Aloe sharoniae N.R.Crouch & Gideon F.Sm. (Asphodelaceae): species rank for a leptoaloe from southern Africa

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Summary: A new species of Aloe L., Aloe sharoniae N.R.Crouch & Gideon F.Sm., is recognised from northern KwaZulu-Natal, South Africa and Swaziland. This taxon was previously known as A. cooperi Baker subsp. pulchra Glen & D.S.Hardy but is here elevated to the rank of species. From A. cooperi Baker it differs in having leaves that are consistently devoid of teeth in the upper 2/3 of its leaf margins and basally covered below with white, tuberculate maculations. These leaves are further always strongly keeled and arranged distichously. Plants typically present both fewer leaves, and fewer flowers per inflorescence than typical A. cooperi.

Aloe sharoniae – the epithet pulchra is unavailable at species rank – differs from A. cooperi Baker in being less robust and foliose, with leaves always distichous, in having less floriferous inflorescences arranged in distinctly capitate to very shortly elongated racemes, and with the upper 2/3 of its leaf margins devoid of teeth (Table 1). Aloe sharoniae further presents prominently keeled leaves, basally covered below with white, distinctly tuberculate maculations, and which possess rubbery, hair-like marginal bristles (Figure 4) (Glen & Hardy, 1987; Glen & Hardy, 2000). The flowers of A. sharoniae are slightly inflated in the middle (Figure 5) and its erect buds distinctly glaucous distally (Figure 6).
When first glimpsed in the field *A. sharoniae* may initially be confused with *Aloe kniphofioides* Baker, given the generally solitary character of plants, the shortly elongate nature of the racemes, and the relatively long, reddish flowers. On closer examination, however, they are found to be very distinct, for *A. sharoniae* lacks a bulb-like structure, and has prominently keeled leaves with rubery, hair-like marginal bristles on the lower third. The leaves of *A. sharoniae* are additionally broader, less leathery in texture, and basally covered below with white, distinctly tuberculate maculations. The flowers are also slightly inflated in the middle and less pencil-shaped than those of *A. kniphofioides*.

**Aloe sharoniae** N.R.Crouch & Gideon F.Sm. nom. nov.

Type: Republic of South Africa, KwaZulu-Natal, 2832 (Mtubatuba). Palm Ridge (–AC), 05-1986, E.R. Harrison 980 (PRE, holo.!).


Type: as for *A. sharoniae*.

Description based on material from Babanango region

Small to medium-sized, herbaceous, slow-growing, succulent, perennial, grass aloe, total height excluding inflorescence ± 300–650 mm, usually solitary, very rarely clumped with up to 8 heads. Roots fusiform, central portion 7–9 mm in diameter. Stems subterranean, short, stout, ± 60 mm long, ± 15–25 mm in diameter. Leaves few, distichous, 6–8(–11), not persistent when dry, narrowly attenuate, tapering to apex, 300–440(–820) mm long, 16–26(–39) mm broad at base, basally sheathing, semi-erect, becoming decurred with age, folding over with age; strongly keeled along entire abaxial length, keel tuberculate especially towards base, light green to whitish, leaf castaneous at base below, otherwise mid-green, concor-orous, profusely spotted below in basal 1/3 to 1/2 of leaf, basal spots tuberculate, very occasionally spotted adaxially towards base; margins of basal 1/4 to 1/3 of leaf with rubbery, hair-like spines, recurved or decurred, sometimes straight and only recurved at their tips, ivory-coloured to greenish-white, 3–5 mm long, gradually reducing distally, spines ± evenly spaced, appearing only as leaves mature, upper 2/3 of leaf margins smooth, *Kniphofia*-like; leaves start senescing in mid-March, browning from the tips; dry leaf sap translucent. Inflorescence an unbranched raceme, capitate to slightly elongate, 330–590 mm tall, shorter or marginally taller than the height of rosette; each rosette producing up to 2 racemes. Peduncle basally plano-convex in cross-section with marginal teeth on ridges on lower 1/4, cylindrical above, 300–520 mm long, 5–8 mm broad at base, bright to mid-green, dusty bloom lacking, sparsely sterile bracteate, bracts denser towards apical part of inflorescence, withering as flowers mature, turning pale pink from greenish brown, ± 10 orange-brown nerves, 18–31 mm long, 7–9 mm broad at base, tapering to a sharp, harmless tip. Racemes lax, with 8–20 flowers, the flowering portion 30–95 mm long, 75–95 mm in diameter; buds erect, lowest open flowers horizontal, becoming pendant. Floral bracts prominent, greenish-brown maturing to orange, amplexicaul around lower 1/2 to 2/3 of pedicel, somewhat papery, apices attenuate, with 6–7 prominent dark orange nerves, 23–30 mm long. Pedicels orange-red, 33–43 mm long when flowers open, lengthening in fruit to 42–48 mm. Flowers zygomorphic, unscented, nectariferous, ± pencil-shaped, marginally widest in middle, narrowing towards

<table>
<thead>
<tr>
<th>Character</th>
<th><em>A. sharoniae</em></th>
<th><em>A. cooperi</em></th>
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<tbody>
<tr>
<td>Stems</td>
<td>usually solitary, very rarely clumped</td>
<td>sometimes solitary, usually clumped</td>
</tr>
<tr>
<td>Leaf arrangement</td>
<td>always distichous</td>
<td>distichous or spirally twisted to rosulate</td>
</tr>
<tr>
<td>Leaves</td>
<td>lower surface always prominently keeled</td>
<td>lower surface variously keeled or convex</td>
</tr>
<tr>
<td>Leaf margins</td>
<td>basal 1/4 to 1/3 with rubbery, hair-like bristles, entire above</td>
<td>dentate for entire length, without rubbery, hair-like bristles</td>
</tr>
<tr>
<td>Lower basal leaf surfaces</td>
<td>with tuberculate white maculations</td>
<td>white maculations smooth</td>
</tr>
<tr>
<td>Fertile bracts</td>
<td>clasping the pedicels</td>
<td>flat to U-shaped</td>
</tr>
<tr>
<td>Perianth</td>
<td>25–35 mm long, bright orange-red, tip extremity brownish</td>
<td>25–40 mm long, salmon-pink to blood red, tip extremity green</td>
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Table 1. Differences between *Aloe sharoniae* and *A. cooperi*
Figure 1. Flowering habit of *A. sharoniae* in moist grassland habitat. Photo: Neil Crouch.
Figure 2. Known geographical distribution range of *A. sharoniae* (●). Figure 3. Typical *A. cooperi*. Photo: Gideon Smith.
Figure 4. Distichous strongly keeled leaves of *A. sharongiae*; prominent abaxial white maculations and rubbery hair-like marginal bristles. Figure 5. Lax, few-flowered racemes of *A. sharongiae*. Figure 6. Erect pruinose buds of *A. sharongiae*, distinctly glaucous in upper half. Photos: Neil Crouch.
mouth, bright orange-red, tip extremity yellowish brown to purplish-brown, 25–35 mm long, 6–8 mm in diameter at ovary; buds pruinose, upper half glaucous green, hidden almost entirely by bracts; flowers slightly indented above ovary; outer segments slightly shorter than inner segments, lorate, free for most of their length, basally fused for ± 0.5–1.0 mm, tepal blade uniformly orange-red, acute; inner segments same width as outer, free portion with a prominently keeled, orange-red central nerve, with flesh-coloured border and more obtusely spreading apex, free for most of their length. Stamens 6, hypogynous; filaments cylindrically thread-like to very slightly flattened, light pink, 10–11 mm long, all 6 of ± equal length, not exserted; anthers 4.0 mm long, bright orange, dorsifixed, included. Ovary 5 mm long, 1.6 mm in diameter, light green-brown; style 13–15 mm long; stigma minute, capitate, included; extending to level with tube mouth during female phase of flower. Fruit an erect, bright green, trilocular capsule, cylindrical, 22–24 mm long, 8–9 mm in diameter, apically truncate, dry remains of tepals persisting around fruit for a long time, dehiscing loculicidally, chartaceous to woody when dry. Seeds dark greyish brown, angled, laterally compressed, with off-white wing stretching around periphery of seed, 2.0 mm long. Flowering time February to March. Chromosome number unknown. (See Figures 1, and 4–6.)

Habitat
Aloe sharoniae has been noted growing in open grassland on all slope aspects, although moister sites are evidently preferred in the main; this taxon occurs at altitudes of between 45 and 1700 m. Plants respond well to burns hot enough to remove all leaves, and have been noted to flower well in the following season. This characteristic is shared with many other leptoaloes (Craib, 2005). When not in bloom plants are very difficult to locate given their grass-like appearance. Mostly, plants occur singly in fairly close proximity to each other, although plants with up to eight offshoots at ground level have also been rarely encountered. In the Babanango region a total of less than 100 individual plants at six separate subpopulations are known to survive within a regional landscape that has been largely transformed by agricultural and silvicultural activities. Plant associates include Merwilla plumbea in rockier sites, but more usually Agapanthus campanulatus, Dicoma zeyheri, Eriosema cordatum and Berkheya speciosa. Given the cryptic nature of plants when not in flower, range extensions beyond that indicated (Figure 2) are not impossible.

Eponymy
The epithet pulchra has previously been used at species rank in Aloe (see Rowley & Newton (1975) for a discussion), and as such is unavailable; we here rename this distinctive entity for Mrs Sharon Louw of Eshowe, KwaZulu-Natal (Figure 7), whose fieldwork at Babanango helped focus our attention on this species. She is a Specialist Research Technician and active field biologist with Ezimvelo KZN Wildlife, the provincial conservation authority.

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