

*Pertya sinensis* Oliver, Hook. Icon. Pl. 23: pl. 2214. 1892.

First described from Hupeh.

Malisoondo, No. 889; Shih Men, No. 900. On exposed stream-banks or in forests. Common.

A dense shrub, up to 3 meters high; flowers purple; fruit brownish.

*Picris hieracioides* L. subsp. *japonica* (Thunb.) Hand.-Mazz. Symb. Sin. 7: 1177. 1936.

First described from Japan.

Shui Mo Kou, near Lien Ch'eng, No. 354; Lang Tzu T'ang Kou, No. 598. On moist edges of cultivated fields and in woods. Rather rare.

Height 75 cm.; flowers lemon-yellow.

*Prenanthes tatarinowii* Maxim. subsp. *macrantha* Stebbins subsp. nov.

A subspecies typical differt foliis pinnatis, segmento terminale 3 partito; involucris longioribus, 12-13 mm. longis; phyllis exterioribus ad 3.5-4 mm. longis.

Differs from typical *P. tatarinowii* in its pinnate leaves, which have two pairs of well-developed lateral lobes, and in its larger involucre, which have relatively long outer bracts (the longest 3.5 to 4 mm. long in subsp. *macrantha*, 1.5 to 3 mm. in the typical form).

Type in the herbarium of the University of California collected by R. C. Ching, No. 913, in partial shade in woods in Shih Men, south of Old T'ao Chou, Kansu, alt. 3,600 to 4,200 meters, August 31, 1923; duplicate in the U. S. National Herbarium. An additional specimen seen is *Rock 14591*, in the Gray Herbarium, collected in a moist meadow and along a stream in "Drakana," in the upper Tebbu country, southern Kansu.

This subspecies is quite distinct from typical *P. tatarinowii* of Hopei and Shansi Provinces in leaf shape and size of involucre, and it occurs at much higher elevations. It probably also has a different chromosome number. Typical *P. tatarinowii*, of which the somatic chromosome number is  $2n=16$  (Babcock, Stebbins, and Jenkins, Cytologia Fujii Jubil. Vol., p. 190, 1937), has stomata 25-29  $\mu$  long, and its pollen is regular. The stomata of subsp. *macrantha* are 32-36  $\mu$  long, while the pollen grains are somewhat irregular in size. Since these characteristics are possessed by the only tetraploid species of *Prenanthes* known, *P. alba*, it is likely that *P. tatarinowii* subsp. *macrantha* is also tetraploid, with the somatic chromosome number  $2n = 32$ . This might justify its recognition as a species were it not for the fact that one specimen from Hupeh (*Henry 6748*, Gray Herb.), which morphologically resembles typical *P. tatarinowii*, also has stomata and pollen grains that suggest its polyploid condition, while another from Szechwan (*Fang 4344*) has the stomata and pollen of a diploid but resembles subsp. *macrantha* in leaf shape and in habitat. Apparently *P. tatarinowii* in northwestern China consists of a complex of closely interrelated diploid and polyploid forms, which cannot be fully understood until a much larger series of specimens is available than at present.

*Saussurea acroua* Cummins, Kew Bull. Misc. Inf. 1908: 19. 1908.

First described from western China.

Lower Tu I Kou, No. 959. In woods along partially exposed, clay roadsides. Fairly common.

Height up to 75 cm.; flowers purplish brown.

*Saussurea chingiana* Hand.-Mazz. Notizbl. Bot. Gart. Berlin 13: 647. 1937.

"Kwa Shan," 60 li south of Lanchow, No. 1035 (type). On exposed, fairly moist clay banks. Rare.

Height 45 cm.; flowers purple.