

***Kennedia volubilis* Lally (Fabaceae: *Phaseoleae* DC.), a new species from the Blackdown Tableland, central Queensland, Australia**

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Summary

Lally, T.R. (2025). *Kennedia volubilis* Lally (Fabaceae: *Phaseoleae* DC.), a new species from the Blackdown Tableland, central Queensland, Australia. *Austrobaileya* **15**: 34–41. *Kennedia volubilis* Lally is described and compared to its putative relative *K. procurrens* Benth. *Kennedia volubilis* is restricted to several subpopulations in the Blackland Tableland National Park, in the central Queensland sandstone belt. It is considered vulnerable based on these few populations in one location. The species is imaged, and notes are provided on habitat, phenology and conservation status.

Key Words: Fabaceae; *Kennedia*; *Kennedia volubilis*; flora of Queensland; new species; taxonomy; Blackdown Tableland

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Introduction

As part of a revision of the leguminous subtribe *Kennediinae* Benth. (Fabaceae: *Phaseoleae* DC.), several preliminary papers are being prepared. The genus *Kennedia* Vent. is endemic to Australia and is the initial focus of this revision (Lally & Wilson 2008; Lally 2010). It comprises 15 described taxa, most of which occur in the species-rich south-western province of Western Australia. Six species occur in eastern Australia, four of these occurring in Queensland, including this new species, named here as *K. volubilis* Lally.

This species was first collected in 1966 by C.H. Gittins from Sydney on one of his several climbing, camping and collecting forays into the Blackdown Tableland throughout the 1960s. Subsequently, it was collected by Henderson and colleagues from the Queensland Herbarium (Henderson 1976b) in the early 1970s, when a logging access road was constructed into the then Blackdown

State Forest. Henderson recognised *Kennedia volubilis* as an undescribed taxon allied to *K. procurrens* Benth., and it has subsequently been recognised under the informal phrase names *Kennedia* sp. Q1 or *Kennedia* sp. Q1 (aff. *procurrens*) on specimens, and formal phrase names of *Kennedia* sp. (Blackdown Tableland R.J. Henderson+ H747) (Holland 1994, 1997, 2002; Holland & Pedley 2007, 2010, 2013, 2016, 2020) and *Kennedia* sp. (Blackdown Tableland R.J. Henderson+ H747) Qld Herbarium (CHAH 2012).

Unfortunately, little is known of the biology of this new species, including population size and health and response to environmental factors, such as drought or fire intensity. The most recent collections of *Kennedia volubilis* date from the mid-1980s, and field survey is required to determine the basic biology and current conservation status of this species.

Materials and methods

This paper is based on examination of herbarium specimens held at the Queensland Herbarium (BRI), Australian National Herbarium (CANB), and the National Herbarium of New South Wales (NSW). Descriptions of flowers are from re-hydrated material, with all other features, including pods and seeds, described or measured from dried material.

Taxonomy

Kennedia volubilis Lally, sp. nov.

With morphological affinity to *K. procurrens* Benth. but differing by the twining habit, shorter flowers and hairy, narrower pods.

Type: Queensland. LEICHHARDT DISTRICT: Blackdown Tableland, ca 35 km SE of Blackwater (campsite at old stockyard in Mimosa Creek), ca 25 km W of campsite, 7 September 1971, *R.J. Henderson 1058*, *L. Durrington & P. Sharpe* (holo: BRI [AQ0014259: 5 sheets]; iso: CANB, K, MEL, MO *distribuendi*).

Kennedia sp. Blackdown Tableland (R.J.Henderson+ H747); Holland (1994: 128, 1997: 83, 2002: 81); Holland & Pedley (2007: 79, 2010: 74, 2013, 2020).

Kennedia sp. Blackdown Tableland (R.J.Henderson+ H747) Qld Herbarium; CHAH (2012).

Twining, climbing or scrambling shrubs; stems terete, to 2.5 mm diameter, with moderately dense, semi-erect, white hairs, and some scattered golden to red-brown hairs. Leaves rugose, discolorous, upper surface glossy dark green, lower surface dull grey-green, petioles 25–78 mm long, petiolules 3–5 mm long; leaflets trifoliate, ovate, narrowly ovate to almost linear-ovate, sometimes hastate, 4–8 lateral veins; terminal leaflet usually larger than laterals, sometimes \pm equal, 42–95 mm long, 12–47 mm wide, both surfaces hairy, with sparse to moderately dense, semi-erect, white and golden to red-brown hairs; lateral leaflets 37–100 mm long, 16–45 mm wide, both surfaces hairy, with sparse to moderately dense, semi-erect, white

and golden to red-brown hairs; apex rounded, mucronulate, mucro to 0.8 mm long, rarely emarginate with mucro; base cuneate to rounded; stipules ovate, 4–7 mm long, 1.6–2.7 mm wide, persistent, leaf-like, striate, erect to sometimes strongly reflexed and appressed against stem, apex long acuminate, both surfaces hairy with dense, short, erect to semi-appressed, white and golden to red-brown hairs; stipels linear to narrowly ovate, hairy with sparse to moderately dense, short, erect to semi-appressed, white and golden to red-brown hairs, lower pair slightly broader than upper pair, 1–2.8 mm long, to 0.5 mm wide, persistent, apex acuminate. Inflorescence racemose, to 18-flowered; peduncle, pedicel and bracts hairy with dense, short, erect to semi-appressed, white and golden to red-brown hairs; peduncle 50–190 mm long. Flowers 11.5–16 mm long, pedicels 3–6 mm long; basal bracts ovate, 3.5–6.5 mm long, persistent, apex long acuminate; subtending bracts two, broadly ovate, to narrowly ovate, to 5 mm long, one bract early caducous, the other eventually deciduous, apex long acuminate. Calyx cup-shaped, 4.5–6.5 mm long, including the lobes 2–3 mm long, hairs on outer surface dense, short, erect to semi-erect, golden-brown or rarely white, inner surface with sparse to moderately dense, appressed, white hairs, denser on calyx lobes, especially on the margins, becoming sparse to glabrous basally. Corolla glabrous: standard rounded or obovate, 13.5–16 mm long, including claw 3–3.2 mm long, 12–14 mm wide, purple, eye colour not known, apex \pm emarginate, base cuneate or rounded, with two \pm raised semi-circular calli on adaxial surface converging at the apex of the claw; wings narrowly obovate, 12.5–13.5 mm long, including claw 2.8–3 mm long, 3–4.5 mm wide, purple, apex rounded; keel obovate, 11–12 mm long, including claw 3.5–4 mm long, 4.5–5 mm wide, purple, apex \pm rounded. Staminal filaments to 12 mm long, anthers 0.3–0.4 mm. Gynoecium to 12 mm long; ovary with dense, short, white hairs, forming a mane on each suture, denser on the lower suture; style incurved, with sparse, white hairs on lower half, glabrous above, stigma small, capitate. Pod rounded-linear or narrowly rectangular, 45–73 mm long, 5–6

mm wide, hairs moderately dense to dense, semi-erect, white and golden to red-brown, pod surface light brown to brown; apex long

acuminate. Seed oblong, 3.5–4 mm long, 2–2.2 mm wide, aril to 2 mm long, dark brown to black. **Fig. 1–3.**

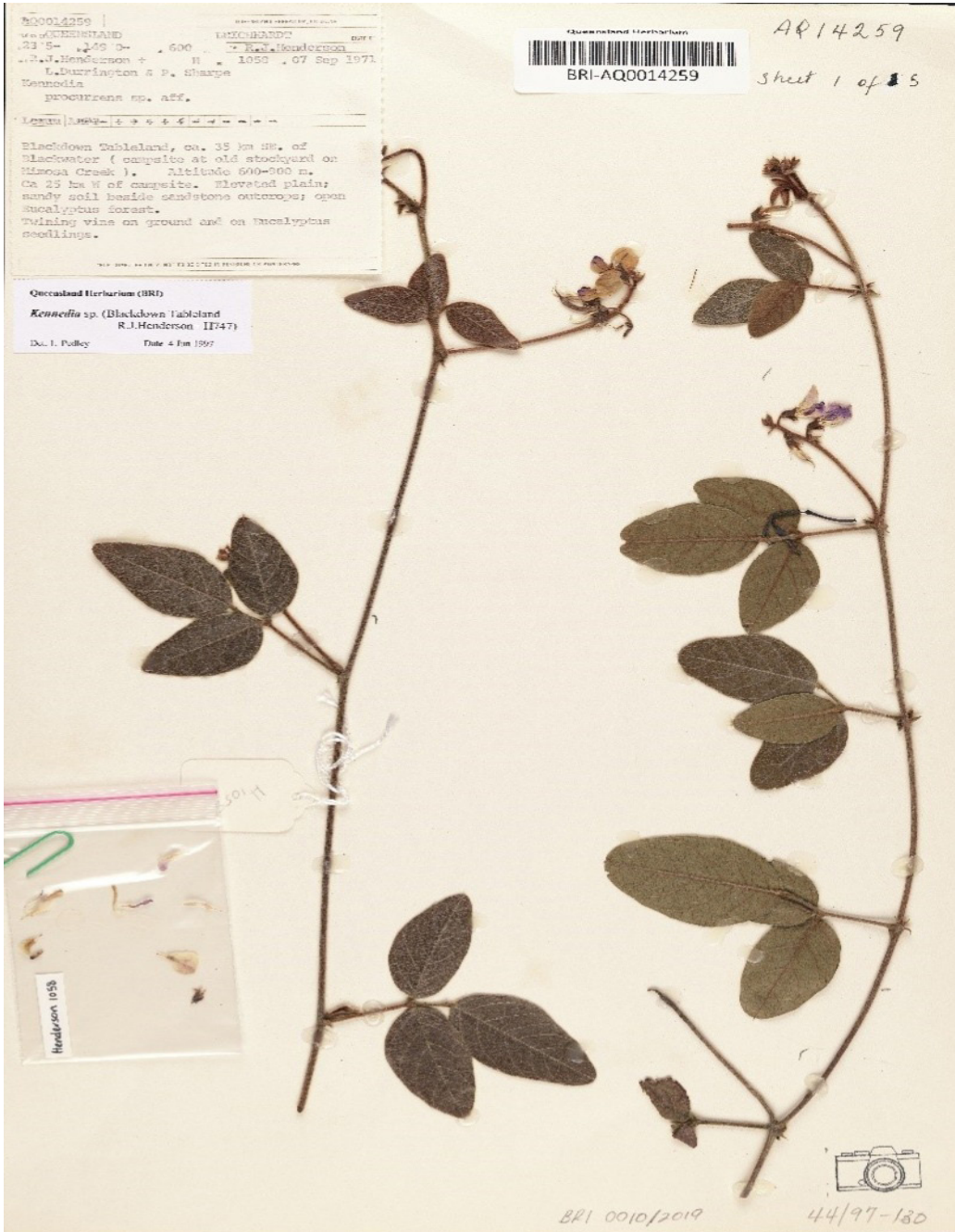


Fig. 1. Part of Holotype of *Kennedia volubilis* (Henderson H1058 et al., BRI), sheet 1 of 5.

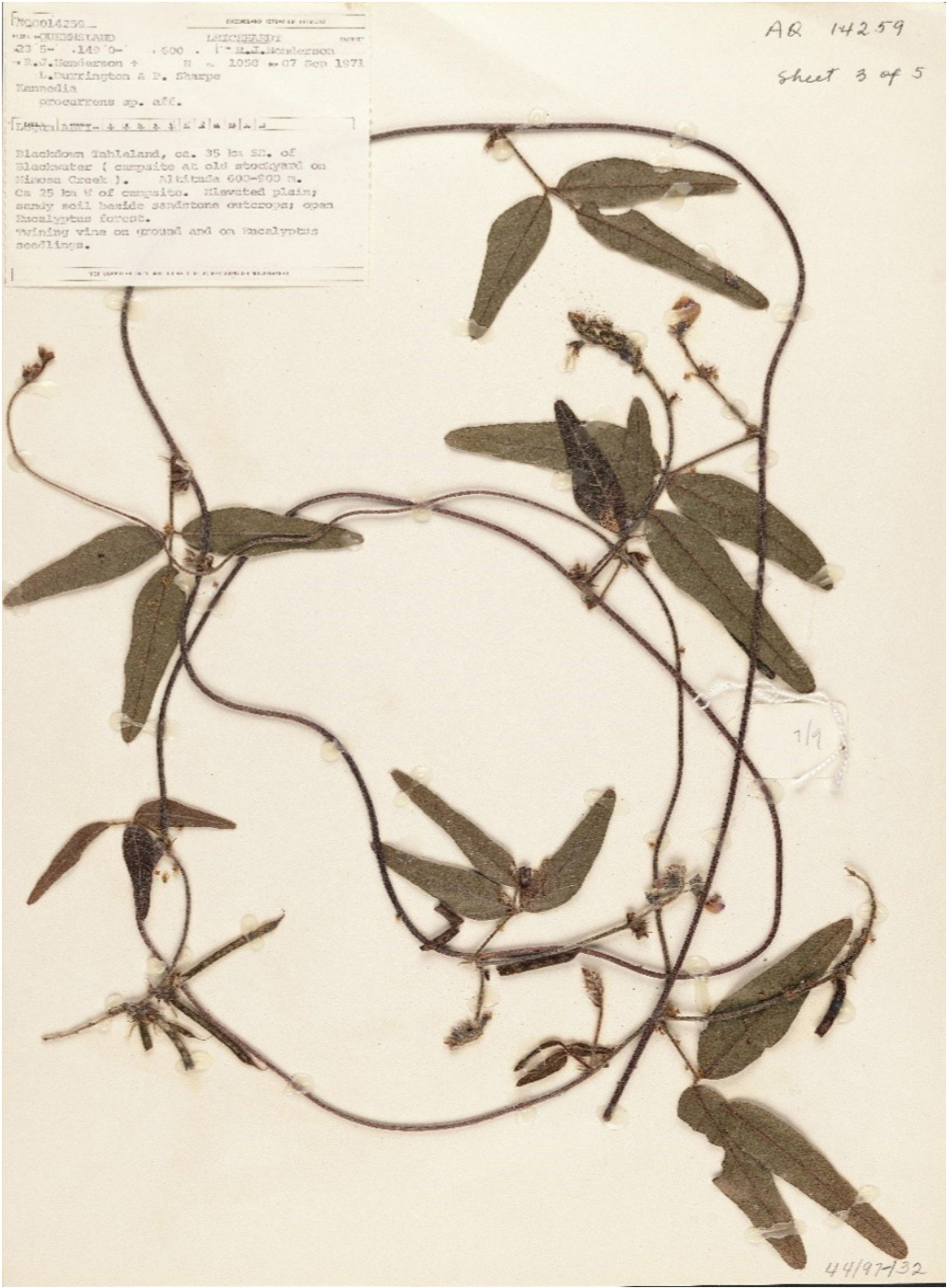


Fig. 2. Part of Holotype of *Kennedia volubilis* (Henderson H1058 et al., BRI), sheet 3 of 5.

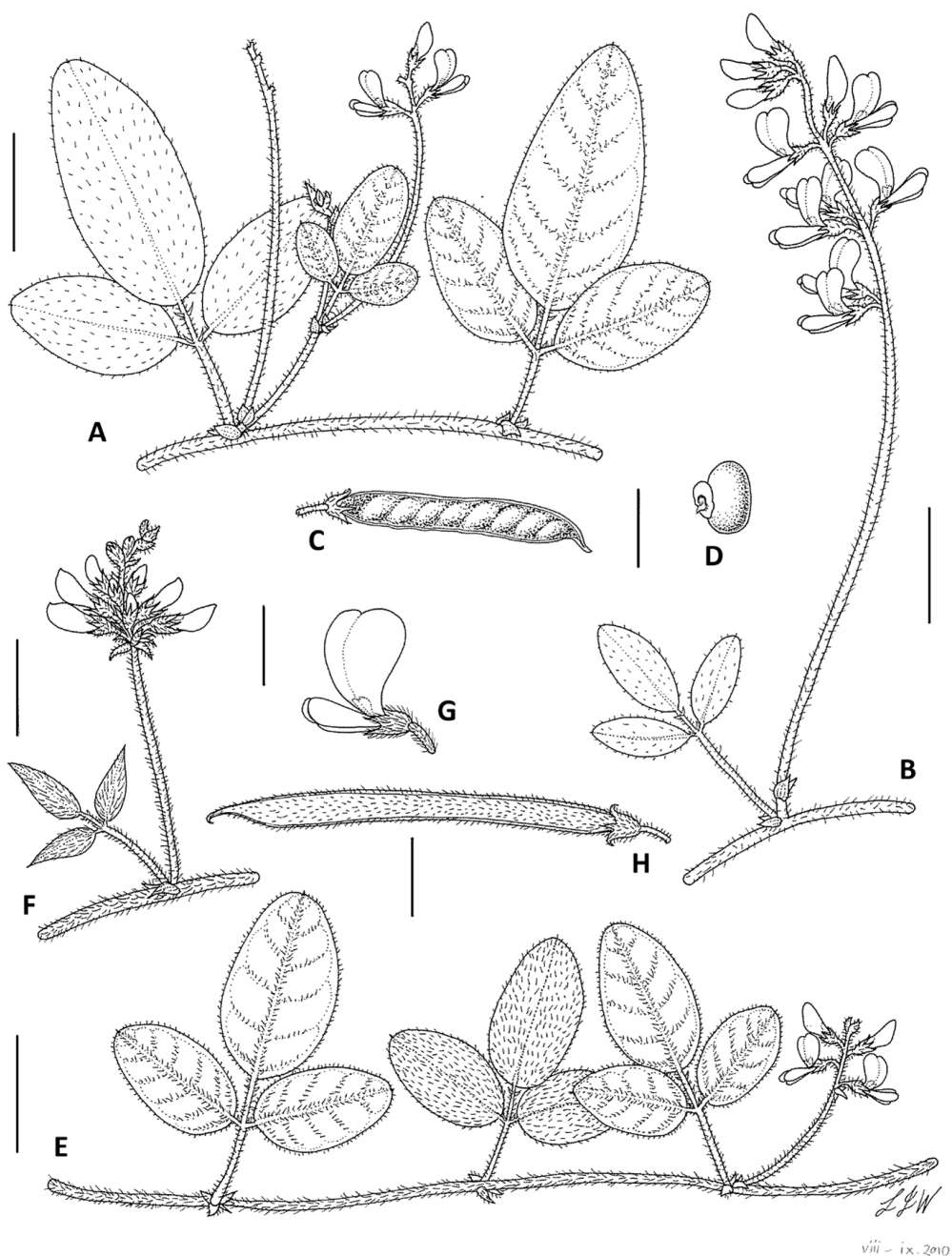


Fig. 3. *Kennedia procurrens* (A–D) compared with *K. volubilis* (E–H). A & E. habit. B & F. inflorescence. C & H. pod. D. seed. G. flower. Scale bar: A,B,E = 30 mm; C = 25 mm; D,F,G,H = 20 mm. A from Lepschi 1273 & Slee (CANB); B from Smith s.n. (NSW460128); C from Lally 1534 (CANB); D from Lally 1533 (CANB); E,F & G from Henderson 1058 (BRI); H from Aston 2485 (MEL). Del. L.J. Waters.

Additional specimens examined: **Queensland.** LEICHHARDT DISTRICT: Blackdown Tableland, top of the western escarpment, c. due W of Rainbow Falls, Sep 1983, *Aston 2485* (BRI, MEL); Blackdown, above Rockland Spring Station, c. 25 miles [c. 40.2km] SW of Dingo, Aug 1966, *Gittins 1185* (BRI, NSW); Blackdown Tableland, c. 35 km SE of Blackwater (campsite at old stockyard on Mimosa Creek), Apr 1971, *Henderson 747*, *Andrews & Sharpe* (BRI); Blackdown, towards escarpment, Sep 1981, *Pearson 392* (BRI); Blackdown Tableland, Stony Creek track (?Shotover Range), Aug 1980, *Williams 80187* (BRI).

Distribution and habitat: *Kennedia volubilis* is a restricted, narrowly endemic species, known only from a few populations in Blackdown Tableland National Park, in central Queensland. It occurs in sandy soils beside sandstone outcrops on an elevated plain between 800 and 900m. Label data records associated vegetation as open *Eucalyptus* forest with *Pultenaea* sp. and *Acacia* sp. See Henderson (1976a & b) for detailed information on the history and floristics of the Blackdown Tableland.

Phenology: Flowering is recorded for August to October, with mature fruiting specimens collected in September. *Kennedia volubilis* could be expected to have wider flowering and fruiting times, but this needs to be confirmed through additional survey and collections.

Affinities: *Kennedia volubilis* is morphologically most similar to *K. procurrens*, but differs by the twining habit, flowers 11.5–15 mm long, and hairy, narrower pods 5–6 mm wide. *Kennedia procurrens* populations in Queensland are prostrate, flowers are 15–18.5 mm long, and the pods are glabrous and 7–9 mm wide. *Kennedia procurrens* also has a disjunct population in the Narrabri area of New South Wales, where the habit can be shrubby, the flowers are 12–14 mm long, and the pods glabrous and 5–7 mm wide. These measurements fall within the range of *K. volubilis*, but these populations can be separated from *K. volubilis* by the prostrate to shrubby habit, and geography. Other differences between *K. volubilis* and *K. procurrens* include rugose, pale green leaves, vs. not as obviously rugose, and darker green leaves in *K. volubilis*, and chiefly white hairs on all vegetative parts of *K. procurrens* (very rarely with some rusty-

brown hairs on new growth), vs. a mixture of white and rusty-brown hairs on all vegetative parts, and chiefly rusty-brown on new growth in *K. volubilis*.

Of the remaining *Kennedia* species occurring on the eastern seaboard, only *K. retrorsa* Hemsl., a rare species with a restricted occurrence on the central western slopes of New South Wales, is superficially similar to *K. volubilis*. *Kennedia retrorsa* can be distinguished from *K. volubilis* by its magenta to pink flowers (purple in *K. volubilis*), broader stipules, (3–4 mm wide in *K. retrorsa* vs. 1.6–2.7 mm wide in *K. volubilis*), longer calyx lobes (3.5–3.8 mm long in *K. retrorsa* vs. 2–3 mm long in *K. volubilis*), pods with retrorse hairs (vs. erect in *K. volubilis*), and seed size (6–7 mm long vs 3.5–4 mm long in *K. volubilis*) (**Table 1**).

Notes: No information exists on population size and condition for *Kennedia volubilis*, and its response to seasonal and environmental influences, such as fire or drought, is also unknown. It could be anticipated that the response to fire and soil disturbance for *K. volubilis* would be as for other *Kennedia* species, which behave as pioneers, after disturbance, usually producing prolific growth which persists for two or three years, before succumbing to competition (Silsbury & Brittan 1954; Lally, pers. obs. 1996, 1999, 2000).

Conservation status: The species is currently known from several locations in a single population in one National Park. The area of extent of the population is unknown, as is the condition of the existing individuals within each subpopulation. Using the IUCN (2012) categories of conservation status, a listing of **Vulnerable** under the criteria **D2** is recommended for *K. volubilis*. While this species is likely to respond well to fire and disturbance, and the threat of land clearing is unlikely under National Park land tenure, it is regarded as vulnerable due to its occurrence in only one location. It is also unknown how it responds to low intensity maintenance burning as is practised in this National Park (Henderson 1976a), and to the impacts of climate change. The whole of Blackdown

Table 1. A comparison between *Kennedia volubilis* and allied species using selected morphological characters

Character	<i>Kennedia volubilis</i>	<i>Kennedia procurrens</i>	<i>Kennedia retrorsa</i>
Habit	Chiefly twining	Shrubby	Shrubby
Corolla (flower), length	11.5–15 mm	15–18.5 mm (Qld populations; 12–14 mm (NSW populations)	13–16 mm
Corolla colour	Purple	Purple	Magenta to pink
Pod width	5–6 mm	7–9 mm	5–9 mm
Pod indumentum	Hairy, hairs erect	Glabrous	Hairy, hairs retrorse
Leaf colour and surface textures	Dark green, ± rugose	Paler green, rugose	Glossy green, smooth
Indumentum (vegetative parts)	Mix of white and rusty-brown hairs	Chiefly white hairs	Mix of white and rusty-brown hairs
Stipule width	1.6–2.7 mm	1.5–5 mm	3–4 mm
Calyx lobe length	2–3 mm	1.8–4 mm	3.5–3.8 mm
Seed length	3.5–4 mm	3.5–4.6 mm	6–7 mm
Occurrence	Queensland	Queensland, New South Wales	New South Wales

Tableland NP was burnt in a massive wildfire in 2018 and subsequent fires have reburnt some of the area. The *Kennedia* is yet to be sighted in searches for threatened plants undertaken in 2024 and 2025 (P. Forster, pers. comm., June 2025).

Etymology: From the Latin *volubilis*, which means twining, referring to the climbing habit of the plant. While climbing is not unusual in *Kennedia* species, this is the only purple flowered representative to do so chiefly.

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