Capparis pubifolia B. S. Sun (Capparaceae): A newly recorded species of the flora of Vietnam

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Capparis pubifolia B. S. Sun: 베트남 미기록종

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ABSTRACT: *Capparis pubifolia* B. S. Sun is reported here as a new addition to the flora of Vietnam. It is morphologically allied to *C. sikkimensis* Kurz but differs due to the gray-yellow color of the hair of the twigs, having more secondary veins on the leaf, trichomes on both surfaces of the petal, and a globose shape of the fruit. Thus far, it was only reported in the Guangxi and Yunnan areas of China. A description, a line drawing and color photographs are provided for species identification. Furthermore, a comparison of the diagnostic characters with those of related species is made.

Keywords: *Capparis pubifolia*, Capparaceae, new record, Vietnam

적 요: *Capparis pubifolia* B. S. Sun를 베트남의 미기록종으로 보고한다. 본 종은 형태적으로 *C. sikkimensis* Kurz와 유사하지만, 소지 위의 털이 회색빛을 띠는 황색이며, 이차맥의 수가 더 많고, 꽃잎 양면 모두에 선모가 있으며, 열매가 구형인 점에서 차이가 난다. 본 종은 현재까지 중국의 광서성과 운남성에서만 보고되었다. 본 종의 동정을 위해 기재, 도해 및 컬러사진을 제공하였다. 더불어, 관련종과의 형태형질에 대한 비교자료를 제시하였다.

주요어: *Capparis pubifolia*, Capparaceae, 미기록종, 베트남

The genus *Capparis* L. is represented by between 250–400 species in the world (Zhang and Tucker, 2008). *Capparis* species have been known as a good food resource because its floral buds and fruits contain minerals, protein,

carbohydrates, lipids and vitamins (Prashant et al., 2016). However, it is difficult taxon to identify taxonomically because their vegetative characters are similar. Up to now, 36 species, 3 subspecies, and 2 varieties are reported

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Fig. 1. Map showing the collection sites of *Capparis pubifolia* B. S. Sun in Vietnam.

including one new species which was discovered recently in Vietnam (Thuong et al., 2013, 2015, 2016). Of late, an interesting *Capparis* species was recorded during the field trip to Loc Binh District of Long Son Province of Vietnam (Fig. 1). Morphological characters of this plant matched

with other unidentified specimens which were housed in the herbarium of Institute of Medicinal Materies (HNPM) and the herbarium of Vietnam Forest Museum (VFM) of Forest Inventory and Planning Institute. Finally, we identified them as *Capparis pubifolia* B.S. Sun through

Table 1. Morphological comparison of *Capparis pubifolia* and *C. sikkimensis*.

Morphological characters	<i>C. pubifolia</i>	<i>C. sikkimensis</i>
Twig	Densely gray-yellow tomentose	Densely light reddish brown trichomes
Spine (mm)	0.5–1	Up to 6
Leaf (cm)	4.5–8 × 2.5–3.5	7–19 × 3.25–10
Hair on the surface of leaf	Abaxially densely gray-yellow persistently tomentose, adaxially hairy only on midvein	Abaxially slightly shortly pubescent when young but glabrescent
Number of secondary vein	9–12	6–8
Sepal (mm)	4–11 × 8–9.5	7–21 × 5–5
Petal	Trichomes on both surfaces	Tomentose inner surface
Number of stamen	43–50	30–120
Gynophore (cm)	4–4.2	2.5–5.5
Ovary (mm)	2 × 1	2–4 × 1.5–2
Fruit	Nearly globose, surface smooth	Globose, ellipsoid or ovoid, surface smooth or with 4–8 vertical ridges

careful scrutiny of type specimen and literature survey (Jacobs, 1965; How, 1979; Pham, 1999; Wu, 1999; Zhang and Tucker, 2008). It is morphologically allied to *C. sikkimensis* Kurz but differs by gray-yellow color of hair on twigs, having more number of secondary vein on leaf, trichomes on both surfaces of petal and globose shape of fruit (Table 1). This taxon was found only from Guangxi and Yunnan areas of China (Zhang and Tucker, 2008) but never recorded in Vietnam. We, therefore, report it as a new record to the flora of Vietnam. A detailed description along with line drawing and photographs (Figs. 2, 3) have been provided to support species identification.

Taxonomic Treatment

Capparis pubifolia B. S. Sun in C. Y. Wu, Fl. Yunnan 2: 64, 1979 (Figs. 2, 3).—TYPE: CHINA. *Zhang Zhao Qian* 13028 (holotype: IBSC-Photo!).

Scandent shrubs up to 5 m tall. Twigs densely gray-yellow tomentose. Spines 0.5–1 mm long, recurved downwards, apex sharp, with gray-yellow tomentose. Petiole 0.8–1 cm long, hairy like those on twigs. Leaves simple, alternate; leaf blade ovate or elliptic, 4.5–8 × 2.5–3.5 cm, abaxially densely gray-yellow persistently tomentose, adaxially tomentose only on midvein; secondary veins 9–12, connected near the margin, abaxially raised and hairy as on twigs, adaxially slightly raised; base round or cuneate; apex acuminate, 0.5–0.7 cm long. Inflorescences corymbs, axillary or terminal, 5–5.5 cm long; peduncle and pedicel tomentose like those on twigs,

peduncle 2–3 cm long, pedicels 1.5–2 cm long. Floral buds globose, 0.5–0.6 cm in diam. Sepals 4; outer sepals whorl boat-shape, pale green, 4–6 × 8–9 mm, tomentose outside, glabrous inside; inner sepals whorl obovate, pale white but pink at the corner of the base, 10–11 × 9–9.5 mm, trichomes only at the base. Petals 4, almost white and pink at the base, obovate, trichomes on both surfaces, especially at the base. Stamens 43–50; filaments 2.5–3 cm long, base red; anthers ca. 1 mm long, white-gray. Gynophore 4–4.2 cm long, glabrous. Ovary oval, 2 × 1 mm, apex acute, glabrous. Fruit baccate, nearly globose, 2–2.1 × 1.7–1.8 cm, smooth, apex beaked when young.

Flowering: July.

Fruiting: July–September

Ecology and habitat: *Capparis pubifolia* was found growing on a rocky slope, at elevation about 415–500 m in association with *Chromolaena odorata* (L.) R. M. King & H. Rob., *Saccharum spontaneum* L., *Gleichenia linearis* (Burm. f.) C. B. Clarke, *Trema orientalis* (L.) Blume and *Mallotus barbatus* Müll.-Arg.

Distribution: China (Guangxi, Yunnan) and Vietnam (Bac Kan, Lang Son Province).

Specimens examined: VIETNAM. Bac Kan Province: Bach Thong District, Sy Binh commune, 26 Aug 2004, *Trai, Son, Long, Tuan* 7804A, 7804B, 7804C, 7804D, 7804E, 7804F (HNPM). Lang Son Province: Cao Loc District, Cong Son commune, 3 Jul 1969, *Thuan BX* 452, *BX* 453 (VFM). Lang Son Province: Loc Binh District, Bang Khanh commune, 20 Jul 2015, 21°48'41.4"N, 106°52'39.9"E, 415 m, *Bach, Binh, Chinh, Hai, Quang, SonVK* 6501 (HN).

Fig. 2. *Capparis pubifolia* B. S. Sun. **A.** Flowering twig. **B.** Part of stem. **C.** Stem with spines. **D.** Lower surface of leaf. **E.** Flower bud. **F.** Outer sepal. **G.** Pistil with gynophore and ovary. **H.** Ovary. **I.** Fruit (illustration drawn by Le Kim Chi). Based on specimens *B. X. Thuan* 452 (VFM) (**A–H**), *Trai, Son, Long, Tuan* 7804D (HNPM) (**I**).

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Fig. 3. *Capparis pubifolia* B. S. Sun. **A.** Habit. **B.** Stem with spines. **C.** Upper surface of leaf. **D.** Lower surface of leaf. **E.** Flowering twig. **F.** Floral bud. **G.** Outer sepal pairs. **H.** Inner sepal pairs. **I.** Petals. **J.** Stamen. **K.** Pistil with gynophore and ovary. **L.** Young fruit (photographs by Tran The Bach and Do Van Hai).

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