

## Taxonomic Studies of *Cirsium* (Asteraceae) in Japan X. Species Described by Franchet and Savatier

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**Abstract** Authentic specimens of Japanese *Cnicus* [= *Cirsium* in the current sense] described and annotated by Franchet and Savatier and deposited at the Muséum National d'Histoire Naturelle, Paris (P) are re-examined. *Cirsium ovalifolium* (Franch. & Sav.) Matsum. [= *Cnicus ovalifolius* Franch. & Sav.] is recognized as a distinct species and both *C. yatsugatakense* Nakai and *C. nipponicum* (Maxim.) Makino var. *alpestre* Kitam. are reduced to synonyms of this species. All the type specimens described by them are illustrated here for the first time.

**Key words:** *Cirsium*, Franchet and Savatier, Japan, Muséum National d'Histoire Naturelle (P), type specimen.

Aiming at the accomplishment of a monograph of the genus *Cirsium* of Japan, I have conducted extensive field works throughout Japan and have reported some results of the studies (Kadota, 1989, 1990, 1991, 1993, 1995a, 1995b, 1996, 1997a, 1997b, 1998a, 1998b, 1999, 2000, 2002a, 2002b). Studying authentic specimens of *Cirsium* in herbaria is also indispensable to the achievement of the monograph together with such field works.

In *Enumeratio Plantarum in Japonia Sponte Crescentium I–II* (1874–1877) A. Franchet and P. A. L. Savatier studied Japanese thistles and described five new species, two new varieties and a new form under the genus *Cnicus* L.: *Cnicus Hilgendorfi* Franch. & Sav., *Cnicus tanakae* Franch. & Sav., *Cnicus tanakae* forma *foliis dissectis* Franch. & Sav., *Cnicus japonicus* (DC.) Maxim. *ε. vulcani* Franch. & Sav., *Cnicus japonicus* (DC.) Maxim. *ζ. obvallatus* Franch. & Sav., *Cnicus oligophyllum* Franch. & Sav., *Cnicus Reinii* Franch. & Sav., *Cnicus ovalifolius* Franch. & Sav. Later Matsumura (1884) transferred these taxa to the genus *Cirsium*. However, he did not examine these materials at P (Kitamura, 1978). After Matsumura's transfer Japanese thistles have been treated as members of the genus *Cirsium*.

Kitamura actually carried out the examinations of the specimens and reported several important results (Kitamura, 1978). For instance he stated that *Cirsium tanakae* (Franch. & Sav.) Matsum. [= *Cnicus tanakae* Franch. & Sav.] should be reduced to a synonym of *Cirsium nipponicum* (Maxim.) Makino var. *incomptum* (Maxim.) Kitam. [nom. nud.] and that *Cirsium oligophyllum* (Franch. & Sav.) Matsum. [= *Cnicus oligophyllum* Franch. & Sav.] is the correct name assignable to the thistle called “Nohara-azami” in Japan. However, Kitamura did express only his conclusions and he did not mention the reasons why his conclusions were drawn. For this reason we are unable to discuss critically about his views.

In November of 2002 I had a chance to examine the specimens studied by Franchet and Savatier at the Muséum National d'Histoire Naturelle, Paris (P). Here I will report the results of the examinations of the specimens deposited at P in order of appearance in *Enumeratio*. This work will form the foundation of a monograph on Japanese *Cirsium* (Asteraceae), together with the results of the observations of the specimens studied by C. J. Maximowicz at the Komarov Botanical Institute, Russian Academy of Sciences (LE) (Kadota, 1993).

1) “2647. **Cnicus comosus** (Maxim.) Franch. & Sav., Enum. Pl. Jap., II: 409 (1877). Hab. circa Yokoska, rarior”

No specimens were cited in *Enumeratio* nor those identified as *Cnicus comosus* by Franchet and Savatier were not found at P. According to the locality this is considered as *Cirsium nipponicum* (Maxim.) Makino var. *comosum* (Franch. & Sav.) Kitam., which is a littoral form of *Cirsium nipponicum* (Maxim.) var. *incomptum* (Maxim.) Kitam. ex Kadota (Kadota, unpubl.).

2) “(945). **Cnicus pexus** (Maxim) Franch. & Sav., Enum. Pl. Jap., II: 410 (1877). *Cnicus suffultus* Maxim. var. *pevus* Maxim.”

Any specimens under this name were not cited in *Enumeratio*. The specimens annotated by Franchet and Savatier as *Cnicus pexus* are collections from three localities in Japan. The collection from Yokohama (October 1876, “Yokohana”, Dickens) is assignable to *Cirsium nipponicum* (Maxim.) Makino var. *comosum* (Franch. & Sav.) Kitam.

The collection from “Abashiri” (29 July 1890, Faurie 5430, Fig. 1) is ascribable to *Cirsium alpicola* Nakai. According to Sato (1938) and Kakuta (1992) on 29 July 1890 Abbé U. Faurie was staying at the eastern part of the Oshima Peninsula, southern Hokkaido. *Cirsium alpicola* is restricted to the southern part of Hokkaido and the northern part of Honshu (Kadota, 1995a). According to Kakuta (1992) again Faurie stayed at Abashiri on 8 July 1890 (the locality Abashiri is located in the eastern part of Hokkaido and is distant from the Oshima Peninsula by ca. 400 km in a beeline). It is highly possible that the locality “Abashiri” on the sheet Faurie 5430 might be Faurie’s clerical error.

The collections from Nagasaki (Kyushu, Kundsho-san, in pratis ad pedum, 1863, Maximowicz; Shimabara, 1863, Maximowicz, Fig. 2) are referred to *Cirsium suffultum* (Maxim.) Matsum. In conclusion “*Cnicus pexus*” in the sense of Franchet and Savatier is a mixture of three *Cirsium* species; *C. nipponicum* var. *comosum*, *C. alpicola* and *C. suffultum*.

3) “2648. **Cnicus incomptus** (Maxim.) Franch. & Sav., stat. nov., Enum. Pl. Jap., II: 410 (1877), *Cnicus suffultus* Maxim. var. *incomptus* Maxim.”

No specimens are cited in *Enumeratio*. There are 18 sheets annotated as *Cnicus incomptus* at P. They were collected from Yokosuka (Nippon, [Honshu,] Yokoska, no date, Savatier 2540, Fig. 3; Yokoska, 1866–1874, Savatier 687; circa Yokoska, no date, Savatier 2970). The collections from Yokohama (circa Yokohama, frequens, Nov. 1876, Dickens) and Hakone (in tractu Hakone, Savatier 3830) are characterized by having medium-sized capitula and campanulate involucre with 8–9-seriate phyllaries and without glandular bodies on the middle or inner phyllaries. They are well agreeable with *Cirsium nipponicum* var. *incomptum* from the western part of the Kanto District, central Honshu.

4) “2649. **Cnicus Hilgendorfi** Franch. & Sav., Enum. Pl. Jap., II: 410 (1877). Hab. in insula Nippon, probabiliter in ruderatis circa Yedo”

The type specimen from Yedo [Tokyo] (ex urbe Yedo (Japon), Savatier 3209, Fig. 4) is ascribable to *Cirsium pendulum* Fisch. ex DC.

Description: blade of a cauline leaf broadly obovate, 25 cm long, 11 cm wide, glabrous on both side, deeply pinnatilobate; lobes 7-jugate, lanceolate, 4–7 cm long, ca. 1 cm wide. Capitula several, nodding; peduncles 3–4 cm long; subtending leaves 1–2, linear. Involucre campanulate, 2 cm in diameter, 1.5 cm long; phyllaries 8-seriate; outer phyllaries narrowly ovate, 5 mm long, reflexed. Corollae immature.

5) “(946). **Cnicus Tanakae** Franch. & Sav., Enum. Pl. Jap., II: 411 (1877)”

Agreeing with Kitamura (1978), the type specimen of *Cnicus tanakae* Franch. & Sav. (141. Nazami, *Carduus?*, *Cirsium?*, Fig. 5) is assignable to *Cirsium nipponicum* (Maxim.) Makino var. *incomptum* (Maxim.) Kitam. ex Kadota.

Description: Stem 25 cm tall, simple, sparingly arachnoid throughout the surface. Basal leaves withering at anthesis. Blades of lower cauline leaves elliptic to narrowly elliptic, 10–15 cm



Fig. 1. *Cnicus pexus* (Maxim.) Franch. & Sav. [= *Cirsium alpicola* Nakai] ("Abashiri", 29 July 1890, Faurie 5430, P). The locality "Abashiri" is considered as Faurie's clerical error and this thistle is presumed to be collected in the eastern part of the Oshima Peninsula, Hokkaido.



Fig. 2. *Cnicus pexus* (Maxim.) Franch. & Sav. [= *Cirsium suffultum* (Maxim.) Matsum.] (Nagasaki, Shimabara, 1863, Maximowicz, P).

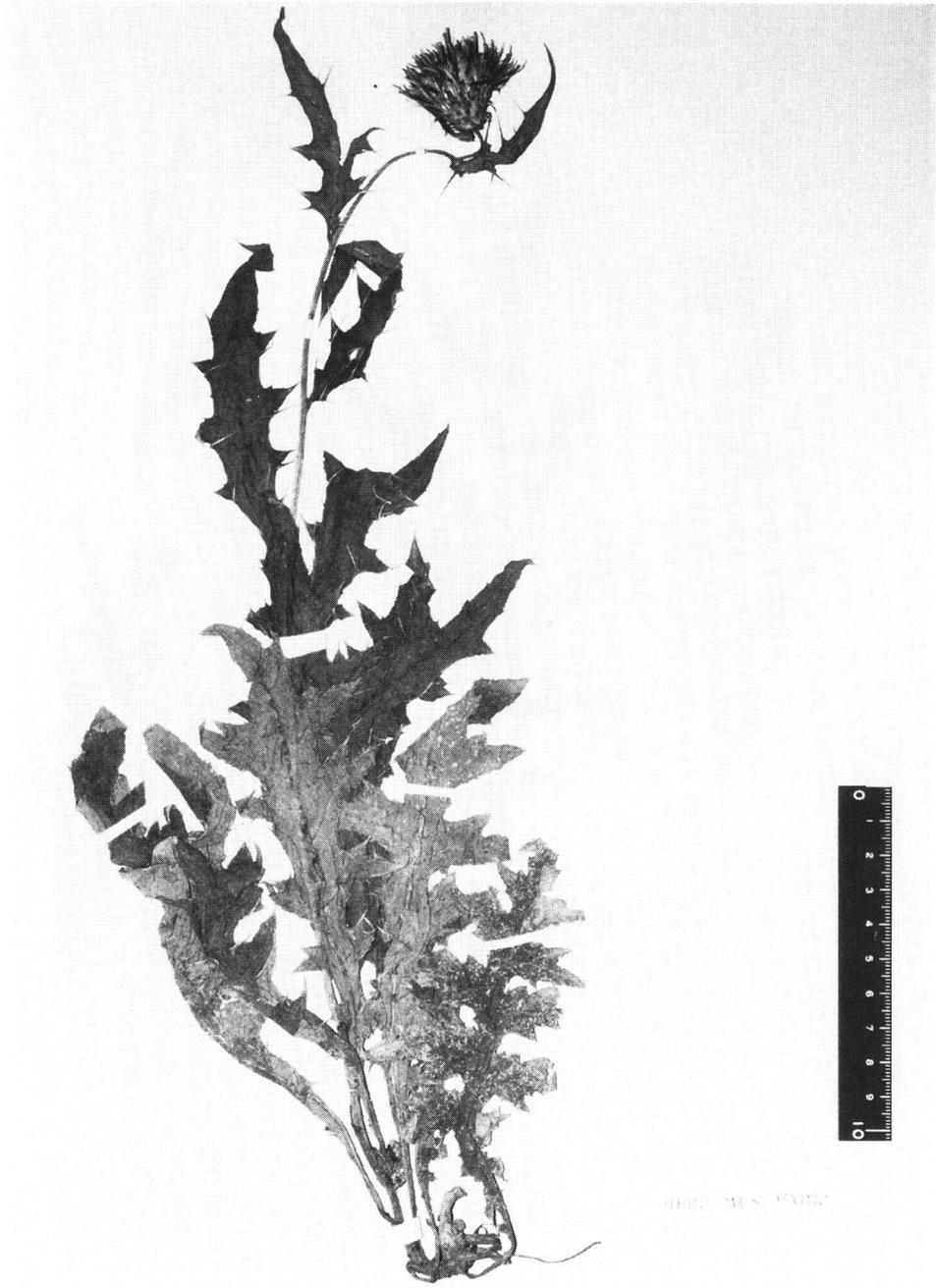


Fig. 3. *Cnicus incomptus* (Maxim.) Franch. & Sav. [= *Cirsium nipponicum* (Maxim.) Makino var. *incomptum* (Maxim.) Kitam. ex Kadota] (Nippon, circa Yokoska, Savatier 2541, P).

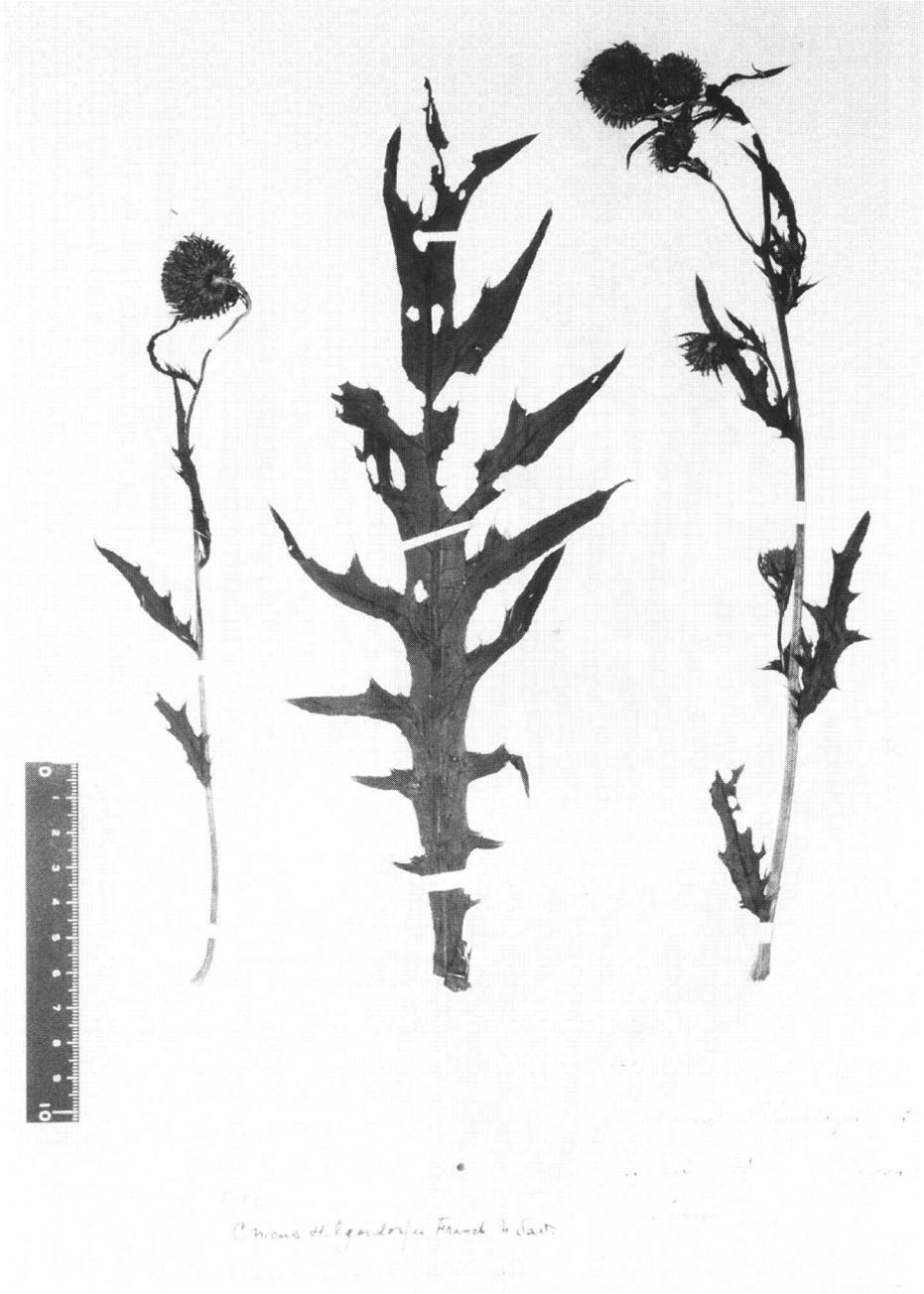


Fig. 4. Type specimen of *Cnicus Hilgendorfi* Franch. & Sav. [= *Cirsium pendulum* Fisch. ex DC.] (ex urbe Yedo (Japon), Savatier 3209, P).

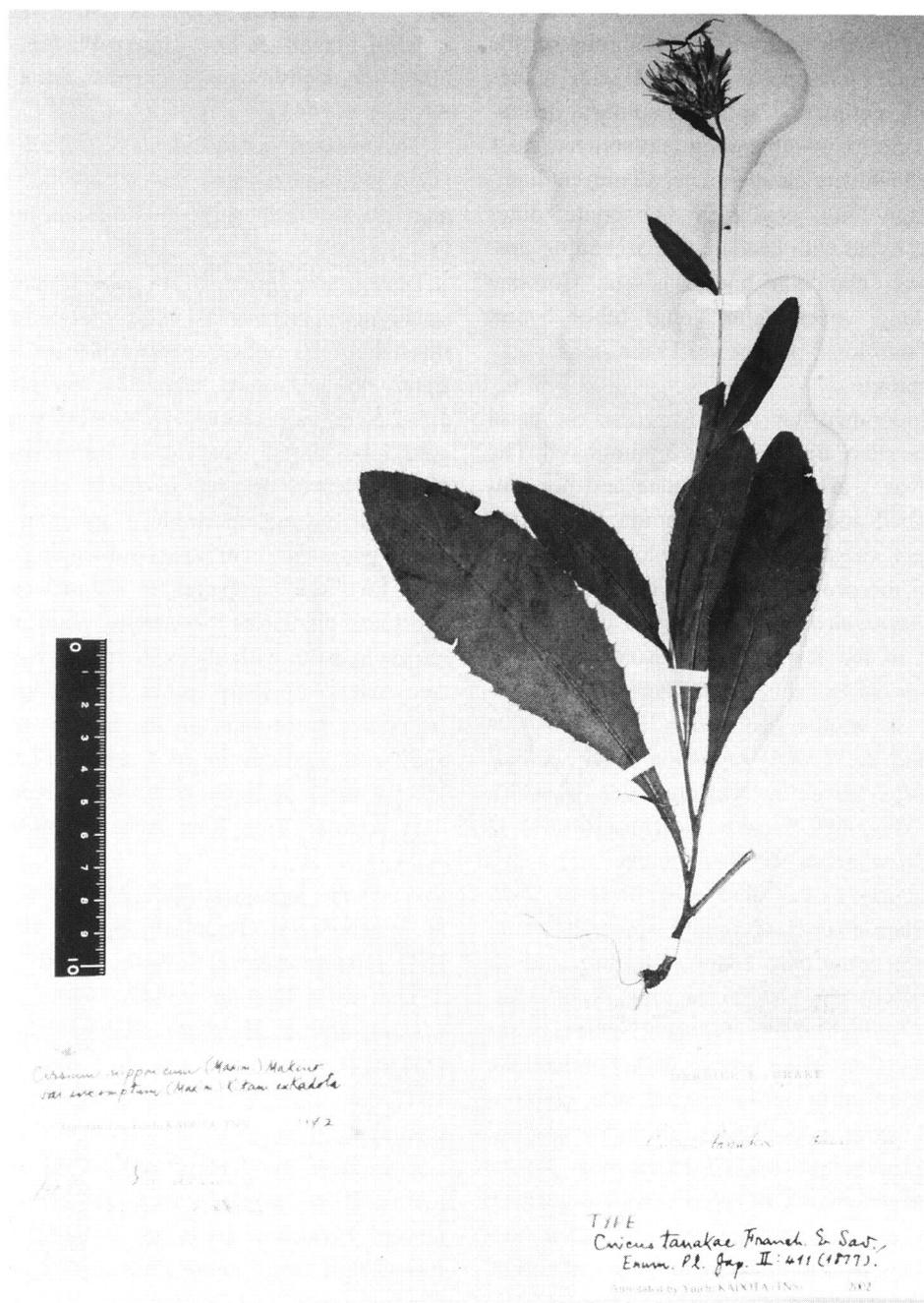


Fig. 5. Type specimen of *Cnicus tanakae* Franch. & Sav. [= *Cirsium oligophyllum* (Franch. & Sav.) Kitam.] (Nazami, sine loco, Savatier 141, P).

long, 3–4 cm wide, serrate, pilose with multicellular hairs on the adaxial side, glabrous on the abaxial side, marginally provided with spines 1 mm long, petiolate. Capitulum solitary; peduncles ca. 1 cm long; subtending leaf solitary, ca. 1 cm long. Involucre campanulate, 12 mm in diameter, 14 mm long; phyllaries 8–9-seriate; outer phyllaries ovate with caudate and ascending tips, 5 mm long; glandular bodies absent. Corollae 15 mm long; lobes 4 mm long; tubes 5 mm; throats 7 mm long; pappus ca. 15 mm long. Achenes immature.

This individual has large leaves in the basal part of the stem. But the leaves are not basal. The cauline leaves are roughly dentate and not pinnately lobed and rather uncommon in *Cirsium nipponicum* var. *incomptum*. The locality was not shown in the protologue, however, this form of *Cirsium nipponicum* var. *incomptum* occurs sporadically in the Kanto District (on the Pacific Ocean side) of Honshu, central Japan.

There is another collection from Yokoska [Yokosuka] as “*Cnicus tanakae* Franch. & Sav. forma *foliis dissectis*, Nippon, circa Yokoska, Dickens (Fig. 6)”. This is clearly attributed to *Cirsium nipponicum* var. *incomptum*.

Description: (a fragment of an flowering individual) Stem 50 cm tall, simple, sparingly arachnoid in the upper part. Blade of a lower cauline leaf narrowly obovate, 20 cm long, 8 cm wide, medially pinnatilobate, 5-jugate; lobes ovate, 4 cm long, 2 cm wide, pilose with multicellular hairs along midrib on the abaxial side, glabrous on the adaxial side. Blades of middle cauline leaves narrowly obovate, 10–15 cm long, 3–4 cm wide, serrate, shortly petioled, semi-amplexicaul at the base. Capitulum solitary, oblique or nodding; peduncle 3 cm long; subtending leaf absent. Involucre narrowly campanulate, 13 mm in diameter, 16 mm long; phyllaries 8–9-seriate; outer phyllaries ovate with caudate and recurved tips, 5–6 mm long; glandular bodies absent. Corollae 18 mm long; lobes 5 mm long; tubes 6 mm long; throats 7 mm long; pappus 14 mm long. Achenes immature.

6) “(951). *Cnicus japonicus* (DC.) Maxim., *ε. vulcani* Franch. & Sav., Enum. Pl. Jap., **II**: 412 (1877), in declivibus montis Fudsi Yama legit Dr. Savatier n. 3443”

This collection (3443 *Cnicus vulcani* sp. nov. [in sched.] Fudzi yama, Juis 1877, Fig. 7) is assignable to a meager form of *Cirsium japonicum* DC.

Description: Stem 26 cm tall, simple, arachnoid and pilose with brownish multicellular hairs throughout the surface. Blades of basal leaves elliptic to narrowly obovate, 5–7 cm long, 1.5–2.5 cm wide, shallowly pinnatilobate, 5–6-jugate; lobes broadly ovate, 5–10 mm long, sessile. Cauline leaves several, narrowly obovate, amplexicaul but not decurrent. Capitulum solitary, erect; peduncle 1 cm long; subtending leaf absent. Involucre campanulate, 15 mm in diameter and long; phyllaries 8–9-seriate; outer phyllaries narrowly ovate with attenuate tips, 5–6 mm long, terminated with sharp spines 1 mm long; glandular bodies lanceolate, on the midribs of all the phyllaries, well developed. Corollae 17 mm long; lobes 4 mm long; tubes 6 mm long; throats 7 mm long; pappus 12 mm long. Achenes immature.

7) “*Cnicus japonicus* (DC.) Maxim. *ζ. obvallata* Franch. & Sav., Enum. Pl. Jap., **II**: 412 (1877), Hab. in tractu Hakone, Savatier n. 3442”.

The two collections “3442, *Cnicus japonicus* Maxim. forma *obvallata*, Hakone, Juis 1877, Dickens (Fig. 8)” and “Nippon, Miyanoshta, Mai 1877, leg. Dickens” are cited under the above-mentioned name. *Cirsium japonicum* is usually characterized by having well developed basal leaves. These two collections are devoid of basal leaves. However, these are considered to be forms with larger subtending leaves (bracts) of *Cirsium japonicum* DC. because these have 8–9-seriated phyllaries with prominent lanceolate glandular bodies. The epithet “*obvallata*” should be read as “*obvallatus*”.

Description: Stem 44 cm tall, four times branched, densely arachnoid and pilose with brownish multicellular hairs throughout the surface. Basal leaves missing. Blades of lower



Fig. 6. Type specimen of *Cnicus tanakae* Franch. & Sav. forma *foliis dissectis* [= *Cirsium oligophyllum* (Franch. & Sav.) Kitam.] (Nippon, circa Yokoska, Dickens, P).



Fig. 7. Type specimen of *Cnicus japonicus* (DC.) Maxim. *ε. vulcani* Franch. & Sav. [= *Cirsium japonicum* DC.] (Fudziyama, Juis 1877, Savatier 3443, P).



Fig. 8. Type specimen of *Cnicus japonicus* (DC.) Maxim.  $\zeta$ . *obvallatus* Franch. & Sav. [= *Cirsium japonicum* DC.] (3442, Dickins, sine loco, P).

cauline leaves obovate, 20 cm long, 8 cm wide, glabrous on both sides, shallowly pinnatilobate, 7-jugate; lobes ovate, 3 cm long and wide; amplexicaul at base. Upper cauline leaves auriculate at base. Capitula 4, each on the apex of stem and branch, erect; peduncle 1 cm long; subtending leaves 3, leafy, 2.5–3.5 cm long, marginally provided with spines. Involucre broadly campanulate, 3 cm in diameter, 18 mm long; phyllaries 8–9-seriate; outer phyllaries narrowly ovate with attenuate tips, 5–6 mm long, terminated with sharp spines 1 mm long; glandular bodies lanceolate, on the midribs of all the phyllaries, well developed. Corollae 20 mm long; lobes 5 mm long; tubes 5 mm long; throats 10 mm long; pappus 18 mm long. Achenes immature.

The following collections are ascribed to *Cirsium japonicum* DC.: JAPAN; Shichinohe, 29 Juis 1886, Faurie 781; Province de Dewa, July 1888, Faurie 2756; Montagne de Shiobara, 30 July 1889, Faurie 4257; Shiobara, 27 July 1889, Faurie 4263; Plaine de Niigata, 26 June 1888, Faurie 2560; Yokohama, 1862, Maximowicz, as "*Cnicus japonicus* Benth. var. *squamis subviscidis, captibus majoribus*"; circa Hakone, June 1875, Savatier 3444; circa Yokoska, 1866–1874, Savatier 686; Nagasaki, 1862, R. Oldham 1864; Nippon media, 1866, Tschonoski; Japonia, no date, Zollinger 276, 277, 278. CHINA: Sutchuen oriental, District de Tchen-kéou-tin, Farges; Hong Kong, 29 Aug. 1896, E. Bodinier 1461; Shanghai, collines du Feng Ouang, 26 May 1878, Poli; Kwangsi, Mt. Shap Man Taai Shan, near Ping Hoh village, Mau Che Lak, 15 April 1933, fairly common, in meadow; dry clay, 2 ft, fl. purple, fragrant, W. T. Tsang 22113; Kouy-Tchéou, no date, Cavalerie 2793; Kouy-Tchéou, no date, Cavalerie 4084; Kouy-Tcheou, Kouy-Yang, 29 May 1898, E. Bodinier 2288. TONKIN, Chapa, alt. 1500 m, April 1925, Petelot 1763.

A collection "*Cnicus japonicus* f. *gracilis* Franch. & Sav., [in sched.] Yokohama, Dickins" is also a meager form of *Cirsium japonicum* DC.

The collections from Taiwan as *Cnicus japonicus* (DC.) Maxim. are attributed to *Cirsium japonicum* DC. var. *australe* Kitam.: Formosa,

Faurie s. n.; Formosa, ubique communis, Maio 1903, Faurie 223; Formosa, Tamsuy, 1864, R. Oldham 296.

The collections from NE China as *Cnicus japonicus* (DC.) Maxim. are assignable to *Cirsium japonicum* DC. var. *maackii* (Maxim.) Matsum.: Manshuria, Prov. Kirinensis, 3 July 1896, V. Komarov 1699; Lac Hanka, 28 Mai 1899, Hugo Bonhof 12; Amoy, 1865, Hance 1452; Manchourie, 1896, Chaffanjon 1769; Mandshuria austro-orientalis, 1860, Maximowicz.

The collection from Monbetsu [Date-Monbetsu] (3 Aug. 1887, Faurie 1036) as *Cnicus japonicus* (DC.) Maxim. should be ascribed to *Cirsium aomorense* Nakai [= *Cirsium oligophyllum* (Franch. & Sav.) Matsum. subsp. *aomorense* (Nakai) Kitam.]. According to Kakuta (1992) Faurie stayed at Monbetsu [Date-Monbetsu] and its neighboring area during from 9 July to 30 July and returned to Aomori on 3 August in 1887. Hence there is a possibility that the date 3 Aug. 1887 is Faurie's clerical error.

The collections from Yokohama (1862, Maximowicz) and Sambongi [probably Aomori Pref., Towada-shi, Sanbongi] (10 Aug. 1889, Faurie 889) are assignable to *Cirsium oligophyllum* (Franch. & Sav.) Matsum. because they have erect capitula and basal leaves at anthesis but their involucre are devoid of glandular bodies.

The following collections from China and Tonkin are similar to *Cirsium japonicum* or *Cirsium japonicum* var. *maackii* in having scapose habit, erect capitula, well developed lanceolate glandular bodies and fusiform roots. However, they are different from *Cirsium japonicum* in having spinulose involucral phyllaries. Such a thistle has not been recognized from China or Tonkin (Shih, 1987): specimens kept at P: CHINA; Hainan, 1889, A. Henry s. n.; Yunnan, environ de Yunnan sen, 6 Juillet 1904, Ducloux 2514; W. Hupeh, E. H. Wilson 784; Kouy-Tchéou, no date, Cavalerie; Kouy-Tchéou, 4 Mai 1917, J. Esquirol 6568. TONKIN; Tonkin occidental, 24 March 1892, Bon 9264; Tonkin, Cho Ganh, Avril 1923, Petelot 1229 (Fig. 9)



Fig. 9. "*Chnicus japonicus* (DC.) Maxim." (Tonkin, Cho Ganh, Avril 1923, Petelot 1229, P).

8) “2650. *Cnicus ovalifolius* Franch. & Sav. sp. nov., Enum. Pl. Jap., **II**: 412 (1877). Hab. in insula Nippon, probabiliter in alpe Niko, Rein in Savatier n. 3020”

The combination *Cirsium ovalifolius* (Franch. & Sav.) Matsum. has been frequently reduced to be a synonym of *Cirsium nipponicum* (Maxim.) Makino var. *incomptum* (Maxim.) Kitam. ex Kadota (e.g., Kitamura, 1937 [? *C. comosum* var. *incomptum*], 1978; Kadota, 1995a). However, based on the observation of the type specimen, this should be treated as a distinct species as follows.

***Cirsium ovalifolium*** (Franch. & Sav.) Matsum., Ind. Pl. Jap., **III**: 641 (1895)—Nakai in Bot. Mag. Tokyo, **26**: 377 (1912)—Makino & Nemoto, Fl. Jap. 2nd ed. 1223 (1931)—*Cnicus ovalifolius* Franch. & Sav., Enum. Pl. Jap., **II**: 412 (1877).

TYPE: JAPAN; [Nippon], in alpe Niko [Nikko], Rein 3020 (holotype-P!; Fig. 10).

*Cirsium yatsugatakense* Nakai in Bot. Mag. Tokyo, **27**: 262 (1913)—Kadota in Mem. Natn. Sci. Mus., Tokyo, (38): 113 (2002).

TYPE: JAPAN; Honshu, Nagano Pref., Mts. Yatsugatake, Aug. 1913, U. Faurie 193 (holotype-TI!; Fig. 11, left).

*Cirsium nipponicum* (Maxim.) Makino var. *alpestre* Kitam. in Acta Phytotax. Geobot., **25**: 1 (1971).

TYPE: JAPAN; Honshu, Tochigi Pref., Nasushi, Mts. Nasudake, Mt. Minamigassan, alt. 1700 m, in herbidis, 23 Aug. 1970, S. Kitamura s. n. (holotype-KYO!; Fig. 11, right).

Description: Stem 60 cm tall (lower part of the stem is lost), striate, three times branched (apical meristem damaged and lateral branches elongated), almost glabrous. Cauline leaves subcoriaceous; blades elliptic to broadly elliptic (oval), 8–10 cm long, 3.5–5.5 cm wide, coarsely serrate, sessile, semi-amplexicaul, terminated with weak spines 1–2 mm long. Capitula several, erect or oblique; subtending leaves 1–2, 1–1.5 cm long, marginally provided with spines; peduncles ca. 1 cm long. Involucre campanulate to broadly cylindrical, 1–1.3 cm in diameter; phyllaries 6-

seriate; outer phyllaries 5–7 mm long, ovate with caudate and recurved tips; glandular bodies oblanceolate on the inner phyllaries. Corollae 17 mm long; lobes 5 mm long; tubes 7 mm long; throats 6 mm long; pappus 15 mm long; achenes straw-colored, 4 mm long.

Distribution: Fukushima, Tochigi and Gunma Prefs., central Honshu (Kadota, 2002; Fig. 4, under the name of *Cirsium yatsugatakense* Nakai).

Figure 10 shows the type specimen of *Cnicus ovalifolius* Franch. & Sav. This thistle was collected from Nikko, Tochigi Pref., central Honshu, and is characterized by 6-seriate involucre phyllaries and well developed glandular bodies on the inner phyllaries. This individual is also characterized by erect or oblique capitula with very short peduncles and coarsely serrate cauline leaves. Such a form is sometimes found throughout the distribution range (e.g., Fukushima Pref., Oze, 13 Aug. 1931, S. Suzuki, TNS 9026437, Mt. Taishakusan, 23 Aug. 1998, M. Suzuki, TNS 671388, Tochigi Pref., Nikko, Kirifuri Pasture, 4 Sept. 1954, TNS 9026148, Gunma Pref., Katashina-mura, Hatomachi Pass—Yamanohana, 6 Aug. 1991, Y. Kadota 18006, TNS).

Mentioning that *Cnicus ovalifolius* had relation with his *Cirsium nipponicum* var. *alpestre* based on the locality Niko [Nikko], Kitamura (1978) stated that the former was distinguished from the latter by floret size. However, it is appropriate that the larger florets (ca. 17 mm long) in the type specimen should be included in the range of floret size variation in this species.

9) “2651. ***Cnicus oligophyllus*** Franch. & Sav., Enum. Pl. Jap., **II**: 412 (1877). Hab. in insula Nippon, loco non indicato”.

A sole collection “*Cnicus oligocephalus* Franch. & Sav. Nippon e botanico Jap. acceptor” is deposited at P. This is the type specimen of *Cnicus oligophyllus* Franch. & Sav. (Fig. 12) and is ascribed to *Cirsium oligophyllum* (Franch. & Sav.) Matsum. [Shokubutsu Mei-i 80 (1895)]. There are no specimens described as “*Cnicus oligophyllus*” by Franchet and Savatier at P. The



Fig. 10. Type specimen of *Cnicus ovalifolius* Franch. & Sav. (3020, Nippon, in alpe Niko, Rein, P).



Fig. 11. Left. Type specimen of *Cirsium yatsugatakense* Nakai (Honshu, "Mts. Yatsugatake, Aug. 1913, Faurie 193, TI). Right. Type specimen of *C. nipponicum* (Maxim.) Makino var. *alpestre* Kitam. (Honshu, Tochigi Pref., Mts. Nasudake, Mt. Minamigassan, 23 Aug. 1970, Kitamura, KYO).

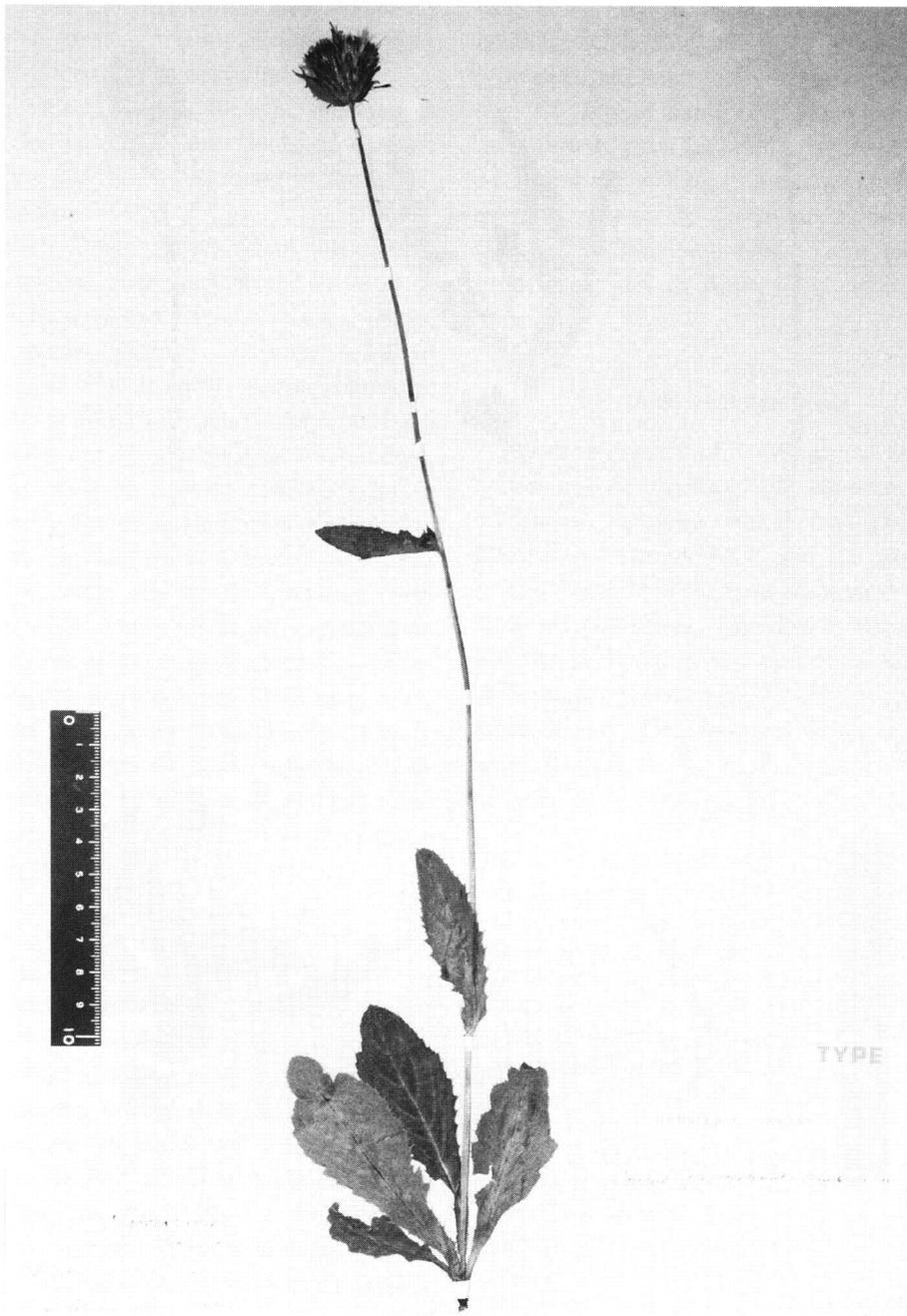


Fig. 12. Type specimen of *Cnicus oligophyllus* Franch. & Sav. [= *Cirsium oligophyllum* (Franch. & Sav.) Kitam.] (Nippon e botanico Jap. acceptor, P).



Fig. 13. Type specimen of *Cnicus Reinii* Franch. & Sav. [= *Cirsium sieboldii* Miq.] (3013, Nippon, prov. Aizou, secus lacum Ivavashiro, 1874, Rein, P).

specific epithet “*oligocephallus*” by Franchet’s hand writing means “a few capitula”, however, the type specimen has a sole capitulum.

Although the locality of the type specimen is unknown, such meager individuals of *Cirsium oligophyllum* are frequently found in the Kanto District, Honshu.

Description: Stem (scape) 40 cm tall, simple and not branched, arachnoid throughout the surface. Subterranean part is not collected. Basal leaves 3; blades narrowly obovate, 6–7.5 cm long, 2.5–3 cm wide, coarsely serrate, obtuse at apex, shortly petioled with petioles ca. 1 cm long. Cauline leaves 2; blades lanceolate, 4–6 cm long, 1–2 cm wide, coarsely serrate, with weak spines 1–2 mm long, amplexicaul. Capitulum solitary, erect; subtending leaf solitary, lanceolate, 1.5 cm long, 3 mm wide, marginally provided with spines ca. 1 mm long. Involucre campanulate, 15 mm in diameter and long; phyllaries 6–7-seriate, adpressed; outer phyllaries 5 mm long, ovate with caudate and slightly ascending tips, clearly shorter than the inner phyllaries; glandular bodies absent. Corollae 14 mm long; lobes 4 mm long; tubes 4 mm long; throats 6 mm long; pappus 14 mm long. Mature achenes absent.

10) “2652. **Cnicus Reinii** Franch. & Sav. sp. nov., Enum. Pl. Jap., II: 415 (1877). Hab. in provinciâ Idzou, in humidis lacum Ivavashiro; detexit Dr. Rein (Savatier n. 3013)”

The two type specimens (3013, Nippon, prov. Aidzou, secus lacum Ivavashiro, Rein, 1874, Fig. 13-holotype) are deposited at P. These two collections are ascribed to *Cirsium sieboldii* Miq. [in Ann. Mus. Bot. Lugd.-Bat., 2: 184 (1866)]. The locality described in the protologue should be read as “Japan, Honshu, Prov. Aizu [Fukushima Pref.], Inawashiro.”

Description: Rootstock oblique, 1 cm in diameter. Stem 30 cm long, simple, sparingly arachnoid in the upper part. Basal leaves 5–7; blades elliptic, 5–7 cm long, 1.5–3 cm wide, medially pinnatilobate, 4–7-jugate; lobes lanceolate, 1–1.5 cm long, 3–4 mm wide, terminated with weak spines 1 mm long. Cauline leaves several, lanceo-

late, almost entire, sessile. Capitulum solitary, nodding; subtending leaves 1–2 or absent, broadly linear, 1 cm long. Involucre broadly campanulate, 2.5–3 cm in diameter, ca. 2 cm long; phyllaries 6-seriate; outer phyllaries narrowly ovate, ca. 1 cm long and as long as the inner phyllaries, ascending, flattened; glandular bodies absent. Corollae 17 mm long; lobes 5 mm long; tubes 6 mm long; throats 6 mm long; pappus 17 mm long.

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