

Revised key to *Ipomoea* (Convolvulaceae) in southern Africa

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Keywords: Convolvulaceae, *Ipomoea*, key, southern Africa

ABSTRACT

A revised key to the 57 indigenous and naturalised species of *Ipomoea* L. in southern Africa is presented.

INTRODUCTION

During the preparation of the Convolvulaceae for the *Flora of southern Africa (FSA)*, Vol. 28, part 1, it became evident that the key to *Ipomoea* L. published by Meeuse (1957) in his revision of the South African Convolvulaceae had become outdated. As publication of this part of the *FSA* is not expected in the near future, it will be useful to publish a revised key now.

Meeuse (1957) listed 47 species of *Ipomoea* occurring naturally or naturalised in the southern African region. He also included *Stictocardia* Hallier f. (one species in southern Africa which can readily be confused with *Ipomoea*) and *Turbina sensu* Meeuse (seven species in southern Africa) in his key to *Ipomoea*. The list of *Ipomoea* in the region compiled by Welman (1993) contained 54 species, including *I. shupangensis* Baker and *I. urbaniana* (Dammer) Hallier f., both from tropical Africa; these are now excluded. The treatment of *Ipomoea* for *FSA* Vol. 28,1 will contain 57 species. Four are new records for the region namely *I. fanshawei* Verdc., *I. fulvicaulis* (Hochst. ex Choisy) Boiss. ex Hallier f. var. *fulvicaulis*, *I. ochracea* (Lindl.) G.Don, all from northern Botswana and *I. consimilis* Schulze-Menz from northern KwaZulu-Natal. The endemic *I. bisavium* A.Meeuse was described after the publication of Meeuse's revision: t. 1360 (1961).

In Meeuse & Welman (1996) some name changes are listed and explained. Six of the southern African species of *Turbina sensu* Meeuse are returned to *Ipomoea*, namely, *I. holubii* Baker [*T. holubii* (Baker) A.Meeuse], *I. oblongata* E.Mey. ex Choisy [*T. oblongata* (E.Mey. ex Choisy) A.Meeuse], *I. atherstonei* Baker, *I. oenotheroides* (L.f.) Raf. ex Hallier f. [*T. oenotheroides* (L.f.) A.Meeuse], *I. robertsiana* Rendle [*T. robertsiana*

(Rendle) A.Meeuse], *I. stenosphon* Hallier f. [*T. stenosphon* (Hallier f.) A.Meeuse], and *I. suffruticosa* Burch. [*T. suffruticosa* (Burch.) A.Meeuse]. The seventh species of *Turbina sensu* Meeuse in southern Africa is now *Paralepistemon shirensis* (Oliv.) Lejoly & Lisowski [*T. shirensis* (Oliv.) A.Meeuse] and is not included in this key. Two other name changes have taken place, namely, *I. dichroa* Choisy (*I. arachnosperma* Welw.), and *I. indica* (Burm.f.) Merr. (*I. congesta* R.Br.). Three varieties and one subspecies have been sunk, namely, *I. bathycolpos* Hallier f. (*I. bathycolpos* var. *sinuatodentata* Hallier f.), *I. magnusiana* Schinz [*I. magnusiana* var. *eenii* (Rendle) A.Meeuse], *I. obscura* (L.) Ker Gawl. [*I. obscura* var. *fragilis* (Choisy) A.Meeuse], and *I. bolusiana* Schinz (*I. bolusiana* subsp. *pinnatipartita* Verdc.). In Meeuse & Welman (1996) it is also mentioned that *I. carnea* Jacq. subsp. *fistulosa* (Mart. ex Choisy) D.Austin (*I. fistulosa* Mart. ex Choisy) should be excluded from the list of *Ipomoea* species in the region. However, it has recently become clear that this poisonous exotic plant often occurs as an escape from cultivation and it is therefore included in the revised key; see Welman (1997).

Some more exotic species have escaped from cultivation and are naturalised; these are also included in the key. Several other exotic species of *Ipomoea* are cultivated in especially the warmer parts of the region and may rarely occur as culture relics or garden escapes and are not included in the key, notably the following: *I. arborescens* (Kunth) G.Don (small tree with up to 50 mm long white flowers), *I. batatas* (L.) Lam. ('Sweet Potato'), *I. coccinea* L. (annual twiner with scarlet flowers), *I. horsfalliae* Hook. (perennial twiner with pink flowers), *I. intrapilosa* Rose (shrub or tree with up to 95 mm long white flowers), *I. quamoclit* L. (annual twiner with pinnate leaves and scarlet flowers), and *I. tricolor* Cav. (perennial twiner with predominantly blue flowers).

KEY TO INDIGENOUS AND NATURALISED SPECIES

naturalised species indicated by *

1a (1b: p. 23) Leaves simple, entire, shallowly lobed, emarginate or toothed, but not pinnately, palmately or pedately lobed nearly to base nor compound:

2a Flowers in pedunculate heads, surrounded by single large bicuspidate bract:

3a Sepals lanceolate, acute, glabrous or sparsely hairy, mainly at tips and along margins; corolla distinctly funnel-shaped, 30–50 mm long, limb 30–50 mm across; Northern Province 27. *I. involucrata* P.Beauv.

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MS. received: 1997-09-25.

- 3b Sepals oblong-spathulate to oblong, obtuse, glabrous below tips inside; corolla tube slender, subcylindrical, ± 20 mm long, limb spreading, 15–30 mm across; N Namibia, N Botswana, Mpumalanga 28. *I. pileata* Roxb.
- 2b Flowers not in heads, or, if so, heads not subtended by one large and bicuspidate, boat-shaped bract:
- 4a (4b: p. 23) Corolla narrowly to widely funnel-shaped:
- 5a Leaves with minute black dots beneath; sepals ± 8 mm long, much-imbricate, subequal, glabrous, obovate, obtuse; KwaZulu-Natal *Stictocardia laxiflora* (Baker) Hallier f.
- 5b Leaves without black dots (sometimes minutely pitted or pellucidly glandular):
- 6a Corolla small, under 18 mm long and/or its limb less than ± 15 mm across; flowers in fascicles, clusters or solitary, sometimes in pedunculate 1 to few-flowered cymes or heads:
- 7a Leaves when dry pellucidly glandular when seen in transmitted light, crisped along margin; sepals very unequal, outer ones ovate from cordate base, obtuse, markedly accrescent, crisped along margin; corolla 12–14 mm long, mauvish pink; capsule and seeds hairy; Namibia, Botswana, Northern Province, Northern Cape 6. *I. hackeliana* (Schinz) Hallier f.
- 7b Leaves not pellucidly glandular:
- 8a Flowers in distinctly pedunculate, bracteate, dense heads; peduncle over 20 mm long; leaves entire, densely white tomentose beneath; corolla up to 15 mm long, pale yellow; erect to trailing annual; N Namibia, Botswana, Northern Province 22. *I. chloroneura* Hallier f.
- 8b Flowers not in pedunculate bracteate heads; if fascicled or clustered, peduncles never longer than 20 mm:
- 9a Leaves hastate at base with entire or toothed basal auricles, very rarely all lanceolate; flowers solitary, rarely fasciculate; pedicels up to 12 mm; sepals linear, acuminate, hairy, 7–11 mm long; corolla pinkish mauve with darker centre, occasionally white; capsule hirsute; Northern Province, North-West, Gauteng, Mpumalanga 5. *I. gracilisepala* Rendle
- 9b Leaves cordate, cuneate or truncate at base, never hastate:
- 10a Leaves usually 3-lobed, albotomentose beneath; flowers mauve-purple, in pedunculate dichasial 3–11-flowered cymes; N Namibia, N Botswana, Northern Province, Mpumalanga, Swaziland 19. *I. dichroa* Choisy
- 10b Leaves entire, not albotomentose:
- 11a Leaves cuneate to truncate-rounded, rarely subcordate at base; flowers very small, sessile; corolla white, hardly longer than the usually bristly calyx; N Namibia, Botswana, Swaziland, N South Africa 1. *I. coscinosperma* Hochst. ex Choisy
- 11b Leaves distinctly cordate at base:
- 12a Outer sepals cordate or auricled at base, attenuate into an acute apical portion; corolla about twice as long as calyx; peduncles distinct, over 10 mm long; inflorescences cymosely 1–3-flowered; Namibia, Botswana, Swaziland, N and E South Africa 8. *I. sinensis* (Desr.) Choisy subsp. *blepharosepala* (Hochst. ex A.Rich.) Verdc. ex A.Meeuse
- 12b Outer sepals not as above; corolla slightly longer than calyx:
- 13a Leaf apex obtuse and minutely mucronate; petiole up to 20 mm long; inflorescences axillary, 1–3-flowered, subsessile; Caprivi, N Botswana 3. *I. leucanthemum* (Klotzsch) Hallier f.
- 13b Leaf apex acute, subacute or acuminate; petioles up to 80 mm long:
- 14a Flowers usually in clusters; sepals very hairy, ovate-lanceolate with linear-acuminate, spreading tips; capsule hairy; seeds glabrous; Botswana, Northern Province, Gauteng, Mpumalanga 2. *I. eriocarpa* R.Br.
- 14b Flowers solitary or in 2–5-flowered cymes; sepals obtuse or subacute, ciliate or nearly glabrous; capsule glabrous or with a few bristly hairs; seeds densely pubescent; N Namibia, N Botswana, Northern Province, Mpumalanga, Swaziland, KwaZulu-Natal 4. *I. plebeia* R.Br. subsp. *africana* A.Meeuse
- 6b Corolla larger to very large, over 18 mm long; flowers usually pedunculate:
- 15a Leaves bilobed at apex, coriaceous or subcoriaceous, whole plant glabrous; stems stout, trailing; growing only on sandy beaches; KwaZulu-Natal, Western and Eastern Cape 37. *I. pes-caprae* (L.) R.Br. subsp. *brasiliensis* (L.) Ooststr.
- 15b Leaves not bilobed (sometimes emarginate) at apex, or not found on sandy beaches:
- 16a Leaves cordate-ovate in outline, shallowly 3-lobed, or entire, cordate, cordate-ovate or cordate-deltoid, covered with thin white cobwebby tomentum beneath (occasionally reduced to a few scattered floccose patches); flowers mauve or magenta; bracteoles and sepals lanceolate or linear-lanceolate, acute to acuminate-aristate:
- 17a Flowers in dense globose pedunculate heads; corolla 20–40 mm long; Northern Province, Mpumalanga, KwaZulu-Natal, Eastern Cape 20. *I. wightii* (Wall.) Choisy
- 17b Flowers in few- to many-flowered dichasia or cymes, sometimes solitary:
- 18a Corolla 18–25 mm long; N Namibia, N Botswana, Northern Province, Mpumalanga, Swaziland 19. *I. dichroa* Choisy
- 18b Corolla 40–60 mm long; Swaziland, KwaZulu-Natal, Eastern Cape 21. *I. ficifolia* Lindl.
- 16b Leaves either not with white cobwebby tomentum or bracts and sepals different (and if so, corolla white or pale mauve):

- 19a Leaves linear or lanceolate with narrow or sometimes somewhat rounded base, entire or sometimes toothed, repand, lobed or \pm emarginate; plants erect to prostrate, often suffruticose:
- 20a Vegetative parts pubescent; calyx tomentose or pubescent:
- 21a Vegetative parts (at least on younger shoots) and calyx usually covered with an adpressed, short and silvery pubescence:
- 22a Erect, much-branched shrub; leaves linear or oblanceolate, sessile or subsessile, narrowed at base; flowers solitary on very short peduncles; Namibia, North-West, Free State, KwaZulu-Natal, Northern and Eastern Cape; endemic 13. *I. oenotheroides* (L.f.) Raf. ex Hallier f.
- 22b Prostrate or suberect perennial; leaves usually distinctly petiolate, rounded or subcordate at base; flowers solitary or 2 together; peduncles 10–50 mm long; Namibia, North-West, Northern Cape; endemic 15. *I. suffruticosa* Burch.
- 21b Vegetative parts usually not with adpressed short and silvery tomentum:
- 23a Sepals unequal; plant hairy; Namibia, Botswana, N and E South Africa, Swaziland, Lesotho 9. *I. crassipes* Hook.
- 23b Sepals equal or subequal:
- 24a Sepals acuminate to aristate; leaves usually long-attenuate at base and well over 50 mm long, usually also some toothed or pinnatisect, hairy or glabrous above; pubescence soft, white; N Namibia, Botswana, Northern Province, North-West, Gauteng 7. *I. oenotherae* (Vatke) Hallier f.
- 24b Sepals acute or acuminate; leaves not as above:
- 25a Leaves under 50 mm long, entire, on a short petiole or subsessile, glabrous above; pubescence soft, white; Northern Province, Mpumalanga; endemic 14. *I. robertsiana* Rendle
- 25b Leaves usually over 50 mm long, entire, hairy above and below; pubescence usually stiff, adpressed on leaves, yellowish or brownish; Namibia, Botswana, central and E southern Africa 24. *I. oblongata* E.Mey. ex Choisy
- 20b Vegetative parts (at least the leaves) glabrous; stems occasionally minutely scabrid-hirsutulous:
- 26a Corolla white, 20–35 mm long; plant stemless or with short stem; leaves entire or with few teeth; mainly E southern Africa, not Swaziland; endemic 38. *I. simplex* Thunb.
- 26b Corolla magenta or pale mauve with darker centre, over 25 mm long:
- 27a Leaves usually over 5 mm wide; corolla pale mauve with darker centre; stems usually stout, sometimes minutely scabrous or hirsutulous; Namibia, Botswana 39. *I. welwitschii* Vatke ex Hallier f.
- 27b Leaves usually less than 5 mm wide; corolla magenta; stems often slender, glabrous; mainly N southern Africa 40. *I. bolusiana* Schinz
- 19b Leaves broader, not linear or lanceolate or, if narrow, broadly truncate, hastate, sagittate or cordate at base:
- 28a (28b: p. 23) Annual or perennial plants, herbaceous, prostrate or climbing, sometimes suffruticose and suberect, but if so, under 500 mm high, never tall and woody:
- 29a Stems thick, trailing, hollow or spongy, rooting at nodes; in moist, marshy, inundated localities or even completely aquatic, floating; N Namibia, N Botswana, N KwaZulu-Natal 36. *I. aquatica* Forssk.
- 29b Stems not thick, hollow or spongy or rooting at nodes and plant not usually found in very moist localities:
- 30a (30b: p. 22) Leaves distinctly cordate or sagittate at base:
- 31a Corolla either yellow and concolorous, or white or yellow with a purple or brown centre; sepals subequal, 4–8 mm long:
- 32a Corolla up to 25 mm long; N and E southern Africa 29. *I. obscura* (L.) Ker Gawl. var. *obscura*
- 32b Corolla 27 mm long or longer; Botswana 30. *I. ochracea* (Lindl.) G.Don var. *ochracea*
- 31b Corolla pink, mauve, magenta, purple to blue or pure white, if white or yellowish with purple or magenta centre; sepals very unequal and over 8 mm long:
- 33a Sepals entirely glabrous:
- 34a Petiole short, under 15 mm long; leaves usually under 50 mm long; plant usually hairy in some part other than calyx; corolla with small tufts of hairs protruding from mid-petaline areas; Northern Province, North-West, Gauteng, Mpumalanga 31. *I. transvaalensis* A.Meeuse
- 34b Petioles 15–200 mm long:
- 35a Leaves cordate-elliptic or rounded to subreniform, obtuse with minute cusps, basal sinus narrow and deep; sepals 12–20 mm long; corolla 35–70 mm long; mainly N South Africa; endemic 32. *I. bathycolpos* Hallier f.
- 35b Leaves cordate-deltoid or cordate-ovate, usually suddenly acuminate from broad, usually irregularly and coarsely few-toothed base into an entire apex, basal sinus broad; sepals 5–9 mm long; corolla 20–35 mm long; Botswana, Swaziland, N South Africa 33. *I. papilio* Hallier f.
- 33b Sepals thinly to densely hairy or tomentose:

- 36a Sepals long-attenuate or linear-acuminate at apex, 14–25 mm long; twining herbaceous plants with retrorse hairs on stems and petioles; leaves often 3-lobed:
- 37a Outer sepals lanceolate at base with long and linear acumen, patently hirsute in basal portion, 17–25 mm long; cultivated and naturalised; N Namibia 16.* *I. nil* (L.) Roth
- 37b Outer sepals lanceolate to ovate-lanceolate, gradually attenuate towards apex, with adpressed pubescence, 14–22 mm long; cultivated and naturalised; Gauteng, Mpumalanga, Swaziland, KwaZulu-Natal, Eastern and Western Cape 18.* *I. indica* (Burm.f.) Merr.
- 36b Sepals acute, obtuse or mucronate but not with long and narrow acumen, if sepals long-acuminate, plant not twining and without retrorse hairs on stems and petioles:
- 38a Calyx with bristly patent hairs in basal portion; glabrous towards apex; twining annual with retrorse hairs on stems and petioles; cultivated and naturalised; N and E South Africa 17.* *I. purpurea* (L.) Roth
- 38b Calyx not with bristly patent hairs in basal portion and glabrous towards apex:
- 39a Twining plant, growing in moist places (river banks, marshes, pools), often among reeds, sedges etc.; N Namibia, N Botswana 48. *I. rubens* Choisy
- 39b Prostrate to suberect plants, or erect shrubs:
- 40a Plants prostrate to suffruticose, if suberect never more than 500 mm high; corolla usually magenta:
- 41a Bracts usually close to calyx, never foliaceous; sepals subequal:
- 42a Bracts ovate, acuminate; Caprivi, N Botswana 12. *I. fulvicaulis* (Hochst. ex Choisy) Boiss. ex Hallier f. var. *fulvicaulis*
- 42b Bracts linear or lanceolate, rarely broader; Namibia, Botswana, central and E southern Africa 24. *I. oblongata* E.Mey. ex Choisy
- 41b Bracts usually distant from calyx, often foliaceous; sepals very unequal, outer ones ovate-acuminate, inner ones linear; Namibia, Botswana, N and E South Africa, Swaziland, Lesotho 9. *I. crassipes* Hook.
- 40b Plant shrubby, erect; stems woody; sepals very broad, unequal; corolla pale mauve with magenta centre; Namibia, Botswana, Northern Province, Mpumalanga 52. *I. holubii* Baker
- 30b (30a: p. 21) Leaves not distinctly cordate or sagittate at base:
- 43a Sepals entirely glabrous, sometimes rugose or muriculate:
- 44a Sepals 5–12 mm long:
- 45a Sepals 5–9 mm long; corolla magenta; leaves acuminate from broad base, coarsely toothed in lower half; Botswana, Swaziland, N South Africa 33. *I. papilio* Hallier f.
- 45b Sepals 8–12 mm long; corolla pale mauve with darker centre; leaves linear-oblong to elliptic, entire, emarginate or 3-lobed, not broad or toothed at base; Namibia, Botswana 39. *I. welwitschii* Vatke ex Hallier f.
- 44b Sepals 12–25 mm long:
- 46a Leaves rhomboid-lanceolate in outline, margin entire to lobed; sepals 15–18 mm long; corolla pale purple or mauve; Botswana 46. *I. fanshawei* Verdc.
- 46b Leaves oblong, elliptic, ovate to linear-oblong, entire; sepals 12–25 mm long; corolla magenta; Namibia, Botswana, central and E southern Africa 24. *I. oblongata* E.Mey. ex Choisy
- 43b Sepals more or less hairy to tomentose:
- 47a Plant shrubby, erect, over 500 mm high; sepals very broad, suborbicular, rounded, unequal, inner ones larger; Namibia, Botswana, Northern Province, Mpumalanga 52. *I. holubii* Baker
- 47b Plant prostrate; sometimes suffruticose, suberect, but if so, under 500 mm high and sepals not very broad and rounded:
- 48a (48b: p. 23) Flowers in pedunculate, few to many-flowered heads (heads occasionally binate):
- 49a Bracteoles and sepals linear, narrow, bristly with long yellowish hairs; Mpumalanga, Swaziland, E Free State, KwaZulu-Natal, Eastern Cape; endemic 10. *I. pellita* Hallier f.
- 49b Bracteoles and sepals lanceolate to ovate:
- 50a Leaves lanceolate or ovate-lanceolate from broad base to long-triangular, gradually narrowed towards apex; corolla bright magenta, 30–50 mm long; Botswana, Northern Province, North-West, Gauteng, Mpumalanga, Free State 23. *I. ommanevi* Rendle
- 50b Leaves usually oblong to ovate and not often gradually tapering to apex from broad base:
- 51a Corolla magenta, 50 mm or longer; Namibia, Botswana, central and E southern Africa 24. *I. oblongata* E.Mey. ex Choisy
- 51b Corolla mauve or purple, 25–50 mm long; Caprivi, N Botswana 12. *I. fulvicaulis* (Hochst. ex Choisy) Boiss. ex Hallier f. var. *fulvicaulis*

- 48b (48a: p. 22) Flowers solitary or 2 or 3 together, or not in heads but in cymes:
- 52a Sepals very unequal; outer ones ovate or lanceolate from broad base, inner ones linear; bracts usually distant from the calyx and often foliaceous; Namibia, Botswana, N and E South Africa, Swaziland, Lesotho 9. *I. crassipes* Hook.
- 52b Sepals equal or not so distinctly unequal:
- 53a Leaves up to 45 mm long, broad at base, often subcordate; bracteoles very minute; calyx 7–8 mm long; corolla bright magenta-rose, 20–40 mm long with small tufts of hairs protruding from midpetaline areas (especially conspicuous in older buds); Northern Province, North-West, Gauteng, Mpumalanga 31. *I. transvaalensis* A.Meeuse
- 53b Leaves, bracts, sepals or corolla longer or corolla, if hairy on midpetaline areas, without protruding hair tufts:
- 54a Bracteoles distant from, more rarely contiguous to calyx; leaves quite glabrous above; corolla thinly hairy to glabrous on midpetaline areas; Northern Province, Mpumalanga; endemic 14. *I. robertsiana* Rendle
- 54b Bracteoles contiguous to calyx; leaves usually hairy on both sides; corolla silky on midpetaline areas; Eastern Cape; endemic 34. *I. crista* (Thunb.) Hallier f.
- 28b (28a: p. 21) Tall perennial woody climbers or shrubs over 500 mm high:
- 55a Calyx glabrous:
- 56a Sepals orbicular to oblong, obtuse; leaves usually lobed, rarely entire; KwaZulu-Natal 49. *I. mauritiana* Jacq.
- 56b Sepals ovate, cuspidate to acute; leaves entire, usually appearing after flowers; Caprivi, N Botswana, Northern Province 50. *I. shirambensis* Baker
- 55b Calyx at least partly hairy, pubescent or tomentose:
- 57a Sepals broadly elliptic or obovate to orbicular, obtuse, 5–16 mm long, two inner ones larger than outer ones; shrubs; leaves not longer than 250 mm:
- 58a Leaves cordate-ovate, usually under 50 mm long; erect shrub with ultimate twigs sometimes flexuous or twining; corolla 40–50 mm long; Namibia, Botswana, Northern Province, Mpumalanga 52. *I. holubii* Baker
- 58b Leaves ovate to lanceolate, 100–250 mm long; erect to scrambling shrubs to 3 m high; sepals suborbicular, 5–6 mm long; corolla 50–90 mm long; cultivated and seminaturalised; Northern Province, Mpumalanga, Swaziland, KwaZulu-Natal 54. **I. carnea* Jacq. subsp. *fistulosa* (Mart. ex Choisy) D.F.Austin
- 57b Sepals not as above; plants climbing; leaves mostly much larger:
- 59a Two outer sepals cordate-triangular, 14 mm long; young parts and peduncles not densely hairy; Northern Province; endemic 11. *I. bisavium* A.Meeuse
- 59b Two outer sepals not as above; young parts densely hairy, as are peduncles:
- 60a Young parts densely white-tomentose:
- 61a Young leaves with very conspicuous reticulate, somewhat floccose tomentum on main veins below, older ones glabrescent; calyx at first tomentose, at least near base; corolla white, 60–90 mm long; Northern Province, Mpumalanga, Swaziland, KwaZulu-Natal 55. *I. albivenia* (Lindl.) Sweet
- 61b Young leaves with complete tomentum below, tomentum usually persistent; calyx tomentose; corolla white, rose-purple or mauve with darker throat, 60–100 mm long; Namibia, N Botswana 56. *I. verbascoidea* Choisy
- 60b Young parts densely yellow-villous; sepals linear-lanceolate; N KwaZulu-Natal 57. *I. consimilis* Schulze-Menz
- 4b (4a: p. 20) Corolla salver-shaped, white or white with inside of tube purple or magenta:
- 62a Plant herbaceous and twining:
- 63a Corolla tube up to \pm 40 mm long; leaves ovate to lanceolate, entire, cuneate to rounded at base; sepals not awned; N Namibia, Botswana, Northern Province, Mpumalanga, Swaziland 35. *I. lapathifolia* Hallier f.
- 63b Corolla tube at least 70 mm long; leaves cordate at base, entire or 3-lobed; sepals awned; cultivated and naturalised; Mpumalanga, KwaZulu-Natal, Eastern Cape 47. **I. alba* L.
- 62b Plant not herbaceous and twining:
- 64a Plant shrubby, erect; calyx densely silky outside; Namibia, Botswana, Northern Province, Gauteng, Mpumalanga 51. *I. adenioides* Schinz
- 64b Plant woody and climbing; calyx glabrous; sepals obtuse; Northern Province 53. *I. stenosphon* Hallier f.
- 1b (1a: p. 19) Leaves deeply lobed (nearly to base), dissected or compound:
- 65a Leaves albotomentose below with prominent veins, palmately 3–5- or almost 7-lobed; Namibia, Botswana, Swaziland, mainly central and N South Africa 25. *I. magnusiana* Schinz
- 65b Leaves glabrous or sometimes hairy but not albotomentose:
- 66a Flowers in dense pedunculate and bracteate heads; leaves hairy; N Namibia, Caprivi, N Botswana, Mpumalanga 26. *I. pes-tigridis* L. var. *pes-tigridis*

- 66b Flowers solitary, fasciated or in cymes:
- 67a Corolla small, white tinged with mauve, 10–15 mm long; leaves palmately 5–7-fid with dentate or serrate to pinnatisect segments; Namibia, N Botswana, mainly N South Africa 41. *I. coptica* (L.) Roth ex Roem. & Schult.
- 67b Corolla usually larger, rarely white; leaf segments not dentate or serrate, entire or basal ones with lateral lobe:
- 68a Large glabrous perennial climber; leaves palmately 3–9-lobed, 60–150 × 60–200 mm, not pseudostipulate; KwaZulu-Natal 49. *I. mauritiana* Jacq.
- 68b Annuals or prostrate perennials, leaves much smaller, usually under 80 mm across and often pseudostipulate by small leaves of developing or suppressed axillary shoots:
- 69a Leaves usually pseudostipulate, distinctly palmately or pedately 5–9-fid, quite glabrous; climbing or occasionally prostrate annuals:
- 70a Calyx 8–10 mm long, outer sepals saccate at base; corolla yellow with mauve tube, 30–60 mm long and across; leaves usually biternately pedate often with 9 segments; N Namibia, N Botswana 42. *I. tuberculata* Ker Gawl.
- 70b Calyx up to ± 7 mm long, outer sepals not saccate; corolla mauve, purple or white; leaves palmately partite with usually 5 segments:
- 71a Corolla 30–60 × 40–60 mm, mauve, rarely white; NE southern Africa 43. *I. cairica* (L.) Sweet
- 71b Corolla up to ± 25 mm long:
- 72a Peduncles very slender, filiform; corolla often under 16 mm long, purplish mauve; N Namibia, Northern Province, Mpumalanga 45. *I. tenuipes* Verdc.
- 72b Peduncles rather stout, not filiform; corolla 15–25 mm long, purplish mauve or white; Namibia, Botswana, Northern Province, Gauteng, Mpumalanga, Swaziland 44. *I. hochstetteri* House
- 69b Leaves not pseudostipulate, pinnately dissected, tridentate or palmately compound; stems prostrate or rarely suberect from perennial tuberous rootstock; corolla usually over 30 mm long:
- 73a Young parts and sepals with soft white hairs; sepals very acute; basal leaves, if present, linear, cauline leaves tridentate to pinnatisect or all leaves pinnatisect; flowers solitary on short peduncles, deep pink to magenta; N Namibia, Botswana, Northern Province, North-West, Gauteng 7. *I. oenotherae* (Vatke) Hallier f.
- 73b Sepals glabrous:
- 74a Leaves palmately 3–9-fid with linear segments under 5 mm wide (often very narrow); corolla magenta; stems often rather slender, glabrous; mainly N southern Africa 40. *I. bolusiana* Schinz
- 74b Leaves trisect with linear, lanceolate or oblong segments usually over 5 mm wide; corolla pale mauve with magenta centre 30–80 mm long; stems usually stout; Namibia, Botswana 39. *I. welwitschii* Vatke ex Hallier f.

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