

Reinstatement of *Thysanotus elatior* R.Br. (Asparagaceae)

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Abstract

Thysanotus elatior R.Br. (Asparagaceae) is reinstated, described, lectotypified and compared with putatively related species. The species is restricted to the Top End of the Northern Territory and the Kimberley of Western Australia but was previously confused with *T. banksii* R.Br., a Queensland species. Notes are provided on the distribution, habitat, phenology, conservation status and affinities of *Thysanotus elatior*. *Thysanotus chinensis* Benth. also occurs in north-western Australia and a key to distinguish the two is provided. The application of the names *Thysanotus elatior* and *T. tuberosus* R.Br. to material there is also discussed.

Running head: Reinstatement of *Thysanotus elatior*

Keywords: Asparagaceae; Australia; Robert Brown; Systematics; Taxonomy; *Thysanotus*; Typification; Northern Territory; Western Australia

Introduction

Thysanotus tuberosus R.Br. and *T. banksii* R.Br. have both been treated as widespread and somewhat variable species in eastern and northern Australia respectively (Brittan 1981, 1987). However, study of north-western Australian specimens referred to *Thysanotus banksii* shows that they represent two distinct species (neither being true *T. banksii*), one of them formerly much confused with *T. tuberosus*. The application of names in this group therefore needs to be assessed to determine whether a new species needs to be described or not. Key to this is the name *Thysanotus elatior* R.Br., long considered a synonym of *T. tuberosus* (Baker 1876; Bentham 1878; Brittan 1981, 1987).

Robert Brown (1810: 283) described *Thysanotus elatior* from one of his own collections later labelled *Iter Australiense* 5680. However, it is now apparent that there is a discrepancy between Brown's *Prodromus*, where the protologue for *Thysanotus elatior* has Port Jackson (Sydney) area (“(J.) v.v.”) as the collection locality (see also Chapman 1991: 2859; Mabberley & Moore 2022: 184), and what we conclude below, namely that the

collection was made in the Gulf of Carpentaria in the modern-day Northern Territory. Brown (1810: 282) based his *Thysanotus tuberosus* on another of his collections (distributed as *Iter Australiense* 5679), from Port Jackson (Sydney; also as “(J.) v.v.”) made in October 1803.

The descriptions of both species are very brief, as is typical in Brown’s *Prodromus*, which was to have been a two-volume forerunner (hence the title of his book) of a full flora, illustrated by Ferdinand Bauer (Mabberley 1985: 160–175), and no measurements are given, save that the leaves of *Thysanotus elatior* are one to one and a half feet (c. 45 cm) long, a rather unusual feature in eastern Australian species. Baker (1876) and Bentham (1878: 42) included *Thysanotus elatior* in synonymy under *T. tuberosus*. They did not provide reasons for this, apart from commenting that *Thysanotus elatior* represented a tall, strong, many-flowered form (Bentham 1878). This treatment was followed by Brittan (1981, 1987) and CHAH (2006). Brittan (1981, 1987) considered that the type of *Thysanotus elatior* was lost.

From examining *Thysanotus* collections made by Brown, we conclude below that a collection at BM (BM000990623, *Iter Australiense* 5680, p.p.) from the North Coast Islands α and $\alpha 1$ (present day Mallison Island and Everett Island, Northern Territory) made in March 1803, is the material that he used to describe *T. elatior*. This conclusion is based primarily on (1) the length of the leaves on the material, being over 30 cm long, (2) the history of annotations on the sheet, and to a lesser extent (3) that BM files it as the type of *T. elatior*. The citation by Brown (1810: 283) under the name *T. elatior* of unspecified material from the Port Jackson area is therefore interpreted as an error.

There are other well-known examples of such geographical slips made by Brown, as pointed out by Mabberley in Mabberley & Moore (2022: 98). Bearing in mind that, within less than five years, Brown dealt with around a thousand Australian species in 464 genera (187 new) for his book, while also preparing detailed worldwide monographs of both Proteaceae and Apocynaceae, working at colossal speed (by modern standards; see Mabberley 1985: 164 & *passim*) and, without assistance, handling the vast amount of material (usually with large numbers of duplicates) he and his team had collected in Australia - all in the face of cessation of government funding (he was to pay for the printing of his book himself), it is astonishing that he did not make more errors.

In short, we have found that Brown’s BM material of *Thysanotus elatior* (BM000990623 is conspecific with certain modern specimens collected from the Kimberley of northern Western Australia and the Top End of the Northern Territory. Collections from there have been variously identified as either *Thysanotus banksii* (Brittan 1981, 1987; Rye 1992) or *T. tuberosus* (Ewart & Davies 1917; Crawford 1982), but are not conspecific with collections of those, including the type of *T. banksii*, from eastern Australia. Therefore, we re-instate the name *Thysanotus elatior* for a species restricted to the Kimberley region of northern Western Australia and the Top End of the Northern Territory.

Thysanotus banksii is restricted to northern Queensland and southern parts of Papua New Guinea (reported from there as *T. tuberosus* by Jessop 1979), while *T. tuberosus* is found in Queensland, New South Wales, Victoria, and just extending into the far south-east of South Australia (see under ‘Notes’ below for distinctions between *T. elatior* and these species). In the monsoonal areas of northern Western Australia and the Northern Territory, there is a second species, *Thysanotus chinensis* Benth., which is widespread in northern Australia and southern New Guinea, extending north to the Philippines, Malaysia, Thailand, Vietnam and southern China (Jessop 1979; Brittan 1987).

In conclusion, original material of *Thysanotus elatior* survives at BM, and, as is argued below, it has not been typified adequately before, so this is done there. As we are reinstating *Thysanotus elatior*, we provide the first published full description, based on modern specimens.

Key to *Thysanotus* species in the Top End of the Northern Territory and the Kimberley region of Western Australia

- 1 Annual; roots fibrous; leaves flat to somewhat channelled; inflorescence unbranched; perianth segments 5.5–10 mm long excluding fringes *T. chinensis*
- 1. Perennial; roots tuberous; leaves distally terete; inflorescence branched; perianth segments (17–)20–27 mm long excluding fringes *T. elatior*

Thysanotus elatior R.Br., *Prodr.* 283 (1810).

Type citation: ‘(J.) v. v.’ [in error for ‘T.’]

Lectotype: ‘North Coast Islands α & $\alpha 1$ [y1]’ [Australia, Northern Territory, Islands of the Gulf of Carpentaria, Mallison Isl. & Everett Isl.], *Anon. s.n.* [R. Brown and/or P. Good/F. Bauer] in R. Brown s.n. [*Iter Australiense*

5680, *p.p.*] (BM barcode BM000990623, second plant from right [single inflorescence with attached leaves], **lectotype designated here** – see discussion under **Typification** below).

[*Thysanotus banksii* auctt. non R.Br.: Bentham (1878: 41, *p.p.*); Brittan (1981: 90, *p.p.*; 1987: 320, *p.p.*); Dunlop (1987); Brock (1988: 319); Lazarides *et al.* (1988: 30); Rye (1992: 998–999).]

[*Thysanotus tuberosus* auct. non R.Br.: Ewart & Davies (1917: 71); Crawford (1982: 42).

Illustrations: Brock (1988: 319, Pl.); Rye (1992: Fig. 299H), both as *Thysanotus banksii*.

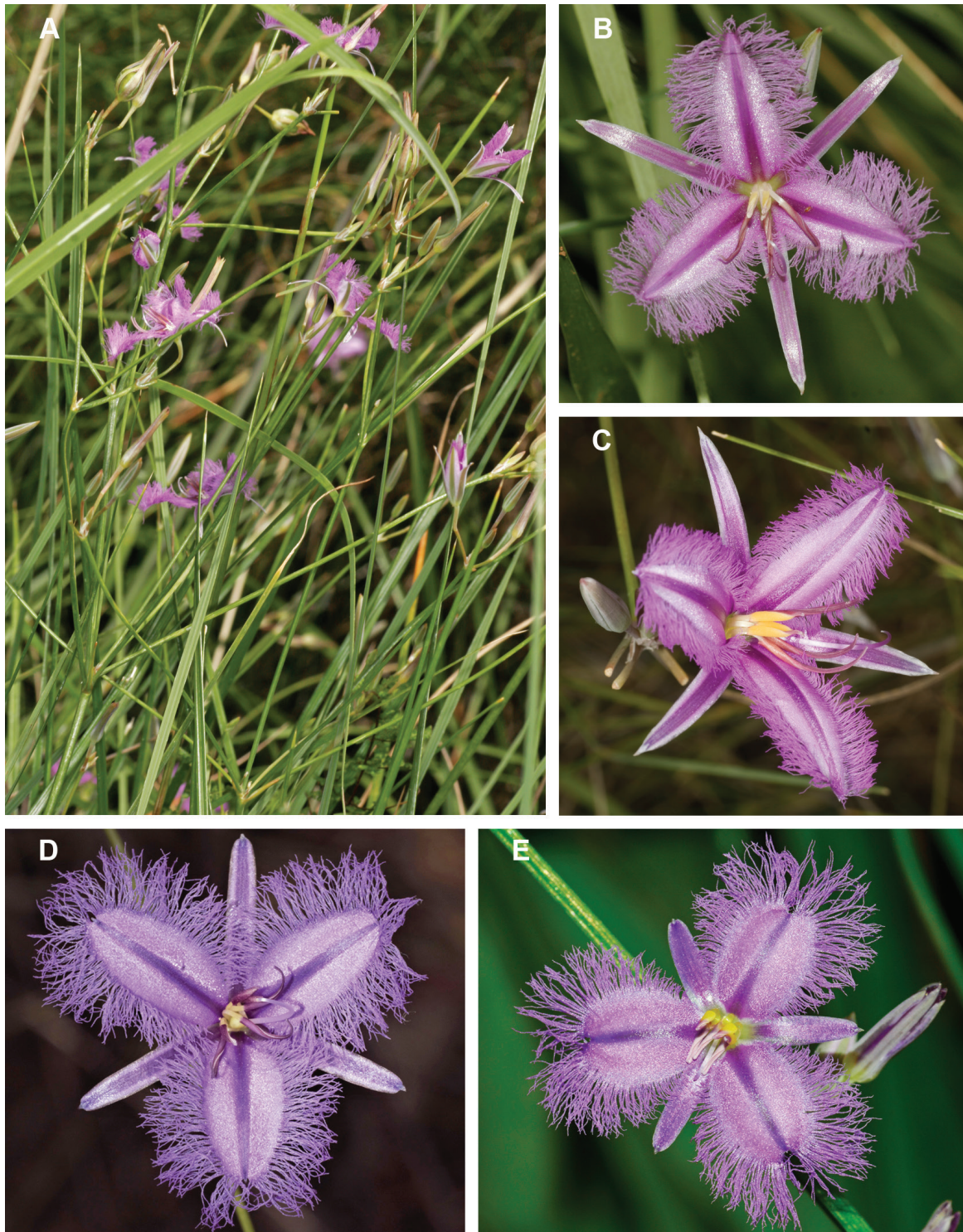


Fig. 1. A–C. Inflorescence and flowers of *Thysanotus elatior* from the north-west Kimberley, Western Australia (Voucher: R.L. Barrett RLB 4795, PERTH). D. *Thysanotus tuberosus* from Ku-Ring-Gai National Park, New South Wales. E. *Thysanotus banksii* from Yabi Mountain near Atherton, Queensland. Photos A–D by R.L. Barrett; E by Peter Horsfall.

Perennial geophytic herb. Rootstock small; roots tuberous; tubers cylindrical to ellipsoidal, (1.3–)3–5 cm long, 0.5–0.8 cm diameter, 2.5–3.5 cm from stock. Leaves annual, basal, 4–9(–15) of each individual plant, 35–55 cm long, 0.8–2.2 mm wide, flat adaxially, flat or slightly convex abaxially, longitudinally veined (1–)3–5 on both surfaces, glabrous; leaf sheath margins membranous, entire, 5–10 cm from the base; leaf apex obtuse. Inflorescence open paniculate, (35–)60–85 cm long; branched from (23–)44–63 cm to the base; branches 1 or 2(–5) per node, 8–21 cm long, ascending. Axes (stems and branches) terete or slightly flattened–terete in lower part, ridged with the ridges becoming more prominent distally. Umbels (3–)5–9(–13), terminal on branches and stems; outer bracts long- to short-deltoid, 3–10.5 mm long, *c.* 2 mm at base, purplish with a narrow whitish membranous margin; inner bracts short-deltoid, 1.5–5 mm long, 0.5–1.5 mm at base, purplish with a narrow whitish membranous margin. Flowers 1–3 (4), of different ages; umbels on old stems with 2–4(–9) pedicel remnants. Pedicels (0.6–)1.2–2.5 cm long at anthesis, articulate (3–)6–15 mm (one third to slightly more than halfway) from the base, erect to 90° in flower and fruit. Perianth (16–)20–25 mm long excluding fringes. Sepals lanceolate, 2.4–2.8 mm wide, pink on upper surface, light brown to brown on the under surface, 3- or 5-veined, margins pale, the apex obtuse, apiculate. Petals broadly ovate to elliptic, 18–20 mm wide including fringes, overall pink, with a darker purplish central strip on upper surface, the marginal fringe well-developed, 5.5–6.5 mm long, dense, of even length throughout except shorter at base of petal. Stamens 6, surrounding ovary, erect, the outer (antisepaline) and inner (antipetaline) whorls unequal in length; filaments 4–5 mm long; outer anthers upright, 5.5–6 mm long, yellow, occasionally with purple tips, the pores *c.* 0.8 mm long; inner anthers curving inward, 10–11 mm long, purple, the pores *c.* 1 mm long; Ovary spherical, *c.* 1.5 mm diameter, pale, with 2 ovules per locule; style terminal, 12–14 mm long, light purple; bent to one side, well-separated from the stamens and curving inwards, the stigma facing the anther apices. Capsule ±spherical or obovoid, 5–7 mm long, 4–6.5 mm wide, enclosed within persistent perianth segments adhering distally. Seeds, ±spherical 2–2.5 mm diam., black, with a brown, cap-like aril on top of navel. (Fig. 1)

Distribution: *Thysanotus elatior* is restricted to the Kimberley region of northern Western Australia and the Top End of the Northern Territory, including islands off the north coast (Fig. 2).

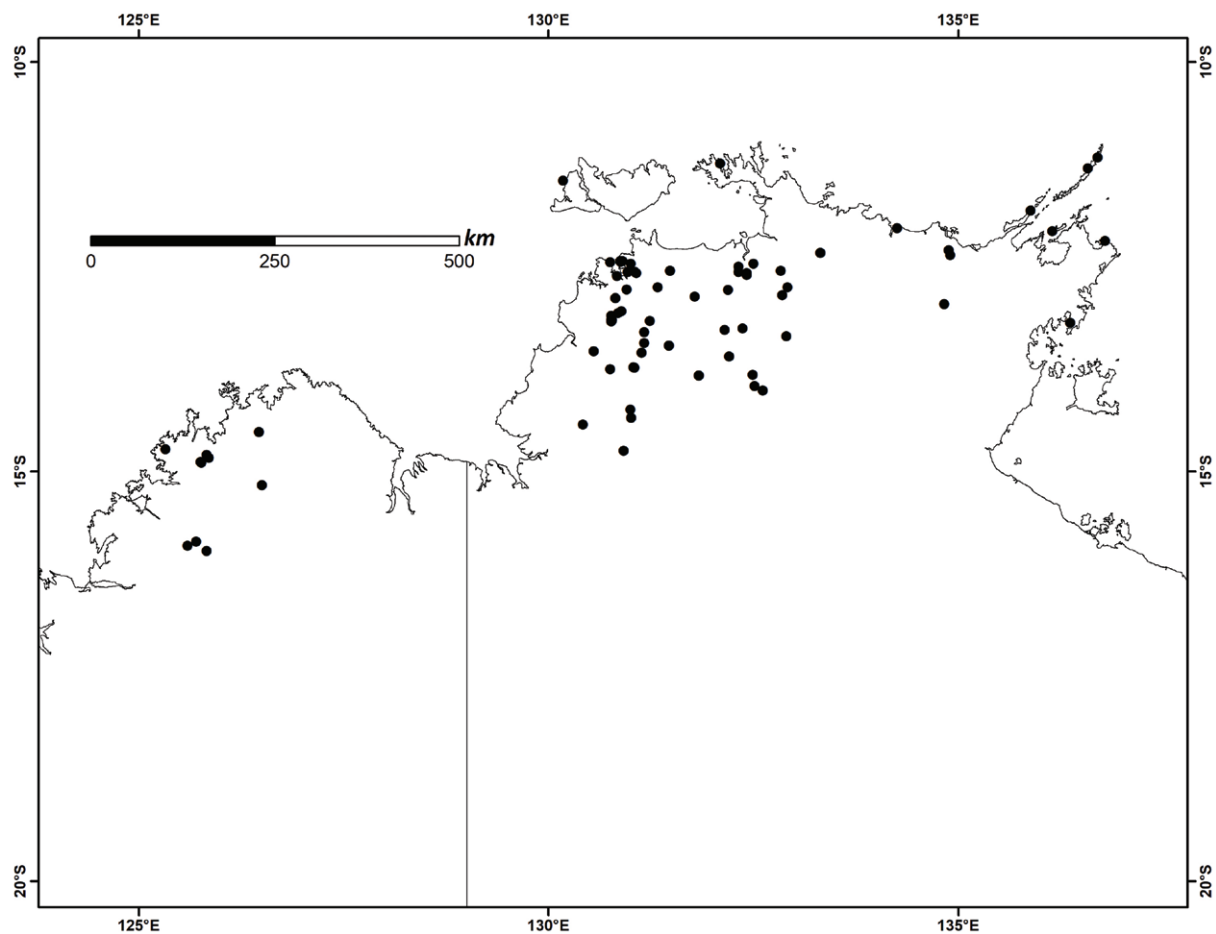


Fig. 2. Distribution of *Thysanotus elatior*.

Habitat: In Western Australia, the species is infrequently encountered but is recorded from grassland on sandstone slopes or on sandstone plateau tops, usually in sandy soil associated with wetlands with higher organic matter. It has also been found in woodland or open woodland over sandy loam near outcropping basalt, laterite or sandstone.

In the Northern Territory, the species has been recorded from various habitats including open woodland and tall open forest, often in seasonally inundated or moist areas and often on creek banks. The soils are usually skeletal and derived from lateritic substrates including sandstone, quartz and red earths.

Selected specimens examined: WESTERN AUSTRALIA: *c.* 2.5 km NW of the Mitchell Plateau Mining Camp, Apr 1977, *Eichler 22413* (PERTH); 2.9 km SE of Mitchell Plateau Mining Camp, N Kimberley, Apr 1977, *George 14502* (PERTH); NE of Mitchell Plateau (Amax) camp, towards Lawley River, Feb 1979, *Beard 8344* (PERTH); Track S of airfield, Mitchell Plateau, N Kimberley, Jan 1982, *Kenneally 7994* (PERTH); Sandstone plateau about 30 km E of Bigge Island, Mar 1994, *Mitchell 3438* (PERTH); 9.5 km SW of junction of Pitta Creek and Prince Regent River, W Kimberley, Feb 1999, *Barrett MDB 767* (PERTH); 8.5 km ENE of Mt Agnes, near headwaters on N side of Prince Regent River, Jan 2001, *Barrett & O'Connor RLB 1569* (PERTH); 4 km SE of falls on King Edward River, Theda Station, N Kimberley, Apr 2008, *Barrett MDB 2216* (DNA, PERTH). NORTHERN TERRITORY: N Coast of Arnhem Land, *s.dat.*, *Mckinlay s.n.* (MEL 2215876); Melville Island, Apr 1986, *Johnson 4120* (BRI); ‘Camp area’ near Darwin, Mar 1944, *Black 1014.001 (2)* (MEL); 8 miles [18.8 km] SE Tipperary Station, Mar 1964, *Lazarides 7012* (CANB); W Woodcutters Prospect, *c.* 60 miles [96.6 km] S Darwin, Apr 1967, *Ridley 42* (BRI); 20 miles [32.2 km] S Darwin, Apr 1971, *Stewart s.n.* (CANB 218806.1); CSIRO Wildlife, Berrimah, Mar 1972, *McKean B464* (CANB, DNA, K, NT); Djamulu, Apr 1972, *Reeve 132* (CANB); Djamulu, Apr 1972, *Reeve 139* (CANB); Wessel Islands, Oct 1972, *Latz 3527* (CANB), *c.* 17 miles [27.4 km] N of Mt Evelyn, Mar 1973, *Lazarides 7991* (CANB); 2 miles [3.3 km] from Middle Arm Jetty, Darwin, Apr 1974, *Parker 412* (CANB, DNA, NT); Kapalga, Mar 1977, *Collins BC327* (CANB, DNA); Nabarlek area, Apr 1979, *Rankin 2071* (CANB, DNA); 19 km from Mary River crossing on Arnhem Highway towards Jabiru, Apr 1980, *Telford 7501 & Wrigley* (CANB); Kakadu NP, 6 km from Koongarra Saddle along track to Jabiru, Apr 1980, *Telford 8093 & Wrigley* (CANB); Whitestone Creek, Woolner Track, May 1980, *Rankin 2378* (CANB, DNA); *c.* 55 km WNW of Jabiru, Mar 1981, *Craven & Whitbread 7818* (CANB); 15 km NE Finnis River crossing along Berry Springs – ‘Woolaning’ road, May 1983, *Briggs 801* (CANB, MEL); Tabletop Range, Litchfield Park, Tolmer Falls track, 3.8 km from turnoff, Apr 1987, *Purdie 3417* (CANB, DNA); Litchfield National Park, Tolmer Plateau, Apr 1991, *Dunlop & Cowie 8817* (CANB, DNA); Port Essington, Kennedy Bay, Apr 1993, *Cowie 3552* (DNA, MEL); Litchfield National Park, Lost City Road, Mar 1994, *Egan 3357* (BRI).

Phenology: Flowering mainly from January to early May with mature fruits collected from February to May. However, both flowers and fruits have occasionally been recorded in July, August and October.

Conservation status: *Thysanotus elatior* is recorded as an uncommon species in Western Australia; however, as with most species in the genus, plants are conspicuous only when in flower. Recorded from the Prince Regent National Park, Mitchell River National Park, Laterite Conservation Park, Lawley River National Park and Drysdale River National Park (R.L. & M.D. Barrett, pers. obs.).

It appears to be more commonly distributed in the Northern Territory; however, this may reflect more intensive plant-collecting due to better accessibility there. It has been recorded from Charles Darwin National Park, Kakadu National Park, Litchfield National Park and Nitmiluk National Park. The species is widespread and not known to be at risk. Therefore, it is assessed as Least Concern using the IUCN (2019) criteria.

Typification: There is some confusion surrounding the typification of both *Thysanotus tuberosus* and *T. elatior*. In large part, this stems from the way Brittan’s paper is formatted. The text of the citation by Brittan (1981: 170) is as follows [with equivalent formatting of indents]:

“44. *T. tuberosus* R.Br., Prod. 282 (1810); Kunth, Enum. iv: 613 (1843); Baker, J. Linn. Soc. Bot. xv: 335 (1876); Benth., Fl. Aust. vii: 41 (1878) - pro parte, excluding specimens of *T. banksii*; F. Muell., Fragm. vii: 69 (1870); Brass, J. Arnold Arbor. Haw. Univ. 19: 190 (1938); Payson, Nova Guinea n.s. viii: 387 (1957); Willis, Handbook to Plants in Victoria i: 307 (1962); Burbidge & Gray, Flora of the A.C.T. 102 (1970); Beadle *et al.*, Flora of the Sydney Region 532 (1972); Brittan in Jessop (Ed.) Black, Flora of South Australia 3rd edn i: 359 (1978).

Chlamysporum tuberosum (R.Br.) Kuntze, Rev. Gen. Pl. 708 (1891).

Thysanotus tuberosus var. *parviflora* Benth., Fl. Aust. vii: 42 (1878).

T. elatior R.Br., Prod. 283 (1810) – excluding specimens of Brown from northern Queensland and the Gulf of Carpentaria, identified as *T. elatior* probably by Bennett.¹

Typification: It is proposed to designate the sheet of Robert Brown's collection from Port Jackson in the British Museum (Natural History) as the lectotype.

Lectotypus: *R. Brown (Bennett No. 5679), Port Jackson, s.d. (BM)*”.

In order of appearance, and the extent of the indents, it appears at first that Brittan is designating a lectotype for *Thysanotus elatior*. However, three independent names are listed, but only one type is indicated. Examination of material filed as *Iter Australiense* 5679 at BM (BM 000939304; <https://data.nhm.ac.uk/object/8822c434-3f66-4157-9bb2-89d9c503c861>) and K (<http://specimens.kew.org/herbarium/K000794764>) shows that both were annotated with the epithet ‘*tuberosus*’ by Robert Brown, Jonas Dryander and John Bennett. It is perhaps best interpreted, then, that Brittan's typification statement, despite its placing in his text (and therefore strict adherence to the Code, whatever may have been his intention, cf. Mabberley & Moore 2022: 184) is applicable to the only name accepted by Brittan, namely *Thysanotus tuberosus*. We note that Brittan did not annotate the BM sheets in any way.

While not common, it was the practice of some authors of Brittan's time to consider only the type of the accepted name relevant in a revision (e.g. Barlow 1966; Ali 1969; Blaxell 1972), and therefore not citing types of synonyms nor dealing with their typification. Examination of the preceding species, *Thysanotus triandrus* (Labill.) R.Br., shows that this was Brittan's practice in his paper. This conclusion is also supported by his later citation of germane lectotypes (Brittan 1987: 319).

Brittan's (1981: 172) discussion of the type of *Thysanotus elatior* is as follows:

“The other problem within *T. tuberosus* is the typification of *T. elatior*. This species was seen in the living state by Brown, the locality in the ‘*Prodromus*’ was indicated by the letter ‘J’, and in Brown's manuscripts preserved in the Library, Botany Department, British Museum (Natural History), he records ‘an hujus varietas Th. in pascuis prope fluvium Hawkesbury lectus . . .’. There is no specimen extant from the Hawkesbury River, either as a Brown-annotated or as a Bennett-distributed specimen. All Robert Brown specimens at present labelled as *T. elatior* are from the north of Queensland or else from islands in the Gulf of Carpentaria. It is therefore thought that the original type of *T. elatior* is no longer extant and that the present specimens were incorrectly identified, possibly by Bennett prior to distribution by him of Brown's specimens.

“The species was reduced to synonymy by Baker (1876, p. 335) in the following terms ‘*T. elatior* R. Br. *est forma elata multiflora*’, and also by Bentham (1878, p. 42) in the following way – ‘*T. elatior* R. Br. as generally understood and as probably meant by Brown when indicating Port Jackson as the station, is a tall, strong, many-flowered form, not uncommon in N.S.W. and Queensland’. Bentham then refers to the specimens in Herb. Br. and labelled as *T. elatior*, as having been collected in the Gulf of Carpentaria region and as having few-flowered umbels. It would seem then that the type of *T. elatior* was not available to Bentham when he compiled ‘*Flora Australiensis*, vol vii’. It is the author's opinion, based on examination of the specimens of *T. tuberosus*, that the variation found in size of plant and number of flowers per umbel is so continuous that the setting up of an infraspecific taxon to correspond with Brown's concept of *T. elatior* is not possible”.

In short, Brittan does not typify *Thysanotus elatior*. Critical to resolve the issue is the interpretation and application of the Brown manuscripts quoted by Brittan. His text is unclear as to which Brown manuscripts he associated with particular herbarium specimens. To this end, JW re-examined the relevant materials at BM, namely herbarium specimens and associated collection slips in the Museum archives, Robert Brown's original manuscript for the *Prodromus*, and John Bennett's Register of *Iter Australiense* numbers given to Brown's collections after his death.

Examination of these materials, with the above nomenclatural issues in mind, explains the origin and interpretation of some statements made by Brittan (1981), quoted above.

1. It becomes apparent that a single sheet, *R. Brown s.n. [Iter Australiense 5680 – previously erroneously transcribed in the BM database as 5689]* (BM000990623) should be considered as original material of *Thysanotus elatior*. This gathering was made on islands in the Gulf of Carpentaria, now part of the Northern

¹ This is the material listed by Mabberley & Moore (2022: 184): ‘T’ material (BM) is ‘*Thysanthus* [sic] A North Coast Island α [Mallison Island], ‘North Coast Island y1 [Everett Is]’ and ‘*Fimbriaria* Is- land α1 N Coast March 4 desc 5 - 1803 rarus in Insula α March 1 [verso] *Thysanotus elatior* prodr. 283’ (BM000990623) Listed with a brief description in Brown's slip B.65 66/260v numbered ‘4’.

Territory. The presence of two collection slips indicate that the sheet is probably mixed. According to Vallance *et al.* (2001: 379–382), Brown collected on Mallison Island on 1 March 1803 (his two ‘new plants’ not including any *Thysanotus* species), but he did not go to Everett Island on 4 March as he felt unwell. This means that the other gathering on the same sheet was probably made by his horticultural assistant, Peter Good, though the artist, Ferdinand Bauer, also collected some plants that day (Vallance *et al.* 2001: 381; George & Moore 2022: 123); though, again, Brown noted as ‘new to us’ only two species of grass. There is insufficient detail to know which parts mixed on the sheet were collected on which island, or if all material came from solely one island. On the verso of the label underneath the blue *Iter Australiense* label is written in Brown’s hand ‘*Thysanotus elatior* prodr. 283’. The verso of this label was not imaged when this specimen was digitised in 2010, due to imaging protocols in place at the time, so this critical information was absent from online data sources (Fig. 3).



Fig. 3. Lectotype sheet of *Thysanotus elatior* R.Br. in the Natural History Museum London (BM000990623); labels showing ‘*Thysanotus elatior* prodr. 283’ in Brown’s hand on the verso of the label beneath the blue *Iter Australiense* label. The second piece from the right (an inflorescence with four attached leaves) is designated as the lectotype. Image by Jacek Wajer with permission of the Trustees of the Natural History Museum, London.

2. Brown's Latin description of *Thysanotus elatior* in the *Prodromus* is almost the same as that on the slip B. 65 66/260v (Fig. 4).

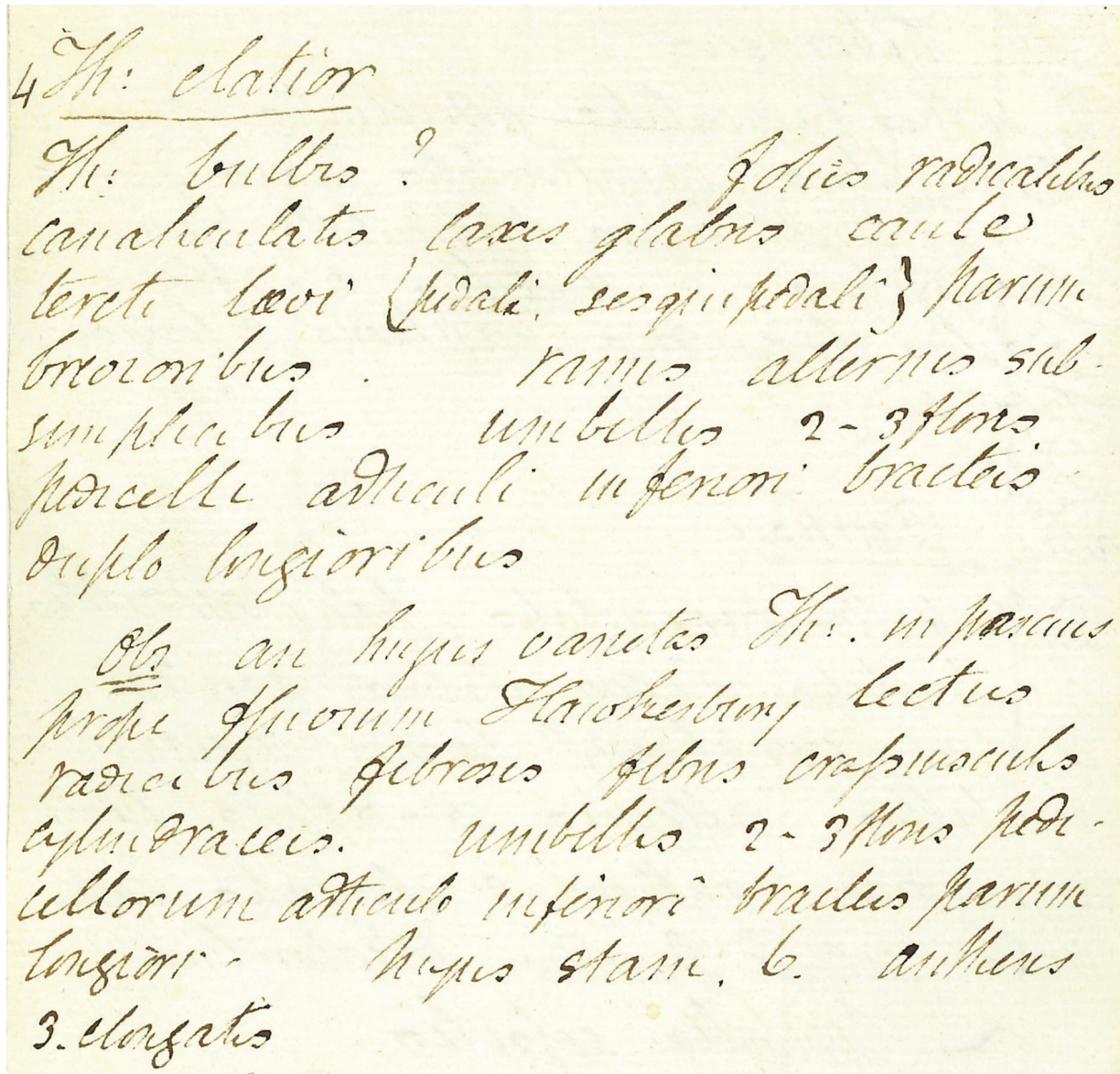


Fig. 4. Robert Brown's descriptive slip B. 65 66/260v from the Natural History Museum London (BM) archives. Image by Jacek Wajer with permission of the Trustees of the Natural History Museum, London.

3. On the same slip, Brown wrote that his *Thysanotus elatior* is probably a variety of the species of *Thysanotus* from the pastures near the Hawkesbury River (this fits Brown's observations recorded above), by which species he probably meant *T. tuberosus*, which he collected near Sydney. We can now only speculate that Brittan interpreted this as *Thysanotus elatior* being native to NSW, fitting Brown's mistaken 'J' in the protologue.
4. Bennett's list of Brown's *Iter Australiense* specimens supports this, as, under no. 5680, Bennett listed *T. elatior*, and, following Brown, added that this was likely a variety of *T. tuberosus* (Fig. 5).

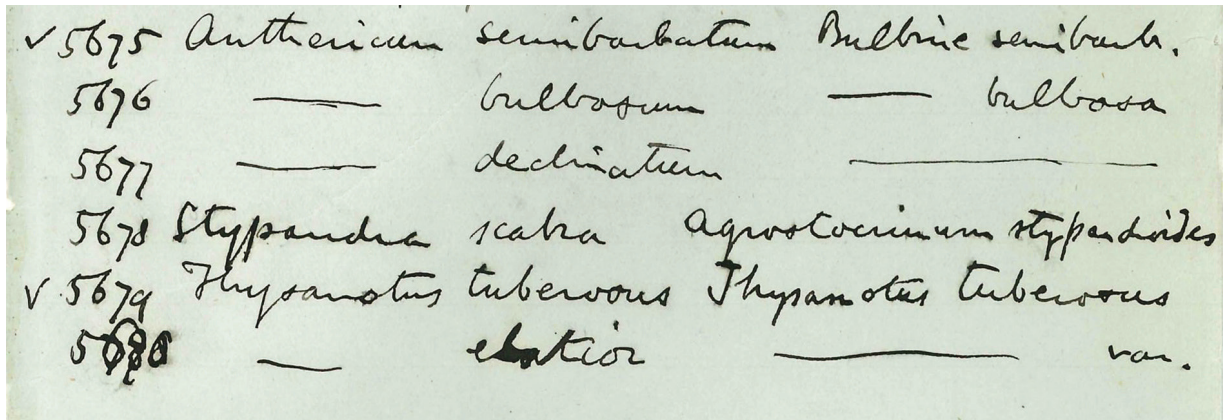


Fig. 5. Bennett's register of Brown's *Iter Australiense* specimens from the Natural History Museum London (BM) archives. Image by Jacek Wajer with permission of the Trustees of the Natural History Museum, London.

5. BM has two different gatherings mixed under *Iter Australiense* 5680, a situation that is not uncommon, as Bennett allocated numbers according to species he recognised, not giving them to individual gatherings (Mabberley in Mabberley & Moore 2022: 99). So, apart from BM000990623, which should be regarded as original material for *Thysanotus elatior*, BM000939318 is also assigned to *Iter Australiense* 5680, but this specimen is original material for *T. elongatus* R.Br., a name now considered a synonym of the Western Australian species *Thysanotus dichotomus* (Labill.) R.Br.

It is therefore apparent that Brown (1810: 283) wrote 'J' in the protologue for *Thysanotus elatior* in error (he should have had 'T') and BM000990623 (collected in the present-day Northern Territory) represents the taxon to which he applied the name *T. elatior*, Brown by then correctly considering it specifically distinct from the Hawkesbury species.

A possible syntype is held at P, namely sheet P02160140 with one specimen with leaves and an inflorescence. The label has '*Thysanotus elatior* Prodr. 283 Port Jackson' in the hand of Robert Brown, and 'Herbarium Richard' and 'Communicavit R Brown' in another hand typical of the herbarium of Louis Claude Marie Richard (1754–1821) whence this sheet came to P. On the face of it, this is the only authentic material including the 'J' of the protologue and should be a serious candidate for lectotypification. However, this is not a field label, but one added to the specimen once Brown's *Prodromus* was finished (Mabberley in Mabberley & Moore 2022: 98): such labels are found on almost all material of species described in the book. Brown personally presented material to Richard in October 1814 and August 1816 (Mabberley 1985: 198; Mabberley in Mabberley & Moore 2002: 96–97), making such specimens more likely to reflect his own views, than any distributed after his death. However, the shape of the inflorescence, size of the flowers, and an apparent glaucous bloom all point to this being a specimen of *Thysanotus tuberosus*, fitting the locality 'Port Jackson'. Making this the lectotype would therefore be following the conclusions of Brittan (1981). It is unclear why Brown used the name '*Thysanotus elatior*' here, given that he collected and named both species, unless he was genuinely confused, copying on to the label his mistaken locality citation for *T. elatior* in his *Prodromus*, or the confusion with other (unmounted) material could possibly have been made by Richard or whoever mounted it. Therefore, to remove all uncertainty, we have designated a single specimen on the BM sheet from north-western Australia as lectotype. As the origin of each individual piece on the sheet cannot be ascertained, we limit the lectotype to the single specimen (second from the right) with a single inflorescence and four attached leaves as the lectotype.

Notes: *Thysanotus elatior* is one of an increasing number of geophytic monocots now known to be restricted to north-western Australia (e.g. Rye 1992; Barrett & Barrett 2015, 2022, Barrett *et al.* 2015, 2021, 2022; Barrett 2018; Jones 2021). It has the largest seeds known in the genus. It has not only been confused with *Thysanotus tuberosus* (Ewart & Davies 1917), but also referred to *T. banksii* by some authors (Bentham 1878; Brittan 1981, 1987; Dunlop 1987; Lazarides *et al.* 1988; Rye 1992). It differs from *Thysanotus banksii* in the much longer perianth (20–27 mm in *T. elatior*, 8–10 mm in *T. banksii*) and much longer outer and inner anthers (5.5–6 mm and 10–11 mm in *T. elatior*, 2–2.8 mm and 3–4 mm in *T. banksii*). It differs from *Thysanotus tuberosus* in the longer perianth (12–15 mm in *T. tuberosus*), the longer filaments (4–5 mm long in *T. elatior*, 2–3 mm long in *T. tuberosus*), bright yellow outer anthers with white tips (adaxial light purplish, abaxial yellowish brown in *T. tuberosus*), and longer style (12–14 mm in *T. elatior*, 6–11 mm in *T. tuberosus*) (Fig. 1).

Our conclusions contribute to an increasing understanding of the taxonomy and relationships of Australian *Thysanotus* species (Gunn *et al.* 2020; Macfarlane *et al.* 2020; Wang & Silcock 2022), but it is apparent that further research is still required in several other species groups in this genus.

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