**Cremanthodium nobile var. yanyuanense** (Asteraceae, Senecioneae), a new epappose taxon from southwestern Sichuan, China

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**Abstract**

A new variety, *Cremanthodium nobile* var. *yanyuanense* (Asteraceae, Senecioneae), is described and illustrated. It is readily distinguished from the type variety, var. *nobile*, by the absence of the pappus.

**Key words:** Compositae, new variety, taxonomy

**Introduction**

In the course of checking specimens for the preparation of an account of the genus *Cremanthodium* Bentham (1873: 38) for the *Flora of Pan-Himalaya* (<www.flph.org/index>), three collections, Anonymous 080154 (HITBC), Anonymous 080155 (HITBC) and Qinghai-Xizang Exped. 12180 (KUN, PE), all from Yanyuan, southwestern Sichuan, China, caught our attention. These specimens had been previously identified as *C. nobile* (Franchet 1892: 287) Diels ex Léveillé (1916: 43). Upon careful examination, however, we found that their florets have no pappus bristles, a character which at once distinguishes them from *C. nobile*. In July 2016, we made a botanical trip to Yanyuan and successfully discovered a large population of the plants in question. The absence of the pappus was confirmed to be a constant character within the population. As we have been unable to find any other morphological differences between these plants and *C. nobile*, we consider it justifiable to describe them as a new variety of this species.

**Cremanthodium nobile** var. **yanyuanense** L. Wang, C. Ren & Q. E. Yang, var. nov. (Figs. 1–2)

Type:—CHINA. Sichuan, Yanyuan, Huolu Shan, 27°51ʹ54.04ʺ N, 101°34ʹ26.78ʺ E, in alpine scrub, 3945 m, 16 July 2016, L. Wang & Y.P. Zeng 845 (holotype IBSC; isotypes CDBI, IBSC, PE).

Perennial herbs. Stems 1–4, erect, 15–30 cm tall, 2–4 mm in diam. at base, slightly purplish black pilose or glabrous proximally, densely purplish black pilose and white arachnoid distally. Basal leaves sessile or shortly petiolate; petiole to 3 cm long, glabrous, more or less winged; leaf blade thick, obovate, elliptic or oblong, 2–8 cm long, 2–5 cm wide, bright-green adaxially, pale-green abaxially, glabrous on both surfaces, base cuneate, narrowed into petiole, apex obtuse or rounded, margin entire or shallowly crenate; pinnate veins slightly sunken adaxially, prominent abaxially. Stem leaves 2–5, sessile, ca. 1 cm long, lanceolate to linear, base not amplexicaul. Capitula solitary, nodding. Involucre hemispheric, 1–1.5 cm high, ca. 2 cm in diam., outside purplish black pilose and slightly white arachnoid; phyllaries 13–15, in 2 rows; outer phyllaries lanceolate or narrowly oblong, 3–4 mm wide, apex acuminate; inner phyllaries oblong, 4–8 mm wide, margin membranous, shortly white ciliate on upper edges, apex acute. Ray florets 12–15, yellow; lamina narrowly lanceolate, 2–4 cm long, 0.4–0.7 cm wide, apex acuminate, shallowly 3-dentate; tube ca. 1 mm long. Tubular florets numerous, yellow; limb ca. 4 mm long, Tube ca. 1 mm long. Achenes obovoid, ca. 2 mm long, conspicuously ribbed. Pappus absent.
Distribution and Habitat:—Cremanthodium nobile var. yanyuanense is currently known only from the type locality, i.e. Huolu Shan in Yanyuan, southwestern Sichuan, China (Fig. 3). It grows in alpine meadows or alpine scrub at elevations of 3600–4000 m above sea level.

**Phenology:**—Flowering late June to July; fruiting late July to August.

**Etymology:**—The varietal epithet is derived from Yanyuan, southwestern Sichuan, China, the type locality of this variety.

**Additional specimens examined:**—CHINA. Sichuan, Yanyuan, Huolu Shan, alpine meadows, 3950 m, 21 July 1983, Anonymous 080154 (HITBC); same locality, alpine scrub, 3700–4000 m, 22 July 1983, Anonymous 080155 (HITBC); same locality, alpine scrub, 3600–3800 m, 21 July 1983, Qinghai-Xizang Exped. 12180 (KUN, PE).

**Discussion:**—Cremanthodium nobile var. yanyuanense is at once distinguishable from the type variety, C. nobile...
var. *nobile*, by the absence of the pappus. In the type variety, the pappus is always present and is as long as the tubular corolla. We have been unable to find any other essential difference between the two taxa in morphological characters (Table 1).

<table>
<thead>
<tr>
<th></th>
<th><em>C. nobile</em> var. <em>nobile</em></th>
<th><em>C. nobile</em> var. <em>yanyuanense</em></th>
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<tbody>
<tr>
<td>Stem</td>
<td>to 40 cm high, slightly purplish black pilose or glabrous proximally, densely purplish black pilose and white arachnoid elsewhere</td>
<td>to 30 cm high, slightly purplish black pilose proximally, densely purplish black pilose and white arachnoid elsewhere</td>
</tr>
<tr>
<td>Basal leaf</td>
<td>2−5, obovate, broadly elliptic or suborbicular, 2−10 cm long, 1−5.5 cm wide</td>
<td>3−5, obovate, elliptic or oblong, 2−8 cm long, 2−5 cm wide</td>
</tr>
<tr>
<td>Stem leaf</td>
<td>2−7, oblong to linear</td>
<td>2−5, lanceolate to linear</td>
</tr>
<tr>
<td>Involucre</td>
<td>hemispheric, 1−1.7 cm high, 2−3 cm in diam.</td>
<td>hemispheric, 1−1.5 cm high, ca. 2 cm in diam.</td>
</tr>
<tr>
<td>Phyllary</td>
<td>10−15, purplish black pilose and slightly white arachnoid dorsally</td>
<td>13−15, purplish black pilose and slightly white arachnoid dorsally</td>
</tr>
<tr>
<td>Ray lamina</td>
<td>narrowly lanceolate or narrowly elliptic, 2−4 cm long, 0.4−1 cm wide</td>
<td>narrowly lanceolate, 2−4 cm long, 0.4−0.7 cm wide</td>
</tr>
<tr>
<td>Pappus</td>
<td>white, as long as tubular corolla</td>
<td>absent</td>
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<tr>
<td>Distribution</td>
<td>southwestern Sichuan (Daocheng, Jiulong, Litang, Mianning, Muli), northwestern Yunnan (Eryuan, Heqing, Lijiang, Ninglang, Zhongdian) (Fig. 3)</td>
<td>southwestern Sichuan (Yanyuan) (Fig. 3)</td>
</tr>
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</table>

*FIGURE 3.* Distribution of *Cremanthodium nobile* var. *nobile* (●) and *C. nobile* var. *yanyuanense* (▲).

In the genus *Cremanthodium*, *C. nobile* var. *yanyuanense* is the second known epappose taxon. The first taxon reported to have this feature in the genus is *C. bupleurifolium* Smith (1913: 112), which occurs in Dêqên in northwestern Yunnan, China (previous records of its occurrence in southwestern Sichuan and southeastern Xizang are wrong due to misidentification of specimens or misinterpretation of their locality information). *Cremanthodium bupleurifolium*...
is most closely similar to *C. brachychaetum* Chang (1951: 322) from Weixi (a county closely contiguous to Déqên) in northwestern Yunnan, but in the latter the pappus, albeit very short (1–2 mm long, much shorter than the tubular corolla which is ca. 5 mm long), is constantly present. Just as the case with *C. nobile* var. *nobile* and var. *yanyuanense* which differ from each other only in the presence or absence of the pappus, it seems that there are also no other essential differences between *C. bupleurifolium* and *C. brachychaetum*. The taxonomic status of *C. brachychaetum* needs to be reconsidered. We put this problem aside for future study.


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References


