

***Corydalis hirtipes* B.U. Oh et J.G. Kim: a New Species of *Corydalis* sect. *Corydalis* (Fumariaceae) from Korea**

Byoung-Un Oh^{1*} and Chang-Gee Jang²

¹School of Life Sciences, Chungbuk National University, Cheongju 361-763, Korea

²Department of Evolution and Systematics in Higher Plants, Institute of Botany, Vienna University, Rennweg 14, A-1030, Wien, Austria

Here we describe a new species of *Corydalis* sect. *Corydalis* (Fumariaceae), namely *C. hirtipes* B.U. Oh et J.G. Kim. This species, from the central part of Korea, is clearly distinguished from other species of sect. *Corydalis* by its simple, unicellular hairs that are densely distributed on the stems, peduncles, and petioles. It is also distinctive from its close relative *C. albipetala* in having ternate leaves, lobate or parted leaflets, dentate or cleft bracts, and broad, fusiform fruits.

Keywords: *Corydalis hirtipes*, *Corydalis* sect. *Corydalis*, Fumariaceae, new species

The genus *Corydalis* DC. (Fumariaceae) includes annual, biennial, and perennial herbs. It is usually characterized by its simple or branched racemose inflorescences, zygomorphic flowers with spurred upper petals, flattened stigmata with marginal papillae, and dehiscent capsules with many carunculate seeds (Lidén, 1986, 1993). As many as 25 sections have been recognized within this genus; perennial species that have solid tubers with roots at their bases are placed in sect. *Corydalis* (Lidén, 1986, 1993). The more than 40 species in this section are widely distributed in the temperate regions of Eurasia, especially in northeastern Asia.

Korean taxa of the genus *Corydalis* have recently been revised; 18 species, representing four sections and four subsections, are now recognized (Oh, 1986, 1999). These exclude *C. bungeana* Turcz., *C. buschii* Nakai, and *C. gigantea* Trautv. et Meyer, which are distributed only in North Korea. Among those 18 species, six are endemic to Korea, including *C. albipetala* B.U. Oh, *C. filistipes* Nakai, *C. grandicalyx* B.U. Oh et Y.S. Kim, *C. hallaisanensis* Léveillé, *C. humilis* B.U. Oh et Y.S. Kim, and *C. maculata* B.U. Oh et Y.S. Kim.

In the present work, we describe a plant of *Corydalis* sect. *Corydalis* collected in 1996 from Misiryong, Injae-gun, Kangwon Province, Korea, as being of a new species, *C. hirtipes* B.U. Oh et J.G. Kim. This species is clearly distinguished from the others in sect. *Corydalis* by its simple, unicellular hairs that are densely distributed

on the stems, peduncles, and petioles.

***Corydalis hirtipes* B.U. Oh et J.G. Kim, sp. nov. (Figs. 1 and 2)**

Holotype: KOREA. Kangwon Province, Injae-gun, Misiryong, 38° 15' N, 128° 25' E, 3 May 1996, B. Oh 96001 (CBU)

Paratypes: B. Oh 96002, 96003, 96004, 96005, 96006, 96007, 96008, 96009, 96010, 96011, 96012, 96013, 96014, 96015, 96016, 96017, 96018, 96019, 96020, 96021, 96022, 96023 (CBU)

Herba perennia nana, plantas valeme Aprile ad Maium. Rhizoma elongatum 5.0 - 8.0 cm longum, tuber 0.7 - 1.2 cm diametro, globosus, cum interioris alba. Squamifolium basi caulis unum, 0.8 - 1.3 cm longum. Caulis ascendens e basi ramosus 7.0 - 12.0 cm longus, 1.0 - 2.0 cm diametro, transectio rotundata. Folium caulinum duo, petioli 2.0 - 4.0 cm longi, lamina 3.0 - 6.0 cm longa, 3.0 - 9.0 cm lata, ternata. Foliola ovalis vel ovata, marginis apex lobata vel fissura. Anthesis Aprile ad Maium, racemus ad apicum caulis, flores 2 - 15. Bractea ovata, 0.6 - 1.0 cm longa, 2.0 - 5.0 cm lata, marginis apex lobata vel fissura. Pediceli 0.5 - 1.0 cm longa anthesis initio et 1.0 - 1.3 cm longa post anthesis. Flores albus, 1.2 - 1.6 cm longae, calcaria 6.0 - 8.0 cm longa. Capsula plana, fusiformis, 1.0 - 1.2 cm longa, 5.0 - 6.0 cm lata, semen depositio uninarie. Semen planum, globosum, superficie splendida, 1.8 - 2.0 cm longum, 1.8 - 2.0 cm latum.

*Corresponding author; fax +82-43-271-5787
e-mail obutaxon@cbucc.chungbuk.ac.kr

Perennial herb, growing from April to May. Rhizome 5.0 - 8.0 cm long, with tuber; tuber spherical, 0.7 - 1.2 cm in diam., inside color of tuber white. Squamiform leaf 1, 0.8 - 1.3 cm long. Stems 1 to 5, originated from

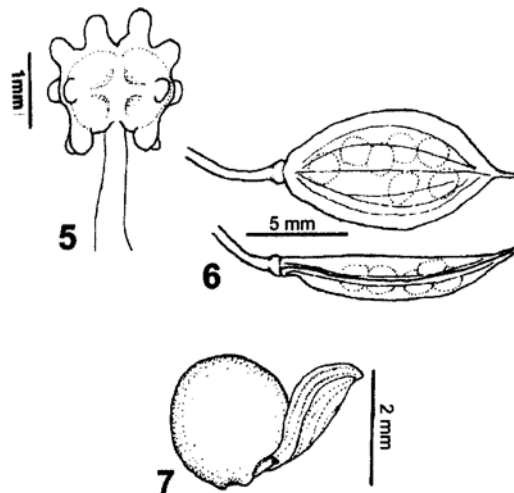
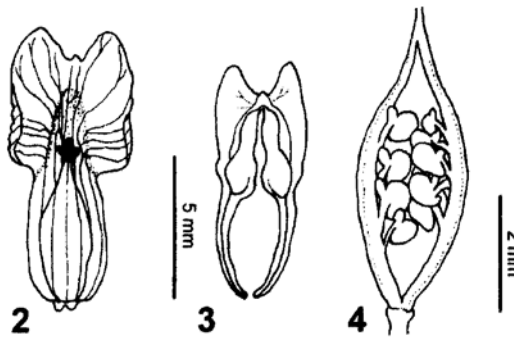
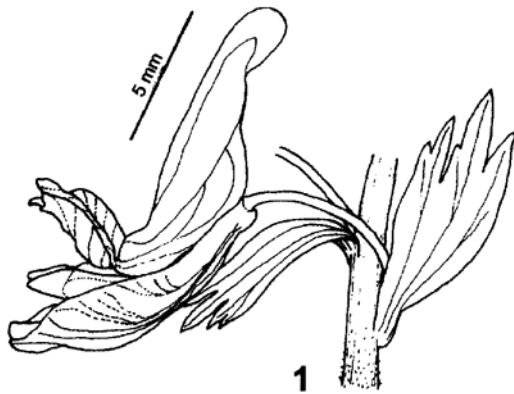


Figure 1. *Corydalis hirtipes* B.U. Oh et J.K. Kim. 1. Flower and bract. 2. Lower part of outer petal and membranous stamen. 3. Inner petals with V-shaped apex. 4. Ovary with two-rowed ovule. 5. Stigma with 12 papillae. 6. Fusiform capsule and seed arrangement (upper: front view, lower: lateral view). 7. Carunculate seed.

base of squamiform leaf, 7.0 - 12.0 cm long, 1.0 - 2.0 mm in diam., circular in cross section, pubescent. Cauline leaves 2, petiolate; petioles pubescent, 2.0 - 4.0 cm long; blade 3.0 - 6.0 cm long, 3.0 - 9.0 cm wide, ternate; leaflets oval or obovate, lobate, or parted at apex. Flowering from April to May, inflorescences terminal, racemes, pubescent in lower part, flowers 2 to 15; bracts ovate, 0.6 - 1.0 cm long, 2.0 - 5.0 cm wide, lobate or cleft at apex; pedicels 0.5 - 1.0 cm long when flowering, 1.0 - 1.3 cm long in fruit. Flowers white, sometimes bluish white in spur, 1.2 - 1.6 cm long; spur 6.0 - 8.0 cm long; inner petal V-shaped at apex. Fruit capsule, broad, flat, fusiform, 1.0 - 1.2 cm long, 5.0 - 6.0 cm wide. Seeds arranged in one row in capsule; seeds flat, spherical, glossy, 1.8 - 2.0 cm long, 1.8 - 2.0 cm wide.

Korean Name : Teol-hyon-ho-saek

Current distribution of *C. hirtipes* is very limited, being found only in the type locality so far. This species is sympatric with *C. albipetala*, which is endemic to Korea, but the latter is more widely distributed, and also occurring at Mts. Odae and Sorak in Kangwon Province. Although the new species seems to be related to *C. albipetala*, it is distinct from the latter in having simple, unicellular hairs on the stems, peduncles, and petioles; ternate leaves; lobate or parted leaflets; dentate or cleft bracts; and broadly fusiform fruit with seeds arranged in two rows (Table 1, Figs. 1 and 2).



Figure 2. *Corydalis hirtipes* B.U. Oh et J.K. Kim.

Table 1. Comparison of major characters between *Corydalis hirtipes* and *C. albipetala*.

Character	<i>C. hirtipes</i>	<i>C. albipetala</i>
Simple, unicellular hairs	present on stems, peduncles, and petioles	absent
Leaf		
blade shape	ternate	ternate or biternate
leaflet shape	oval or ovate	elliptical or linear
leaflet apex	lobate or parted	entire
Bract		
shape	ovate	elliptical or ovate
apex	lobate or cleft	dentate or entire
Flower		
color	white	white
length	1.2 - 1.6 cm	1.2 - 1.8 cm
inner petal apex	V-shaped	retuse
Pedicel		
length	0.5 - 1.3 cm	0.5 - 1.4 cm
Capsule		
shape	broadly flattened fusiform	Linear
length	1.0 - 1.2 cm	1.0 - 1.2 cm
width	5 - 6 mm	2 - 3 mm
Seed		
arrangement	in two rows	in one row
width	1.8 - 2.0 mm	1.8 - 2.0 mm

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