Systematic Studies of Asian Aconitum (Ranunculaceae) XII. Aconitum soyaense, a New Species of Subgenus Lycoctonum from Hokkaido, Northern Japan

Yuichi KADOTA
Department of Botany, National Science Museum, Tokyo
4–1–1, Amakubo, Tsukuba, 305-0005 JAPAN
E-mail: kadota@kahaku.go.jp
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Aconitum soyaense, a new species of subgenus Lycoctonum of the genus Aconitum is here described from Hokkaido, northern Japan. Aconitum soyaense is distinguished from A. gigas H. Lév. & Vaniot and A. umbrosum (Korsh.) Kom. by having sepals and carpels hirsute with smooth-surfaced hairs, rounded conical, short-beaked helmets, elongated divaricate branches, smaller seeds, larger nectary blades and leaf blades sericeous with long, smooth-surfaced appressed hairs. Aconitum soyaense is restricted to the serpentine area in northern Hokkaido and is considered to be a serpentinophyte.

Key words: Aconitum, Hokkaido, Japan, new species, subgenus Lycoctonum.

In June of 2006 I was in the serpentine area of Naka-Tonbetsu-cho situated in the northern part of Hokkaido, northern Japan, to study serpentine plants. Unexpectedly I found unfamiliar plants belonging to subgenus Lycoctonum of the genus Aconitum (Ranunculaceae). Previously this area had been included in the distribution range of Aconitum gigas H. Lév. & Vaniot (Kadota 2006a, 2006b), but the plants were significantly different from either A. gigas or A. umbrosum (Korsh.) Kom., from Honshu, in the helmet shape and the branching mode of stem; helmets are rounded conical and their beaks are relatively short and stem well branched from the lower part with elongated, divaricate branches. After a detailed examination of these plants it is concluded that they belong to an undescribed species. Here this species is described as a new species, Aconitum soyaense.
Fig. 1. Type specimen of *Aconitum soyaense* Kadota (JAPAN: Hokkaido; Soya Subpref., Esashi-gun, Naka-Tombetsu-cho, Machineshiru, Kikusui-sawa Gorge, alt. 95 m, 17 June 2006, Y. Kadota 063028, TNS 757737, holotype).
10–20 cm wide, up to 19 cm long and 26 cm wide at fruiting time, medially 7–9-lobed to 1.5–2 cm from the base, sparingly sericeous with long, smooth-surfaced, appressed hairs, ciliate along the margin, deeply cordate at base; middle lobe ovate-rhombic, 4.5–5.5 cm long, 4–5 cm wide, obtuse, coarsely dentate; teeth ovate, acute; petioles 25–40 cm long, glabrous, 4-angled, hollow. Upper cauline leaves similar to basal in shape, diminishing in size, petiolate. Inflorescence terminal, racemose, 15–20 cm long, 6–7-flowered, in indeterminate condition. Pedicels 2–4 cm long, incurved to nearly straight, strigose with rough-surfaced curved hairs and sparingly intermixed with smooth-surfaced patent hairs throughout the surface; bracteoles 0–2, linear, 1–6 mm long, ca. 0.5 mm wide, situated middle or near the base of the pedicels. Flowers in June, dull whitish yellow, 22–27 mm tall, sparingly hirsute with smooth-surfaced patent hairs; helmet conical, 15–19 mm tall, 13–17 mm wide, 15–17 mm long with short beak 2–3 mm long; lateral sepal distorted obovate, 9–12 mm long, 6–8 mm wide, hirsute with long, smooth-surfaced patent hairs (pollen-collecting hairs) on the adaxial side. Nectaries glabrous; blade 4 mm long, 2 mm wide, not inflated and tapering to the spur; spur 2 mm long, saccate and slightly incurved; labium 1 mm long, shallowly bilobed; stipe 10 mm long, straight, erect. Stamens glabrous, anthers 0.5 mm long, filaments 4 mm long, staminal teeth absent. Carpels 3, hirsute with smooth-surfaced ascending hairs. Follicles 9–15 mm long, divergent; seeds 2.5 mm long, 2 mm wide, trigonous, lamellate across.

Other specimens examined: JAPAN: Hokkaido; Soya Subpref., Esashi-gun, Naka-Tonbetsu-cho, Machinashiri, Kikusui-sawa Gorge, alt. 95 m, 17 June 2006, Y. Kadota 063029, TNS 757739, isotype. Scale indicates 5 mm.

Aconitum soyaense is distinguished from A. gigas and A. umbrosum by having sepals and carpels hirsute with smooth-surfaced hairs, rounded conical, short-beaked helmets,
elongated divaricate branches, smaller seeds, larger nectary blades and leaf blades sericeous with long, smooth-surfaced appressed hairs.

The specific epithet “soyaense” follows the regional name of the type locality. Aconitum soyaense is known only from the type locality. The type locality is included in the serpentine region of the northern part of Hokkaido. Hence A. soyaense is considered to be a serpentinophyte. In this area other serpentinophytes also occur (e. g., Aconitum ito-seiyanum, Achillea ptarmica subsp. macrocephala var. yezoensis and so on).

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References

門田裕一：アジア産トリカプト属植物（キンポウケ科）の分類学的研究 XII. 北海道産レイジンソウ亜属の1新種，ソウヤレイジンソウ
北海道中頓別町からトリカプト属レイジンソウ亜属の1新種，ソウヤレイジンソウ Aconitum soyaense Kadota を記載した。ソウヤレイジンソウは道内に普通に見られるエゾレイジンソウ A. gigas H. Lév. & Vaniot や本州のオオレイジンソウ A. umbrosum (Korsh.) Kom. と次の点で異なっている：①萼片に滑面開出毛がはえる，②心皮あるいは袋果に滑面斜上毛がはえる，③上萼片（かぶと）は円頂の三角形で，嘴が短く，トリカプト亜属の上萼片に似る，④茎がよく分枝して，枝は開出し

て伸長し，⑤種子が長さ2.5 mm と小さい，⑥花弁の肢部が長さ 4 mm，幅 2 mm とより大きい，⑦葉の両面に長い滑面伏毛がある。

ソウヤレイジンソウは今のところ幌延町と中頓別町の町境に位置する知駒岳東面の掬水沢（荀水川）にしか知られていない。掬水沢の産地は蛇紋岩地域で，本種は蛇紋岩植物の一つと考えられ，周辺にはセイアブシやホソパエゾノギリソウなどが生育している。

（国立科学博物館植物研究部）