A NEW SPECIES OF CRYPTANTHA (BORAGINACEAE) FROM WYOMING

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ABSTRACT

A new species, **Cryptantha subcapitata,** is described from Fremont County, Wyoming. It is compared with *C. caespitosa* and *C. spiculifera* which it resembles most closely.

In the course of field collecting in central Wyoming, we came across a mat-forming *Cryptantha* that resembled *C. caespitosa* (A. Nels.) Payson but had a different aspect. Closer examination of these plants revealed several distinct differences from *C. caespitosa,* including longer styles and a different type of pubescence. The longer styles suggested *C. spiculifera* (Piper) Payson but again the pubescence was different as were characteristics of the nutlets and inflorescence. These differences and others support recognition of this mat-forming taxon at the species level.

Cryptantha subcapitata Dorn & Lichvar, sp. nov.

Herba perennis caespitosa, 5–15 cm alta; folia linearia vel linearioblanceolata, 8–28 mm longa, 1–3 mm lata, dense strigosa; inflorescentia capitata vel subcapitata; calyx 5–7 mm longus; corolla alba, tubus 3–4 mm longus, limbus 5–6 mm latus; anthera 0.8 mm longa; stylus fructu 1.5–2 mm longior; nuculae 4, ovatae, 2–3 mm longae, dorso tuberculato-rugulosae, pagina ventrali tuberculato-rugulosae, sulco aperto triangulari (Fig. 1).

Mat-forming perennial 5–15 cm high; leaves linear to linear-oblanceolate, 8–28 mm long, 1–3 mm wide, densely appressed strigose and with some slightly larger, spreading, pustulate hairs at least on abaxial surface and margins, the old whitish leaves persisting at base; stems greenish; inflorescence capitate or subcapitate; calyx 5–7 mm long, pubescent like the leaves; corolla white, the tube 3–4 mm long, the limb about 5–6 mm across; anthers about 0.8 mm long; nutlets 2–3 mm long, ovate in outline, dorsal surface rugose at center, mostly tuberculate near margins, the ventral surface rugose and tuberculate,

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FIG. 1. *Cryptantha subcapitata* (from *Dorn 3459*). Habit: scale bar = 1 cm. Ventral view of nutlet and four nutlets with protruding style: scale bar = 1.5 mm.

TABLE 1. SELECTED CHARACTERISTICS OF THREE TAXA OF *Cryptantha*.

Characteristic	*C. caespitosa*	*C. subcapitata*	*C. spiculifera*
Leaf shape	Obovate to oblanceolate	Linear to linear-oblanceolate	Oblanceolate
Leaf pubescence	Uniform, coarse, mostly appressed, not obviously pustulate hairs	Mixture of coarse, appressed, nonpustulate hairs and fewer, spreading, slightly coarser, obviously pustulate hairs	Mixture of fine, somewhat appressed, nonpustulate hairs and fewer, spreading, much coarser, obviously pustulate hairs
Stems	Straw colored	Green	Green or straw colored
Inflorescence	Usually elongate	Capitate or subcapitate	Usually elongate
Styles	Exceed nutlets by <0.5 mm	Exceed nutlets by 1.5–2 mm	Exceed nutlets by 1.5–2 mm
Mature nutlet margins	Usually same as body	Same as body	With narrow, smooth border prominently set off from body by smoothness and color
Nutlet scar	Open	Open	Closed

the scar open for most of length of nutlet, the opening triangular at base; style exceeding nutlets by 1.5–2 mm.

TYPE: USA, WY, Fremont Co., T5N R6E S8, just w. of Boysen Dam, rocky calcareous ridge, 1775 m, 23 Jun 1980, *Dorn 3459*. (Holotype: RM; isotypes: to be distributed).

PARATYPES: same location and date as holotype, *Lichvar 2886* (RM); USA, WY, Fremont Co., 2.4 km se. of Boysen Camp, 1550 m, 3 Jun 1964, *Wight 87* (RM).

Cryptantha subcapitata differs from *C. caespitosa* in that the inflorescence is capitate or subcapitate rather than normally elongate, the styles exceed the nutlets by 1.5–2 mm rather than by less than 0.5 mm, and the pubescence is different. It differs from *C. spiculifera* in that the inflorescence is capitate or subcapitate rather than normally elongate, the pubescence is different, and the nutlet scar is open rather than closed. These and other differences among the three species are summarized in Table 1.

Cryptantha subcapitata is perhaps derived from *C. caespitosa* and thus can be placed in the "caespitosa group" of Higgins (1971). The

pubescence and nutlets of the two are quite similar when compared to other species and the former is on the northern edge of the range of the latter. It is not likely that *C. caespitosa* is derived from *C. subcapitata* because the direction of evolution in this region appears to be from common habitats to rare, more severe habitats. *Cryptantha caespitosa* is found on a variety of relatively common substrates including sandy knolls, rocky slopes, and ridges. *Cryptantha subcapitata* is restricted to relatively uncommon calcareous substrate, a habitat in which many Wyoming endemics or near-endemics are found and in which common species are relatively few.

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