

tanical standpoint. Some of the taxa described below have resulted from investigations by several workers in previously poorly explored regions of the state, while others have been tucked away in the herbarium, placed within closely related entities. The second edition of *A Utah Flora*, now in press, will be more inclusive than previously because of the many new taxa reported here. The novelties and nomenclatural proposals included in that flora are validated in this work.

BORAGINACEAE

Mertensia lanceolata (Pursh) DC var. **coriacea** (A. Nels.) Higgins & Welsh, *comb. nov.* [based on: automatic tautonym created by publication of *M. coriacea* var. *dilatata* A. Nels., Bull. Torrey Club 29: 402. 1902].

This is a necessary nomenclatural adjustment to bring the name of the variety in line with contemporary rules of the International Code.

CARYOPHYLLACEAE

Arenaria rubella (Wahl) J. E. Sm. var. **filiorum** (Maguire) Welsh, *comb. nov.* [based on: *Arenaria filiorum* Maguire, Bull. Torrey Bot. Club 73: 326. 1946].

This combination recognizes the affinity of *A. filiorum* Maguire with the closely allied *A. rubella* (Wahl) J. E. Sm.

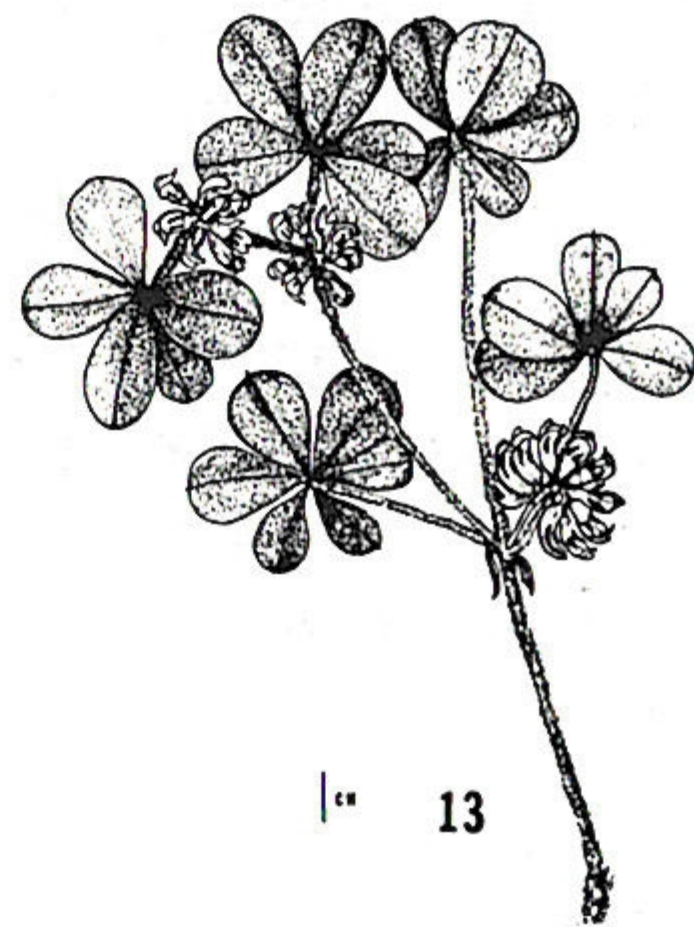
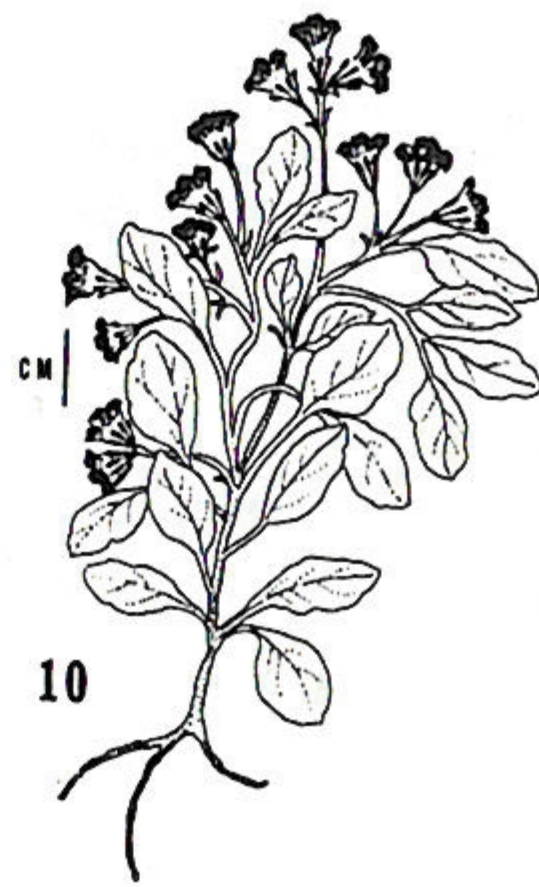
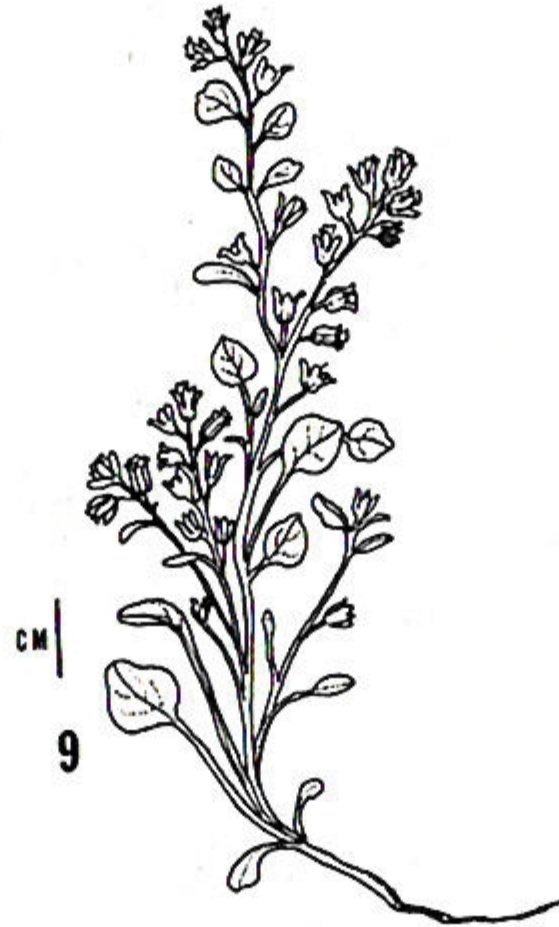
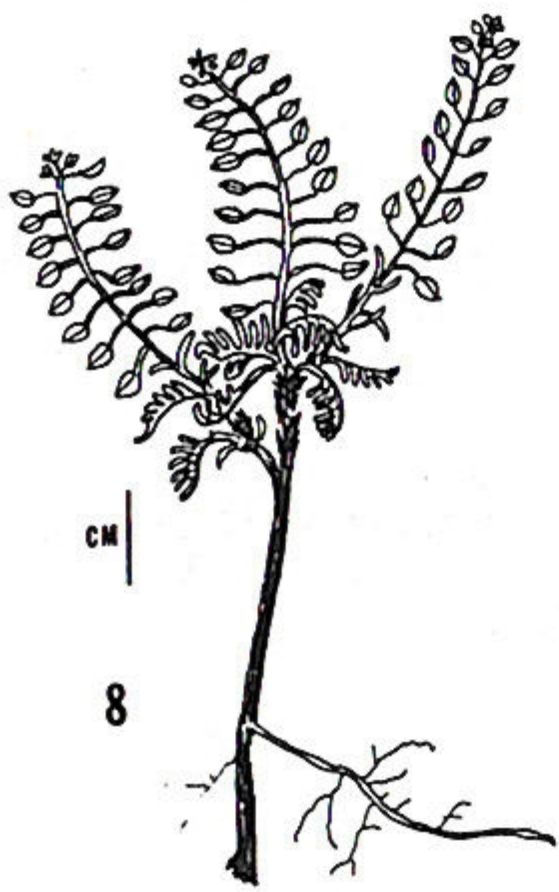
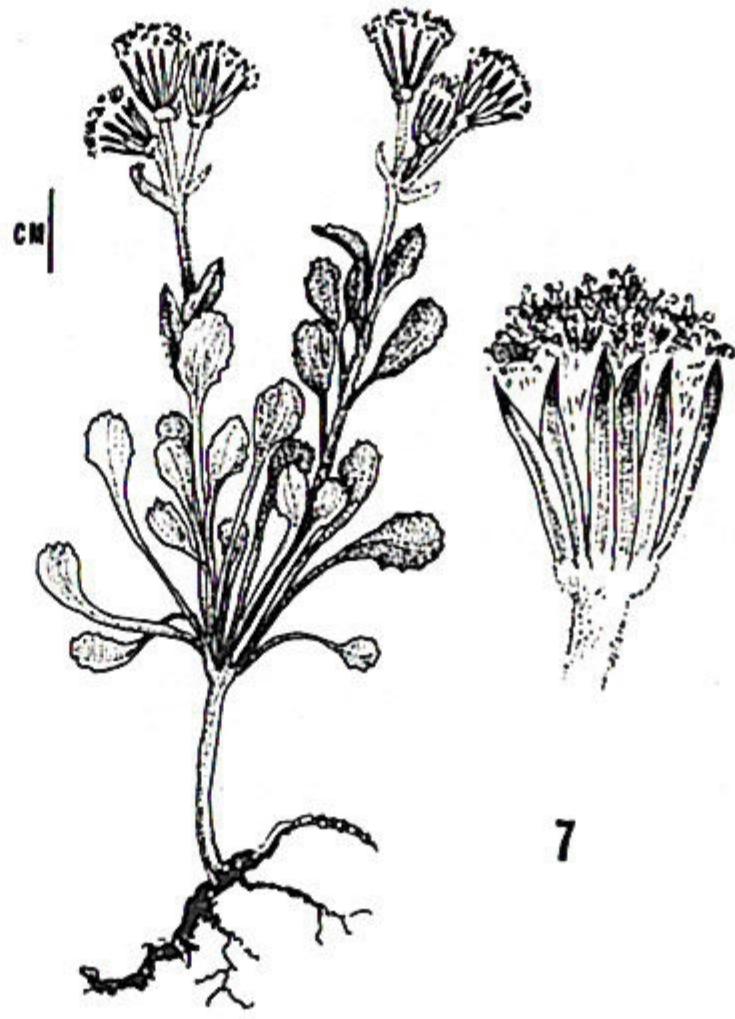
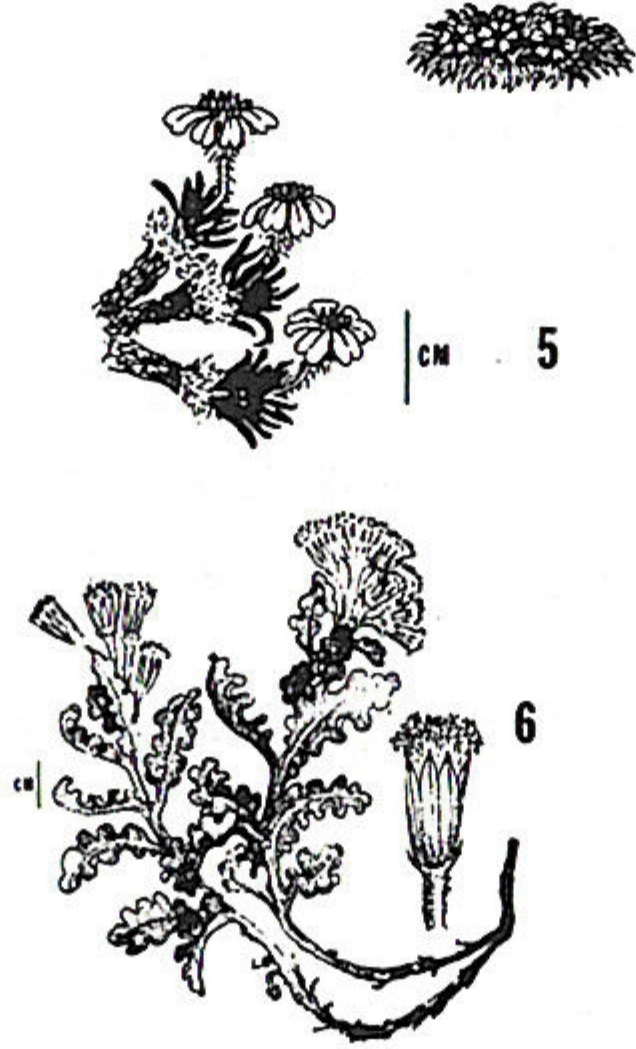
CHENOPODIACEAE

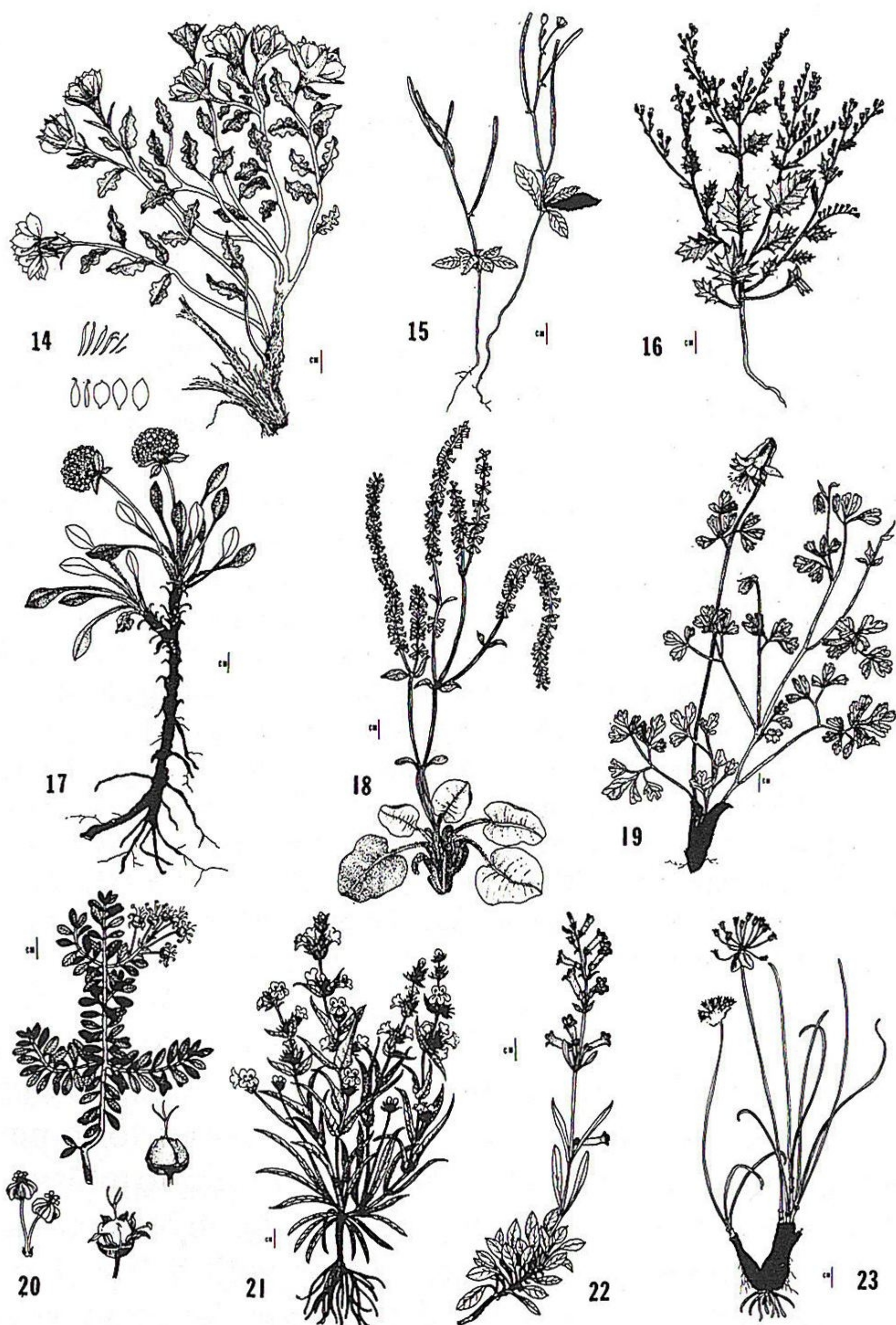
Zuckia brandegei (Gray) Welsh & Stutz var. **plummeri** (Stutz & Sanderson) Welsh, *comb. nov.* [based on: *Grayia brandegei* var. *plummerii* Stutz & Sanderson, Madrono 34: 148. 1987].

This combination recognizes the broad-leaves portion of *Zuckia brandegei* within the genus.

COMPOSITAE

Agoseris glauca (Pursh) Raf. var. **cronquistii** Welsh, *var. nov.* *Agoseris glauca* var. *glauca* in foliis latioribus et integris,





Figures 14–23. 14. *Mentzelia goodrichii* Thorne & Welsh; 15. *Camissonia bairdii* Welsh; 16. *Gilia latifolia* Wats. var. *imperialis* Welsh; 17. *Eriogonum jamesii* var. *higginsii* Welsh; 18. *Eriogonum racemosum* Nutt. var. *nobilis* Welsh & Atwood; 19. *Aquilegia grahamii* Welsh & Goodrich; 20. *Ceanothus greggii* Gray var. *franklinii* Welsh; 21. *Penstemon franklinii* Welsh; 22. *Penstemon humilis* Nutt. var. *desereticus* Welsh; 23. *Allium geyeri* Wats. var. *chatterleyi* Welsh.

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Figures 1–13. 1. *Agoseris glauca* (Pursh) Raf. var. *cronquistii* Welsh; 2. *Ambrosia sandersonii* Welsh; 3. *Artemisia campestris* L. ssp. *borealis* (Pallas) H. & C. var. *petiolata* Welsh; 4. *Haplopappus lignumviridis* Welsh; 5. *Hymenoxys acaulis* (Pursh) Parker var. *nana* Welsh; 6. *Senecio castoreus* Welsh; 7. *Senecio musiniensis* Welsh; 8. *Lepidium montanum* Nutt. var. *claronensis* Welsh; 9. *Phacelia cronquistiana* Welsh; 10. *Phacelia pulchella* Gray var. *atwoodii* Welsh; 11. *Astragalus toanus* Jones var. *scidulus* Welsh & Atwood; 12. *Astragalus zionis* Jones var. *vigulus* Welsh; 13. *Pediomelum aromaticum* (Payson) W. A. Weber var. *barnebyi* Welsh.

statura inferiore, bracteis involucrorum purpureis lineatis vel omnes purpureis; scapis pubescentibus parce pubescentibus vel glabris differt, et in montibus excelsis crescens (Plate I: Figure 1).

TYPE: USA. Utah. Piute County, Tushar Mts., T27S, R5W, S35, at timberline, ca. 3050 m, 9 mi. due west of Marysvale, on silicious modified Tertiary volcanic gravel, 27 July 1976, *S. Welsh, K. Taylor, & D. Atwood 14021* (HOLOTYPE BRY!; one isotype previously distributed as *Agoseris glauca*).

ADDITIONAL SPECIMENS: Utah. Piute County. Head of Bullion Creek, ca. 9 mi. due WSW of Marysvale, 3050 m elev., 17 August 1978, *S. Welsh & J. Henriod 18170* (BRY!); head of Bullion Canyon, 28 July 1976, *S. Welsh, K. Taylor, & D. Atwood 14056* (BRY!); ca. 10 mi. WSW Marysvale, Belknap Mt., 3355 m, 27 July 1978, *S. Welsh, M. Welsh, J. Henriod 17887* (BRY!). Beaver County. Tushar Mts., Mt. Holly, 15 August 1984, *A. Teye 3124* (BRY!). Summit County. Bald Mountain, 27 July 1978, *K. Ostler & K. McKnight 1617* (BRY!); Bald Mountain Pass, 21 August 1984, *L. C. & E. Higgins 14785* (BRY!). San Juan County. La Sal Mts., between Mt. Peale and Mt. Melenthin, 3 August 1978, *N. D. Atwood 7087* (BRY!). Sanpete County. Ferron Mt., 10 August 1988, *D. Atwood & J. Tuhy 13441* (BRY!). Uintah County. Uinta Mts., SE of Marsh Peak, 19 August 1982, *S. Goodrich 17629* (BRY!). Duchesne County. Atwood Lake Basin, 15 July 1979, *S. Welsh, E. Neese, D. Atwood 19027* (BRY!).

This dwarf alpine phase of the species occurs at elevations of 3050 m and upwards. It is a dwarf plant, only seldom surpassing 18 cm in height. Scape apices vary from glabrous to tomentose, the leaves are ordinarily rather broadly elliptic to oblanceolate and typically entire (though rarely lobed), the involucre is glabrous, the bracts purplish throughout or with a broad median purple stripe. The plant is named to honor the memory of the late Dr. Arthur Cronquist, student of the genus and friend of plant taxonomy and taxonomists, who circumscribed the taxon in notes at BRY and in a manuscript for the impending treatment in the Intermountain Flora. He did not propose a formal name for the plant. Spruce-fir and alpine tundra communities at 3050 to 3660 m in the La Sal, Tushar, and Uinta mountains and on the Aquarius and Wasatch plateaus in Beaver, Daggett, Duchesne, Garfield, Piute (type from 9 mi. W of Marysvale), San Juan, Sanpete, Summit, and Uintah counties; endemic.

***Ambrosia sandersonii* Welsh, sp. nov.** A *Ambrosia eriocentra* (Gray) Payne in foliis tenuis et bracteis glandularis nec pilosis longis differt (Plate 1: Figure 2).