

Annual (*Shinnersoseris*) or perennial herbs. Leaf blades linear or lance-linear (or scale-like distally); margins usually entire, sometimes lobed. Capitula rarely borne singly, capitulescences usually much-branched. Receptacles not paleate. Involucres cylindrical or subcylindrical. Phyllaries 2-seriate, unequal (the outer forming calyculi). Florets 5 to 12 per capitulum. Corollas pink, purple, or white. Cypselae columnar or fusiform, smooth, striate, rugose, or ribbed, not beaked. Pappi of 24 to 250 equal, barbellate bristles (and 5, subulate scales in *Chaetadelpha*), all persistent. Pollen echinate or echinolphate (*Lygodesmia*) (Tomb et al., 1974). Chromosome number  $2n = 12$  (*Shinnersoseris*) or 18, or 27 (triploids).

Included genera: *Chaetadelpha* A. Gray, *Lygodesmia* D. Don (sensu Tomb), *Shinnersoseris* Tomb.

**Phalacroseridinae** Joongku Lee & B. G. Baldwin, subtribus nov. TYPE: *Phalacroseris* A. Gray.

Herbae perennēs. Laminae foliorum lineares, lanceolines, vel oblanceolatae; margines integri. Capitula portata singulatim (pedunculis scapiformibus); receptacula epaleata; involucria campanulata; phyllaria 2+-seriata, aequalia. Flosculi 13+, corollae flavae. Cypselae fusiformes, laeves, non rostratae; pappi nulli. Pollina echinolphata.  $2n = 18$ .

Perennial herbs. Leaf blades linear, lance-linear, or oblanceolate; margins entire. Capitula borne singly (peduncles scapiform). Receptacles not paleate. Involucres campanulate. Phyllaries 2+-seriate, equal. Florets 13+ per capitulum. Corollas yellow. Cypselae fusiform, smooth, not beaked. Pappi none. Pollen echinolphate (Feuer & Tomb, 1977). Chromosome number  $2n = 18$ .

Included genus: *Phalacroseris* A. Gray.

**Pinaropappinae** Joongku Lee & B. G. Baldwin, subtribus nov. TYPE: *Pinaropappus* Lessing.

Herbae perennes vel frutices rosulatae (*Marshalljohnstonia*). Laminae foliorum lineares (vel squamiformes distaliter), ellipticae, vel rhombeae; margines integri, dentati, vel lobati. Capitula portata singulatim. Receptacula paleata (*Pinaropappo*) vel epaleata. Involucria obconica vel campanulata. Phyllaria 3+-seriata, inaequalia. Flosculi 10-18. Corollae subrosaceae, purpureae, vel albae. Cypselae sulcis 5, angustis, aequaliter dispositis, columnares vel fusiformes, non rostratae (distaliter attenuatae in *Pi-*

*naropappo* p.p.). Pappi ex setis 40-60, aequalis, barbellatis, persistentibus constati. Pollina echinata.  $2n = 18$  vel 36.

Perennial herbs or rosette shrubs (*Marshalljohnstonia*). Leaf blades linear (or scale-like distally), elliptic, or rhombic; margins entire, dentate, or lobed. Capitula borne singly. Receptacles paleate (*Pinaropappus*) or not paleate. Involucres obconic or campanulate. Phyllaries 3+-seriate, unequal. Florets 10 to 18 per capitulum. Corollas pink, purple, or white. Cypselae columnar or fusiform, with 5 narrow, equally spaced furrows, not beaked (distally attenuate in *Pinaropappus* pro parte). Pappi of 40 to 60 equal, barbellate bristles, persistent. Pollen echinate (Tomb et al., 1974). Chromosome number  $2n = 18$  or 36.

Included genera: *Marshalljohnstonia* Henrickson, *Pinaropappus* Lessing.

**Pyrrhopappinae** Joongku Lee & B. G. Baldwin, subtribus nov. TYPE: *Pyrrhopappus* DC.

Herbae annuae vel perennes. Laminae foliorum ellipticae, lanceolatae, vel oblanceolatae; margines integri vel pinnatifidi. Capitula portata singulatim vel capitulescentiae laxae corymbiformes. Involucria cylindracea vel anguste campanulata. Phyllaria 2-seriata, inaequalia (extimis fasciatis calyculis). Flosculi 30-150+. Corollae flavae, purpureae, vel albae. Cypselae fusiformes, 5-12-costatae, rostris fragilibus. Pappi ex setis 119-155, aequalis, barbellatis (cum pilis minutis, reflexis subtentis in *Pyrrhopappo*) constati, persistentibus. Pollina echinata (*Picosia*) vel echinolphata (*Pyrrhopappo*).  $2n = 12, 14$ , vel 24.

Annual or perennial herbs. Leaf blades elliptic, lanceolate, or oblanceolate; margins entire or pinnatifid. Capitula borne singly or capitulescences loosely corymbiform. Receptacles not paleate. Involucres cylindrical to narrowly campanulate. Phyllaries 2-seriate, unequal (the outer forming calyculi). Florets 30 to 150+ per capitulum. Corollas yellow, purple, or white. Cypselae fusiform, 5- to 12-ribbed, beaks fragile. Pappi of 119 to 155 equal, barbellate bristles (subtended by minute, reflexed hairs in *Pyrrhopappus*), persistent. Pollen echinate (*Picosia*) or echinolphate (*Pyrrhopappus*) (Feuer & Tomb, 1977). Chromosome number  $2n = 12, 14$ , or 24.

Included genera: *Picosia* D. Don, *Pyrrhopappus* DC.

KEY TO PRINCIPALLY NORTH AMERICAN SUBTRIBES OF CICHORIEAE

- 1a. Capitulescences monocephalic (capitula borne singly); cypselae not ribbed or furrowed; pappi absent . . . . . Phalacroseridinae
- 1b. Capitulescences corymbiform to thyrsoid-paniculiform or subumbelliform, or if monocephalic, then cypselae ribbed or furrowed and pappi present (rarely absent in *Microseris douglasii*).
  - 2a. Cypselae beaked.
    - 3a. Some or all pappus bristles caducous or fragile.