

Hiroyuki NAKAGAWA^{1,2,*}, Ken SATO² and Kohtaroh SHUTOH^{2,**}: **Rediscovery of *Silene harae* (Caryophyllaceae) from Hokkaido, Japan**

¹Northern Cliff Flora Lab, 6, A6-406, Oasa-nakamachi, Ebetsu, Hokkaido, 069-0854 JAPAN;

²The Hokkaido University Museum, Hokkaido University, Kita 10, Nishi 8, Kita-ku, Sapporo, Hokkaido, 060-0810 JAPAN

*Corresponding author: hiroquena@gmail.com

**Corresponding author: shutou@museum.hokudai.ac.jp

(Accepted on April 10, 2022)

Summary: We collected *Silene harae* Nakai (*Caryophyllaceae*) at steep cliffs and narrow valleys in Sōunkyō, Hokkaido, Japan, for the first time in 90 years. Judging from the habitat, *S. harae* is not an alien species, but a native and endemic to the central Hokkaido, although it has been claimed to be a possible alien species from 1960s.

Silene harae Nakai (*Caryophyllaceae*) is a perennial herb described based on a specimen collected from Sōunkyō, Hokkaido, Japan in 1926 (Nakai 1932a). However, *S. harae* has been neglected in recent literature (e.g., Kadota 1994, 2017, Akiyama 2006, Barkalov and Krestov 2018), other than in two local floras (Ito et al. 1994, Gouda 2004). Probably, one of the reasons for the neglect is that no reliable specimen of *S. harae* has been collected after the type collection until we collected it in 2020. Another is that Ohwi (1965) suggested *S. harae* as an alien species in his monumental ‘Flora of Japan’. Therefore, *S. harae* is classified as ‘Data Deficient’ in the current Japanese Red Data Book (Ministry of the Environment 2015).

In 2020, we collected an unfamiliar *Silene* on a cliff and narrow-valley area in Sōunkyō. The plants grew on steep, brittle rock ledges and in gravel at the base of the rock wall. After checking the original description and the type specimen, we concluded that the plant was *S. harae*. This is the report of rediscovery of

S. harae for the first time in nearly 100 years. We provide a supplemental description for *S. harae*, because the original description of this species by Nakai (1932a) was somewhat inaccurate, probably based on only the type specimen.

Taxonomic treatment

Silene harae Nakai in Bot. Mag. (Tokyo) **46**: 53 & **46**: 96 (1932); Ohwi, Fl. Jap.: 506 (1953), Fl. Jap. rev. ed.: 588 (1965), Fl. Jap. new ed. rev. enl.: 588 (1975); Sugim., Keys Herb. Pl. Jap. I, Dicot.: 122 (1965), Keys Herb. Pl. Jap. I, Dicot. rev. enl.: 122 (1978); Ohwi & Kitag., New Fl. Jap.: 667 (1983); Ito & al., Check List High. Pl. Hokkaido **3**: 111 (1994); Gouda, Fl. Hokkaido: 42 (2004).

Type: JAPAN. Hokkaido, Ishikari, Sōunkyō (H.Hara no. 1500, 18 Aug. 1931, TI, holotype, photo!).

Description based on the recent collection.

Herb, perennial, 14–26 cm tall. Rhizome ca. 6 mm in diameter, branched. Stems caespitose, much branched near ground, dimorphic; short vegetative shoots with radical rosulate leaves, ascending long reproductive shoots with opposite cauline leaves. Radical leaves linear to linear-oblongate, 1–10 cm long, 1–6.5 mm wide, glabrous on both surfaces, margins finely serrate, hairy at base; petiole connate at base, sheath-like, basal portion of old petioles on stems not scaly.

conspecific.

Variation in color of the calyx veins: The color of the calyx veins is an unstable character in *S. harae*, although Barkalov and Krestov (2018) indicated it to be a diagnostic character in the genus. Based on the cultivation of the species during 2020–2021, the color changed from light green to reddish purple in 2020, whereas in 2021 most calyx veins remained reddish purple during the entire flowering season in the same individual.

We thank Mr. Shuichi Nemoto (The University of Tokyo), National Museum of Nature and Science, Dr. Koh Nakamura (Hokkaido University), Mr. Aki Yamamoto and Ms. Haruna Nose (Otaru Museum), Mr. Hirofumi Ishikawa, and Dr. Junji Yamamoto (Kyushu University) for examination of herbarium specimens, providing literature, or providing constructive advice.

References

- Akiyama S. 2006. *Caryophyllaceae*. In: Iwatsuki K., Boufford D.E. and Ohba H. (eds.), *Flora of Japan* **2a**: 183–210. Kodansha, Tokyo.
- Barkalov V.Yu. and Krestov P.V. 2018. A new species of *Silene* L. (*Caryophyllaceae*) from the Russian Far East. *Bot. Pacifica* **7**: 81–84.
- Gouda Y. 2004. *Flora of Hokkaido*. Nakanishi Publishing, Sapporo (in Japanese).
- Ito K., Hinoma A. and Nakai H. 1994. Check List of Higher Plants in Hokkaido. III. *Choripetalae*. Takugin Research Institute, Sapporo (in Japanese).
- Kadota Y. 1994. A new species of *Silene* (*Caryophyllaceae*) from Hokkaido, Japan. *Mem. Natl. Sci. Mus.*, Tokyo no. 27: 63–70.
- Kadota Y. 2017. *Caryophyllaceae*. In: Ohashi H., Kadota Y., Murata J., Yonekura K. and Kihara H. (eds.), *Wild Flowers of Japan*, Revised and Enlarged Edition **4**: 108–127. Heibonsha, Tokyo (in Japanese).
- Kōnoya M., Matsui K., Kawachi S. and Kobayashi T. 1966. Explanatory text of the Geological Map of Japan (1:50000). Taisetsuzan. Hokkaidokaihatsumo, Sapporo (in Japanese).
- Kurokawa S. 1957. On lichen specimens collected by Koidzumi H. *J. Jap. Bot.* **32**: 222–224 (in Japanese).
- Ministry of the Environment. 2015. *Red Data Book 2014: Threatened Wildlife of Japan*, vol. **8**, Vascular Plants. Gyosei, Tokyo (in Japanese).
- Nakai T. 1932a. Notulae ad plantas Japoniae and Koreae **XLI**. *Bot. Mag. (Tokyo)* **46**: 37–67.
- Nakai T. 1932b. Summary of Notulae ad plantas Japoniae and Koreae **XLI**. *Bot. Mag. (Tokyo)* **46**: 89–101 (in Japanese).
- Ohwi J. 1965. *Flora of Japan*, Revised Edition. Shibundo, Tokyo (in Japanese).
- Sugimoto J. 1965. *Keys to Herbaceous Plants of Japan I. Dicotyledoneae*. Rokugatsusha, Osaka (in Japanese).
- Tatewaki M. 1958. Report of alpine flora on Mt. Hirayama, Shirataki-mura, Monbetsu-gun, Hokkaido. Hokkaido University, Sapporo (in Japanese).

中川博之^{1,2}, 佐藤 謙², 首藤光太郎²: エゾヤママンテマ (ナデシコ科) を北海道層雲峡で再発見する

エゾヤママンテマ *Silene harae* Nakai は、1931年に層雲峡で採集された標本に基づいて記載されたナデシコ科の多年草である (Nakai 1932a)。しかし、タイプ標本が採集されて以降、新たな標本が採集されなかったこと、1960年代に外来種である可能性が指摘されたことなどから、近年の主要な文献には登場しない。筆者らは、2020年にタイプ産地とほぼ同じ場所でエゾヤママンテマを再発見した。エゾヤママンテマが生育していた場所は、人里離れた急峻な崖と狭い谷間にあり人的攪乱を受けておらず、周囲に外来種は見られなかった。したがって、エ

ゾヤママンテマは帰化種ではなく在来種と考えられる。エゾヤママンテマは今のところ層雲峡のみに分布するが、壺型の萼筒をもつこと、ロゼット状の葉を付ける栄養シュートと繁殖シュートの二型性が見られること、古い葉柄の基部が鱗片状とならないことなどの形態的特徴はトカチピランジ *S. tokachiensis* Kadota と類似しており、今後さらに分類学的検討が必要と考える。

(¹ノーザン クリフ フロラ研究所,
²北海道大学総合博物館)