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NEW TAXA AND COMBINATIONS IN THE UTAH FLORA

Stanley L. Welsh

ABSTRACT — New taxa include: Cryptantha cinerea (Torr.) Cronq. var. arenicola Higgins & Welsh; Physaria chambersii Bollins var. soliflora Welsh (Cruciferae); Phacelia demissa Gray var. minor N. D. Atwood (Hydrophyllaceae); Iris parviflora Welsh (Iridiaceae); Astragalus preussii var. cutleri Barneby and Pedionermum aromaticum (Pavon) Welsh var. tubyi Welsh (Leguminosae); Abronia nana Wats. var. harrisii Welsh (Nyctaginaceae); Camissonia atwoodii Cronq. (Onagraceae); Habenaria zotheciana Higgins & Welsh (Orchidaceae); Aquilegia formosa Fisch; in DC. var. fosteri Welsh (Ranunculaceae); and P. and Delphinium graceae); Macroglottis (Leguminosae); Stellaria (Onagraceae); Papaver (C.Rydb.) Welsh, Physaria acutissima Hoff. var. achelata (Wats.) Welsh, A. feuiller var. castwoodae (Rydby) Welsh, Lycopus apetalus L. var. kingii (Wats.) Welsh, Stellarium longipes Goldie var. monantha (Hulten) Welsh (Caryophyllaceae); Draba densifolia Nutt. ex T. & G. var. apiculata (C. L. Hitchc.) Welsh, D. oligosperma Hook. var. juniperina (Dorn) Welsh, Physaria acutifolia Rydb. var. stylosa (Rollins) Welsh, Thelypodopsis sagittata (Nutt.) Schulz var. oblata (Rydby) Welsh (Cruciferae); Lotus plebeius (T. Brandg.) Barneby, Lupinus polyphyllus Lindl. in Edwars var. anthropus (Greene) Barneby, L. polyphyllus var. humilis (A. Nels.) Barneby, L. argenteus Pursh var. fulconulatus (Payson) Barneby, L. argenteus var. palmeri (Wats.) Barneby, Pedionemum aromaticum (Payson) Welsh, p. epispium (Barneby) Welsh, Parasitium lanceolatum (Rydby) Welsh, p. stenocladus (Rydby) Welsh (Leguminosae); Mirabilis linearis (Pursh) Hiemer var. decipiens (Standl.) Welsh (Nyctaginaceae); Camissonia boothii var. condensata (Munz) Cronq., C. boothii var. villosa (Wats.) Cronq., C. claviformis (Torr. & Frem.) Raven var. purpurascens (Wats.) Cronq., C. scapoidea (T. & G.) var. utahensis (Raven) Welsh; Oenothera caespitosa var. macroclottis (Rydby) Cronq., Oe. caespitosa var. navajensis (Wagner, Stockhouse, & Klein) Cronq., Oe. flora (A. Nels.) Garrett var. acutissima (W. L. Wagner) Welsh and Oe. primiceris Gray var. bufonis (Jones) Cronq. (Onagraceae); Papaver radicatum Bothb. var. pygmaeum (Rydby) Welsh (Papaveraceae); Dodecatheon pulchellum (Baf. Merr. var. zionense (Eastw.) Welsh (Primulaceae); Aquilegia flavescens Wats. var. rubicunda (Tidiestr.) Welsh, Delphinium andersonii Gray var. scoposum (Welsh) Welsh, D. occidentalis (Wats.) Wats. var. barbeii (Huth) Welsh, and Barreanula andersonii Gray var. juniperinus (Jones) Welsh (Boraginaceae); Physaria mexicana (D. Don) Welsh and P. mexicana var. stansburyi (Torr.) Welsh (Boraginaceae); Galium mexicanum H. B. K. var. asperinum (Gray) Higgins & Welsh (Rubiaceae); Castinga parvula Rydb. var. reczelii (N. Holmgren) N. D. Atwood and C. rhizofolia Rydb. var. sulphurea (Rydby.) N. D. Atwood (Scrophulariaceae).

Nomenclatural changes are a bookkeeping chore that precedes the publication of most floras. The following changes of names and newly proposed taxa are published here prior to the publication of the Utah Flora, a work that has been in progress for some 25 years. The names published here are the products of the authors of the proposed taxa and nomenclatural combinations. Dr. N. Duane Atwood, Dr. Larry C. Higgins, Dr. Arthur Cronquist, and Dr. Rupert C. Barneby have kindly consented to having names and taxa currently in ongoing manuscripts published here so as to facilitate their use in the Utah Flora, which is nearing completion. The names are to be cited under the authorship of the person providing the combination, and are not to be cited as either “in” or “ex” Welsh. Each citation is considered as a separate proposal by the author of the constituent taxon or combination.

ANACARDIACEAE

Rhus aromatica Ait. var. simplicifolia (Greene) Cronq. comb. nov. [based on Rhus canadensis var. simplicifolia Greene Bull. Torrey Bot Club 17: 13. 1890 (Greene sn., Peach Springs, Arizona, in 1889, at HDG!., may be presumed to be the holotype)].

APIACEAE

Lomatium kingii (Wats.) Cronq. comb. nov. [based on: Peucedanum gracelens

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WELSH: NEW PLANT TAXA AND COMBINATIONS


**Boraginaceae**

*Cryptantha cinerea* (Greene) Cronq. var. *arenicola* Higgins & Welsh var. nov. Ab *Cryptantha cinerea* var. *abortiva* et al. in caule simplici et inflorescendo capitato vel subcapitato differt.

**TYPE:** USA: Utah. Kane Co. T41S, R5W, S26, Johnson Canyon, Lone Pine Point, at 1830 m, in Navajo blow-sand, in a pinyon-Juniper, ponderosa pine, manzanita, and yucca community, 6 June 1984, L. C. Higgins, S. L. Welsh, & K. Thorne 14296 (Holotype BR; 2 isotypes previously distributed as *C. cinerea*).


Much material of this taxon passed previously under the epithet *multicaulis*, a name that is synonymous with var. *jamesii*. The name provided above allows recognition of this distinctive phase of the species.


**Cactaceae**


**Caryophyllaceae**


**Cruciferae**


**TYPE:** USA: Utah. Garfield Co., Escalante Mtns., head of Sweetwater Creek, above (east) of Widtsco, bristlecone pine community on Wasatch Limestone Formation, 2 Aug. 1981, N. D. Atwood 8164 (Holotype BR; Isotype, one distributed previously as *P. chambersii*).

**ADDITIONAL SPECIMENS:** Garfield Co., T34S, R1W, S22, center of S1/4, Dixie NF,
Escalante Mtns., head of Escalante Canyon, 27.5 km 288 degrees from Escalante, 2,598 m, 60 degree slope, S exposure, with scattered Douglas-fir on raw, white, marl limestone, 20 June 1981, S. Goodrich 15666 (BRY); ibid., T35S, R4/2W, S22, Pink Wasatch Formation, at west end of Red Canyon, road to Bryce Canyon National Park, in ponderosa pine-limber pine community, 8 June 1982, Mutz and Zarnekee 82–70 (BRY).

This variety is partially sympatric with both varieties chambersii and membranacea, and the soboliferous condition might be an ecological response to creeping substrates. The recognition here calls attention of other workers to these plants and allows for further work.


**Hydrophyllaceae**

Material of *Phacelia demissa* Gray from the Uinta Basin differs subtly in several ways from that elsewhere in Utah. The plants are finely but not densely glandular-puberulent throughout, not densely glandular- villous to glandular-puberulent; the corolla tube is bright yellow, not pale yellow; the sepals are fully twice as long as the capsule, not less than twice as long; the seeds are 4–12, not 10–16; and the plants average smaller. They are here designated as follows:

*Phacelia demissa* Gray var. minor N. D. Atwood var. nov. Similis var. demissae in forma sed in pubescentibus, corollae tubis flavis, sepalis longirubris, seminibus paucri-oribus et minoribus differt.

TYPE: USA: Utah. Uintah Co., T3S, R23E, S4, ca 1.6 km E of Red Fleet Dam, at 1,891 m, in a desert shrub community, on clay hills, 31 May 1979, N. D. Atwood 7247 (Holotype BRY; isotypes 2, distributed previously as *Phacelia demissa* Gray).


**Iridaceae**

*Iris pariensis* Welsh sp. nov. Planta similis *Iride misouriensis* sensu latissimo sed in foliis angustioribus (2.5–5 mm nec 3–12 mm) bracteis suboppositis et angustioribus (2–3 mm nec 6–12 mm) et rhizomatibus gracilioribus (5–10 nec 10–20 mm) differt.

Rhizomes less than 10 mm thick, clothed with shredded fibrous leaf bases; leaves several to many on both fertile stems and innovations, 2–5 mm wide, (4) 7–24 cm long, stramineous to brownish or purplish basally; flower stem 4 cm tall, with several sheathing leaves free almost throughout; flower 1; spathaceous bracts linear-attenuate, 2–3 mm wide, 5–6 cm long, parallel, subopposite, herbaceous; ovary ca 12 mm long; perianth apparently white, the tube 15 mm long; sepals ca 6 cm long and 1 cm wide; petals narrowly ob lanceolate, ca 6 cm long and 8 mm wide; style branches ca 2.8 cm long, the crests ca 7 mm long; anthers ca 13 mm long; capsule unknown.

TYPE: USA: Utah, Kane Co., T43S, R1E, East Clark Bench, south of US Highway 89, sandy soil, found in a semidesert grass shrub community at 1,403 m, May 1976, Vane O. Campbell 42 (Holotype BRY).

This distinctive narrow-leaved *Iris* species is compared to *I. misouriensis* in the diagnosis, but its relationships apparently lie with those far to the west in the coastal states. More material will provide both a better description and a better possibility of determining probable relationships.

**Leguminosae**

*Astragalus preussii* Gray var. cutleri Barneby, var. nov., cum var. preussii legumine stipitato congruens sed ab ea statuta pumila (caulibus 2–11 nec 10–40 cm altis) e radice annua ortis, foliolis paucis majusculis 5–11 et 12–20 x 7–12 mm usque, petalisque albidis pallide coerulescentibus (nec praeclara alas saturare purpureis) diversa.

TYPE: USA: U.S.A. Utah. San Juan Co.: common gravel outwash, Copper Canyon, 1 mi from mouth, 18 June 1938, Hugh C. Cutler 2283 (Holotype NY; isotypes, CAS, WIS); ibid., bench between Copper Canyon and No Man’s Mesa, 22 May 1985, N. D. Atwood 11073 (Paratypes BRY, NY).
In my monograph (Mem. New York Bot. Gard. 13: 576. 1964) the type of var. *cutleri* was noticed as unusual in the species as represented in Utah Canyonlands for few and large leaflets but was passed over as a set of seedlings showing only juvenile foliage. The rediscovery by Duane Atwood of the same plant, found in a uniform population of small monocarpic individuals such as are never seen elsewhere in the range of var. *preussii*, show that I misjudged the significance of the differences. Moreover, the flowers were described by Cutler as varying from white to pale blue and by Atwood as white when fresh, acquiring a bluish keel-tip when dried. In southeastern Utah the petals of var. *preussii* are consistently vivid purple except for pallid wingtips. In the same region the leaflets of the longer leaves are at once more numerous (17–23) and smaller (6–15 x 3–6 mm) than those of var. *cutleri*. Leaves of allopatic var. *laxiflorus* Gray may be similar to those of var. *cutleri* in size and number, but its pod is sessile, its stems taller, and its range of dispersal different.


*Lupinus polyphyllus* Lindl. in Edwards var. *amphilus* (Greene) Barneby stat. nov. [based on: *Lupinus amphilus* Greene Pittonia 4: 136. 1900].


*Pediocolum aromaticum* (Payson) Welsh var. *tuhyi* Welsh var. nov. Ab *Pediocolum aromaticum* sensu stricto in floribus minoribus (6–7.3 mm nec 10–13 mm), calypet dentibus minoribus (3.5–5.3 nec 10–11 mm et 1.6–2.9 mm nec 5–7 mm respecte), et caulibus decumbentibus differt.

**Type:** USA: Utah, San Juan Co., Rone Bailey Mesa, ca 17 km W of La Sal, T30S, R23E, S19, at 1,900 m, pinyon-juniper community, on mesa summit red siltstone of the Entrada Formation, 4 June 1985, S. L. Welsh & E. Neese 23500 (Holotype BRY, 4 isotopes to be distributed).

**Additional Specimens:** Utah, San Juan Co., T31S, R21E, S6, South Sixshooter Peak platform, Davis Canyon, at 1,708 m, on Moenkopi Formation in a shadscale community, 11 May 1982, S. L. Welsh, B. T. Welsh, and M. Chatterley 21092; ibid., Rone Bailey Mesa, 1 July 1984, J. S. Tuhy 1580; ibid., 4 June 1985, E. Neese & S. L. Welsh 16990; ibid., 19 June 1985, L. C. & E. Higgins 15812 (all BRY).

This phase of *P. aromaticum* is remote from the known populations near Bedrock, Colorado (the type locality), and in the Fisher Towers area vicinity east of Moab. The plants differ in subtle ways besides those cited in the diagnosis. When viewed from afar they appear grasslike in patches between sparse junipers on a rimrock situation atop Rone Bailey Mesa. The plants tend to sprawl, rather than stand erect as in the typical variety. The extensive rhizome system is similar, however, to the typical material. The variety is named in honor of its discoverer atop Rone Bailey Mesa, Mr. Joel Tuhy.


NYCTAGINACEAE

Most specimens of Abronia nana Wats. are strictly cauline and have best developed leaves mainly less than twice as long as broad. These represent var. *nana*. However, in the San Rafael Swell, Emery County, Utah, there occur cauline plants with main leaves 2–4 times longer than broad. These are named as follows:

*Abronia nana* Wats. var. *harrisi* Welsh var. nov. Similis *Abroniae nanae* Wats var. *nanae* in anthocarpi floribus et bracteis sed in caulibus et foliis longioribus differt.

**Type:** USA: Utah. Emery Co., T20S, R11E, S22, San Rafael Swell, ca 1 mi S of San Rafael River campground, 1,586 m elev., Eriogonum- Astragalus-Hilaria community. 9 June 1979, J. Harris 364 (Holotype BRY; Iso-types, two distributed previously as A. *elliptica* A. Nels.).

**Additional specimens:** Utah. Emery Co., T19S, R10E, S35, San Rafael Swell, on road to Wedge Overlook, ca 4 mi S of Buckhorn Flat crossroads, pinyon-juniper community, 13 June 1979, K. Despain 517 (BRY); do, T20S, R11E, S22, San Rafael Swell, Bottleneck Peak area, off the west side of Cottonwood Draw road, ca 2 mi S of Bridge Campground, 14 June 1979, K. Despain 564 (BRY). The plant is named after Dr. James Harris, student of the San Rafael Swell flora.


ONAGRACEAE

*Camissonia atwoodii* Cronq. sp. nov. Species sectionis Chylismae; herba annua, glandulosa-puberula, rotusta, usque ad 15 dm alta, caule excurrente ramosa, foliis leviter basin versus dispositis, laminis subrotundis, irregulariter denticulatis, 4–6 x 2.5–5 cm; inflorescentia terminalis, laxe ramosa, floribus pedicellatis, petalis purpureis 7–14 mm longis leviter versus axem dispositis, staminibus 4 + 4, inaequalibus, declinati; fructus 12–25 mm longi, divaricato-deflexi, pedicellis divaricato-deflexis 3–5 mm longis, seminibus 1.5–8 mm longis, in quoque loculo biseriatis.

**Type:** USA: Utah. Kane Co., Smoky Creek Dugway, ca 17 mi NE of Glen Canyon City, Straight Cliffs Formation, 28 August 1973, N. D. Atwood 5957 (holotype NY!; isotype BRY).

Robust, taprooted annual to 15 dm tall, with a single erect, excurrent stem; leaves scattered along the stem but somewhat basally disposed, at least some of the cauline ones evidently petiolate, with broadly ovate to ovate-oblong or elliptic, basally rounded to truncate or subcordate, irregularly denticulate blade 4–6 x 2.5–5 cm; herbace glandular-puberulent; flowers axillary to small bracts on the lateral branches and toward end of the main stem, in bud crowded, erect, and nearly sessile, but becoming more widely spaced and evidently pedicellate at anthesis, fairly showy and adapted to cross-pollination; petals purple, 7–14 mm long, somewhat asymmetrically (adaxially) disposed; stamens 4 + 4, unequal, declined; anthers ca 1.5–2 mm long; fruits 12–25 mm long, spreading-deflexed, on spreading-deflexed pedicels 3–5 mm long; seeds biseriate in each locule, plumply obovate from a sub-stipitate base, 1.5–1.8 mm long, very finely cellular-reticulate.

This species is known only by several collections by Duane Atwood from the type locality on open slopes on the southwest side of the Kaiparowits Plateau, ca 27 km by road northeast of Glen Canyon City, Kane Co., Utah. Flowering is from August to October.


*Camissonia boothii* var. *villosa* (Wats.) Cronq. comb. nov. [based on: *Oenothera alyssoides* var. *villosa* Wats., Proc. Amer. Acad. Arts 5: 591. 1873; not *Oc. villosa* Thumb. 1794; typification will be discussed in the forthcoming treatment in the Intermountain Flora.]


Oenothera primiveris Gray var. bufonis (Jones) Cronq. comb. nov. [based on: Oe. bufonis Jones, Contr. W. Bot. 8: 28. 1898].

**Orchidaceae**

Habenaria zothecina Higgins & Welsh sp. nov. Planta Habenaria sparsiflora affinis et similis sed in calcari labium 1.5 longiore et floribus paucioribus differt.

Type: USA: Utah. Grand Co., ca 1.6 km N of Moab, T25S, R21E, S25, at ca 1,281 m, in a hanging garden community, 10 July 1985, S. L. Welsh & L. C. Higgins 23629 (Holotype BRY; 4 isotypes to be distributed).


This peculiar, few-flowered bog orchid with its very long spurs has been known for many years. It has always been placed previously within an expanded version of H. sparsiflora but differs as outlined in the diagnosis and in other salient features. The leaves are broadly rounded initially, becoming obtuse and finally acute upward. The orchid grows in the vegetative assemblages known as hanging gardens along the canyons of the Colorado River in southeastern Utah. They occur there with maidenhair fern, sheathed death camus, and other shade-tolerant mesophytes. They occur mainly along the margin of the detrital slope adjacent to the back wall of the alcoves. Additional work is necessary to determine the total distribution.

**Papaveraceae**


**Primulaceae**

Dodecatheon pulchellum (Raf.) Merr. var. zionense (Eastw.) Welsh stat. nov. [based on: Dodecatheon zionense Eastw. Leafl. W. Bot. 2: 37. 1937, type from Zion Canyon].

**Ranunculaceae**


A peculiar specimen of Aquilegia taken by Dr. Robert Foster from Zion Canyon in 1977 requires description. It has the habit and flower color of A. formosa but is glandular throughout and both petal spur and blade are longer than in that taxon. A search of the herbarium at Zion National Park yielded two specimens of the same taxon taken many years ago by Dr. Angus Woodbury. Initial efforts to relocate the area of collection of the type have been fruitless. There are many areas to be investigated, however, and the Hidden Canyon locality of the Woodbury specimens has not been searched recently. Possibly the specimens result from introgression between A. formosa and A. chrysantha Gray, both abundant in the canyon. The longer spurs and petal blades suggest such a possibility, but neither of the potential parents are glandular below the inflorescence. The plant is named after Dr. Robert Foster, enthusiastic collector and plant geographer. Aquilegia formosa Fisch. in DC. var. fosteri Welsh var. nov. A var. formosa in petali laminis et calcari longioribus et herba glandulosis diversa.

Type: USA: Utah. Washington Co., T41S, R10W, S21, W of Tunnel, 1,373 m. N slope of
Bridge Mt., mountain brush community, on Wingate detritis, 25 May 1977, R. & R. Foster 3939 (Holotype BRY).


Delphinium andersonii Gray var. scaposum (Greene) Welsh stat. nov. [based on: Delphinium scaposum Greene Bot. Gaz. 6: 156. 1881].

Delphinium occidentalis (Wats.) Wats. var. barbeyi (Huth) Welsh comb. nov. [based on: Delphinium exaltatum var. barbeyi Huth Helios 10: 35. 1892].

Ranunculus andersonii Gray var. juniperinus (Jones) Welsh stat. nov. [based on: Ranunculus juniperinus Jones Proc. Calif. Acad. II. 5: 616. 1895].

Ranunculus acris L. var. aestivalis (L. Benson) Welsh comb. nov. [based on: Ranunculus acriformis var. aestivalis L. Benson Amer Midl. Naturalist 40: 43. 1948], type from 8.3 mi N of Panguitch].

Rosaceae


Rubiaceae

*Galium mexicanum* H.B.K. var. asperrimum (Gray) Higgins & Welsh stat. nov. [based on: Galium asperrimum Gray Mem. Amer. Acad. Arts II. 4: 60. 1849].

Scrophulariaceae
