



Jasminum attenuatum Roxb. ex G. Don (Oleaceae): a new record to the flora of Vietnam

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Jasminum attenuatum Roxb. ex G. Don: 베트남 미기록종

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ABSTRACT: *Jasminum attenuatum* Roxb. ex G. Don, a species of Oleaceae, was recently found in Kon Ka Kinh National Park of Vietnam that represents a new record to the flora of the country. The plant can be differentiated from its allied species *J. latipetalum* C.B. Clarke and *J. simplicifolium* subsp. *funale* (Decne) Kiew by the shape of its leaf blade, in having 5-20 flowered inflorescence, linear bracts, and obconic and glabrous calyx with shorter lobes. The present study provides the species description, illustrations, micrographs by scanning electron microscope of the pollen grains, and important taxonomic notes. Furthermore, a comparison of the diagnostic characters between this species and the above mentioned related species is made.

Keywords: *Jasminum attenuatum*, new record, Oleaceae, Vietnam.

적 요: 베트남 Kon Ka Kinh 국립공원에서 최근에 발견된 *Jasminum attenuatum* Roxb. ex G. Don, (물푸레나무과)을 베트남 미기록종으로 보고한다. 본 종은 근연종인 *J. latipetalum*과 *J. simplicifolium* subsp. *funale*와는 엽신의 모양, 화서에 5-20개의 꽃이 달리고 선상의 포를 가지며 악편은 짧고 무모이며 역원추형의 악을 갖는 특징으로 근연종들과 구분된다. 본 연구에 중 동정을 위한 중요한 형질과 분류학적 기재, 식물도해, 원색사진 및 화분의 주사전자현미경 사진을 제시하였으며 본 종과 근연종인 *J. latipetalum*과 *J. simplicifolium* subsp. *funale*와의 분류학적 형질들을 비교하였다.

주요어: *Jasminum attenuatum*, 미기록종, 물푸레나무과, 베트남.

The genus *Jasminum* was established by Linnaeus (1753) which consists of 200 species distributed in tropical and subtropical regions in South East Asia, Europe, Australia

and Africa (Mabberley, 2008). In Vietnam, taxonomy of the genus *Jasminum* has been worked out by several authors (Gagnepain, 1933; Ho, 2000; Ly, 2003) and 31 species are reported (Bui et al., 2013) till date. In connection with the revisionary study on *Jasminum* of Vietnam, we encountered an interesting species of *Jasminum* at Kon Ka Kinh National Park, Ke Bang District, Gia Lai Province in the southern highlands of Vietnam. It was identified as *Jasminum*

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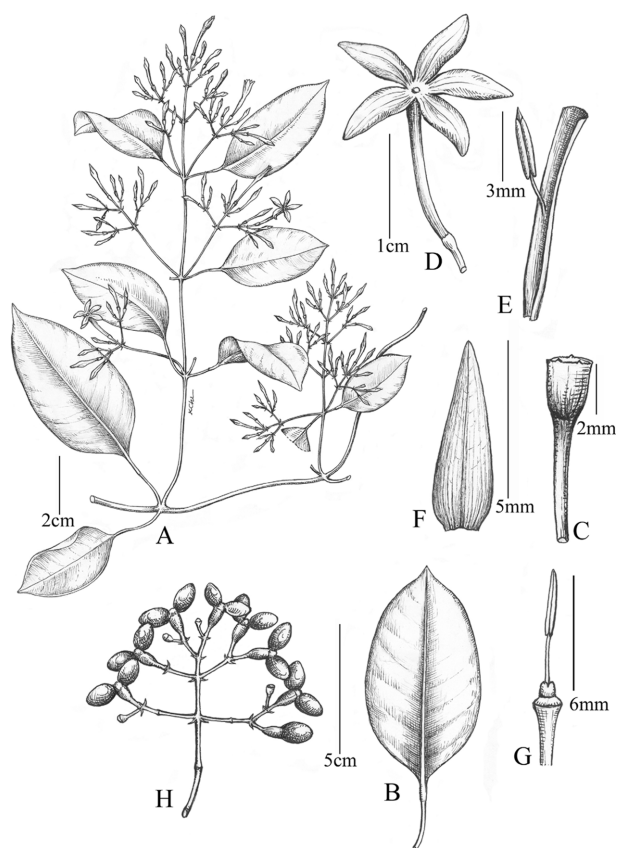


Fig. 1. *Jasminum attenuatum* Roxb. ex G. Don. A. Flowering twig; B. Abaxial portion of leaf; C. Calyx; D. Flower; E. Corolla tube; F. Corolla lobes; G. Pistil; H. Infructescence. (Illustration drawn by Mrs. Kim Chi from *B. H. Quang 50* (HN)).

attenuatum Roxb. ex G. Don after studying the literature (Gagnepain, 1933; Chang et al., 1996; Green, 2000; Ho, 2000; Green, 2003; Ly, 2003) and consulting the type specimens housed in different herbaria. Presence of simple leaves indicated this species belonging to the *Unifoliolata* group (Kobuski, 1932), but it was found to be different from the known Vietnamese species by the shape of its leaf blade, in having 5-20 flowered inflorescence, linear bracts, and obconic and glabrous calyx with 0.5-0.7 mm long lobes. Based on the morphological features, the most closely allied taxa were found to be *J. latipetalum* C.B. Clarke and *J. simplicifolium* subsp. *funale* (Decne) Kiew. The differentiating characters have been enlisted in the Table 1. The plant was hitherto unreported from the country, and hence, we are reporting it as an addition to the flora of Vietnam. This study provides the taxonomic description and illustrations (Figs. 1 & 2), including morphology of pollen grains as seen through light microscope (LM) and scanning electron microscope (SEM), based on plant materials collected from Vietnam (Fig. 3).



Fig. 2. *Jasminum attenuatum* Roxb. ex G. Don. A. Habit; B: Branchlet; C-D. Abaxial and adaxial portion of leaf; E. Inflorescence; F. Calyx; G. Corolla tube; H. Flower; I. Pistil; J. Fruit. (Photos by Bui Hong Quang)

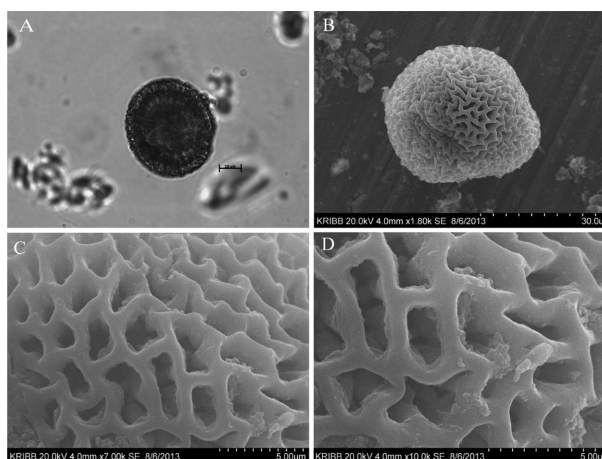


Fig. 3. Pollen grain of *Jasminum attenuatum* Roxb. ex G. Don. A. Light microscope photograph of the pollen grain; B. SEM photographs of pollen grain; C – D. Surface sculpturing. (Photos by Changyoung Lee)

Taxonomic Treatment

Jasminum attenuatum Roxb. ex G. Don, Gen. Hist. 4: 62. 1837; Roxb., Hort. Beng. 3, 1814, *nom. nud.*; Kurz, Fl. Burm. 3: 151, 1877; C.B. Clarke in Fl. Brit. India 3: 599, 1882; Kerr

in Fl. Siam. En. 2, 1939; Maio in Fl. Reipubl. Pop. Sin. 61: 292, 1972; Chang et al. in Wu & Raven (eds.), Fl. China 15: 315, 1996; P. S. Green. Oleaceae, In Santisuk T., Larsen K. (eds.) Fl. Thailand 7(2): 332, 2000. (Figs. 1, 2 & 3). *J. attenuatum* Roxb. ex DC., Prodr. 8: 309, 1844; Green, P.S. World Checklist of Oleaceae, Royal Botanic Gardens, Kew 2006. TYPE: INDIA, Meghalaya, Mt. Sillet, *Wallich 2864* (Holotype: K; Isotype K-Photo!).

J. subglandulosum Kurz, J. Bot. 13: 329, 1875 ; Kurz, Forest Fl. Burma 2: 151, 1877. Type: Andaman Is., *Kurz s.n.* (Holotype: A-Photo!).

J. sempervirens Kerr, Bull. Misc. Inform., Kew 1983: 30, 1938 & Fl. Siam. Enum. 2: 406, 1939. Type: Thailand, *Kerr A.F.G. 6445* (Holotype: E-Photo!; Isotype: P-Photo!).

J. robustifolium Kobuski, J. Arnold Arbor. 20: 69, 1939. Type: China, Yunnan, *C.W. Wang 73304* (Holotype: A; Isotype: IBSC-Photo!).

J. wangii Kobuski, J. Arnold. Arbor. 20: 69, 1939. Type: China, Yunnan, *C.W. Wang 79673* (Holotype: A; Isotype: IBSC-Photo!).

J. banlanense P. Y. Bai, Acta Bot. Yunnan. 14: 383, 1992. Type: China, Yunnan, *P. Y. Bai 43034* (Isotype: KUN – Photo!).

Shrubby vines, glabrous. Branchlets terete. Leaves opposite, simple; petiole 1-2.5 cm long, twisted; leaf blade oblong-lanceolate, 10-13×4-6 cm, coriaceous, with revolute edges, base broadly cuneate to rounded, apex shortly acuminate; primary veins 6-8 on each side of midrib, slightly raised above, obscure below; dark green above, pale green below. Cymes axillary or terminal, racemose or in few-branched panicles, 5-9 (-20) flowered; bracts linear, ca. 2 mm long. Pedicel 1-4 cm long, glabrous. Calyx campanulate, glabrous, tube 1.5-2 mm long; lobes 0.5-0.7 mm long, obtuse and subtruncate, enlarged in fruit. Corolla white, salverform, glabrous, tube slender, 1.5-2 cm long; lobes 5, 8-10×2.5-5 mm. Stamens 2; filaments 0.2-

0.6 mm long, glabrous. Anthers 2-3 mm long, with an acute connective appendage. Ovary barrel 0.3-0.5 mm, glabrous; style ca. 4 mm long, glabrous; stigma ca. 4 mm long, glabrous. Berry green-white becoming orange-red, ovoid, 1-1.6×0.8-1.1 cm. Pollen grain monad, 43.91×36.38 µm, subprolate (P/E: 1.21), tricolpate; exine surface reticulate, exine thickness 4.85µm. (Fig. 3). Fl. & Fr. July-Feb.

Distribution: China (Yunnan), India (Meghalaya), Myanmar, Thailand (Mae Hong Son), Vietnam (Gia Lai Province).

Specimens examined: VIET NAM, Gia Lai Province: Ke Bang, 26 Feb., 2012, *B. H. Quang 30* (HN); 15 July, 2012, *B. H. Quang 50* (HN).

Notes: *J. attenuatum* Roxb. ex G. Don is morphologically similar to *J. simplicifolium* subsp. *funale* (Decne) Kiew, a widespread species on the southern highlands of Vietnam., It also shows morphological similarities with *J. latipetalum* C.B. Clarke which is known from Laos, Myanmar, and Thailand. The main differences between these taxa are the shape of leaf blades, in having 5-20 flowered inflorescence, linear bracts, and obconic and glabrous calyx with 0.5-0.7 mm long lobes (Table 1). Moreover, the correct authorship for *J. attenuatum* was also intriguing as P.S. Green (2006) mentioned *J. attenuatum* Roxb. ex DC as the accepted name. However, we noted that the correct authorship for the same should be *J. attenuatum* Roxb. ex G. Don (1837) which was published 7 years earlier than Candolle (1844). Obviously, the same treatment was being followed by ‘The Plant List’ (www.theplantlist.org) and GRIN Taxonomy (www.ars-grin.gov) database. Moreover, ‘The Plant List’ treated *J. attenuatum* Roxb. ex DC as illegitimate which was also questionable. Personal communication with Dr. Wiersema, Curator, USDA, GRIN Taxonomy helped resolve the issue and treatment in the GRIN Taxonomy was corrected. After his

Table 1. Morphological comparison of *Jasminum attenuatum* with closely related taxa.

Character	<i>J. attenuatum</i>	<i>J. latipetalum</i>	<i>J. simplicifolium</i> subsp. <i>funale</i>
Young shoots	Glabrous	Glabrous	Usually finely puberulent
Leaves	Lanceolate to broadly ovate or oblong, at least twice as long as broad	Lanceolate to narrowly lanceolate	Ovate to broadly ovate, rarely broadly lanceolate, less than twice as long as broad
Cymes	5-20 flowered, glabrous	1-3 flowered, glabrous	3-14 flowered, finely puberulent
Bracts	Linear, 1-2 mm long	Linear-acute, 1-3 mm long	Linear-subulate, 1-5 mm long
Pedicel	1-4 cm long	5-12 mm long	0.2-1.4 cm long
Calyx	Glabrous, 2-2.5mm long	Glabrous, 2-2.5 mm long	Glabrous to finely puberulent, 1-2mm long
Calyx lobes	0.25-0.5 mm long, scarcely perceptible	1-1.5 mm long, almost setose	Triangular, acute, 0.25-1(- 1.5) mm long
Corolla lobes	5-7, 10-15 mm long	5, 15-18 mm long	6-8, 8-12 mm long

Careful study of literature, there was nothing found illegitimate about Don's name, although he indicated that *J. lanceolatum* [sic], Roxb. fl. Ind., is a variety of this, according to Wallich's Catalogue (loc. cit.) on the very next page (p. 63, no. 58) he accepted "*J. lanceolaria* Roxb." for another species, so he clearly did not accept Wallich's treatment of the other earlier name as a synonym of this species. Therefore we hereby, following the earlier treatment and replacing *J. attenuatum* Roxb. ex DC. as synonym.

Key to the known allied taxa of *Jasminum attenuatum*

1. Leaves ovate or broadly ovate, rarely broadly lanceolate, less than twice as long as broad
..... *J. simplicifolium* subsp. *funale*
1. Leaves broadly to narrowly lanceolate, elliptic or oblong, at least twice as long as broad
 2. Leaves 3 times as long as broad, very narrowly lanceolate. Corolla lobes 10-15 mm broad
..... *J. latipetalum*
 2. Leaves at most 2.5 times as long as broad, broadly ovate, elliptic, oblong or broadly lanceolate. Corolla lobes 1-6 mm broad *J. attenuatum*

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