

NEW SPECIES OF *HIBBERTIA* Andr. (DILLENiaceae)
IN NEW SOUTH WALES, AUSTRALIA.

by

BARRY J. CONN*

ABSTRACT

Conn, Barry J. New species of *Hibbertia* (Dilleniaceae) in New South Wales, Australia. *Muelleria* 7(2): 289–294 (1990).—*Hibbertia acuminata*, *H. covenyana*, *H. circumdans*, *H. kaputarensis*, *H. marginata* and *H. villosa* are described.

INTRODUCTION

The genus *Hibbertia* Andr. is known to contain many undescribed taxa. This paper validates six new names so that they may be included in a treatment of the genus for the forthcoming 'Flora of New South Wales'. The elucidation of other undescribed taxa of this genus, within New South Wales, must await revisionary studies.

The distribution summary and the selected citation of specimens examined are grouped according to Anderson (1961), as modified by Jacobs & Pickard (1981). All NSW Herbarium specimen numbers cited in this paper are treated as sheet numbers.

1. *Hibbertia villosa* Conn, *sp. nov.*

H. sp. A, Jacobs & Pickard, Plants of New South Wales—A census of the Cycads, Conifers and Angiosperms 110 (1981).

Frutices erecti, 0.2–1.3 m alti. *Ramuli* dense ad moderate villosi; pili albi patentes ad antrorsi, 1–3 mm longi. *Folia* dense ad moderate villosa, sessilia; lamina anguste obovata usque spatulata, 7–27 mm longa, 3–10 mm lata, plana, basi attenuata, margine integro vel dentato, apice plus minusve obtuso et cum mucrone circa 0.2 mm longo. *Flores* axillares, sessiles. *Sepala* anguste ovata, 6.3–9 mm longa, apice acuto, sepalis interioribus glabris, sepalis aliis vestitis distaliter. *Petala* spatulata, 10–23 mm longa, 7–10 mm lata. *Stamina* in fasciculis 3, circum carpella 15–25, 3.8–4 mm longa. *Carpella* plerumque 3, glabra. *Fructus* haud visus.

TYPUS: *Lander 526*, 3.x.1974, c. 1.5 km S of 'The Haystack' on Wade's Road, Gibraltar Range National Park, Northern Tablelands, New South Wales (HOLOTYPUS: NSW; ISOTYPUS: MEL).

Erect shrub, slender to robust, 0.2–1.3 m high; branches and leaves densely to moderately villous; hairs whitish, spreading to antrorse, 1–3 mm long. *Leaves* sessile, with lamina narrowly obovate to spatulate, 7–27 mm long, 3–10 mm wide, flat; base tapering; margin entire or occasionally toothed; apex obtuse with a small blunt mucro c. 0.2 mm long. *Flowers* axillary, sessile. *Bracts* c. 1.5 mm long, densely hairy (as for leaves). *Sepals* narrowly ovate, 6.3–9 mm long; apex acute; 2 'inner' sepals glabrous; remaining sepals with outer surface glabrous basally and hairy on distal half, inner surface glabrous basally and sparsely hairy distally. *Petals* spatulate, 10–23 mm long, 7–10 mm wide. *Stamens* usually arranged in 3 groups around carpels, 15–25, 3.8–4 mm long. *Carpels* usually 3, glabrous. *Fruits* not seen.

HABITAT:

Occurs in open forests dominated by *Eucalyptus obliqua*, *E. cameronii*, *E. andrewsii* (Waterhouse & Gee s.n.) and *E. resinifera* (Williams 601). Associated species include *Melichrus procumbens*, *Petrophile canescens*, *Restio fimbriatus* and *Lepyrodia scariosa* (McGillivray 2417). It grows in shallow skeletal sandy soils overlying granite.

* National Herbarium of New South Wales, Mrs Maquarie's Road, Sydney, New South Wales, Australia 2000.

FLOWERING PERIOD:

August to November.

ETYMOLOGY:

The specific epithet refers to the indumentum of the branches and leaves.

CONSERVATION STATUS:

Risk Code = 2R (Briggs & Leigh 1988).

ADDITIONAL SPECIMENS EXAMINED:

New South Wales—Northern Tablelands: *Floyd s.n.*, 31.x.1956, c. 20 miles E of Glen Innes, along the Gwyder Highway, Gibraltar Range State Forest (NSW 85998); *Floyd s.n.*, 1.xi.1956, along Kempsey-Armidale road, Styx River State Forest (NSW 85997); *McGillivray 2417*, 20.ix.1966, 39.5 km ENE of Glen Innes, on the Gwydir Highway (NSW); *Williams 601 & Winterhalder*, 5.x.1958, 40 miles E of Glen Innes, Gibraltar Range State Forest (NSW 85996); *Burgess s.n.*, 26.ix.1960, 36 miles ENE of Glen Innes (NSW 85994); *Burgess s.n.*, 26.ix.1960, Boundary Creek, 35 miles E of Glen Innes (NSW 85995). North Coast: *Waterhouse & Gee s.n.*, 31.viii.1979, just E of 1st crossing of Forbes River, Hastings Forest Highway, Mt Boss State Forest (NSW).

NOTES:

This species has close affinities with *H. diffusa* R.Br. ex DC. However, *H. diffusa* has glabrous sepals and the branches and leaves are shortly hairy, often appearing glabrous. Furthermore, the leaves are often toothed or slightly lobed in *H. diffusa*.

The 'inner' sepals refer to those that are marginally overlapped by the adjacent sepals in the quincuncial arrangement.

2. *Hibbertia acuminata* Conn, *sp. nov.*

Frutices erecti vel procumbentes, 0.3–1 m alti. *Ramuli et folia* juvenilia pilis albidis moderate ad dense obiecta; pili patentés ad antrorsi, 0.3–1 mm longi. *Folia* sessilia; lamina anguste obovata, 10–35 mm longa, 2–10 mm lata, plana, basi attenuata, margine integro vel interdum distale dentato, apice plus minusve obtuso et cum mucrone circa 0.5 mm longo. *Flores* axillares, sessiles. *Sepala* ovata, 7–10 mm longa, margine incurvato, apice acuminato et ciliato, pagina externa moderate ad dense pilosa, interiores glabris. *Petala* spatulata, circa 12 mm longa, circa 10 mm lata. *Stamina* in fasciculis 3, circum carpella, circa 40–45, 2–3 mm longa. *Carpella* 3, glabra.

TYPUS: *Blakely & Shiress s.n.*, -vii.1922, Ramornie, 3 mile NW of Copmanhust, North Coast, New South Wales (HOLOTYPUS: NSW 86434; ISOTYPI: NSW 86440 & NSW 219491).

Erect shrub or sometimes weak and procumbent, 0.3–1 m high; branches and young leaves moderately to densely hairy; hairs whitish, spreading to antrorse, 0.3–1 mm long. *Leaves* sessile, with lamina narrowly obovate, 10–35 mm long, 2–10 mm wide, flat; base tapering; margin entire or occasionally toothed distally; apex obtuse with a small blunt mucro c. 0.5 mm long. *Flowers* axillary, sessile. *Bracts* 3–4 mm long, moderately hairy. *Sepals* ovate, 7–10 mm long; margin incurved distally, such that apex appearing acuminate and ciliate; outer surface densely hairy; inner surface glabrous. *Petals* spatulate, c. 12 mm long, c. 10 mm wide. *Stamens* usually arranged in 3 groups around carpels, c. 40–45, 2–3 mm long. *Carpels* 3, glabrous. *Seeds* subglobular, mid-brown, smooth, 2–2.5 mm diameter.

HABITAT:

Occasional shrub in coastal heathlands or sclerophyll forests of the ranges. Associated species include *Banksia serratifolia*, *Melaleuca nodosa*, *Persoonia cornifolia*, *P. virgata*, *Leucopogon virgatus* and *Styphelia triflora* (*McGillivray 2304*). Occurs in sandy to rocky soil overlying sandstone.

FLOWERING PERIOD:

July to November.

ETYMOLOGY:

The specific epithet refers to shape of the sepals.

CONSERVATION STATUS:

The conservation status of this species is not known.

ADDITIONAL SPECIMENS EXAMINED:

New South Wales—North Coast: *Blakely & Shiress s.n.*, -vii.1922, Mt Mullengen, 4 mile E of Ramornie (NSW 86435); *Boorman s.n.*, -ix.1909, Byron Bay (NSW 86412); *Boorman s.n.*, -x.1909, Coledale Creek, Coledale Road (NSW 86436); *Boorman s.n.*, -v.1916, Cangai, Upper Clarence River (NSW 86439); *Boorman s.n.*, -viii.1916, Mt Warning, Tweed River (NSW 86415); *Constable s.n.*, 18.x.1961, Corindi-Red Rock Road, 20 miles NNE of Coffs Harbour (NSW 66303); *Dodkin 74*, 24.ix.1975, Cabbage Tree Creek, Mt Neville, NW of Whiporie (NSW); *McGillivray 2304*, 5.vii.1966, 0.75 miles from coast and c. 5 miles directly S of Woolli (NSW); *Rupp s.n.*, -ix.1909, Copmanhust (NSW 86402).

NOTES:

This species has close affinities with *H. obtusifolia* DC. It differs from that species by having the margin of the sepals incurved such that the sepals appear acuminate (margin of sepals not incurved in *H. obtusifolia*, so apex obtuse to acute).

A smaller-leafed variant (c. 10 mm long), represented by *Boorman s.n.*, -xi.1909 (NSW 86412), *Boorman s.n.*, -v.1916 (NSW 86439) and *Boorman s.n.*, -viii.1916 (NSW 86415) may represent a distinct taxon.

3. *Hibbertia kaputarensis* Conn, *sp. nov.*

Fruites erecti, 0.4–0.6 m alti. *Ramuli et folia* pilis albidis dense obiecta; pili plus minusve antrorsi, 0.2–1 mm longi. *Folia* sessilia; lamina anguste obovata, 10–40 mm longa, 2–7 mm lata, plana, basi attenuata, margine integro, apice rotundato vel emarginato, interdum parum apiculato. *Flores* axillares, sessiles. *Sepala* ovata, 6.5–10 mm longa, apice obtuso, pagina externa dense tomentosa, pagina interna glabro vel ad apicem pilosa. *Petala* spatulata, 9–12 mm longa, 9–13 mm lata. *Stamina* in fasciculis 3, circum carpella, circa 100, 4.5–6 mm longa. *Carpella* 3, glabra. *Semina* subglobulares, 2–2.5 mm diametro.

TYPUS: *Coveny 8892 & Roy*, 21.xi.1976, Entrance to Mt Kaputar National Park on Dawsons Spring Road, 28 km ENE of Narrabri, Northern Tablelands, New South Wales (HOLOTYPUS: NSW).

Erect shrub 0.4–0.6 high, branching from near base; branches and leaves densely hairy; hairs whitish, antrorse, 0.2–1 mm long. *Leaves* sessile, with lamina narrowly obovate, 10–40 mm long, 2–7 mm wide, flat; base tapering; margin entire; apex rounded or emarginate, sometimes slightly apiculate. *Flowers* axillary, sessile. *Bracts* c. 6.5 mm long, densely hairy. *Sepals* ovate, 6.5–10 mm long; apex obtuse; outer surface densely rusty- or white-tomentose; inner surface glabrous, except often hairy near apex. *Petals* spatulate, 9–12 mm long, 9–13 mm wide. *Stamens* usually arranged in 3 groups around carpels, c. 100, 4.5–6 mm long. *Carpels* 3, glabrous. *Seeds* subglobular, reddish mid-brown, smooth, 2–2.5 mm diameter.

HABITAT:

A common species in heathlands and open forests in the Mt Kaputar National Park and adjacent hills. It occurs in shallow soils in rocky areas.

FLOWERING PERIOD:

November to December.

ETYMOLOGY:

The specific epithet refers to the occurrence of this species in the Mt Kaputar National Park and adjacent hills.

CONSERVATION STATUS:

Risk Code = 2RC (Briggs & Leigh 1988).

ADDITIONAL SPECIMENS EXAMINED:

New South Wales—North Western Slopes: *Boorman s.n.*, -vi.1904, Howell (NSW 86179); *Rodd 4238*, 2.xii.1984, Waa Gorge, Nandewar Range (NSW). Northern Tablelands: *Constable 62*, 14.xii.1961, Coryah Gap, Nandewar Range, c. 20 miles ENE of Narrabri (NSW 66295); *Coveny 8873 & Roy*, 21.xi.1976, 26 km ENE of Narrabri towards Dawsons Springs (NSW); *Hoogland 12302*, 3.xi.1972, along Mt Kaputar road (NSW).

NOTES:

This species is closely related to *H. obtusifolia*. This new species is characterized by the densely rusty-tomentose to whitish-tomentose calyx (cf. *H. obtusifolia* that has a sparsely hairy or glabrous calyx, often with margin ciliate).

4. *Hibbertia covenyana* Conn, *sp. nov.*

Frutices erecti vel semiprostrati, usque 0.5 m alti. *Ramuli* et folia cum pilis stellatis simplicibusque albidis dense oblecta; pili circa 0.1 mm longi vel 0.6–1 mm longi. *Folia* sessilia; lamina oblonga, 4–10 mm longa, 1–2 mm lata, basi plus minusve acuta, margine integro et recurvato, apice obtuso. *Flores* axillares, pedicellati, pedicello 10–15 mm longo. *Sepala* ovata, 7.5–10 mm longa, apice acuto, extra dense tomentoso, sepalis interioribus ex parte glabris. *Petala* spatulata, 10–14 mm longa, 10–13 mm lata. *Stamina* unilateralia, 7–10, circa 4 mm longa. *Carpella* 2, tomentosa, cum pilis simplicibus albidis. *Fructus* haud visus.

TYPUS: *Coveny 9042 & Roy*, 24.xi.1976, 82 km SSW of Narrabri by road towards Coonabarabran, North Western Slopes, New South Wales (HOLOTYPUS: NSW: ISOTYPUS *n.v.*: A, CANB, K, L, LE, MO, PRE, RSA).

Erect shrub branching from near base or semiprostrate, to 0.5 m high; branches and leaves densely hairy; hairs whitish, short hairs stellate (c. 0.1 mm long) and long hairs simple (0.6–1 mm long). *Leaves* sessile, with lamina oblong, 4–10 mm long, 1–2 mm wide; base acute; margin entire, recurved such that most of abaxial surface not visible; apex obtuse. *Flowers* axillary, pedicellate; pedicel 10–15 mm long (as short as 5 mm long in bud). *Bracts* 3.5–6.5 mm long, densely hairy (as for leaves). *Sepals* ovate, 7.5–10 mm long; apex acute; outer surface densely hairy, with stellate hairs persistent and simple hairs soon deciduous; 'outer' 2 sepals with inner surface moderately to densely covered with stellate hairs; remaining 3 sepals with inner surface glabrous, except for a few stellate hairs near apex. *Petals* spatulate, 10–14 mm long, 10–13 mm wide. *Stamens* arranged on one side of carpels, 7–10, c. 4 mm long. *Carpels* 2, densely hairy with white simple hairs. *Fruits* not seen.

HABITAT:

This species occurs in *Eucalyptus dealbata* dominated woodlands, associated with *Triodia* sp. and *Xanthorrhoea australis* (*Rodd s.n.*, 29.ix.1968). It occurs in trachyte-derived soils near the summit of Mt Nombi (altitude c. 700 m) (*Rodd s.n.*) or common in light brown sand with lateritic gravel (*Coveny 9042*).

FLOWERING PERIOD:

September to November.

ETYMOLOGY:

The specific epithet honours Robert Coveny who has made extensive collections throughout Australia, in particular New South Wales, and who collected the type specimen.

CONSERVATION STATUS:

The conservation status of this species is not known.

ADDITIONAL SPECIMENS EXAMINED:

New South Wales—North Western Slopes: *Mackay 29*, 19.xi.1981, Denobollie State Forest (NSW); *Rodd s.n.*, 29.ix.1968, Mt Nombi, 17 miles SW of Mullalloy (NSW—2 sheets).

NOTES:

This species shares many features with *H. sericea* (R.Br. ex DC.) Benth. (*viz.* both have stellate indumentum, more or less oblong leaves and a few stamens arranged to one side of the 2 carpels), however the flowers of this species are pedicellate (*cf.* sessile in *H. sericea*).

The 'outer' sepals refers to the 2 sepals that marginally overlap, at least in part, the other 3 sepals.

5. *Hibbertia circumdans* Conn, *sp. nov.*

Frutices erecti. 0.2–0.6 (–1.3) m alti. *Ramuli* pilis albidis dense obtekti; pili crispi ad stricti plus minusve antrorsi, 0.1–1 mm longi. *Folia* sessilia; lamina spatulata, 5–12 mm longa, 1–5 mm lata, plicata, margine lobato, apice truncato. *Flores* terminales, sessiles. *Sepala* ovata, 5–6.5 mm longa, glabra, margine ciliato, apice rotundato. *Petala* spatulata, 5.5–11 mm longa, 6–11 mm lata. *Stamina* circum carpella, 15–30, 2–2.5 mm longa. *Carpella* 3, glabra. *Fructus* haud visus.

TYPUS: *Hoogland 12320*, 7.xi.1972, Glen Davis Road, 3 miles from Capertee, Central Tablelands, New South Wales (HOLOTYPUS: NSW: ISOTYPI *n.v.*, CANB, HBG, K, L, UC).

Erect shrub 0.2–0.6(–1.3) m high; branches moderately hairy; hairs whitish, curled to straight, antrorse, 0.1–1 mm long. *Leaves* sessile, moderately to sparsely hairy, with lamina spatulate, 5–12 mm long, 1–5 mm wide, folded longitudinally, recurved; base abruptly long tapering; margin usually with 2, prominent lobes distally; apex truncate. *Flowers* terminal on short branchlets, sessile. *Bracts* c. 2 mm long. *Sepals* ovate, 5–6.5 mm long, glabrous except for ciliate margin; apex rounded. *Petals* spatulate, 5.5–11 mm long, 6–11 mm wide. *Stamens* arranged around carpels, 15–30, 2–2.5 mm long. *Carpels* 3, glabrous. *Fruits* not seen.

HABITAT:

This widespread, and often common species forms part of the shrub layer of open sclerophyll forests and tall woodlands in sandy sandstone-derived soils or gravelly clays.

FLOWERING PERIOD:

Mostly August to November.

ETYMOLOGY:

The specific epithet refers to the arrangement of the stamens around the carpels.

CONSERVATION STATUS:

This species does not appear to be endangered.

ADDITIONAL SELECTED SPECIMENS EXAMINED (22 seen):

New South Wales—Central Coast: *Waite 1061*, 30.ix.1951, Little River, Buxton (NSW 86383); *Dunn & James 579*, 1.xi.1984, Appin to Wilton Road at crossing of Cataract River, c. 5 km SW of Appin (NSW). Central Tablelands: *Coveny 3582*, 7.iv.1971, 8 miles N of Clarence on the Newnes Tunnel Road (NSW); *Hoogland 12321*, 7.xi.1972, Along Capertee River c. 3 miles below Glen Davis (NSW). North Western Slopes: *Boorman s.n.*, –ix.1916, Coonabarabran (NSW 86470). Central Western Slopes: *Hoogland 12314 & 12315*, 6.xi.1972, Lees Pinch, c. 30 miles NE of Mudgee (NSW).

NOTES:

This species shares many features with *H. monogyna* R.Br. ex DC. (*viz.* both have spatulate lobed leaves, an indumentum of simple hairs and the stamens arranged around the carpels), however the flowers of this species have 3 carpels (*cf.* one in *H. monogyna*) and 15–30 stamens (*cf.* 10–12 in *H. monogyna*).

6. *Hibbertia marginata* Conn, sp. nov.

Frutices usque 0.4 m alti. *Ramuli* pilis albidis moderate ad dense obtecti; pili stricti plus minusve patentes, 0.5–1 mm longi. *Folia* breviter petiolata, petiolo 0.5–1 mm longo; lamina anguste ovata ad suboblunga, 24–35 mm longa, 4–7 mm lata, plana, basi obtusa, margine integro et recurvo, apice obtuso ad parvum apiculato. *Flores* terminales, sessiles. *Sepala* ovata, 15–20 mm longa, ex parte pilis dense obtecta, apice acuminato. *Petala* spatulata, circa 20 mm longa, circa 16 mm lata. *Stamina* circum carpella, 30–40, 6.5–8 mm longa. *Carpella* 3, dense tomentosa. *Fructus* haud visus.

TYPUS: *Hill 2752, Johnson & Weston*, 19.x.1987, Mt Neville fire trail, 0.5 km S of gate in tick fence, Mt Marsh State Forest, North Coast, New South Wales (HOLOTYPUS: NSW 206551).

Suckering shrub to 0.4 m high; branches moderately to densely hairy; hairs whitish, straight, spreading, 0.5–1 mm long. *Leaves* shortly petiolate; petiole 0.5–1 mm long; lamina narrowly ovate to suboblong, 24–35 mm long, 4–7 mm wide, flat; base obtuse; margin entire, recurved; apex obtuse to slightly apiculate; both surfaces sparsely hairy. *Flowers* terminal on short branchlets, sessile. *Bracts* c. 10 mm long, leaf-like. *Sepals* ovate, 15–20 mm long, densely hairy, except for broad marginal and apical region; apex acuminate. *Petals* spatulate, c. 20 mm long, c. 16 mm wide. *Stamens* arranged around carpels, 30–40, 6.5–8 mm long. *Carpels* 3, densely hairy. *Fruits* not seen.

HABITAT:

This species has been recorded as occurring in a grassy forest dominated by *Eucalyptus pilularis*, *E. intermedia* and *Angophora woodsiana* (*Hill 2752*). It occurs in sandy loam amongst a rugged sandstone outcrop.

FLOWERING PERIOD:

October.

ETYMOLOGY:

The specific epithet refers to the distinct marginal region of the sepals.

CONSERVATION STATUS:

Since this species is only known by the type collection, its conservation status is not known. It is locally frequent (*Hill 2752*) in the Mt Marsh State Forest.

NOTES:

This species has its closest affinities with *H. saligna* R.Br. ex DC. It differs from that species by having shortly, but distinctly petiolate leaves (*cf. H. saligna* has sessile, slightly stem-clasping leaves), hairy carpels (*cf. H. saligna* has glabrous carpels) and although both have hairy sepals, those of *H. marginata* have a broad marginal and apical region that is significantly less hairy than the rest of the sepals.

REFERENCES

- Anderson, R. H. (1961). Introduction. *Contrib. New South Wales Natl. Herb.* nos. 1–18: 1–15.
 Briggs, J. D. & Leigh, J. H. (1988). 'Rare or threatened Australian plants'. (Austral. Natl Parks & Wildlife Serv. Special Publ. 14 (Commonwealth of Australia: Canberra.), 278 pp.
 Jacobs, S. W. L. & Pickard, J. (1981). 'Plants of New South Wales'. (D. West, Govt Printer: Sydney.), 226 pp.