

千島列島におけるイシノナズナ *Draba grandis* Langsd. (アブラナ科)の分布と生育地

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Birgit Semsrott⁴ and Vyacheslav Y. Barkalov⁵: **Distribution and
habitat of *Draba grandis* Langsd. (Brassicaceae)
in the Kurils**

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Draba grandis Langsd., a maritime species of north Pacific coastal regions, is distributed from British Columbia, Alaska, the Aleutian Islands, and the Commander Islands, to the Kuril Archipelago, with northerly separated localities on the Pribilof Islands and Ratmanov Island (Hultén 1968; Berkutenko 1995). Berkutenko (1995) designated *Draba grandis* as the valid name for "*D. hyperborea* (L.) Desv.", which had been used in most floristic works (Tatewaki 1931, 1932, 1957; Hitchcock 1941; Hultén 1960, 1968; Calder and Taylor 1968; Berkutenko 1988; Rollins 1993; Pojar and MacKinnon 1994). She noted that distribution information about *D. grandis* is incomplete. Hultén (1968) mapped the global occurrence of this species, and mentioned a record of *D. grandis* from the middle Kuril Islands (Hultén 1945). But the distribution of this species in the Kurils has not yet been detailed. In this note we summarize its geographical distribution in the Kuril Archipelago as documented by herbarium specimens preserved at SAPT, VLA, and WTU, and including new collections made during the International Kuril Island Project (IKIP) 1995-1998.

The first record for *D. grandis* in the Kurils was made by Tatewaki (1931) on Rasshua. Since then the presence on Kotoi, Kharimkotan, Matua, and Ushishir has been recorded, either in the literature (Tatewaki 1932, 1957; Vorobiev 1956), or in herbarium specimens at SAPT. During IKIP 1995-1998 we found this species on Raikoke, the Lovushki Rocks, Chirinkotan and Onokotan, all islands in the middle Kurils in the

sense of Takahashi (1996). This species is not rare in the middle Kurils. One specimen has been collected from Iturup, in the southern Kurils. No records exist from the northern Kurils or from the Kamchatka Peninsula (Hultén 1928, 1960, 1968; Tatewaki 1934, 1957; Berkutenko 1988, 1995). Although we cannot completely rule out the presence of this species in the northern Kurils or on Kamchatka, it appears at least to be rare in these areas. Absence or rare occurrence in the northern Kurils and Kamchatka is quite exceptional among the flowering plants whose geographical distribution extends from the Aleutians to the southern Kurils.

Draba grandis shows a discontinuous distribution pattern between two regions in the north Pacific: one occurs along northwestern North America (British Columbia-Alaska-Aleutians) and the other occurs along northeastern Asia (middle Kurils) (Fig. 1). This distribution indicates the possibility of long-distance dispersal between the Aleutians and the middle Kurils. Hultén (1945) recognized a different subspecies (ssp. *platytricha* Hultén) for northeastern Asian plants, but this question remains unresolved.

Draba grandis is found on the rocky cliffs and bluffs along the sea coast (Fig. 2), on slopes of marine terraces, and especially near seabird nesting sites in the middle Kurils. The plants are robust, with thick taproots and fleshy basal leaves. These features are frequently associated with drought resistance or salt tolerance, and are in keeping with the plants growth on guano-rich soils. Among the islands where *D. grandis*

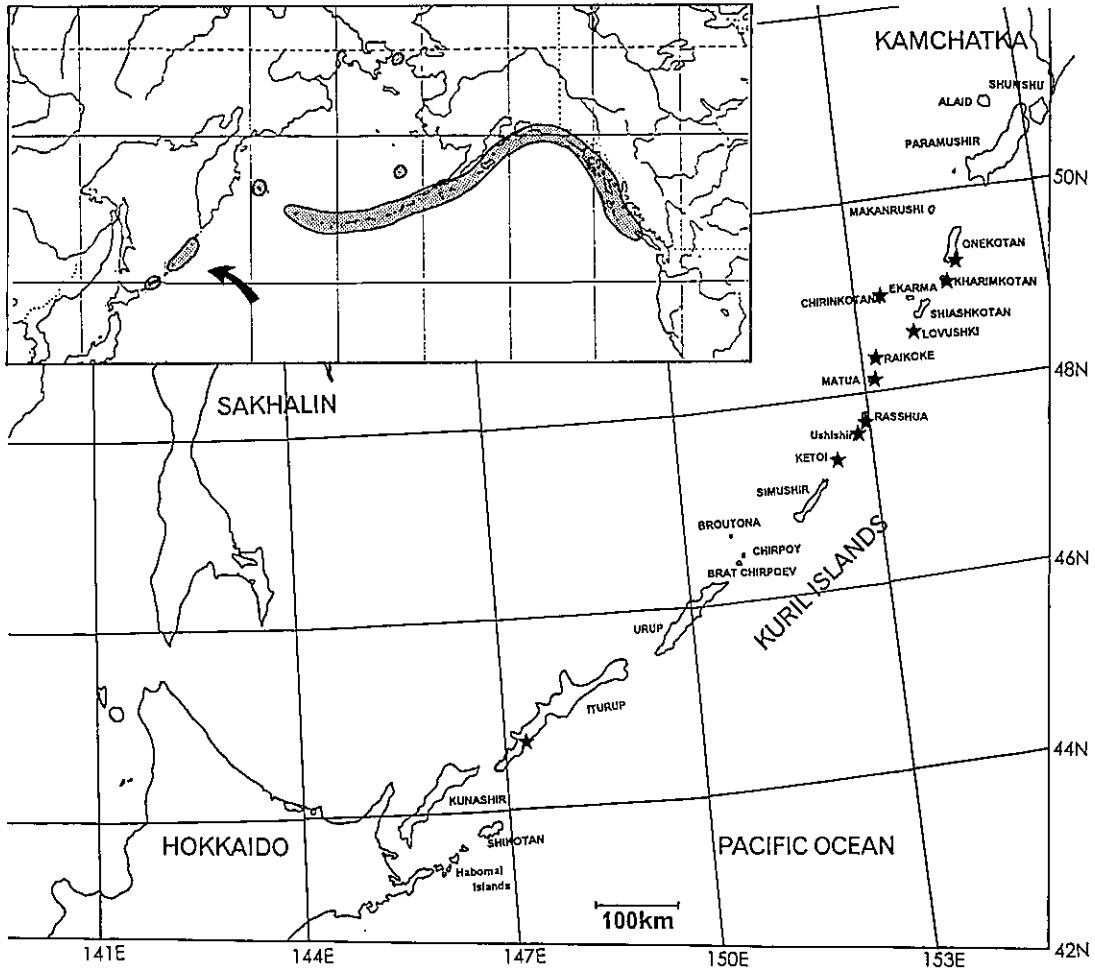


Fig. 1. Distribution of *Draba grandis*. Total distribution on northern Pacific-coast is according to Hultén (1968) and Berkutenko (1995). Arrow indicates the region of the Kuril Islands. Specimen data (SAPT, VLA and WTU) of distribution spots (asterisks) in the Kuril Islands are listed in the text.

was found in the middle Kurils, the islands of Chirinkotan, Raikoke, and Ushishir are all small, less than 10 km² in area, and are occupied by extensive seabird colonies.

The presence of this species on the Lovushki Rocks (Fig. 3) is especially striking. These islets lie in the Krutzenshtern Strait, and are composed of four main rocks, each rock being less than 1 km². They are famous as a paradise for marine mammals (sea lions and seals), and seabirds. Plants of *Draba grandis* grow on rocky cliffs and near the nests of gulls (*Larus* spp.) and *Lunda cirrhata*, together with maritime plants *Leymus mollis*, *Poa macrocalyx*, *Cochlearia officinalis* and *Conioselinum chinense*.

Based on their observations in the Queen

Charlotte Islands of British Columbia, Calder and Taylor (1968) speculated that this species may be distributed by glaucous-winged gulls. The migration and establishment of this species in coastal regions of the north Pacific raises interesting questions of plant geography deserving of further study.

Specimens examined

Draba grandis Langsd. in DC. Syst. Nat. 2: 355 (1821); Berkutenko in Linzer Biol. Beitr. 27 (2): 1121 (1995)—*Draba hyperborea* auct. non Desv.

Kuril Islands (from south to north): [Iturup] Cape Iodnyi [=Iodnyy, Iodnji], on vertical maritime rocks, rare, Aug. 14, 1988, V. Barkalov, I.

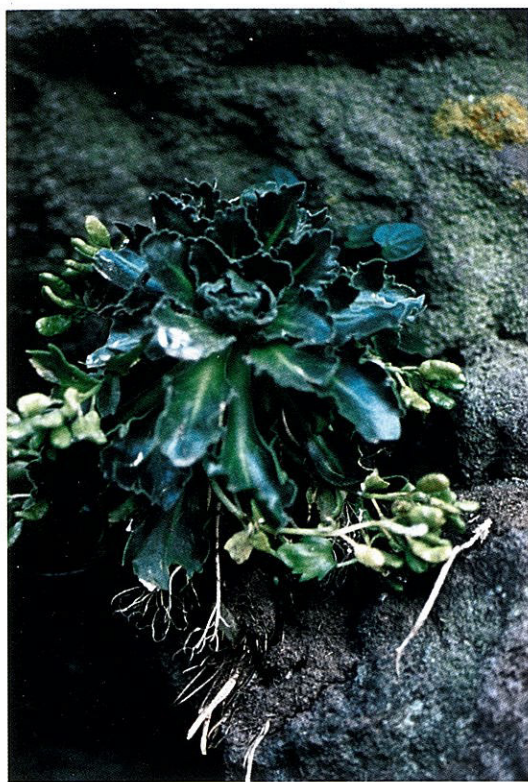


Fig. 2. *Draba grandis* on Chirinkotan, the middle Kurils (Aug. 10, 1996, photo by Gage).

Vyshin & T. Bezdeleva s.n. (VLA). [Ketoï] near Ishikuzurehama, Aug. 17, 1929, M. Tatewaki & K. Takahashi 15361 (SAPT). [Ushishir] Kitajima, Jul. 31, 1929, M. Tatewaki & K. Takahashi s.n., 2 sheets; Aug. 3, 1929, M. Tatewaki & K. Takahashi s.n.; Sep. 14, 1929, M. Tatewaki & K. Takahashi 15937 (SAPT). [Rasshua] Sonrakuwan, Aug. 4, 1929, M. Tatewaki & K. Takahashi 15007; Aug. 8, 1929, M. Tatewaki & K. Takahashi 15261 (SAPT). [Matua] Banjo-jima, Sep. 7, 1928, M. Tatewaki & Tokunaga 12288 (SAPT). [Raikoke] Aug. 13, 1996, H. Takahashi 21880, Y. Kuwahara s.n. (SAPT); Y. N. Zhuravlev & M. Ilushko 176 (VLA); S. Gage 2326 (WTU). [Lovushki rocks] Aug. 3, 1997, Y. Kuwahara 114 (SAPT); B. Semsrott 1156 (WTU). [Chirinkotan] Aug. 10, 1996, H. Takahashi 21602 (SAPT); Y. N. Zhuravlev & M. Ilushko 174 (VLA); S. Gage 2149 (WTU). [Kharimkotan] eastern side, Jun. 4, 1930, M. Tatewaki 17308, 2 sheets (SAPT). [Onekotan] southern end, near Trudny River, S. Gage 2129 (WTU).



Fig. 3. Rocky cliffs along the sea coast of the Lovushki Rocks, the middle Kurils (Aug. 3, 1997, photo by Kuwahara).

Alaska and northwestern America: ALASKA. [Attu (Aleutians)] Soule 79, Van Schaack 463 (WTU). [Atka (Aleutians)] Kobayashi s.n. (SAPT). [Akutan (Aleutians)] Jones 8943, Rudd s.n. (WTU). [Kodiak Island] Loof & Loof 572 (WTU). [Montague Island] Prince William Sound, Solf 13 (WTU). [Raspberry Island (Kodiak Group)] Eyerdam 3107, Eyerdam 3680 (WTU). [St. Paul (Pribilof Islands)] Anderson 4068, Cole 41934, Kincaid s.n. (WTU). BRITISH COLUMBIA. [Moresby Island (Queen Charlotte Islands)] Calder & Taylor 36570 (WTU). [Skedans Island (Queen Charlotte Islands)] Calder, Taylor & Savile 22384 (WTU).

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千島列島におけるイシノナズナ *Draba grandis* Langsd. (アブラナ科) の分布と生育地
イシノナズナは北大平洋の沿岸地域に分布するアブラナ科の多年草である。日本には自生せず、千島列島においては中部千島に多く、北千島やカムチャツカ半島からはこれまで確かな記録がない。一方、新大陸側ではアリューシャン列島からアラスカ、ブリティッシュコロンビアにまで広く分布する。このような地理分布パターンは、アリューシャン列島と中部千島との間での長距離散布の可能性を示唆する。千島列島での生育立地が海岸近くの海鳥営巣地に接していること、他からは隔絶した植物相の貧困な岩礁や小島にも見られるといった観察結果は、新大陸における本種の移動に海鳥が関わっているとする、Calder and Taylor (1968) の推定とも符合し、植物地理学上興味深いものである。
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