

**TAXONOMIC ADJUSTMENTS IN *CHONDROSUM* AND *CATHESTECUM*  
(POACEAE: CHLORIDOIDEAE: BOUTELOUINAE)**

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**ABSTRACT**

New combinations in *Chondrosium* and *Cathestecum* are made to align with the generic recognition of *Bouteloua* sensu stricto. Five taxa are transferred from *Bouteloua* sensu lato to *Chondrosium*: ***Chondrosium rothrockii* (Vasey) Wipff, comb. nov.**, ***Chondrosium sonorae* (Griffiths) Wipff, comb. nov.**, ***Chondrosium herreraarrietae* (Peterson & Romasch.) Wipff, comb. nov.**, ***Chondrosium strictum* (Vasey) Wipff, comb. nov.**, and ***Chondrosium gentryi* (Gould) Wipff, comb. nov.** One is transferred from *Bouteloua* to *Cathestecum*: ***Cathestecum tamaulipense* (Pierce ex Pacheco & Columbus) Wipff, comb. nov.**

Columbus (1999) and Peterson et al. (2015), using molecular analyses, advocated for the inclusion of ten genera, including *Chondrosium* and *Cathestecum*, within *Bouteloua*. This expansion of *Bouteloua* results in loss of morphologically distinct genera and important taxonomic information, thus I am following the generic circumscription of Clayton & Renvoize (1986) in treating *Bouteloua* sensu stricto and recognizing *Chondrosium* and *Cathestecum*.

When included in *Bouteloua*, *Chondrosium* is treated as a clearly defined subgenus (or section) (e.g., Griffiths 1912; Hitchcock 1951; Gould 1979; Gould & Shaw 1983; Herrera-Arrieta et al. 2004). Clayton (1982) stated that “*Chondrosium* Desv. is commonly included in *Bouteloua* Lag. The two genera are certainly adjacent, but a review of generic dispositions in the Cynodonteae as a whole reveals that their union is quite out of step with the level at which generic rank is usually pitched in the rest of the tribe.” *Chondrosium* differs by having persistent inflorescence branches, 1–6 (rarely more) inflorescence branches, branches typically 2–5 cm long; spikelets (6–)20–100 per branch, typically pectinate along inflorescence branch; spikelets disarticulating above the glumes; and spikelets usually with 2–3 rudimentary florets. In contrast, *Bouteloua* sensu stricto has deciduous inflorescence branches at maturity, 7–80 inflorescence branches, branches mostly 0.8–2 cm long; spikelets 1–9(–16) per branch, relatively widely spaced, more or less appressed along the primary branch and not pectinate (rarely moderately pectinate); disarticulation at the base of the inflorescence branch with the spikelets falling with the branch; and spikelets with 1 rudimentary floret (Gould 1979; Gould & Shaw 1983; Clayton & Renvoize 1986; Davidse & Pohl 1992; Hitchcock 1951).

- 1. *Chondrosium rothrockii* (Vasey) Wipff, comb. nov.** *Bouteloua rothrockii* Vasey, Contr. U.S. Natl. Herb. 1: 268. 1893. *Bouteloua barbata* var. *rothrockii* (Vasey) Gould, Ann. Missouri Bot. Gard. 66: 403. 1979[1980]. *Chondrosium barbatum* var. *rothrockii* (Vasey) Shaw & Wipff, J. Bot. Res. Inst. Texas 12: 25. 2018. **TYPE: USA. Arizona.** Yavapai Co.: Cottonwood, Wheeler’s Expedition, 1874, *J.T. Rothrock 347* (holotype: US, image!; isotype GH).
- 2. *Chondrosium sonorae* (Griffiths) Wipff, comb. nov.** *Bouteloua sonorae* Griffiths, Contr. U.S. Natl. Herb. 14: 389, f. 43. 1912. *Bouteloua barbata* var. *sonorae* (Griffiths) Gould, Ann. Missouri Bot. Gard. 66: 403. 1979 [1980]. **TYPE: MEXICO. Sonora.** Rio Yaqui, 1869, *E. Palmer s.n.* (holotype: US).

3. **Chondrosum herreraarrietae** (Peterson & Romasch.) Wipff, **comb. nov.** *Bouteloua herreraarrietae* Peterson & Romasch., J. Syst. Evol. 53: 362. 2015 (as "herrera-arrietae"). **TYPE: MEXICO. Nuevo Leon.** Mpio. Galeana: Sierra Madre Oriental, 5 km E of San Roberto on Hwy 62 towards Galeana, 24.69° N 100.1856° W, 2007 m, 13 Sep 2012, P.M. Peterson, K. Romaschenko, J. Valdes Reyna 24458 (holotype: US, image!; isotype: ANSM).

The original epithet "herrera-arrietae" is corrected to "herreraarrietae" (vide Shenzhen Code Art. 60 Ex. 40: "*Eunotia rolandschmidtii* Metzeltin & Lange-Bert. (Iconogr. Diatomol. 18: 117. 2007, 'roland-schmidtii'), in which the given name and surname do not stand independently because the former is not separately latinized ...") (Gandhi 2021).

4. **Chondrosum strictum** (Vasey) Wipff, **comb. nov.** *Bouteloua stricta* Vasey, Bull. Torrey Bot. Club 15: 49. 1888. *Bouteloua gracilis* var. *stricta* (Vasey) Hitchc., J. Wash. Acad. Sci. 23: 454. 1933. **TYPE: USA. Texas.** 1887, G.C. Nealley s.n. (holotype: US, image!)

5. **Chondrosum gentryi** (Gould) Wipff, **comb. nov.**, *Bouteloua gentryi* Gould, Leaflet W. Bot. 5: 199. 1949. *Bouteloua parryi* var. *gentryi* (Gould) Gould, Ann. Missouri Bot. Gard. 66: 408. 1979[1980]. **TYPE: MEXICO. Sinaloa.** Imala, arid slope with thin forest, forming thin sod in forest openings, 500 ft, 20 Nov 1939, H.S. Gentry 5000 (holotype: ARIZ, image!; isotype: ARIZ, image!).

*Cathestecum* has been long recognized as distinct genus by many authors (e.g., Griffiths 1912, Swallen 1937, 1939; Hitchcock 1951; Pierce 1979; Gould 1979, Gould & Shaw 1983; Clayton & Renvoize 1986; Pacheco 2002).

6. **Cathestecum tamaulipense** (Pierce ex Pacheco & Columbus) Wipff, **comb. nov.** *Bouteloua tamaulipensis* Pierce ex Pacheco & Columbus, J. Bot. Res. Inst. Texas 2: 966. 2008. **TYPE: MEXICO. Tamaulipas.** Mpio. de Jiménez: On mesa ca. 7.5 road mi NNE of Santander Jiménez along Hwy 101, 24°18'57" N, 98°26'16" W, elev. ca. 200 m, 22 Sep 1996, J.T. Columbus 2885 (holotype: RSA; isotypes: ANSM, MEXU, MO, US).

#### ACKNOWLEDGEMENTS

I am grateful for reviews of the manuscript by David Rosen and Guy Nesom and for the nomenclatural review by Kanchi N. Gandhi.

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