface, × 1; D, leaf margin, × 1; E, fruit capsule, × 1; F, seeds, × 1. Artist: G. Condy.

Aloe neilcrouchii *R.R.Klopper & Gideon F.Sm.*, sp. nov., *A. boylei* Baker affinis sed caulibus longis, prostratis, aphyllis, e basi ramificantibus vel ramos laterales secus longitudinem caulem emetentibus; foliis brevioribus latioribusque, elongato-deltatis, dense maculis albis, tuberculatis in superficiebus ambabus punctatis, inflorescentiisque altioribus differt.

TYPE.—KwaZulu-Natal, 2930 (Durban): Midlands, near Karkloof, (–AD), 2009-01-14, *N.R. Crouch & I. Johnson 1247* (PRE, holo.; NH, iso.).

Grass aloe. *Stem* up to 950 × 90 mm, decumbent to erect, branched mainly from base, forming robust offshoots along its length, without persistent dried leaves. *Leaves* deciduous, densely rosulate, erectly spreading, green, with numerous elongated, white, somewhat tuberculate spots on both surfaces, deltoid to ovate-lanceolate, up to 430 mm long, up to 135 mm wide at base; margin narrow, cartilaginous, whitish, with small whitish, deltoid, irregularly spaced teeth, 1–2 mm long, 2–5 mm apart; leaf exudate clear, drying clear, not bitter. *Inflorescence* 1 per rosette, 0.6–0.8 m high, erect, simple. *Peduncle* laterally compressed below, terete above, up to 25 mm wide at base, ± 10–15 mm diam. above, bright green; sterile bracts, ± 9, ovate-lanceolate, acuminate, 30–50 mm long, 15–20 mm wide at base, pale whitish with pinkish tinge, thin, subscarious, many-nerved. *Raceme* capitate, ± 120 × 100 mm, erect, dense; buds erect to erectly spreading, flowers spreading to nodding when open. *Floral bracts* lanceolate-acuminate, subamplexicaul, ± 30 × 7 mm, pale whitish, thin, subscarious to almost fleshy, many-nerved. *Pedicels* 30–45 mm long, pale yellowish to salmon-pink. *Flowers*: perianth salmon-pink, green-tipped, ± 45 mm long, 10–13 mm across ovary, slightly narrowed above ovary to 8–10 mm, slightly constricted to ± 7 mm just before flared mouth, cylindric-trigonous; outer segments free almost to base, tips spreading. *Stamens* with very pale greenish yellow, flattened filaments, not or only slightly exserted. *Ovary* ± 10 × 3–4 mm, light green; style very pale yellowish green, exserted to ± 5 mm. *Fruit* an oblong capsule, bright green to yellowish green, up to 40–45 × ± 22 mm. *Seeds* angular, black, 3 × 2 mm, with semi-transparent, light brownish wing, ± 1 mm wide. *Flowering time*: December to February. *Chromosome number*: unknown. Figure 34.

Habitat: *Aloe neilcrouchii* grows on southeast-facing slopes of rocky grassland in Drakensberg Foothill Moist Grassland and in vulnerable Ngongoni Veld (Mucina & Rutherford 2006). At the type locality, it was found in association with *Agapanthus campanulatus*, *Alepidea cordifolia*, *Blechnum inflexum*, *Senecio oxyriifolius* and *Merwilla plumbea*.

Distribution: the species is known from only two localities, in the vicinity of the Karkloof and near New Hanover in the KwaZulu-Natal Midlands (Figure 35).

Etymology: the species is named for Prof. Neil R. Crouch of the Ethnobotany Unit of the South African National Biodiversity Institute, based at the KwaZulu-Natal Herbarium, who brought the specimens to our attention. Over the past several years Neil has added considerably to our knowledge of succulents, particularly aloes, and their uses. His first name is combined with his surname in the specific epithet to prevent confusion with *Aloe croucheri* Hook.f., the basionym of *Gasteria croucheri* (Hook.f.) Baker (Klopper *et al.* 2006).

Diagnostic characters: *Aloe neilcrouchii* belongs to *A.* sect. *Leptoaloe* and represents the largest of the known species of this group. Its closest affinity appears to be *A. boylei* Baker, especially *A. boylei* subsp. *major* Hilliard & Burtt. However, it differs from that species by its long, sprawling, leafless stems that branch from the base or form offshoots along its length, its shorter but broader, elongated-deltoid leaves that are copiously covered with white tuberculate spots on both surfaces and its taller inflorescences (Table 5).

Conservation status: before both populations are properly assessed, it is not possible to assign a Red List status to this new taxon. However, the authors are convinced that *Aloe neilcrouchii* is a species of conservation concern. The area surrounding the type locality has been transformed extensively by plantation forestry. As a result, the grassland habitat between the two known localities has been mostly destroyed. The New Hanover population is in threat of being destroyed by expanding sugar cane plantations.

Notes: there were no plants of *Aloe boylei* in the vicinity of the two populations. In fact, no other grass aloes were encountered at these sites. Old leaves of *A. neilcrouchii* are destroyed by fire. However, prevalent fire intensity in the undisturbed habitats appears to be low enough not to destroy the plants themselves. It seems that fire promotes branching of young stems, and possibly offshoots along older stems. Honey bees (*Apis mellifera scutellata* Lepeletier) were observed visiting the flowers and collecting pollen, but no other potential pollinators, such as sunbirds, were noticed. General seed set seems to be fairly good. Plants of various sizes were observed, although small seedlings are difficult to detect amongst the tall grass.

TABLE 5.—Differences between *Aloe neilcrouchii* and *A. boylei*

	A. neilcrouchii	*A. boylei*
Stem	Up to 0.95 m long, 90 mm diam. Branched from base and above, forming offshoots along length.	Up to 0.2 m long, 60 mm diam. Simple or with offshoot from ground level.
Leaves	Rosulate, erectly spreading, deltoid to ovate-lanceolate, up to 430 mm long, up to 135 mm wide at base.	Rosulate, erect, lanceolate-ensiform, 500–600 mm long, 60–90 mm wide at base.
Leaf markings	Both surfaces with numerous, white, somewhat tuberculate spots.	Upper surface usually without spots; lower surface copiously white-spotted near base.
Inflorescence	0.6–0.8 m high.	0.4–0.6 m high.
Flowers	± 45 mm long.	± 40 mm long.

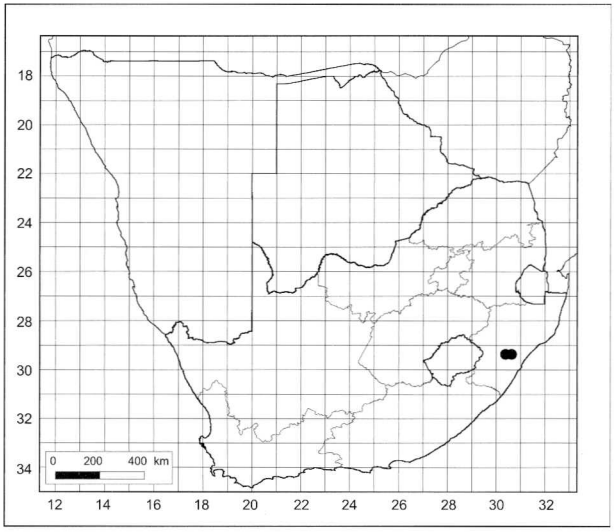

FIGURE 35.—Known distribution of *Aloe neilcrouchii*.

Additional specimen examined

KWAZULU-NATAL.—2930 (Durban): between New Hanover and Dalton, (–BC), 2010-01-05, *N.R. Crouch, G.F. Smith & I. Johnson 1260* (PRE).

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R.R. KLOPPER* and G.F. SMITH*+

* Biosystematics Research and Biodiversity Collections Division, South African National Biodiversity Institute, Private Bag X101, 0001 Pretoria. E-mail: R.Klopper@sanbi.org.za; G.Smith@sanbi.org.za.

+ Acocks Chair, H.G.W.J. Schweickerdt Herbarium, Department of Plant Science, University of Pretoria, 0002 Pretoria.

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