

***Osmanthus suavis* King ex C. B. Clarke (Oleaceae):  
A NEWLY RECORDED SPECIES FOR THE FLORA OF VIETNAM**

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**ABSTRACT:** The genus *Osmanthus* Lour. (Oleaceae) was previously represented by 3 species in Vietnam, belonging to section *Leiiolea* and *Osmanthus*. Here we report *O. Suavis* King ex C.B. Clarke as a new distributional record for Vietnam, belonging to section *Siphosmanthus*. This species is distributed in Lao Cai and Thanh Hoa Provinces of the country. In support of the species identification, taxonomic description and line drawings are provided.

**Keywords:** Oleaceae, *Osmanthus*, *Siphosmanthus*, new record, Vietnam.

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## INTRODUCTION

The genus *Osmanthus* Lour. has about 35 species in the world distributed in tropics and subtropics of South East Asia and America [1, 9, 10]. The genus *Osmanthus* Lour. was first described by Loureiro (1790) [6]. with the type *O. fragrans* Lour. In Vietnam, the genus was hitherto represented by only 2 species under section *Leiiolea* and *Osmanthus* [2, 5, 7, 8]. However, during the scrutiny of voucher specimens deposited at the herbarium of Institute of Ecology and Biological Resources (HN), we came across an interesting collection, which after further scrutiny, identified as *O. suavis* belonging to section *Siphosmanthus*, hitherto unreported from Vietnam. This species has distribution in Lao Cai and Thanh Hoa Provinces of the country. It is morphologically close to *O. delavayi* in having cymes fascicled in leaf axils or terminal, but differs in having petiole 4-6 mm, primary veins 6-8 on each side of midrib and fruit a drupe blue-black which are ellipsoid ca. 6 × 4 mm [1]. In this article, we report *O. suavis* as new record to the flora of Vietnam and provide key to species, morphological description, line drawings, distribution and specimens examined of all species under genus *Osmanthus* Lour. in Vietnam.

## MATERIALS AND METHODS

All the specimens of *Osmanthus* kept in the different herbaria of Vietnam such as HN, VNM and HNU were critically examined using light microscope. Photographs of the type specimens housed in the virtual herbaria (P, K, G, GH, BM) were also studied. Morphological characters were studied consulting the relevant literature.

## RESULTS AND DISCUSSION

***Osmanthus* Lour.** 1790. Fl. Cochinch. 1: 28; Gagnep. 1933. Fl. Gen. Indoch. 3. 1062; Chang M. C. et al. in Wu C. Y., & Raven P. H., (eds.) 1996. Fl. China, 15: 287; Phamh. 2003. Illustr. Fl. Vietn. 2: 890; P. S. Green, 2000. Fl. Thailand, 7(2): 281; T. D. Ly, 2003. Checkl. Pl. Sp. Vietn. 2: 1172.

Small trees or shrubs, evergreen; branchlets glabrous or rarely pubescent. Leaves opposite, simple, petiolate glabrous; leaf blade elliptic to elliptic-lanceolate, rarely ovate; base cuneate or broadly cuneate, margin entire or usually serrulate along distal half, apex acuminate. Inflorescences cymose, fascicled in leaf axils or in very short and axillary or terminal panicles; bracts 2, bracts broadly ovate, glabrous. Flowers bisexual, usually becoming unisexual and plants dioecious or androdioecious. Calyx glabrous or rarely pubescent, campanulate, 4 lobed. Corolla usually white or yellowish, campanulate,

cylindric, lobed, parted, or divided almost to base; imbricate in bud, lobes 4. Stamens 2, mostly attached to upper half of corolla tube; connective usually minutely mucronate, elongated, or projecting. Ovules 2 in each locule. Stigma capitate or 2; pistil subulate or conical. Fruit a drupe; endocarp, ovate or elliptic.

#### Key to *Osmanthus* Lour. species in Vietnam

- 1A. Inflorescences cymes fascicled in leaf axils or terminal, Pedicel 3-10 mm.....2  
 1B. Inflorescences cymes in short panicles, axillary, Pedicel 1.5-2 cm.....  
 ..... (Sect. 3. *Leiolea*) 1. *O. matsumuranus*  
 2A. Calyx 1-1.5 mm; corolla tube 0.25-0.8 mm.....(Sect. 1. *Osmanthus*) 2. *O. fragrans*  
 2B. Calyx 3-4 mm; corolla tube 6-9 mm.....(Sect.2. *Siphosmanthus*) 3. *O. suavis*

***Osmanthus fragrans* Lour.** 1790. Fl. Cochinch. 1: 28; Gagnep. 1933. Fl. Gen. Indoch. 3. 1062; Chang M. C. et al. in Wu C. Y., & Raven P. H., (eds.) 1996. Fl. China, 15: 287; Phamh. 2003. Illustr. Fl. Vietn. 2: 890; P. S. Green, 2000. Fl. Thailand, 7(2): 281; T. Đ. Ly, 2003. Checkl. Pl. Sp. Vietn. 2: 1172. **Type:** Vietnam. J. de Loureiro s.n. (BM photo!, syn. - K, P photo!)-*Notelaea posua* D. Don. 1825. Prodr. Fl. Nepal. 107. - *Olea acuminata* Wall. ex G. Don. 1837. Gen. Hist. 4: 49. - *Olea fragrans* var. *acuminata* (Wall. ex G. Don) Blume. 1850. Mus. Bot. 1: 316. - *Olea fragrans* var. *longifolia* (DC.) Blume. 1850. Mus. Bot. 1: 316. - *Olea fragrans* var. *lutea* N. N. Dai. 1895. Useful Pl. Jap. 2: 392. - *Osmanthus acuminatus* (Wall. ex G. Don) Nakai. 1930. Bot. Mag. (Tokyo) 44: 14. - *Osmanthus aurantiacus* var. *cremeus* Nakai. 1949. Bull. Natl. Sci. Mus. Tokyo 27: 34. - *Osmanthus fragrans* var. *longifolius* (DC.) H. Hara. 1966. in Fl. E. Himal. 253.-*Osmanthus ovalis* Miquel. 1861. J. Bot. Néerl. 1: 111. - *Osmanthus longibracteatus* H. T. Chang. 1982. Acta Sci. Nat. Univ. Sunyatseni (2): 5. - *Osmanthus macrocarpus* P. Y. Bai. 1979. Acta Bot. Yunnan. 1: 153.

Shrubs or small trees 1-2 m; branchlets glabrous. Leaves opposite, simple, petiolate glabrous ca. 1-1.5 cm; leaf blade elliptic-lanceolate, 6-10 × 2-3 cm, base cuneate or broadly cuneate, margin entire or usually serrulate along distal half, apex acuminate; midrib and 8-9 primary veins adaxially

**Type:** *O. fragrans* Lour.

About 35 species in the world included under 5 sections, distributed in tropical and subtropical South East Asia and America. In Vietnam there are 3 species belonging to Sect. *Leiolea*, *Osmanthus* and *Siphosmanthus*, *O. suavis* is distributed in North, Central part and Tay Nguyen Plateau of Vietnam.

impressed and abaxially raised. Inflorescences cymes fascicled in leaf adaxially glabrous, 6-many flowered; bracts broadly ovate glabrous, 1-4 mm. Pedicel 6-8 mm. Calyx Calyx glabrous, campanulate, 4 lobed triangle 1-1.5 mm. Corolla usually white, elliptic-lanceolate, 1.5-3 mm; tube 0.25-0.8 mm. Stamens 2 very short, soattached to middle of corolla tube; connective elongated into an obscure mucro. Ovules 2 in each locule; stigma capitate; pistil subulate. Fruit a drupe, ovate or ellipsoid, oblique ca. 1-2 cm. Flowered. Sep-Oct, Fruit. Mar-April (fig 1.)

**Distribution:** Northern, Central part and Tay Nguyen Plateau Vietnam, Lao Cai, Yen Bai, Ha Giang, Tuyen Quang, Hoa Binh, Ha Noi, Ha Nam, Ninh Binh, Thanh Hoa, Nghe An, Quang Binh, Quang Tri, Thua Thien - Hue, Da Nang, Quang Nam, Gia Lai, Kon Tum and Lam Dong; India, Nepal and China.

**Ecology and habitat:** Terrestrial lowland broad-leaved evergreen forests on alluvial soils derived from limestone. Trees in cultivation ornamental.

**Specimens examined:** Lao Cai, Petelot 1606 (VNM), 2606 (HNU). - Ha Noi, B. H. Quang 10 (HN). - Nghe An, Quang 21 (HN). - Quang Binh, Quang 177 (HN). - Thua Thien - Hue, L. Averryanov et al., HAL 11039, CBI 207 (HN). - Gia Lai, Quang 11 (HN). - Lam Dong, Quang 08 (HN).

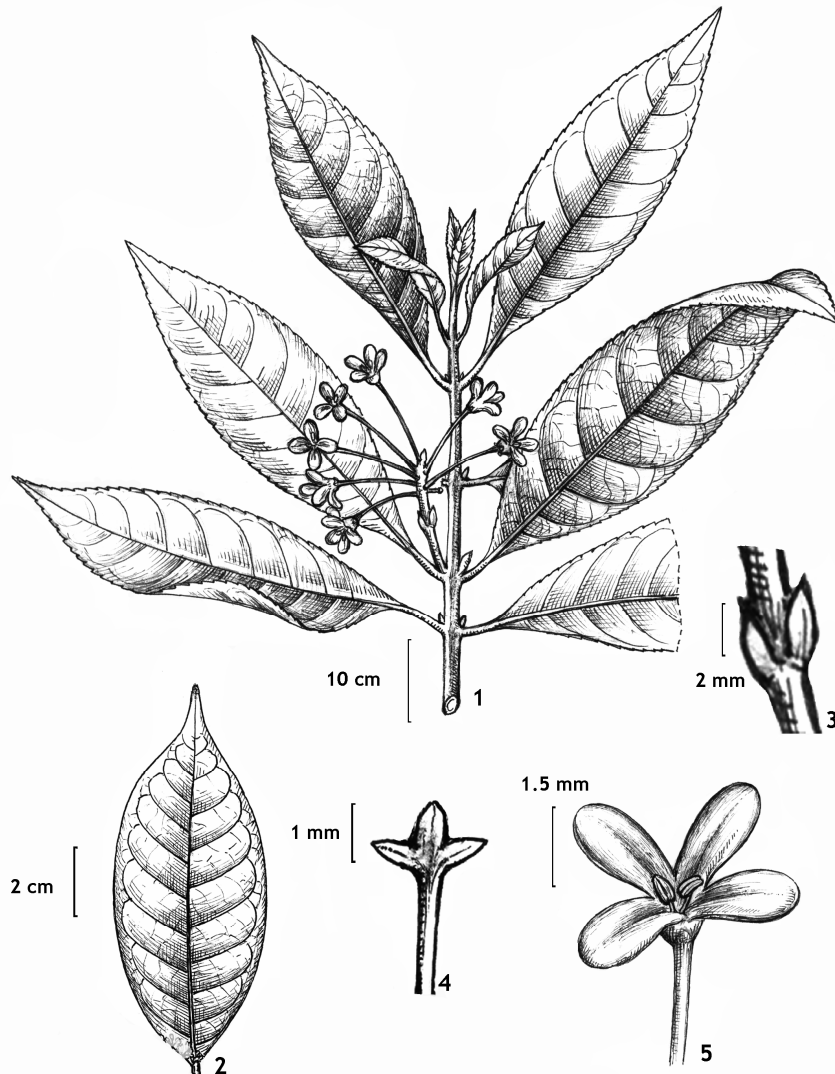


Figure 1. *Osmanthus fragrans* Lour.

1. branchlets; 2. leaf; 3. bracts; 4. calyx; 5. flower.  
Drawing Le Kim Chi from B. H. Quang 10 (HN)

*Osmanthus suavis* King ex C. B. Clarke, 1882. Fl. Brit. India. 3: 607; Chang M. C. et al. in Wu C. Y. & Raven P. H. (eds.), 1996. Fl. China, 15: 287. **Isolectotype:** India. W. Griffith, s.n. (GH photo!, *Syn.* - King, G, s.n. 1875-01-01 (G photo!). - *Siphonosmanthus suavis* Stapf. 1929, Bot. Mag. 153: t. 9176.

Trees small 2-4 m; branchlets pubescent. Leaves opposite, simple, Petiole 4-6 mm, glabrous or rarely pubescent; leaf blade elliptic, or ovate, 2-4 × 1.5-2 cm, thin leathery, glabrous

except for midrib adaxially, base cuneate, margin obtusely serrate, apex acute; primary veins 6-8 on each side of midrib, obscure. Inflorescences cymes fascicled in leaf axils or terminal, 5-8 flowered; bracts broadly ovate glabrous, 2-4 mm. Pedicel 3-8 mm. Calyx glabrous or rarely pubescent, campanulate, 4 lobed, lanceolate, 3-4 mm. Corolla white or creamy, elliptic-ovate; tube 6-9 mm; lobes ovate, 3-4 mm, imbricate in bud. Stamens 2 mostly attached to upper half of corolla tube.

Ovules 2 in each locule; stigma capitate or 2; pistil conical 1 mm. Fruit a drupe blue-black, ellipsoid ca. 6 × 4 mm. Flowered. Apr-May, Fruit. Oct-Nov. (fig 2.)

*Distribution:* Lao Cai province (Van Ban, Yen Ha) and Thanh Hoa province (Quan Hoa); China (Yunnan), Bhutan, Myanmar and Nepal.

*Ecology and habitat:* Primary broad-leaved evergreen closed forest, on steep shady slope, humid area, at the elevation of 1,400-2,650 m.a.s.l.

*Specimens examined:* Lao Cai L. Averryanov, P. K. Loc, Đ. T. Đoan, HAL 2575 (HN). - Thanh Hoa, Quang 86 (HN).

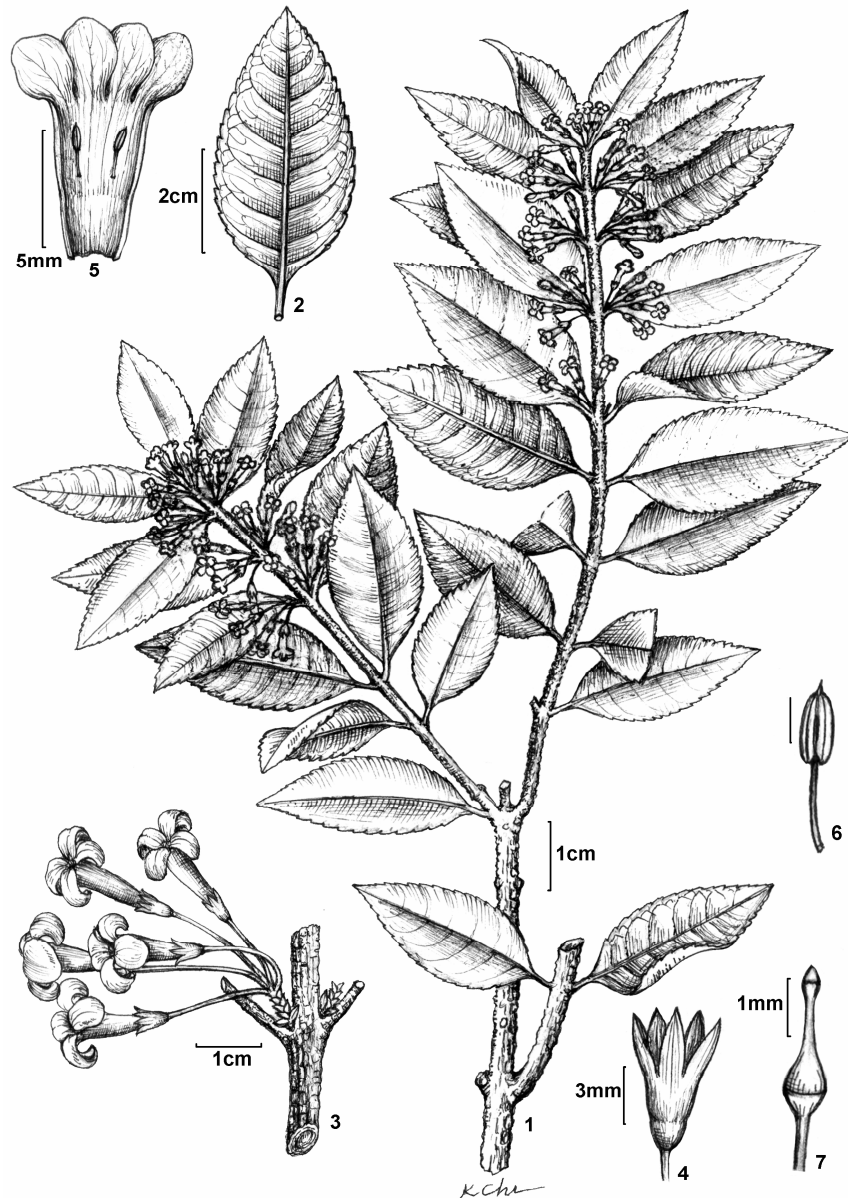


Figure 2. *Osmanthus suaveolens* King ex C. B. Clarke

1. branchlets; 2. leaf; 3. inflorescences; 4. calyx; 5. corolla; 6. stamens; 7. stigma.  
Drawing Le Kim Chi from HAL 2575, (HN)

Table 1. Morphological comparison of *O. suavis* with *O. delavayi*

| Morphological characters | <i>O. suavis</i>  | <i>O. delavayi</i> *  |
|--------------------------|---|---|
| Branchlets               | Sparsely pubescent  | Densely pubescent   |
| Leaf                     | Petiole 4-6 mm glabrous or rarely pubescent; leaf blade elliptic, or ovate, 2-4 × 1.5-2 cm, thin leathery, glabrous except for midrib adaxially; base cuneate, margin obtusely serrate, apex acute. | Petiole 2-3 mm, puberulent at least when young; leaf blade oblong, broadly elliptic or broadly ovate, 1-2.5(-4) × 1-1.5(-2) cm, thick leathery; base broadly cuneate, margin with 6-8 pairs of sharp serrations ca. 1 mm, apex acute to obtuse and mucronulate. |
| Veins                    | Primary veins 6-8 on each side of midrib.   | Primary veins 4 or 5 on each side of midrib.  |
| Fruit                    | Drupe blue-black, ellipsoid ca. 6 × 4 mm.   | Drupe blue-black, long ovoid, 1-1.2 cm.   |

\*Morphological following (M. C. Chang et al. 1996. Fl. China, vol 15) [1].

*Osmanthus matsumuranus* Hayata, 1911. J. Coll. Sci. Imp. Univ. Tokyo. 30(1). 192; Gagnep. 1933. Fl. Gen. Indoch. 3. 1026 Chang M. C. et al. in Wu C. Y., & Raven P. H., (eds.) 1996. Fl. China, 15: 287; Phamh. 2003. Illustr. Fl. Vietn. 2: 890; P. S. Green, 2000. Fl. Thailand, 7(2): 281; T. Đ. Ly, 2003. Checkl. Pl. Sp. Vietn. 2: 1172. **Type:** Vietnam (Tu phap). Balansa 3405, 24/5/1888 (P. Photo!). - *O. pedunculatus* Gagnep. 1933. Fl. Gen. Indoch. 3. 1062-1063.

Shrubs or trees 2-5 m; branchlets glabrous compressed. Leaves opposite, simple, petiole 1.5-2 cm; leaf blade oblanceolate, rarely obovate, 8-10 x 3-5 cm, thin leathery to thick papery, base attenuate and decurrent, margin entire or serrate along distal half, apex acuminate; midrib and 10-12 primary veins adaxially slightly impressed and abaxially raised. Inflorescences cymes in short panicles, axillary, 1.5-2 cm, 10-many flowered; bracts broadly ovate, 1-1.5 mm. Pedicel ca. 2 mm. Calyx glabrous 1.5-2 mm; lobes ovate 0.5-1 mm. Corolla greenish or pale green, 3-4 mm; tube equaling reflexed lobes 1-2 mm. Stamens attached to distal part of corolla tube. Ovules 2 in each locule; stigma capitate; pistil conical. Fruit a drupe ripening purple to black, ellipsoid, 1.5-3 x 0.7-1.5 cm. Flowered . May-Jun, Fruit. Nov-Dec. (fig 3.)

**Distribution:** Northern, Central part and Tay Nguyen Plateau Vietnam, Son La, Ha Giang, Tuyen Quang, Lang Son, Hoa Binh, Thai Nguyen, Vinh Phuc, Bac Giang, Hai Duong, Quang Ninh, Thanh Hoa, Nghe An, Quang Binh, Quang Tri, Gia Lai and Lam Dong; India, Cambodia, Laos and China.

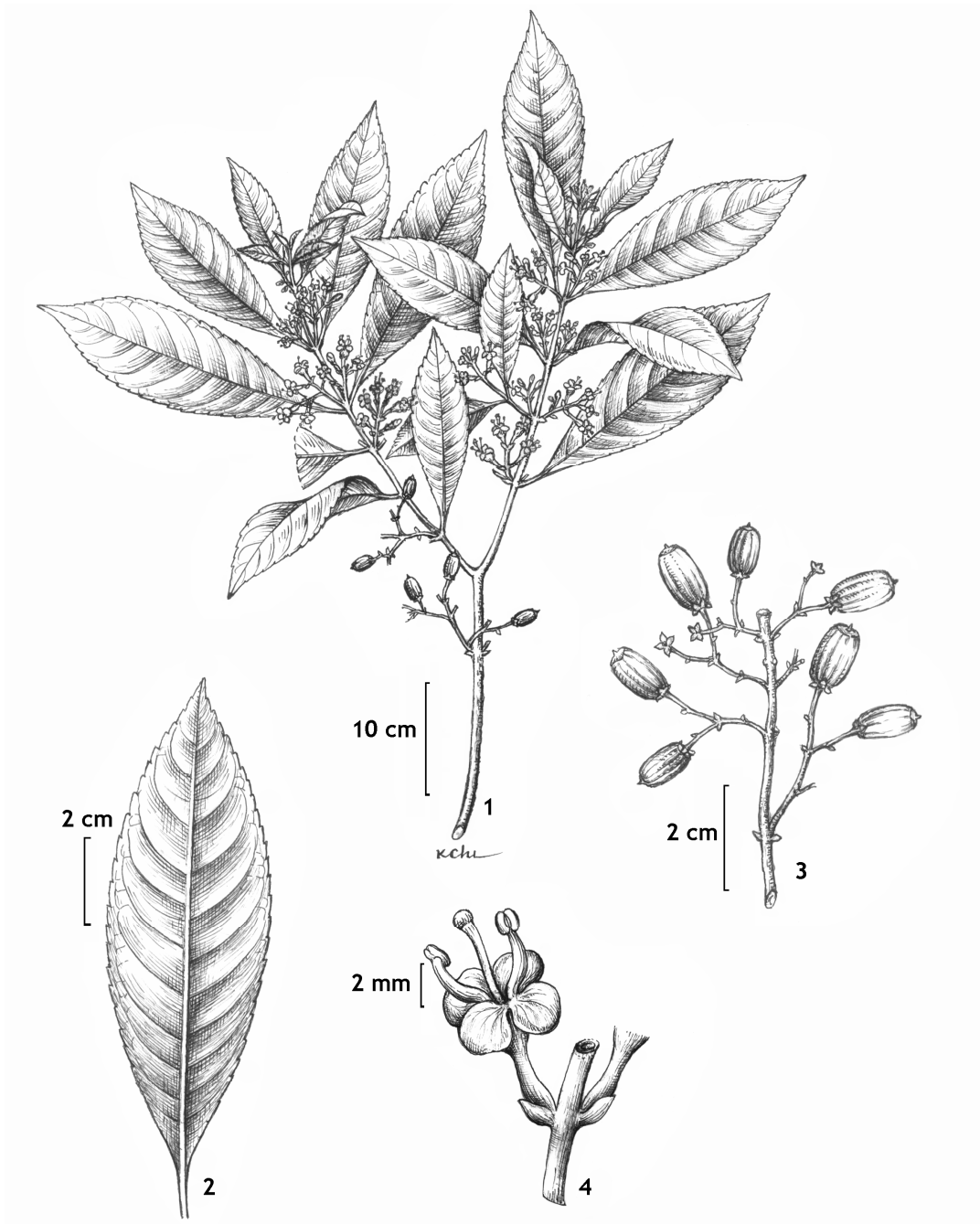
**Ecology and habitat:** Primary broad-leaved evergreen closed forest, on steep shady slope, humid area, at the elevation of 200-1,000 m.a.s.l.

**Specimens examined:** Son La, VN 120 (HN). - Ha Giang, VN 855 (HN). - Lao Cai, B.H. Quang 88 (HN). - Tuyen Quang, Phuong 6727 (HN). - Lang Son, P-1052, Binh 35 (HNU). - Thai Nguyen, Petelot 2676 (HNU), 2674, (VNM), VN 752 (HN). - Hoa Binh, N.T. Xuan 1766 (HNU). - Vinh Phuc, Petelot 6639 (VNM, HNU). - Ha Noi, Petelot 2137,1612 (VNM, HNU). - Bac Giang, Petelot 5954, 4754 (VNM), 1610 (HNU). - Hai Duong, LN 00 389 (VNM), VN 191 (HN). - Quang Ninh, Hien 344, QN s.n. (HN). - Thanh Hoa, Petelot 1719, B. H. Quang 102. HN). - Nghe An, N.N.Thin 200, 214 (HNU), VN 1029 (HN). - Quang Binh, Phuong 3223, 3228, VN 1051 (HN). - Quang Tri, VN 1223 (HN). - Gia Lai, P-3868, 2438 (HNU). - Lam Dong, Tue 443 (HN).

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Technology (code: VAST. ĐLT.07/16-17.), and Institute of Ecology and Biological Resources (code: IEBR.DT.01/15-16).



*Fig 3. Osmanthus matsumuranus* Hayata.  
1. branchlets; 2. leaf; 3. flowered; 4. inflorescences.  
Drawing Le Kim Chi from B.H. Quang 88 (HN)

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**NGHI NHẬN MỚI LOÀI *Osmanthus suavis* King ex C. B. Clarke (Oleaceae)  
CHO HỆ THỰC VẬT VIỆT NAM**

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**TÓM TẮT**

Bài báo thống kê 3 loài thuộc chi Mộc, *Osmanthus* Lour. ở Việt Nam với 2 loài đã biết *O. matsumuranus*, *O. fragrans* và bổ sung loài *O. suavis* cho khu hệ thực vật Việt Nam. Loài này được nghi nhận phân bố ở Ấn Độ, Trung Quốc, Bhutan, Myanmar và Nepal. Ở Việt Nam, loài *O. suavis* được tìm thấy ở tỉnh Lào Cai và Thanh Hóa. Các mẫu vật đang được lưu giữ tại Phòng tiêu bản thực vật, Viện Sinh thái và Tài nguyên sinh vật (HN), Viện Hàn lâm Khoa học và Công nghệ Việt Nam. Cập nhật thông tin về danh pháp, tên địa phương, mẫu chuẩn, sinh học và sinh thái, nơi phân bố, mẫu vật của các loài. Khóa định loại, mô tả được xây dựng dựa vào đặc điểm hình thái trên các mẫu vật của các loài như, dạng thân, dạng lá, kiểu cụm hoa, lá bắc, hoa, đài, tràng, nhị, nhụy và quả, cho 3 loài hiện biết của Việt Nam.

*Từ khóa:* Oleaceae, *Osmanthus*, *Siphosmanthus*, ghi nhận mới, Việt Nam.

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