**Lonicera longiflora** (Caprifoliaceae),
A NEW RECORD FOR THE FLORA OF VIETNAM

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**KEYWORDS**
Muong La Nature Reserve
Northern Vietnam
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**ABSTRACT**

In this study, a unique species was collected in 2016 in Muong La Nature Reserve, Son La province, Northern Vietnam. This species differs from all other known *Lonicera* species in Vietnam by its recurved to coiled lower lip, and stamens and style long exserted from corolla tube. After consulting the relevant taxonomic literature, comparing with herbarium specimens, and double-checking on digital herbarium database, the species was identified as *Lonicera longiflora* (Lindley) Candolle. The species has been previously only known from China, and now firstly reported for the flora of Vietnam. A description and photographs are provided, together with short notes on the phenology, distribution, and ecology of *Lonicera longiflora*. Additionally, a morphological comparison with *Lonicera hildebrandiana* Collett & Hems. and *Lonicera bournei* Hems., and a key to *Lonicera* species in Vietnam are provided. The newly recorded species in this study pushes the total of *Lonicera* species in Vietnam to eleven.

**Lonicera longiflora** (Caprifoliaceae),
LOÀI GHI NHẬN MỚI CHO HỆ THỤC VẬT VIỆT NAM

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**TỮ KHÓA**
Khu bảo tồn thiên nhiên Mường La
Phía Bắc Việt Nam
Sơn La
Ghi nhận mới
Phân loại

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1. Introduction

Vietnam is part of the Indo-Burma area which is one of the 25 biodiversity hotspots in the world [1]. This country is known for its incredibly diverse vegetation types and species richness [2]. In recent decades, numerous botanical studies have been conducted by reputable researchers. Consequently, many new records and new species have been discovered and described from this country [3]-[5]. However, it is likely that many species are still under investigated in this country.

*Lonicera* Linnaeus (1753:173), the most species-rich genus of the family Caprifoliaceae, is widely distributed in the world, such as North America, Europe, Asia and North Africa [6]. Approximate 195 species and subspecies of this genus have been recorded all over the world [7]. So far, fifty-eight species of *Lonicera* have been reported to China [6], [8], six to Thailand [9], two to Lao PDR [10], and two to Cambodia [11].


While exploring the flora in 2016 in Muong La Nature Reserve in Northern Vietnam, an unknown species of *Lonicera* in having bilabiate white then yellow corolla with 6–8 cm long, lower lip recurved to coiled and the stamens and style long exserted from corolla tube was collected, which do not match any known *Lonicera* species in Vietnam. Our plant matches the *L. longituba* H. T. Chang ex P. S. Hsu & H. J. Wang, with its types collected from Xinyi (Sunyi) District, Guangdong (Kwangtung) province, China [18]. However, the *L. longituba* was later treated as a synonym of *Lonicera longiflora* (Lindl.) DC. [6]. This species has never been reported from Vietnam to date.

2. Methodology

The collected specimens were critically examined by consulting the relevant taxonomic literature [6], [10]-[12], [14], [15], [17]-[21], comparing with specimens kept at VNMN, VNF, VAFS, and double-checking on digital herbarium database (JSTOR (https://www.jstor.org/), Muséum national d'Histoire naturelle (https://science.mnhn.fr/), The Royal Botanic Gardens, Kew (https://www.kew.org/), and Chinese Virtual Herbarium (https://www.cvh.ac.cn/index.php)). All names have been compared with data published on the International Plant Names Index (IPNI; https://www.ipni.org). Morphological and taxonomic investigations were made directly from either living specimens in either habitats or from herbarium specimens. The distribution map of *Lonicera longiflora* in northern Vietnam was made using ArcGIS software based on our materials.

3. Results and Discussion

* Lonicera longiflora* (Lindl.) DC., Candolle, Prodr. 4:333(1830); Yang et al. in Z.-Y. Wu, P. H. Raven & D. Y. Hong (eds.), Fl. China 19: 639 (2007). Fig. 1.


**Synonyms:** *Lonicera longituba* H. T. Chang ex P. S. Hsu & H. J. Wang in Chang, Hsu & Wang, Acta Phytotax, Sin. 17(4): 82 (1979); Types: China: Guangdong (Kwangtung) Province, Xinyi (Sunyi) District, July 14–August 20, 1931, Z.Huang (C. Wang) 31120 (Syntypes GXMI

*Figure 1.* *Lonicera longiflora* (Lindley) Candolle: A. natural habitat; B. a branch with flowers; C. specimens; D. flower. Photos by Pham Thanh Trang
Description: Climbers, subglabrous; branches solid or hollow, young branches and petioles slightly yellow-brown hairy. Petiole 6–10 mm long, interpetiolar line swollen; leaves opposite, leathery, elliptic or ovate to lanceolate, 6.5–10 × 2.0–4.0 cm, base cuneate, apex acuminate, margin entire; venation pinnate, mid-vein raised abaxially, 4–5 pairs lateral veins. Inflorescence cymes with paired flowers, terminal or axillary; peduncle 6–10 mm long; 2 bracts small, linear-lanceolate, 1–5 mm long; 2 pairs of bracteoles orbicular-ovate, ca. 1 mm, glabrous. Paired flowers with free ovaries, oblong, ca. 3 mm long, glabrous. Calyx 5-lobes lanceolate, 1–1.5 mm long, rarely ciliate. Corolla bilabiate white, then yellow, 6–8 cm long, outside glabrous, or some long stiff hairs; tube narrowly funnelform, 5–7 cm long, 2–3 mm in diam., inside pubescent; upper lip irregularly 4-lobed, lobes orbicular-ovate, 2.5–3 mm; lower lip linear-oblong, recurved to coiled. Stamens and style long exserted from corolla tube, 7.5–8.5 cm long. Flowering in June-August.

Specimens examined: VIETNAM. Son La Province, Muong La Nature Reserve; alt. 1300 m; 12°36’ 12.295”, 104°7’ 0.918”; 06 Jul. 2016; Trang and Thu ML17 (VNF!).

Vernacular name: Kim ngân hoa dài (In Vietnamese).

Distribution: China (Guangdong, Guangxi, Hainan, Yunnan) [6] and Vietnam (Son La) (Fig. 2).

Habitat and Ecology in Vietnam: Lonicera longiflora grows at sunny places along streams under evergreen broad-leaved forest mixed bamboo at ca. 1300 m alt., and is usually associated by Maclurochloa sp., Cyrtococcum patens (L.) A. Camus, Rubus ferox Focke, Pteridrys syrmatica C. Chr. & Ching., Impatiens clavigera Hook.f, Aeschynanthus bracteatus Wall. Ex A. DC.

Notes: Lonicera longiflora is similar to Lonicera hildebrandiana and Lonicera bournei in habit, leathery leaves, and paired flowers, but could be distinguished from L. hildebrandiana and...
L. bournei by recurved to coiled lower lip, and stamens and style long exserted from corolla tube (Table 1).

**Table 1. Comparison of characters among Lonicer longiflora (Lindl.) DC., Lonicera bournei Hemsl. and Lonicera hildebrandiana Collett & Hemsl**

<table>
<thead>
<tr>
<th>Lonicera longiflora</th>
<th>Lonicera bournei [6], [9]</th>
<th>Lonicera hildebrandiana [6],[12]</th>
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<tr>
<td>Stem</td>
<td>Subglabrous throughout but young branches sometimes slightly yellow-brown hairy</td>
<td>Young branches with dense yellowish curved hairs</td>
</tr>
<tr>
<td>Branches</td>
<td>Glabrous</td>
<td>Densely yellow pubescent, sometimes glandular</td>
</tr>
<tr>
<td>Leaves</td>
<td>Ovate or elliptic to lanceolate, 6.5–10 × 2–4 cm</td>
<td>Ovate or ovate-oblong to elliptic, 1.5–11 × 1.5–5 cm</td>
</tr>
<tr>
<td>Petiole</td>
<td>0.6–1 cm, glabrous</td>
<td>0.2–1.3 cm, densely hairy</td>
</tr>
<tr>
<td>Bract</td>
<td>Linear-lanceolate, 1–5 mm long, glabrous</td>
<td>Subulate or lanceolate, up to 3 mm long, pubescent</td>
</tr>
<tr>
<td>Calyx lobes</td>
<td>Broadly triangular or lanceolate, 1–1.5 mm</td>
<td>Triangular, ca. 0.5 mm</td>
</tr>
<tr>
<td>Corolla</td>
<td>6–8 cm long; lower lip recurved to coiled.</td>
<td>3–6 cm long; lower lip slightly curved</td>
</tr>
<tr>
<td>Stamens and style</td>
<td>Long exserted from corolla</td>
<td>Slightly exserted from corolla tube</td>
</tr>
<tr>
<td>Berries</td>
<td>White to black [6]</td>
<td>Red</td>
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**KEY TO LONICERA SPECIES IN VIETNAM**

Since the treatment of Lonicera genus for the Flora of Indochina [12], no further treatment has been documented in Vietnam. The key to Lonicera occurring in Vietnam was incorporated and modified from [6].

1. Shrubs
   2. Leaves densely clad with white and soft hairs ......................................................... L. confusa
   2. Leaves glabrous
      3. Inflorescence with peduncle glabrous; bracts filiform ...................................... L. annamensis
      3. Inflorescence with peduncle pubescent; bracts lanceolate ................................. L. ligustrina

1. Climbers
   4. Corolla less than 3 cm
      5. Corolla tube broadly funnelform, shallowly gibbous toward base .......... L. acuminata
      5. Corolla tube narrowly funnelform, not gibbous
         6. Stems yellow-brown velutinous; leaves abaxially hirsute mixed with glandular hairs ................................................................. L. macrantha
         6. Stems grayish pubescent or occasionally glabrous; leaves abaxially glaucous with large sessile orange glands ............................................. L. hypoglauca

4. Corolla more than 3 cm.
   7. Bracts leaf-like
      8. Leaves adaxially hairy along veins, abaxially sparsely to densely hairy; bracts ovate to elliptic; corolla 3–5 cm ........................................ L. japonica
   7. Bracts not leaf-like
      9. Leaves with hairs
         10. Leaves adaxially glabrous, abaxially glandular hairy; bracts triangle; tube cylinder form; corolla 7–9 cm ............................................. L. cambodiana
10. Leaves leathery, both surfaces sometimes pubescent on midvein; bracts lanceolate; tube narrowly funnelliform; corolla 3–4.5cm ......................... L. bournei

9. Leaves glabrous

11. Bracts linear; tube broadly funnel form; corolla 9–12 cm L. hildebrandiana

11. Bracts subulate; tube narrowly funnel form; corolla 5–9 cm ......................... L. longiflora

4. Conclusion

Lonicera longiflora was firstly recorded for the flora of Vietnam. It differs from other known Lonicera species in Vietnam in having lower lip recurved to coiled, and the stamens and style long exserted from corolla tube. Further studies should focus on potential distribution and conservation status assessment of this species.

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