

Ixeris lanceolata (Houtt.), comb. nov. *Prenanthes lanceolata* Houttuyn, Handleid. xxviii. 383, t. 66, f. 2 (1779); *Crepidiastrum lanceolatum* Nakai, tom. cit. (1920). For further synonymy, see Nakai, loc. cit.

Ixeris lanceolata subsp. ***platyphylla*** (Makino), comb. nov. *Crepis lanceolata* var. *platyphylla* Makino, op. cit. xvii. 88 (1903); *Crepidiastrum lanceolatum* var. *latifolium* Nakai, tom. cit. 151 (1920).

IXERIS LINGUAEFOLIA Gray in Mem. Am. Acad. N. S. vi. 398 (1859); *Crepidiastrum linguaefolium* Nakai, tom. cit. 152 (1920).

Ixeris Quercus (Lévl. & Van.), comb. nov. *Lactuca Quercus* Lévl. & Van. in Fedde Rep. viii. 141 (1910).

Ixeris taiwaniana (Nakai), comb. nov. *Crepidiastrum taiwanianum* Nakai, loc. cit. (1920).

Subgenus **PARAIXERIS**, stat. nov. *Paraixeris* Nakai, tom. cit. 155 (1920), as genus.

Ixeris chelidoniifolia (Makino), comb. nov. *Lactuca chelidoniifolia* Makino, op. cit. xi. 47 (1898); *Paraixeris chelidoniifolia* Nakai, tom. cit. 156 (1920).

Ixeris denticulata (Houtt.), comb. nov. *Prenanthes denticulata* Houtt. Handleid. xxviii. 385, t. 66, fig. 4 (1779); *Lactuca denticulata* Maxim. in Bull. Acad. Sci. St. Petersburg. xix. 529 (1874); *Paraixeris denticulata* Nakai, loc. cit. (1920), which cf. for complete synonymy.

A study of the specimens of this widespread and variable species in the Herbarium of the University of California (cited below as U.C.), the U.S. National Herbarium (U.S.), and the Herbarium of the Natural History Museum, Vienna (V.), has made evident the presence of the following subspecies, which have definite geographic ranges. It is not unlikely that a study of a larger series would reveal still more subspecies. Those now recognized may be distinguished by the following key:—

- A. Plant glabrous; cauline leaves, if pinnatifid, with 2-6 pairs of lobes; achenes merely scabrous above, the beak 0.2-1 mm. long, not more than $\frac{1}{3}$ the total length of the achene.—B.
- B. Achenes 11-14-ribbed, 0.6-0.7 mm. broad, the beak 0.2-0.5 mm. long, not more than $\frac{1}{5}$ the total length of the achene; cauline leaves broadest at or near the middle; anther-tube and stigma greenish or blackish; flowering in autumn.—C.

- C. Involucre 7-8 mm. long; inner bracts plane at apex; corollas 7.5-10 mm. long; achenes, including beak, 2.6-3.5 mm. long; pappus bristles 3.5-4.5 mm. long Subsp. *typica*.
- C'. Involucre 8-9 mm. long; inner bracts corniculate at apex; corollas 11-13 mm.; achenes, including beak, 3.2-3.8 mm.; pappus bristles 4.5-5.5 mm. Subsp. *longiflora*.
- B'. Achenes 10-ribbed, 0.3-0.4 mm. broad, with a beak 0.6-1 mm. long and 1/4-1/3 the total length of the achene.—D.
- D. Cauline leaves broadest at the base, salient-dentate or with narrowly deltoid or lanceolate, acuminate lobes; anther-tube and stigma yellow; flowering mostly in spring and summer.—E.
- E. Cauline leaves coarsely dentate, or with lanceolate-linear lobes 4-15 mm. long; inner involucre bracts not crested or tuberculate; involucre 5.5-6.5 mm. high Subsp. *sonchifolia*.
- E'. Cauline leaves more finely dentate, the teeth 0.5-5 mm. long; at least some of the inner involucre bracts with a distinct tubercle or claw on the dorsal surface at the apex; involucre 4.5 mm. high Subsp. *elegans*.
- D'. Cauline leaves broadest at or near the middle, denticulate, and usually sinuate or with a few ovate or deltoid, acute lobes; anther-tube and stigma dark greenish or black (*in sicc.*); flowering in autumn..... Subsp. *ramosissima*.
- A'. Leaves, stem, and branches puberulent; larger cauline leaves pinnatifid with 8-10 pairs of lobes; achenes strongly muriculate above, the beak 1.2-1.5 mm. long, nearly half the total length of the achene..... Subsp. *pubescens*.

Subsp. *typica* (Maxim.), comb. nov. *Lactuca denticulata* var. *typica* Maxim., *loc. cit.* (1874).

This is apparently the only subspecies found in Japan, since the keen eyes of Japanese botanists have detected only one minor variation (f. *pinnatifidpartita* (Makino), comb. nov.). In central China it is the most common subspecies, but it becomes less common in the northern and southern parts, and has not yet been seen by the writer from the western provinces (Kansu, Szechuan, Yunnan). The following are typical: JAPAN: Southern Hokkaido, *W. P. Brooks* in 1884 (U.C.). SIBERIA: Vladivostok and vicinity, *Topping* no. 2449 (U.S.). CHINA: Chihli; Tou Ping, *L. Chanet* no. A 576 (V.); Peiping, H. H. Hu in 1935 (U.C.); Hupeh; *Henry* no. 3108 (U.S.); Anhwei, Pei Chen, *R. C. Ching* no. 9061 (U.C., U.S.); Chekiang; *Barchet* no. 409 (U.S.); Kweichow; Chengfeng, *C. C. Chang* no. 4517; Kwangtung; Wan Tong Shan, *Tak & Chow* C. C. C. no. 14,725 (U.C.).

Subsp. *longiflora*, subsp. nov. A subsp. *typica* differt: caulis humilior, 2-3.5 dm. alta; capitula majora, 8-9 mm. longa; phylla interiora sub apice corniculata; corollæ 11-13 mm. longæ; achænia cum rostro 3.2-3.8 mm. longa; rostrum suum 0.3-0.6 mm. longum; pappi setæ 4.5-5.5 mm. longæ.

Southern China. The following have been examined: Kwangtung; Chung Tung Tai Tsan, *Ying Tak*, Lingnan University, no. 15,006 (TYPE, in Herb. Univ. Calif. no. 319,760); Fukien, without locality, *Metcalf & Chang* no. 677 (U.C.). In its corniculate involucre bracts and smaller size, this subspecies suggests subsp. *ramosissima*, but the heads, florets, and achenes are distinctly larger than those of any other subspecies, and the habit, the shape of the leaves, and that of the achenes place it next to subsp. *typica*.

Subsp. *sonchifolia* (Maxim.), comb. nov. *Prenanthes sonchifolia* Bunge, Enum. Pl. China bor. n. 226 (1830) nomen; *Lactuca denticulata* var. *sonchifolia* Maxim. loc. cit. (1874); *Ixeris sonchifolia* Nakai in Bot. Mag. (Tokyo), xxiv. 154 (1920).

Korea and Siberia to Northern and Central China. The following are typical:—KOREA: Port Chusan, *C. Wilford* in 1859 (V.). SIBERIA: Amur region, Blagowjestschensk, *Karo* no. 149 (V.). CHINA: Chihli (Hopei); Pei T'ai Ho, *Mr. & Mrs. W. Granger* in 1925 (U.C.); Kiangsu; Lungtan, *A. N. Steward* no. 5209 (U.C., U.S.).

Although in their typical forms this and the following subspecies are very distinct from subsp. *typica*, intermediate forms between them occur, as mentioned above. A good example of such a form is *Chien* no. 95, from Peking (V.), which has the low branching habit, as well as the yellow anthers and stigmas of subsp. *sonchifolia*, but with the basal and lower cauline leaves broad, obovate, and denticulate as in subsp. *typica*, and flowering in autumn (September 27). The achenes are intermediate, having 11-12 ribs, together with the relatively long beak of subsp. *sonchifolia*. Although somewhat immature, these achenes are apparently fertile, and the pollen grains are nearly regular and normal in size, suggesting that if this plant is a hybrid, it is a fertile one.

Subsp. *elegans* (Franch.), comb. nov. *Lactuca elegans* Franch. in Morot, Journ. de Bot. ix. 262 (1895).

Central and western China, in the latter region apparently the only subspecies occurring. The following agree well with Franchet's description: Shansi; Mien Shan, *R. W. Chaney* no. 1065 (U.C.); Kansu; Ho Lan Shan, *R. C. Ching* no. 194 (U.S.); Honan; Kikungshan, *A. N. Steward* no. 9639 (U.C., U.S.); Kiangsi; Lu Shan, *Steward* no. 2691 (U.S.); Szechuan; Sungpan Hsien, *W. P. Fang* no. 4407 (U.S.); Wanhsien, *Mrs. W. Granger* no. 20 (U.C.).

Quite distinct in its typical form, but the specimens from near the edge of its range (Shansi, Kiangsi) are definitely transitional toward subsp. *sonchifolia*, and in its involucre it is close to subsp. *ramosissima*. It apparently bridges the gap between subsp. *typica* and subsp. *sonchifolia* in its flowering time, as flowering specimens have been collected in May, June, July, September, and December.

Subsp. **ramosissima** (Benth.), comb. nov. *Brachyrhamphus* (?) *ramosissimus* Benth. in London Journ. Bot. i. 489 (1834); *Ixeris ramosissima* Gray in Mem. Am. Acad. n. s. vi. 397 (1859), excl. descr. and synonymy.

Southern China. HONGKONG: *C. Wright* no. 310 (U.S.); *K. Reehinger* no. 2348 (V.); *W. A. Setchell* in 1926 (U.C.). CHINA: Kweichow; Langtai, *Tsiang* no. 9499 (U.C.); Kwangsi; E. Hin Yen, *Ching* no. 6702 (U.C., U.S.); Yunnan; Meng-tsze, *A. Henry* no. 9661A (U.S.).

Since all the specimens of *I. denticulata* from Hongkong seen by the writer are of this subspecies, there is little doubt that this is the plant which Bentham described. In habit it resembles subsp. *typica* f. *pinnatipartita*, with which it agrees in flowering date. The crests on the inner involucre bracts, however, suggest those of subsp. *elegans*, and the flowers are somewhat smaller than in subsp. *typica*, the corolla being only 5.5–7 mm. long, as opposed to 7.5–10 mm. in subsp. *typica*. In this respect subsp. *ramosissima* agrees exactly with subsp. *elegans*. The colouring of the anthers and stigma are as in subsp. *typica*, but the achenes resemble those of subsp. *elegans* and subsp. *sonchifolia*.

Subsp. **pubescens**, subsp. nov. Ad subsp. *sonchifolia* et subsp. *elegans* proxima, sed differt: Caules et folia puberulentes; folia caulina lanceolata, 3–6 cm. longa, pinnatipartita, lobi 5–10 pares, dentati vel pinnatifidi; capitula 4.5–5.5 mm. longa; phylla interiora ad apicem plana; corollæ 6–8 mm. longæ; achænia cum rostro 3.5–4.2 mm. longa, ad basim rostri muriculata, alibi scabriduli; rostrum 1.2–1.8 mm. longum; pappi setæ 2–2.5 mm. longæ.

CHINA: Hupeh; without locality, *E. H. Wilson* no. 343. (TYPE, in Herb. Mus. Nat. Hist. Vienna, no. 1907: 10,227.)

Although agreeing with subsp. *sonchifolia* and *elegans* in its general habit, its yellow anthers and stigma, and the ribbing of its achenes this subspecies is strikingly different from any other in its pubescence, leaf-shape, and long-beaked muriculate achenes, and with further material available may deserve specific rank.