Capparis daknongensis (Capparaceae), a new species from Vietnam

Sy Danh Thuong¹, Tran The Bach², Ritesh Kumar Choudhary³, Gordon C. Tucker⁴, Xavier Cornejo⁵ & Joongku Lee³,*

1) Faculty of Biology and Agricultural Techniques, Thai Nguyen University of Education, Luong Ngoc Quyen Street, Thai Nguyen City, Vietnam
2) Department of Botany, Institute of Ecology and Biological Resources, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Cau Giay, Hanoi, Vietnam
3) International Biological Material Research Center, Korea Research Institute of Bioscience and Biotechnology, 125 Gwahak-ro, Yuseong-gu, Daejeon 350-806, South Korea (*corresponding author’s e-mail: joongku@kribb.re.kr)
4) Department of Biological Sciences, Eastern Illinois University, 600 Lincoln Avenue, Charleston, Illinois 61920-3099, USA
5) Herbarium Guay, Facultad de Ciencias Naturales, Universidad de Guayaquil, P.O. Box 09-01-10634, Guayaquil, Ecuador

Received 21 Aug. 2012, final version received 6 Nov. 2012, accepted 9 Nov. 2012


Capparis daknongensis D.T. Sy, G.C. Tucker, Cornejo & Joongku Lee, a new species of Capparaceae from Dak Nong province, Vietnam, is described and illustrated. It is morphologically similar to C. khuamak, but differs in having pruinose twigs, fewer stamens, longer filaments and gynophore, and a different fruit morphology.

The genus Capparis comprises approximately 400 species (Zhang & Tucker 2008) distributed mostly in tropical and subtropical regions worldwide, but some thrive in temperate regions as well. In Vietnam, about 40 species have been recorded so far (Gagnepain 1908, Ho 1999, Ban 2003). During a revisionary work on the ‘Capparaceae in Vietnam’ we came across an interesting species of Capparis from Dak Nong province. It closely resembled C. khuamak but differed by its pruinose twigs, number of stamens, length of filaments and gynophore and the shape and size of fruit. After a thorough scrutiny of the specimens kept in HN, HNU, HNPM, P, and VNM, relevant type specimens and literature (Gagnepain 1908, 1943, Jacobs 1960, 1965, Chayamarit 1991, Liu et al. 1994, Ho 1999, Ban 2003, Hu 2007, Zhang & Tucker 2008), we determined this taxon a new species.

Capparis daknongensis D.T. Sy, G.C. Tucker, Cornejo & Joongku Lee, sp. nova (Figs. 1–2)

**Etyymology:** The species is named after the type locality, Dak Nong province in Vietnam.

Scandent shrubs up to 4 m long. Twigs smooth, pruinose, usually with stipular spines but sometimes spines absent. Spines up to 3 mm long, recurved downwards, apex sharp. Petiole 1.5–1.7 cm long, pruinose; leaf blade elliptic to oblong, 6–8 × 3–4 cm, smooth, young ones yellowish green, dark green when older; mid-vein abaxially raised, adaxially thinly grooved; secondary veins 6–7 on each side of midvein, thin; reticulate veins not obvious; base round to acute; apex caudate-acuminate, 0.6–1 cm long. Inflorescences axillary or terminal panicles of corymb, 5–12 flowered; peduncle 1.5–5 cm long; pedicel 1.5–2 cm long. Flower buds globose. Sepals 4, 6–7 × 2–3 mm, at first yellowish green then reddish; sepals of outer pair navicular, pluricellular hairs outside, margin and inside glabrous; sepals of inner pair spatulate, pluricellular hairs outside, base of inside and margin ciliate. Petals 4, white, oblong, margins with irregular lobes, outside glabrous, inside and margin tomentose; adaxial pair of petals irregular, ca. 13 × 3–4 mm; abaxial pair of petals regular, ca. 16 × 4–5 mm. Stamens 13–18; filaments 3.7–4.5 cm long, glabrous, white then turning reddish; anthers oblong, 1–2 mm long, black or reddish. Gynophore 3.5–4 cm long, red, glabrous. Ovary ellipsoid, ca. 2 × 1 mm, yellowish green, glabrous. Fruits oval, 1.6–1.8 × 1.3–1.5 cm, yellowish when mature, surface smooth. Flowering and fruiting in March–July.

Morphological comparison of *C. daknongensis* with *C. khuamak* is presented in Table 1. *Capparis daknongensis* was found growing on small hillocks in the open secondary sub-tropical forest areas of Dak Nia Commune in association with *Saccharum spontaneum*, *Eurycoma longifolia*, *Melastoma* sp. and ferns at 500–550 m a.s.l. During our investigations in this area, we observed only 25–30 individuals, which were growing on small hillocks in open secondary forests, hence, prone to be affected by anthropogenic activities. Survey of the adjacent forests and long-term monitoring of the type locality is required to obtain more information of this species.
**Table 1.** Morphological comparison of *Capparis daknongensis* with *C. khuamak*.

<table>
<thead>
<tr>
<th>Characters</th>
<th><em>Capparis daknongensis</em></th>
<th><em>Capparis khuamak</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Twigs</td>
<td>smooth, pruinose</td>
<td>densely yellowish gray then tan-colored tomentose,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gradually glabrescent</td>
</tr>
<tr>
<td>Leaves</td>
<td>apex caudate-acuminate</td>
<td>apex of leaf obtuse to acute and often shortly mucronate</td>
</tr>
<tr>
<td>Sepals</td>
<td>sepals of outer pair navicular, margin lobed; sepals of inner pair spatulate, pluricellular hairs outside, base of inside and margin ciliate</td>
<td>sepals of outer pair inwardly concave to navicular, margin entire; sepals of inner pair obovate, nearly flat, outside shortly tomentose at middle, inside glabrous</td>
</tr>
<tr>
<td>Petals</td>
<td>oblong, regular or irregular, 13–16 × 3–5 mm, outside glabrous, inside and margin tomentose; margin subentire to lobed</td>
<td>obovate-oblong, roughly equal, 9–12 × 3–4 mm, inside shortly tomentose from the base to middle; margin entire</td>
</tr>
<tr>
<td>Number of stamens</td>
<td>13–18</td>
<td>20–28</td>
</tr>
<tr>
<td>Length of filaments</td>
<td>3.7–4.5 cm</td>
<td>2–2.5 cm</td>
</tr>
<tr>
<td>Length of gynophore</td>
<td>3.5–4 cm</td>
<td>2.5–3 cm</td>
</tr>
<tr>
<td>Fruit</td>
<td>oval, surface smooth</td>
<td>globose, surface scabrous</td>
</tr>
</tbody>
</table>

**Fig. 2.** *Capparis daknongensis* (A and B drawn from the holotype, C–H drawn from the paratype PTV 1053): — A: Flowering twig. — B: Branch showing spines. — C and D: Sepals (abaxial and adaxial view). — E: Abaxial pair of petals. — F: Adaxial pair of petals. — G: Stamen. — H: Pistil showing gynophore and ovary.
Acknowledgements

We thank the Directors and Curators of HN, HNU, HNPM, P, VNM for allowing us to study the voucher specimens. Thanks are also due to the artist Mrs. Le Kim Chi for making the line drawing of Capparis daknongensis for the present communication. We are also grateful to the botanists of the Institute of Ecology and Biological Resource (IEBR), Vietnam Academy of Science and Technology for their help in collecting specimens of Capparis. Funding support received from the collaborative project between IEBR and International Biological Material Research Center (IBMRC), Korea Research Institute of Bioscience and Biotechnology (KRIBB) is also acknowledged. Thanks are also due to the anonymous reviewers for their constructive comments on the manuscript.

References


