

NEW AUSTRALIAN *DROSERA* TAXA  
PUBLISHED SINCE ALLEN LOWRIE'S MAGNUM OPUS

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Allen Lowrie's Magnum Opus provided a major taxonomic revision of Australian *Drosera* L. (Droseraceae), describing 16 new species, four new natural hybrids, elevating ten former subspecies to species-level and resurrecting 12 species from synonymy (Lowrie 2014: 1268-1281). In addition, the true identities of several formerly widely misidentified species such as *D. dichrosepala* Turcz. and *D. paleacea* DC. were established. This revision is now widely accepted by flora checklists and taxonomic authorities at regional (e.g., the Western Australian Census; Percy-Bower & Parker 2019, see also <https://florabase.dpaw.wa.gov.au/>), national (Australian Plant Census; <https://biodiversity.org.au/nsl/services/search/taxonomy>), and international (e.g., World Checklist of Selected Plant Families; <https://wcsp.science.kew.org>) levels. Only one species described in the Magnum Opus, *D. coalara* Lowrie & Conran of *D.* section *Bryastrum* Planch. (pygmy sundews), has since proven to represent a synonym and is now placed under *D. citrina* Lowrie & Carlquist (Krueger & Fleischmann 2020).

Taxonomy is an ever-changing field. New observations from the wild, herbaria and cultivation are constantly updating our understanding of many taxa and new species continue to be discovered at rapid pace. Since the publication of the Magnum Opus, six new *Drosera* taxa were formally described from Australia, comprising four new species and two new infraspecific taxa. Only one taxon, *D. gunniana* (Planch.) de Salas has been resurrected from synonymy and elevated to species-level (de Salas 2018). Of these seven newly described or resurrected taxa, three belong to *Drosera* section *Ergaleium* (DC.) Planch.<sup>1</sup> (tuberous sundews) while the remaining four are placed in *D.* section *Arachnopus* Planch. ("*D. indica* L. complex"), *D.* section *Bryastrum* (pygmy sundews), *D.* section *Lasiocephala* Planch. (woolly sundews), and *D.* section *Prolifera* C.T.White ("Queensland sundews"). This raises the current number of recognized *Drosera* species in Australia to 161. Curiously, all seven taxa have been published by different authors (13 authors in total), highlighting a broad interest in Australian *Drosera* among taxonomists.

In the following, I provide a brief summary and discussion of all seven taxa described or resurrected since Allen Lowrie's Magnum Opus.

***Drosera albonotata*** A.S.Rob., A.T.Cross, Meisterl & A.Fleischm. (2018) Fig. 1

A new species of *D.* section *Bryastrum* (pygmy sundews) from south-west Western Australia. It closely resembles *D. miniata* Diels, producing a compact ground rosette and large orange-metallic flowers bearing dark centers and three thread-like styles. However, the flowers of *D. albonotata* bear white basal patches on their petals, a feature that appears to be unique to this species and allows rapid identification when flowering. The specific epithet *albonotata* (from the Latin for "white marked") is a reference to this distinctive flower color pattern. The species occurs in lateritic or clayey soils in Wandoo woodlands or low heath approximately 50 to 150 km due east of Perth, in a region generally referred to as the Western Australian Wheatbelt. Habitat loss due to agricultural clearing has been severe in this area and *D. albonotata* is thus currently listed as Priority 2 (a potentially threatened species requiring urgent surveying effort) under Western Australian legislation (Western Australian Herbarium 1998–).

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<sup>1</sup> Four tuberous sundew sections mentioned in the Magnum Opus (*Erythrorhiza*, *Luniferae*, *Macrantha*, and *Stolonifera*) were sunk into section *Ergaleium* by Fleischmann *et al.* (2018) based on molecular data.

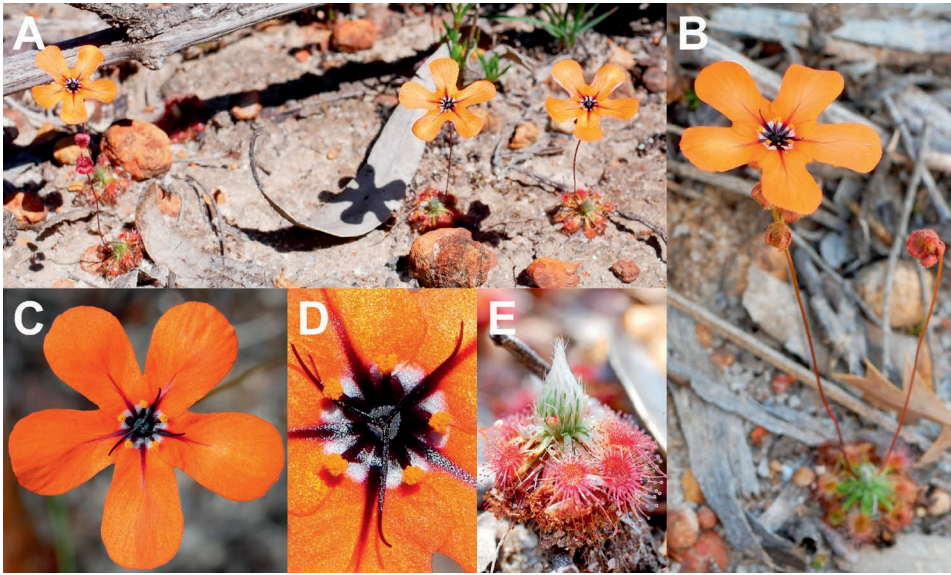


Figure 1: *Drosera albonotata* A.S.Rob., A.T.Cross, Meisterl & A.Fleischm. A: A group of plants in full flower near York, Western Australia; B: Habit. The flower is about twice the diameter of the rosette in this species; C: Flower; D: Close-up of the flower center. The characteristic white spots on the petal bases are clearly visible; E: Rosette with stipule bud. Photos: Thilo Krueger.

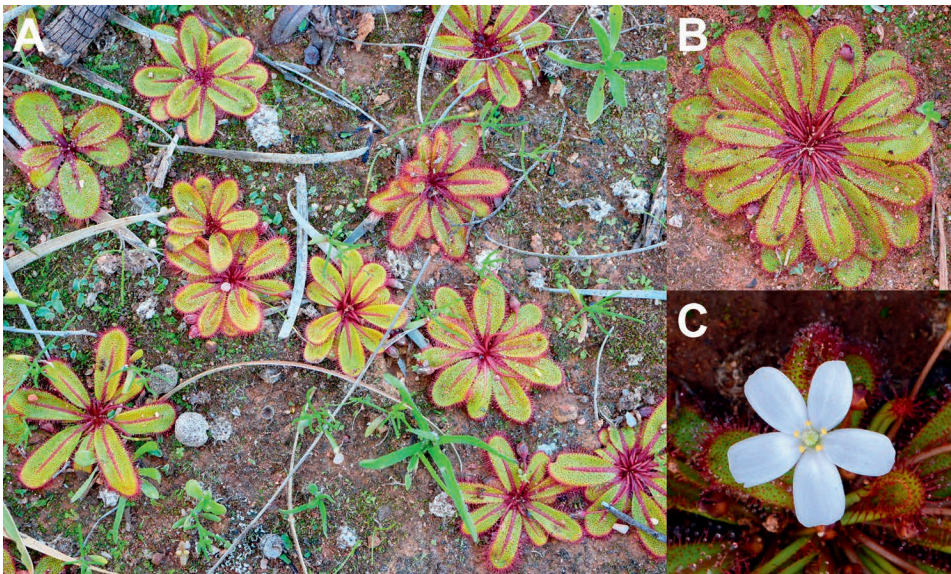


Figure 2: *Drosera bulbosa* subsp. *coronata* R.P.Gibson. A–B: Plants in full growth near Mingenew, Western Australia. The reddish leaf midribs contrast strongly with the overall olive-green leaves (Photos: Thilo Krueger); C: Close-up of the flower, note the yellow pollen color and crown-like style arrangement (Photo: Richard Nunn).



***Drosera bulbosa* subsp. *coronata*** R.P.Gibson (2013) Fig. 2

A new subspecies in *D.* section *Ergaleium* (tuberous sundews) from south-west Western Australia. This subspecies can be distinguished from *D. bulbosa* Hook. subsp. *bulbosa* and *D. major* (Diels) Lowrie by its striking olive-green leaf coloration with prominent red leaf midribs. Its flowers are also distinctive, featuring an annulus of short style segments around the top of the ovary and yellow pollen (*D. bulbosa* subsp. *bulbosa* and *D. major* have style segments evenly distributed on top of the ovary and white pollen). The subspecific epithet *coronata* refers to this characteristic crown-like style arrangement. This subspecies grows in loamy soils in *Acacia* woodlands at the bases of steep slopes and near river margins. It is only known from two locations near the small Wheatbelt towns of Mingenew and Mullewa, around 300 to 400 km north of Perth. Due to the few known locations, this taxon is currently listed as Priority 2 (a potentially threatened taxon requiring urgent surveying effort) under Western Australian legislation (Western Australian Herbarium 1998–).

***Drosera buubugujin*** M.T.Mathieson (2020) Fig. 3

A new species of *D.* section *Prolifera* (Queensland sundews) from the south-eastern Cape York Peninsula in Queensland. While morphologically very similar to *D. schizandra* Diels, it can be most easily distinguished by its more narrow (usually oblanceolate) leaf shape, much longer inflorescences (which are up to 42 cm long vs. up to 15 cm long in *D. schizandra*) and white pollen (yellow-orange pollen in *D. schizandra*). In addition, *D. buubugujin* features smaller flowers (only ca. 0.5 cm in diameter) and less bilobed anthers than *D. schizandra*. The specific epithet *buubugujin* refers to the Buubu Gujin Aboriginal Corporation lands upon which the only known herbarium specimens were collected by the authors in collaboration with the Traditional Owners of the area. This species grows on the sandstone escarpments north north-west of Cooktown, generally in sandy soils with moss along the banks of streams in forested areas. It is only known from two small populations in close proximity to each other which may be threatened by inappropriate fire regimes and invasive

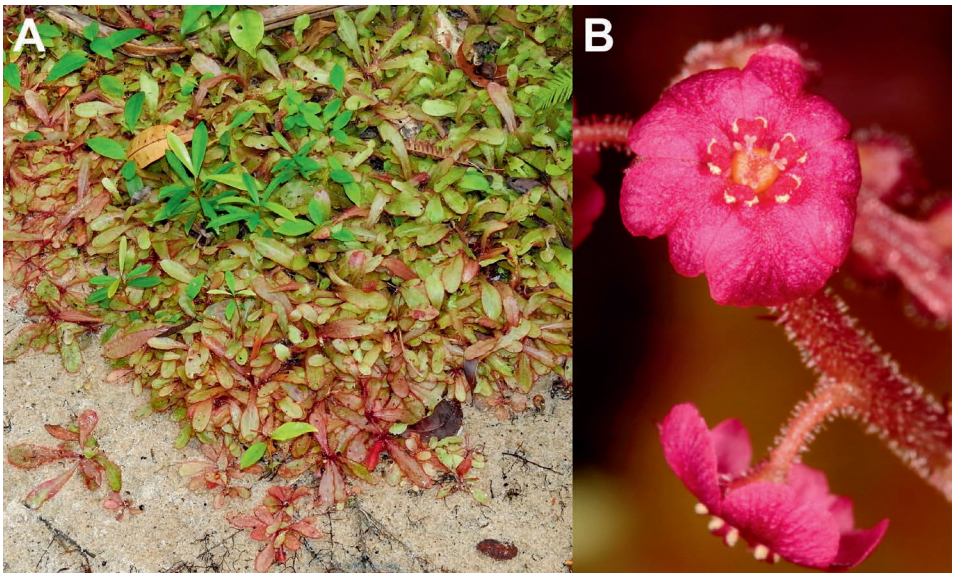


Figure 3: *Drosera buubugujin* M.T.Mathieson. A: A colony of plants growing on a stream bank in Muundhi National Park, Queensland; B: Close-up of the flower. Photos: Michael T. Mathieson.

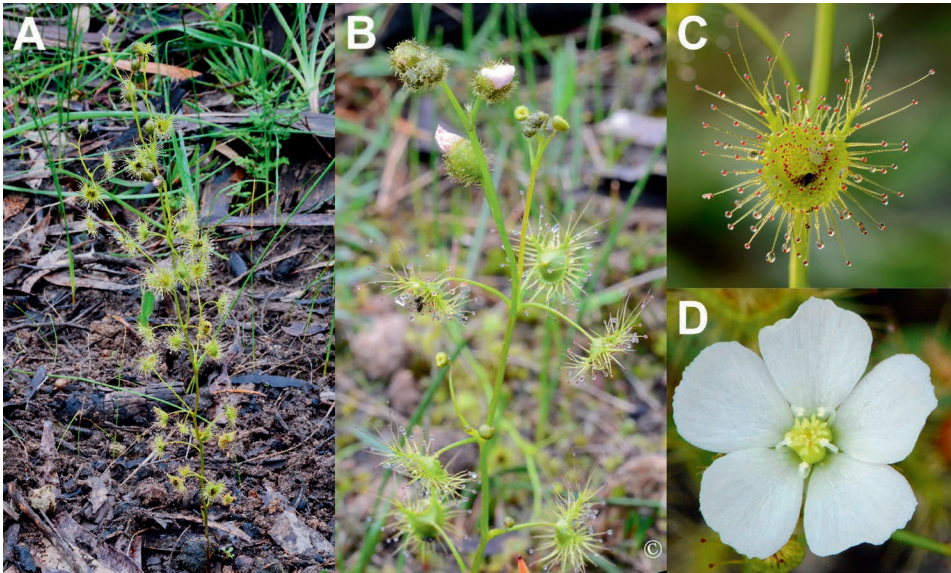


Figure 4: *Drosera gunniana* (Planch.) de Salas. A–B: Habit of flowering plants near Adelaide, South Australia. The relatively long stem that may only be branched near the top is characteristic for this species. Also note the hairy sepal indumentum; C: Close-up of the lamina; D: Close-up of a white flower. Photos: Richard Nunn.

grasses. *Drosera buubugujin* has thus been listed as Critically Endangered under Queensland’s legislation (Queensland Department of Environment and Science 1995-2021).

***Drosera gunniana* (Planch.) de Salas (2018) Fig. 4**

A newly resurrected and elevated taxon of *D.* section *Ergaleium* from south-east Australia and New Zealand. Previously often confused (or included) with *D. hookeri* R.P.Gibson, B.J.Conn & Conran or *D. peltata* Thunb., this species can be distinguished by its 8-22 cm tall, usually solitary stem, yellow-green basal rosettes, inflorescences arising only from near the top of the stem, and its often pink flower color. By contrast, *D. hookeri* is a much shorter plant which usually branches from near its base and always has white flowers while *D. peltata* has very slender stems and reddish basal rosettes. This species is widely distributed in New South Wales, South Australia, Tasmania, and Victoria where it grows in a range of grassy habitats at low to mid elevations. In addition, plants from the Northland Peninsula in New Zealand (which were previously known as *D. peltata* or *D. hookeri*) have recently been confirmed to represent *D. gunniana* (de Lange 2021). This species appears to be relatively common across a large geographic area and is thus unlikely to be currently threatened.

***Drosera huegelii* var. *phillmanniana* Y.-A.Utz & R.P.Gibson (2017) Fig. 5**

A new subspecies in *D.* section *Ergaleium* from Stirling Range National Park in south-west Western Australia. This variety differs from *D. huegelii* Endl. var. *huegelii* mainly by its much smaller size, reaching a maximum of only 12 cm (vs. up to 50 cm in *D. huegelii* var. *huegelii*) and only producing 1-3 flowers per plant (vs. 3-20 flowers per plant in *D. huegelii* var. *huegelii*). The epithet *phillmanniana* honors Phillip (Phill) Mann (1951-2014), a Western Australian carnivorous plant enthusiast and taxonomist who recognized the distinctiveness of this taxon and brought it to the attention of the authors.

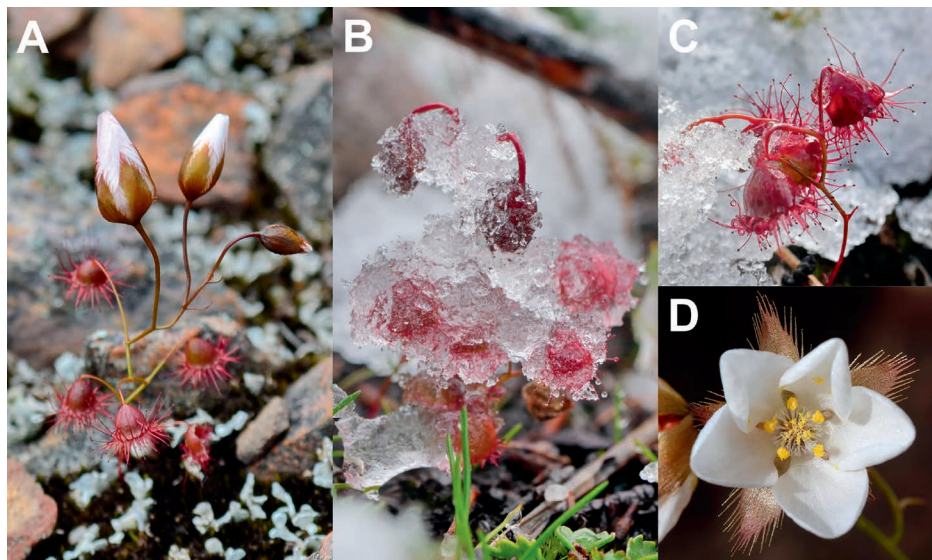


Figure 5: *Drosera huegelii* var. *phillmanniana* Y.-A.Utz & R.P.Gibson. A: Habit of a flowering plant in Stirling Range National Park, Western Australia (Photo: Thilo Krueger); B: Flowering plant enclosed in ice and snow following a strong cold front on 17 August 2019 (Photo: Thilo Krueger); C: Close-up of the strongly bell-shaped leaves of this taxon (Photo: Thilo Krueger); D: Flower (Photo: Yves-Andre Utz).

*Drosera huegelii* var. *phillmanniana* is only known from the highest mountains of the Stirling Range, occurring above ca. 800 m elevation in open, wind-exposed montane heath. This habitat, which the taxon shares with *D. monticola* (Lowrie & N.G.Marchant) Lowrie, is known for being the only place in Western Australia that regularly experiences light frost and snow during winter and spring. As this is also the growing and flowering time of *D. huegelii* var. *phillmanniana*, it is possible to find plants enclosed in ice and snow during this time (Fig. 5). Only known from very few populations across a limited range, this taxon has been listed as Priority 2 (a potentially threatened taxon requiring urgent surveying effort) under Western Australian legislation (Western Australian Herbarium 1998–).

***Drosera margaritacea* T.Krueger & A.Fleischm. (2021) Fig. 6**

A new species of *D.* section *Arachnopus* (“*D. indica* complex”) from the Kimberley region of northern Western Australia. Previously often confused with *D. finlaysoniana* Wall. ex Arn., this species can be readily distinguished by its enormous, up to 65 cm tall inflorescence often bearing 50 or more relatively large flowers (which are up to 3 cm in diameter). Its shortly petiolate leaves bear 20-50 translucent-white stalked secretive glands near their bases that produce potentially resinous mucilage drops which do not desiccate even in dried herbarium specimens. The specific epithet *margaritacea* (from the Latin for “pearl-bearing”) refers to this distinctive type of gland, as well as to the swollen, yellow-colored anther connective extensions. *Drosera margaritacea* occurs in beige to red sandy soils (Pindan) amongst dense grassy vegetation near seasonally wet swamps, creeks, and seepages. Its distribution covers a large part of the western Kimberley region, ranging from the base of the Dampier Peninsula in the west to near Fitzroy Crossing in the east and northwards to the Yampi Peninsula. Given this relatively wide distribution and large population sizes reported from several locations, this species is not currently considered to be threatened.



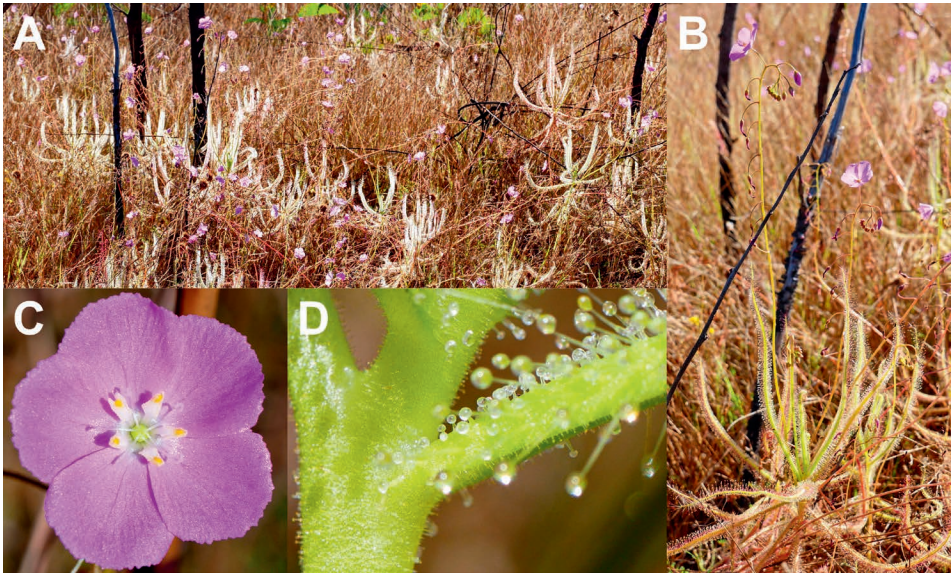


Figure 6: *Drosera margaritacea* T.Krueger & A.Fleischm. A: A large population of this species growing near Derby, Western Australia; B: Habit. Note the upright, exceptionally long, and many-flowered inflorescences; C: Flower with the swollen, yellow-colored anther connective extensions clearly visible; D: Close-up of the distinctive translucent-white stalked secretive glands which cover the adaxial petiole surface. Photos: Thilo Krueger.



Figure 7: *Drosera stipularis* Baleeiro, R.W.Jobson & R.L.Barrett. A: Habit of a plant growing in its typical sandy habitat near Cooktown, Queensland; B: Rosette; C: Close-up of the flower. Photos: Paulo C. Baleeiro.

***Drosera stipularis*** Baleeiro, R.W.Jobson & R.L.Barrett (2020) Fig. 7

A new species of *D.* section *Lasiocephala* (woolly sundews or “*D. petiolaris* R.Br. ex DC. complex”) from the Cape York Peninsula in Queensland. This species is morphologically very similar to *D. petiolaris* but can be differentiated by its almost pygmy-sundew-like appearance, producing slender stems covered with previous season’s growth and unusually prominent stipules (hence the specific epithet *stipularis*). However, its inflorescence closely resembles *D. petiolaris*, although it lacks any hairy indumentum below the buds and bears shorter pedicels. *Drosera stipularis* grows in moist white sand within low heath and sedges. While only known from two localities north of Cooktown, it is not currently considered to be threatened (Queensland Department of Environment and Science 1995-2021).

Acknowledgments: Richard Nunn, Michael T. Mathieson, Paulo C. Baleeiro and Yves-Andre Utz are thanked for providing photographs of the recently described *Drosera* taxa. I would also like to thank Andreas Fleischmann, Allen Lowrie, Richard Nunn, Greg Bourke, Manfred Meisterl, and Alastair Robinson for fruitful discussions on Australian *Drosera* taxonomy over the past decade.

References

- Baleeiro, P.C., Jobson, R.W., and Barrett, R.L. 2020. *Drosera stipularis*, a new species for the *D. petiolaris* complex from Cape York Peninsula, Queensland. *Telopea* 23: 35-40.
- Gibson, R.P. 2013. *Drosera bulbosa* subsp. *coronata* (Droseraceae) from the Northern Goldfields of Western Australia. *Telopea* 15: 99-105.
- de Lange, P.J. 2021. *Drosera gunniana* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/drosera-gunniana/>
- de Salas, M.F. 2018. *Drosera gunniana* comb. et stat. nov., a species in the *Drosera peltata* (Droseraceae) complex. *Muelleria* 36: 97-106.
- Fleischmann, A., Cross, A.T., Gibson, R., Gonella, P.M., and Dixon, K.W. 2018. Systematics and evolution of Droseraceae. In: Ellison, A.M., and Adamec, L. (eds.): *Carnivorous plants: physiology, ecology, and evolution*. Oxford University Press, 45-57.
- Krueger, T., and Fleischmann, A. 2021. A new species of *Drosera* section *Arachnopus* (Droseraceae) from the western Kimberley, Australia, and amendments to the range and circumscription of *Drosera finlaysoniana*. *Phytotaxa* 501: 56-84.
- Krueger, T.A., and Fleischmann, A. 2020. When three become two: *Drosera coalara* links *Drosera citrina* with *Drosera nivea*. *Carnivorous Plant Newsletter* 49: 6-16.
- Lowrie, A. 2014. *Carnivorous Plants of Australia* Magnum Opus. Redfern Natural History, Dorset. 3 Volumes.
- Mathieson, M.T., and Thompson, S.L. 2020. *Drosera buubugujin* M.T.Mathieson (Droseraceae, *Drosera* section *Prolifera* C.T.White), a spectacular new species of sundew from the Cape York Peninsula bioregion. *Austrobaileya* 10: 549-557.
- Percy-Bower, J.M., and Parker, C.M. 2019. Updates to Western Australia’s vascular plant census for 2018. *Nuytsia* 30: 1-18.
- Queensland Department of Environment and Science 1995-2021. Threatened Species Listing report. <https://www.qld.gov.au/environment/plants-animals/conservation/threatened-wildlife/threatened-species> [Accessed 19 Nov 2021]
- Robinson, A.S., Cross, A.T., Meisterl, M.E., and Fleischmann, A. 2018. A new pygmy sundew, *Drosera albonotata* (Droseraceae), from the western Wheatbelt and an updated diagnostic key to the orange-flowered pygmy *Drosera* of Western Australia. *Phytotaxa* 346: 221-236.
- Utz, Y.-A., and Gibson, R. 2017. *Drosera huegelii* Endl. var. *phillmanniana* from the Stirling Range, south western Australia. *Carnivorous Plant Newsletter* 46: 132-138.
- Western Australian Herbarium 1998–. Florabase—the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> [Accessed 19 Nov 2021]