

New taxa of *Babiana* (Iridaceae: Crocoideae) from coastal Western Cape, South Africa

P. GOLDBLATT* and J.C. MANNING**

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ABSTRACT

Discovery of populations south of Elandsbaai of a small-flowered plant closely allied to *Babiana ringens* led to a critical re-evaluation of this sunbird-pollinated Western Cape species. We conclude that these populations represent a new species, *B. avicularis*, recognized by long, arching, subterete leaves, and flowers with the lower part of the perianth tube sigmoid and ± 4 mm long, a dorsal tepal 15–18 mm long, pale green lower tepals directed forward, and a style dividing below the bases of the anthers. In addition, the southern coastal populations of *B. ringens* merit recognition as a separate subsp. **australis**, recognized by the smaller flower, filaments not reaching the apex of the dorsal tepal and the style dividing at or below the bases of the anthers. Field work along the Western Cape coast also resulted in the discovery of a new species, *B. teretifolia*, allied to the distinctive *B. brachystachys* but differing from that species in the linear, spreading, twisted tepals, filaments 12 mm long, white anthers 5.5–6.0 mm long, and the style dividing opposite the anther tips, with branches ± 5 mm long and notched at the tips.

INTRODUCTION

The southern African and largely winter rainfall genus *Babiana* Ker Gawl. was recently revised (Goldblatt & Manning 2007a), at which time 88 species were recognized, but novelties have continued to be added. Just a year later, two new species were described (Goldblatt *et al.* 2008), both found while the revision was in press. In the spring of 2008, two more novelties came to our attention. Neither species was to our knowledge represented in any herbarium but a careful search revealed that one of them, the red-flowered *B. avicularis*, had been collected twice before but had been identified as *B. ringens* (L.) Ker Gawl., largely because of the red flower and unusual sterile main stem. We found *B. avicularis* in strandveld south of Elandsbaai but earlier records are from the Olifants River Mountains north of Clanwilliam and near Leipoldtville. Although resembling *B. ringens* in its sterile main stem axis with flowers carried on branches borne close to ground level, *B. avicularis* differs in the long, subterete, arching leaves and smaller flowers with *inter alia* the lower part of the perianth tube sigmoid and only ± 4 mm long, dorsal tepal 15–18 mm long, and style dividing below the bases of the anthers. The discovery of this species prompted us to review the variation in *B. ringens* and closely allied *B. hirsuta* and we conclude that the southern populations of the former merit recognition as a separate subspecies that we name subsp. **australis**. This taxon has smaller flowers than subsp. *ringens*, with a dorsal tepal only 18–30 mm long vs 25–45(–50) mm in subsp. *ringens*, filaments not reaching the apex of the dorsal tepal and, like *B. avicularis*, a style dividing below the bases of the anthers.

The second new species, *Babiana teretifolia*, from sandveld on the farms Kommandokraal and Skilpadvlei,

northwest of Vredendal in southern Namaqualand, is allied to *B. brachystachys* (Baker) G.J.Lewis, a species centred in coastal Namaqualand but extending south to Lambert's Bay in Western Cape, the latter a range extension for the species. Both *B. brachystachys* and *B. teretifolia* have \pm terete leaves with 5 or 6 narrow longitudinal grooves, the main and lateral spikes decumbent and usually held at ground level, and flowers with an elongate perianth tube exceeding 60 mm. *B. teretifolia* is distinctive in its linear, channelled, slightly twisted tepals 26–30 mm long, spreading at right angles to the tube, with the dorsal tepal barely differing from the others in size, shape and orientation. In addition, *B. teretifolia* has filaments exerted ± 9.5 mm, white anthers 5.5–6.0 mm long, and longer style branches ± 5 mm long compared with filaments exerted up to 3 mm, anthers 4–5 mm long, usually mauve to violet, and style branches ± 2.5 mm long in *B. brachystachys*. With the two new species described here, *Babiana* now comprises 92 species.

1. ***Babiana avicularis* Goldblatt & J.C.Manning**, sp. nov.

Plantae ad 120 mm altae foliis exclusis, axe principali sterili velutino, ramis ad basem productis, foliis 6–8 linearibus ad 300 \times 2–3 mm arcuatis laevigatis, spicis horizontalibus subsecundis usitate 8–12-floris, bracteis minute scabridis viridibus apicibus brunneis mucronatis, bractea externa 14–22 mm longa interiora fere ad basim divisa, floribus zygomorphis rubro-carneis in fauce flavis tepalis inferioribus pallide viridibus in medio atroviridioribus, tubo perianthii compresso-infundibuliformi parte inferiori cylindrico ± 4 mm longo, parte superiori 12–17 mm longa, tepalis inaequalibus dorsale 15–18 mm longo, filamentis 25–32 mm longis, antheris 3.5–5.0 mm longis atrovioleaceis ovario laevigato, stylo infra basim antherarum diviso, ramis 4–5 mm longis.

TYPE.—Western Cape, 3218 (Clanwilliam): coast south of Elands Bay, ± 30 km north of Rocher Pan, sandy flats, (–AD), 11 September 2008, Goldblatt & Porter 13109 (NBG, holo.; K, MO, PRE, S, iso.).

* B.A. Krukoff Curator of African Botany, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, USA. peter.goldblatt@mobot.org.

** Compton Herbarium, South African National Biodiversity Institute, Private Bag X7, 7735 Claremont, Cape Town. manning@sanbi.org. MS. received: 2009-04-21.

Plants up to 120 mm high, excluding leaves, with main axis suberect and sterile, usually with two decumbent, fertile branches borne close to ground level, minutely velvety on aerial axes. *Leaves* 6–8, linear, up to 300 × 2–3 mm, firm but arching toward ground, ± oval in cross section and closely plicate, usually with 2 or 3 folds on each surface, glabrous. *Fertile spike* horizontal, subsecund with flowers in two ranks, mostly 8–12-flowered; bracts minutely scabrid, green with dry brown apices, outer bracts 14–22 mm long, bearing a prominent mucro, inner ± half as long as outer, divided almost to base and diverging distally, joined by transparent tissue at ovary level. *Flowers* zygomorphic, facing spike apex, predominantly reddish pink, paler in throat, lower part of tube yellow, lower five tepals with pale green limbs sometimes fading to pink near tips, darker green in midline, unscented; perianth tube compressed-funnel-shaped, lower part ± 4 mm long, cylindrical, sigmoid distally then abruptly expanded into flared upper part 12–17 mm long; tepals unequal, outer whorl prominently mucronate, dorsal 15–18 × 2.5–3.5 mm, ascending, channelled below with margins curving inward and enclosing filaments and style for most of their length, expanded to 3 mm wide and recurved in upper 5 mm, lower three tepals united with upper laterals for ± 4 mm in prominent lip, free parts directed forward, lower and upper laterals ± 8 × 1.5 mm, lower median 3–7 × 1–2 mm. *Stamens* unilateral; filaments straight, suberect, 25–32 mm long, enclosed below by dorsal tepal, exerted ± 16 mm and reaching apex of dorsal tepal; anthers 3.5–5.0 mm long, purple. *Ovary* smooth; style dividing shortly below base of anthers, style branches 4–5 mm long, recurved. *Capsules* barrel-shaped, ± 11 × 8.5 mm, showing outline of seeds. *Mature seeds* not known. *Flowering time*: mid-August to late September. Figure 1A–D.

Distribution and ecology: restricted to the West Coast and near interior of Western Cape (Figure 2). Just four populations of *Babiana avicularis* are known: two are from sandy flats between Elands Bay and Rocher Pan, a short distance inland from the densely vegetated coastal dunes adjacent to the beach; a third is from the Olifants River Valley north of Clanwilliam, also on sandy ground; and the fourth, the earliest record, is from coastal fynbos close to Leipoldtville. The four records fall within three quarter-degree squares of latitude and longitude.

Diagnosis and relationships: flowers of *Babiana avicularis* resemble those of the other two predominantly red-flowered species of the genus, *B. hirsuta* (Lam.) Goldblatt & J.C.Manning (= *B. thunbergii* Ker Gawl.), and *B. ringens*, except that they are almost half the size (Figure 1). Like *B. ringens*, the main axis is sterile and we infer that, as in *B. ringens*, it serves as a perch for birds taking nectar from the flowers (Anderson *et al.* 2005) but the flowers differ from that species in some important respects apart from their smaller size (Table 1). Flowers of *B. ringens* subsp. *ringens* have a perianth tube 28–40 mm long, a dorsal tepal 25–45(–50) mm long, enlarged lower lateral tepals ± 20 mm long, and the upper tepals are recurved (Figure 1H). In addition, the filaments are 37–70 mm long, the anthers 5.0–7.5 mm long, and the style divides opposite the upper half of the anthers or shortly beyond their tips. Subsp. *australis* has slightly smaller flowers with the dorsal tepal 18–30 mm long and filaments 24–34 mm long. In contrast, flowers of *B. avicularis* have a tube 16–21 mm long, a dorsal tepal 15–18 mm long, and all three lower tepals pale green and directed forward. In both species, as well as in *B. hirsuta*, the margins of the dorsal tepal curve together and loosely enclose the filaments and style, and only the distal third or quarter is expanded and slightly recurved. The filaments of *B. avicularis* are 25–32 mm long, the anthers 3.5–5.0 mm long and the style divides below the bases of the anthers. The leaves of *B. ringens* are lanceolate to sublinear but firm to rigid in texture with almost pungent tips, in contrast to the longer, linear, fairly soft-textured leaves of *B. avicularis* that arch outward gracefully.

The flowers of *Babiana avicularis* resemble those of *B. hirsuta* more closely than *B. ringens* in their proportions but in *B. hirsuta* the upper and lower lateral tepals are recurved distally and extended outward, and the lowermost tepal is substantially larger than the lower laterals (Figure 1E–G), the reverse of the situation in *B. avicularis*. The lower tepals of *B. avicularis* are pale green, sometimes pink at the tips, lanceolate and directed forward and the perianth tube has one feature not found in its two allies: it is slightly constricted at the apex of the short, narrow cylindrical part and forms an S-shaped bend before expanding into the flared upper part of the tube.

The floral bracts of *Babiana avicularis* are notable in two respects: they are rust-tipped and prominently

TABLE 1.—Comparison of important taxonomic features of *Babiana avicularis*, *B. ringens* and *B. hirsuta*. Data were taken from new collections and well-pressed herbarium specimens

Character	<i>B. avicularis</i>	<i>B. ringens</i> subsp. <i>ringens</i>	<i>B. ringens</i> subsp. <i>australis</i>	<i>B. hirsuta</i>
Leaf shape	linear, fairly soft, arching	lanceolate to linear, firm to rigid, pungent	lanceolate to linear, firm to rigid, pungent	lanceolate to oval in section
Perianth tube length (mm)				
upper part	12–17	12–15	12–15	15–22
lower part	± 4	16–25	15–20	18–22
Dorsal tepal length (mm)	15–18	25–45(–50)	18–30	18–24
Outer bract length (mm)	14–22	25–50	18–30	22–40
Filament length (mm)	25–32, exerted ± 16	37–70, exerted 22–50	24–34, exerted 15–22	30–36, exerted 18–20
Anther length (mm)	3.5–5.0	5.0–7.5	4.0–5.5	± 6–7
Point of style division	below base of anthers	(middle to) upper third of anthers or above anthers	at or below base of anthers	base to middle third of anthers
Style branch length (mm)	4–5	4–5	2–4	± 4
Orientation of				
upper lateral tepals	directed forward	recurved	recurved	directed forward
lower lateral tepals	directed forward	recurved	recurved	recurved



FIGURE 1.—A–D, *Babiana avicularis*, Goldblatt & Porter 13109 (NBG); E–G, *B. hirsuta*, Goldblatt & Porter 13110; H, *B. ringens* subsp. *ringens*, found at Atlantis, Schnitzler & Manning 13 (NBG); I, J, *Babiana ringens* subsp. *australis*, De Waal s.n. (NBG). A, whole plant; B, half-flower; C, outer (left) and inner (right) bracts; D, capsule; E, flower, side view; F, half-flower; G, outer (left) and inner (right) bracts; H, flower; I, flower; J, outer (left) and inner (right) bracts. Scale bar: 10 mm. Artist: John Manning.

mucronate, and the shorter inner bracts are divided for about three-quarters of their length, with the two halves strongly divergent, whereas in both *B. hirsuta* and *B. ringens*, the inner bracts are divided in the

upper third to half and do not notably diverge. The two coastal populations of *B. avicularis* are sympatric and co-blooming with *B. hirsuta* but we found no sign of hybrids at either site.

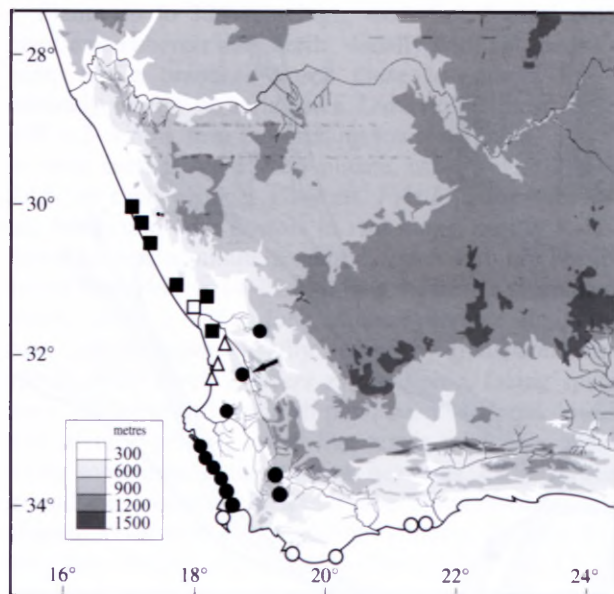


FIGURE 2.—Known distribution of *Babiana avicularis*, Δ ; *B. brachytachys*, \blacksquare ; *B. ringens* subsp. *ringens*, \bullet (Graafwater populations arrowed); *B. ringens* subsp. *australis*, \circ ; and *B. teretifolia*, \square .

We assume from the floral morphology that, like its two relatives, *Babiana avicularis* is adapted for pollination by sunbirds. Flowers produce 3.8–5.0 μl of nectar of relatively low sugar concentration ($24\% \pm 1.6\%$ sucrose equivalents; $n = 5$). Flowers of *B. hirsuta* produce up to 30 μl of nectar of $\pm 25\%$ sucrose equivalents and in *B. ringens* up to 28 μl nectar has been recorded of $\pm 23\%$ sucrose equivalents (Goldblatt *et al.* 1999; Goldblatt & Manning 2007b). The nectar in *B. avicularis* is therefore similar in sucrose concentration but far less in quantity to that offered by *B. hirsuta* and *B. ringens*, a reflection of the smaller size of the flower and much shorter perianth tube. If *B. avicularis* proves to be pollinated by sunbirds, it will be among the smallest-flowered species of the Iridaceae with this pollination system.

Additional specimens examined

WESTERN CAPE.—3218 (Clanwilliam): 19 km north of Clanwilliam, sand dunes, (–BB), 23 August 1974, Nordenstam & Lundgren 1505 (MO, NBG, S); west coast south of Elands Bay, ± 30 km north of Rocher Pan, sandy flats, (–AD), 24 September 2008, Goldblatt & Porter 13161 (MO, NBG, PRE); 2.5 miles [3.5 km] SW of Leipoldtville, coastal fynbos on white sand, ± 400 ft [640 m], (–AB), 23 August 1958, Acocks 19677 (K, PRE).

2. *Babiana ringens* subsp. *australis* Goldblatt & J.C. Manning, subsp. nov.

Plantae ad 120 mm altae, spicis 2–4-floris; bractea externa 18–30 mm longa, tubo perianthii 27–35 mm longo, tepalis inaequalibus tepalo dorsali 18–30 mm longo, filamentis 24–34 mm longis, antheris 4.0–5.5 mm longis, stylo infra basim antherarum diviso, ramis 2–4 mm longis.

TYPE.—Western Cape, 3419 (Caledon): Bredasdorp, Frikiesbaai, (–CB), 24 August 1946, Compton 18185 (NBG).

Like *Babiana ringens* in general aspect, subsp. *australis* has a sterile stem up to 120 mm long and spikes with 2–4 smaller flowers. Flowers with tepals oriented as

in subsp. *ringens*; perianth tube 27–35 mm long, slender lower part 15–20 mm long and upper wider part 12–15 mm long; dorsal tepal 18–30 mm long, upper lateral and lower median tepals narrowly lanceolate, 20–25 mm long, attenuate and mucronate, lower lateral tepals clawed with ovate blade, 22–25 \times 7.5 mm. Stamens unilateral; filaments 24–34 mm long, exerted 15–22 mm, not reaching apex of dorsal tepal; anthers 4.0–5.5 mm long, reaching or sometimes exceeding apex of dorsal tepal. Style dividing at or 1–2 mm below base of anthers; style branches 2–4 mm long. Capsules and seeds unknown. Flowering time: mid-July to late August. Figure 11, J.

Distribution and ecology: *Babiana ringens* subsp. *australis* extends along the southern coast of Western Cape, from Albertinia in the east to the Agulhas Peninsula, with outlying populations in the southern Cape Peninsula south of Scarborough (Figure 2). Plants occur in sandy ground in coastal fynbos and are often more prominent after fire.

Diagnosis: subsp. *australis* stands out among the numerous collections of *Babiana ringens*, a fairly common coastal and near-interior species that is especially frequent in the western half of Western Cape, extending from Albertinia to the Cape Peninsula and north to Lambert's Bay, in its generally smaller size, 2–4-flowered spike and markedly smaller flowers, with tube 27–35 mm long, and smaller tepals, the dorsal 18–30 mm long (Tables 1; 2). In comparison, subsp. *ringens* has spikes of (3–)6–10 flowers, a perianth tube 28–40 mm long, and a dorsal tepal 25–45(–50) mm long. In keeping with the longer perianth tube, the filaments are 37–70 mm long, and the anthers are 5.0–7.5 mm long vs filaments 24–34 mm long and anthers 4.0–5.5 mm long in subsp. *australis*. The style of subsp. *australis* divides at or below the base of the anthers and the style branches are relatively short, 2–4 mm, compared with a style usually dividing beyond the anther tips (rarely opposite the middle of the anthers) in subsp. *ringens* and the style branches are 4–5 mm long. Both subspecies occur on the Cape Peninsula, with subsp. *australis* recorded from Scarborough in the southwestern Peninsula and subsp. *ringens* north of Fish Hoek; therefore, as far as we can determine, their ranges abut but do not overlap.

Two northern populations of *Babiana ringens* from the immediate vicinity of Graafwater (Goldblatt 3628 MO; Schlechter 8518 MO) (Figure 2) have unusually small flowers for the subspecies (Table 2), with a perianth tube 31–40 mm long and a dorsal tepal ± 25 mm long, but unlike subsp. *australis* they have anthers 5.0–5.5 mm long, a style dividing opposite the middle to upper third of the anthers, and style branches 4–5 mm long. These populations occur close to others with larger flowers, typical of subsp. *ringens*, and may represent a local race or even introgressed hybrids with *B. avicularis*.

Additional specimens examined

WESTERN CAPE.—3418 (Simonstown): Cape Peninsula, Schusterskraal, after fire, (–AB), 10 October 1945, Barker 3885 (NBG); Scarborough, Red Hill trail, (–AB), 4 August 2009, De Waal s.n. (NBG); 3421 (Riversdale): 2 km west of Dekriet, west of Albertinia, (–AB), 26 July 1979, Bohnen 6101 (NBG); 10 km west of Albertinia, (–AB), 22 September 1949, Sidey 1762 (MO); Stilbaai, Groot Jongensfontein, (–AD), 23 August 1978, Bohnen 3968 (NBG); Victoriasdale, sandy slopes of Brandkop, 600 ft [190 m], (–AC), 6 September 1975,

Oliver 5996 (NBG); *Albertinia* commonage, next to graveyard, sandy hillside, (–BA), 20 August 1971, *Thomas s.n.* (NBG92938).

3. ***Babiana teretifolia*** Goldblatt & J.C.Manning, sp. nov.

Plantae acaulescentes ad 300 mm altae foliis inclusis, cormo 25–30 mm diam., foliis subteretibus $\pm 2 \times 1.3$ –1.6 mm diam., anguste 3-sulcatis, spica decumbenti congesta subsecunda spica principali ad 10-flora, bracteis viridibus apicibus atrobrunneis acuto-attenuatis, 18–25 mm longis, bractea interiora ad apicem 3–4 mm furcata, tubo perianthii cylindrico elongato 65–70 mm longo pauciter curvato, tepalis subaequalibus linearibus torsivis patentibus tepalo dorsali $\pm 30 \times 4$ mm allis $\pm 26 \times 2.5$ mm, filamentis ± 12 mm longis ± 9.5 mm exsertis, antheris 5.5–6.0 mm longis albis, stylo ad apices antherarum vel ultra diviso, ramis ± 5 mm longis ad apicem bifurcatis.

TYPE.—Western Cape, 3118 (Vanrhynsdorp): southern Namaqualand, Farm Kommandokraal, NW of Vredendal, (–AC), 10 September 2008, *Goldblatt & Porter 13101* (NBG, holo.; MO, iso.).

Plants acaulescent, up to 300 mm high including leaves; corm deeply seated, up to 200 mm below ground, globose, 25–30 mm diam., outer tunics dry and brown, extending upward with dry remains of leaf sheaths in collar around stem base; stem usually 1- or 2-branched at ground level, glabrous or sparsely pubescent. *Leaves* ± 8 , \pm oval to round in section, $\pm 2 \times 1.3$ –1.6 mm, narrowly 2-grooved on wider surfaces, 1-grooved on narrow surfaces, margins sparsely hairy proximally. *Spike* decumbent, crowded, secund with flowers ± 1.5 mm apart in 2 ranks, main spike with up to 10 flowers, branches usually with fewer flowers; bracts 18–25 mm long, acute-attenuate, green below and rust-coloured at tips, inner \pm as long as outer, forked apically for 3–4 mm. *Flowers* zygomorphic, predominantly pink, beige toward bases of tepals; lower 3 tepals with narrow diamond-shaped markings in lower midline, red in throat; perianth tube cylindrical, slender, 65–70 mm long, hollow, slightly curved; tepals narrowly linear and twisted, spreading with dorsal one held slightly apart from upper lateral, dorsal $\pm 30 \times 4$ mm, upper lateral and lower tepals $\pm 26 \times 2.5$ mm, tepals \pm uniformly pink outside, tube translucent, light purple distally, fading to beige proximally. *Stamens* unilateral; filaments ± 12 mm long, inserted ± 2.5 mm below mouth of tube, therefore exserted ± 9.5 mm; anthers 5.5–6.0 mm long, white, pollen white. *Ovary* smooth; style arching over stamens, dividing at or shortly beyond anther tips,

branches ± 5 mm long, notched apically. *Capsules* and *seeds* unknown. *Flowering time*: September. Figure 3.

Distribution: known from a single extended population on the farms Kommandokraal and Skilpadvlei in southern Namaqualand, in deep sand in coastal sandveld (Figure 2).

Diagnosis and relationships: *Babiana teretifolia* superficially appears to be merely a variant of *B. brachystachys*, a species centred in coastal Namaqualand and extending south to Lambert's Bay in Western Cape, in its subterete leaves and crowded, decumbent spikes of extremely long-tubed flowers (Lewis 1959). The flowers themselves are, however, different in several respects, especially in the remarkably narrow, spreading and twisted tepals and the dorsal tepal hardly differentiated from the remaining five. The tepals are linear, \pm channelled, and twisted with the dorsal tepal $\pm 30 \times 4$ mm and the remaining tepals $\pm 26 \times 2.5$ mm, whereas typical *B. brachystachys* has oblong-lanceolate, \pm plane tepals, the dorsal tepal 20–24 \times 6–8 mm and the lower three tepals 15–18 \times 4–6 mm (e.g. the type, *Mader s.n.* K; *Goldblatt & Manning 9997* K, MO, NBG). These differences are combined with striking differences in the stamens: in *B. teretifolia* the filaments are ± 12 mm long and exserted ± 9.5 mm from the tube and the anthers are 5.5–6.0 mm long and white, as is the pollen. Populations of *B. brachystachys* have filaments 4–5 mm long, exserted 1–3 mm, and anthers 4–5 mm long and are usually pale violet to purple when fresh, as is the pollen (anthers in a population north of Lambert's Bay discovered in September 2009, *Goldblatt & Porter 13321* MO, NBG, have white anthers and pollen). In addition, the style of *B. teretifolia* divides opposite the anther tips so that the style branches, ± 5 mm long, arch above the anthers and can readily be seen to be notched at the tips. In *B. brachystachys*, the style divides opposite the upper third of the anthers and the style branches are only ± 2.5 mm long. Added to the floral differences are the sparsely hairy leaf sheaths and flowers spaced ± 1.5 mm apart, in contrast with the woolly leaf sheaths and flowers set 3–6 mm apart in most populations of *B. brachystachys*. The extraordinarily long, linear twisted tepals, compared to the more conventional oblong-lanceolate tepals of *B. brachystachys*, mark *B. teretifolia* as a derived, geographic segregate of its already highly specialized sister species.

Babiana teretifolia, like *B. brachystachys*, has the stereotypical adaptations for pollination by the long-

TABLE 2.—Comparison of important taxonomic features of population sets of *Babiana ringens*

Character	Population sets		
	Graafwater vicinity	Central	Southern
Outer floral bract length (mm)	30–40	25–50	18–30
Perianth tube length (mm)			
lower part	16–25	17–25	15–20
upper part	± 15	12–15	12–15
Dorsal tepal length (mm)	± 25	36–45(–50)	18–30
Filament length (mm)	37–40, exserted 22–25	55–70, exserted 35–50	24–34, exserted 15–22
Anther length (mm)	5.0–5.5	6.0–7.5	4.0–5.5
Style branch length (mm)	4–5	4–5	2–4
Point of division of style	middle to upper third of anthers	upper third of anthers or above	at or below anther bases

Population sets: Graafwater vicinity. Central: central Cape Peninsula (Fish Hoek) to Lambert's Bay; Worcester District, Clanwilliam to Botterkloof. Southern: Cape Peninsula (Scarborough) to Albertinia (Figure 2).



FIGURE 3.—*Babiana teretifolia*, Goldblatt & Porter 13101 (NBG). A, whole plant; B, flower, front view; C, half-flower; D, outer (left) and inner (right) bracts. Scale bar: 10 mm. Artist: John Manning.

proboscis fly, *Moegistorhynchus longirostris* (Manning & Goldblatt 1997; Goldblatt & Manning 2000), viz. beige-pink tepals marked with red towards the base, and an elongate perianth tube. Other species in the guild of species adapted for pollination by *Moegistorhynchus* that co-occur with *B. teretifolia*, include *Geissorhiza exscapa* (Thunb.) Ker Gawl., *Pelargonium appendiculatum* (L.f.) Willd., and (flowering slightly later in the season) *Lapeirousia anceps* (L.f.) Ker Gawl. and *L. fabricii* (D.Delaroche) Ker Gawl. We did record *Moegistorhynchus longirostris* visiting one member of the guild, *G. exscapa* in September 2009, but saw no visitors to *B. teretifolia* during three days in the field in the same month in 2008, perhaps due either to cool, windy weather that is less than ideal for fly activity.

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