A new species of *Geranium* (Geraniaceae):
*G. taebaek* S. Park et Y. Kim

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Abstract

A new species of *Geranium* (Geraniaceae), *G. taebaek* S. Park et Y. Kim is described from Mt. Taebaek, Kangwondo, Korea. It is easily distinguished from its relative, *G. koreanum* in its flower size, petal apices shape, pedicel length, stem diameter and distribution of trichome, trichome of fruit, stylar portion length of fruit, seed shape (base, hilum position, chalazal disc). A key to these two related Korean endemic species is provided.

*Key words*: Geraniaceae, *Geranium*, a new species, *G. taebaek*.

*Geranium* L., which belongs to the tribe *Geraniinae* under the Geraniaceae (Boissier, 1867; Edgeworth and Hook, 1874; Melchior, 1964), is distributed around the temperate regions and the tropical alpine zone (Lawrence, 1951; Edgeworth and Hook, 1874; Hutchison, 1909; Core, 1955; Porter, 1959; Willis, 1973). Some of the taxa are valuable for ornamental and medical use (Thomas, 1960; Forty, 1980; Crann, 1982), and so they have become the subjects of investigation. *Geranium* is classified into 3 subgenus, 3 sections, 2 subsections, and 20 groups based on Yeo (1985).

This new species, *G. taebaek* is morphologically very similar to *G. koreanum*, and so both belong to the *koreanum* group having common characters of the absence of glandular hair on pedicel and the united stipules. But the former is distinctively different from letter in the length, stem diameter, distribution of hair on stem and fruit, stylar portion, and seed shape (Table 1, Fig 1).

*Geranium taebaek* S. Park et Y. Kim. sp. nov. (Fig. 1, 2)

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Perennis herba. Planta 40–60 cm longa 2.2–3.0 cm lata. Folia opposita, 4.7–5.4 cm longa, 10.1–10.9 cm lata, 5(6) divisio. Petiolus 55–100 mm logus. Stipulae 9.9–11.4 mm longae, 5.3–5.4 mm latus. Pedunculi 30.2–31.2 mm longi. Pedicelli 22.7–24.2 mm longi. Bracteae lineae lanceolatae. Sepala 12.0–13.2 mm longa, 3.3–3.4 mm lata, mucrone 2.4–2.5 mm longa. Petala 18.2 19.3 mm longa, 8.9–9.0 mm lata, caucumen v forma. Fructus rostrum 22.0–25.0 mm longus. Seminis 3.00–3.01 mm longis, 1.58–1.61 mm latis, subtilis reticuli

Nom. Kor.: Tae–baek–i–jil–pul

Hab: Korea, Prov. Taebaek


Prewnial herb, Root with short rhizome. Plant 40–60cm high, 2.21–3.00cm wide, and long hair on stem downward. Leaves opposite, 4.73–5.42cm long, 10.1–10.9cm wide, divided as far as 1/3 into 5(6), its outline subtruncate, divisions more or less rhombic, lobes 2–4 times as long as broad, each with three or four rather small teeth; tips of teeth and lobes acute. Petioles 55–100mm, decreasing rapidly upwards so that the upper leaves, Stipules up to 9.9–11.4mm long, 5.3–5.4 wide, brown, pilose, united; separate of tip. Flowers two flowered cymules; peduncles mostly 30.2–31.2mm long, pedicel mostly 22.7–24.2mm long, Bracteoles 5.94–5.97mm long, linear–lanceolate; frutescent pedicels reflexed,

<table>
<thead>
<tr>
<th>Character</th>
<th><em>G. taebaek</em></th>
<th><em>G. koreanum</em></th>
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<tbody>
<tr>
<td>petal shape</td>
<td>cleft</td>
<td>round–undulate</td>
</tr>
<tr>
<td>length(mm)</td>
<td>18.2–19.3</td>
<td>16.0–16.7</td>
</tr>
<tr>
<td>peduncle length(mm)</td>
<td>30–35</td>
<td>73–75</td>
</tr>
<tr>
<td>stem diameter(mm)</td>
<td>2.2–3.1</td>
<td>3.8–4.8</td>
</tr>
<tr>
<td>hair</td>
<td>dense</td>
<td>sparse</td>
</tr>
<tr>
<td>mericarp length(mm)</td>
<td>5.2–5.3</td>
<td>3.9–4.0</td>
</tr>
<tr>
<td>fruit hair</td>
<td>rough</td>
<td>soft</td>
</tr>
<tr>
<td>stylar portion(mm)</td>
<td>5.1–5.2</td>
<td>1.5–1.6</td>
</tr>
<tr>
<td>seed shape</td>
<td>long–oval</td>
<td>oval</td>
</tr>
<tr>
<td>base</td>
<td>convex</td>
<td>flat</td>
</tr>
<tr>
<td>hilum area</td>
<td>below the middle</td>
<td>middle</td>
</tr>
<tr>
<td>chalazal disc</td>
<td>slightly convex</td>
<td>compressed</td>
</tr>
</tbody>
</table>

Table 1. Comparison of *G. taebaek* and *G. koreanum*
genulate under the flower, flowers nodding in bud, upwardly inclined at anthesis. Sepals 12.0 – 13.2mm long, 3.3 – 3.4mm wide mucro 2.4 – 2.5mm long, green, flushed with red, increasingly so in age. Petals 18.2 – 19.3mm long, 8.9 – 9.0mm wide, apex w shape; base broadly cuneate; colour bright pink, whitish at extreme base; dark red veins seven. Out Filaments 10.4 – 10.5mm long, inner ones 8.2 – 8.3mm(in) long, Anthers 2.9 – 3.0mm long, 0.90 – 0.93mm wide, bluish, Style 10.23mm long, tomentose. Stylar portion 5.18 – 5.23mm long Fruits rostrum 22.0 – 25.0mm long, mericarps 5.25 – 5.28mm long, 2.12 – 2.17mm wide, with bristly tubercle at base. Seeds 3.00 – 3.05mm long, 1.58 – 1.61mm wide, brown, finely reticulate. Discharge seed – ejection

Fig. 1. Geranium Taebok S. Park et Y. Kim 1. general habit 2. leaf 3. flower 4. petal 5. stamen 6. fruit 7. seed
A key to the two species of *Geranium*

1. Petal 18.2–19.3mm long, with cleft apex, peduncle 30–35mm long, stem diameter 2.2–3.1mm, trichome distribution dense, stylar portion of fruit 5.2–5.3mm long, seed long oval shape, base convex, hilum area below the middle, chalazal disc slightly convex. ..... *G. taebaek*

1. Petal 16.0–16.7mm long, with round or undulate apex, peduncle 73–75mm long, stem diameter 3.8–4.8mm, trichome distribution sparse, stylar portion of fruit 1.5–1.6mm long, seed oval shape, base flat, hilum area middle, chalazal disc compressed. ..... *G. koreanum*

**Literature cited**


Fig. 2. *Geranium taeback* S. Park et Y. Kim. Scale bar equales 1 cm. A. a photograph of flower at the type locality. B. a general view of habit.
취손이풀속의 1 신종(취손이풀과): 태백이질풀

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한국의 강원도 태백산에서 취손이풀속(취손이풀과)의 1 신종이 기재되었다. 태백이질풀 (G. taebaek S. Park et Y. Kim)은 꽃의 크기, 화판의 형태, 소화경 길이, 줄기의 직경 및 모양분포, 과실의 모양, 열매의 알두연결부의 길이, 종자의 형태(기저부, 세의 위치, 합점)에 따라 동근이질풀(G. koreanum)과 쉽게 구별된다. 한국에 분포하는 것으로 알려진 이들 두종의 검색표를 작성하였다.

주요어: 취손이풀과, 취손이풀속, 신종, 태백이질풀.

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