

CLEISOSTOMA FLAVESCENS – NEW ORCHID SPECIES FROM NORTHERN VIETNAM

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Abstract. *Cleisostoma flavescens* Aver. & Averyanova (Orchidaceae) discovered in limestone area of the northern Vietnam is described as a new species to science. It belongs to sect. *Cleisostoma* and has close relation to *Cleisostoma aspersum* (Rehb.f.) Garay and *C. discolor* Lindl.

Recent botanical explorations of limestone areas in the northern Vietnam outlined this region as a very important center of plant endemism rich in orchid species having very limited distribution. This rocky mountain area composed with ancient highly eroded Paleozoic and early Mesozoic limestone hold unique botanical refugium for numerous outstanding strictly endemic orchids. Among them such exciting recently discovered species having great horticultural potential as *Anoectochilus calcareus*, *Holcoglossum wangii*, *Paphiopedilum hangianum*, *P. helenae*, *P. henryanum*, *P. herrmannii*, *P. hiepui*, *P. tranlienianum*, *P. vietnamense*, *Renanthera citrina*, *R. vietnamensis* and many others (Averyanov, 1997, 1998, 2000, 2002 a,b; Averyanov, Averyanova, 2000; Averyanov, et al., 2000, 2001; Averyanov, Rice, 2002). Group of these orchid species includes also newly discovered yellow-flowering species of the genus *Cleisostoma* Blume - *Cleisostoma flavescens*, which represents new species for science. This orchid has close relation to *Cleisostoma aspersum* (Rehb.f.) Garay and *C. discolor* Lindl. It was found in the northern Vietnam during field works on description of vegetation in habitats of endemic Vietnamese *Paphiopedilums*. Description of this rare, probably endemic plant is presented below.

***Cleisostoma flavescens* Aver. & Averyanova, sp.nov.** (*Cleisostoma* sect. *Cleisostoma*). Type: Northern Vietnam, Tuyen Quang Province, Na Hang District, Xuan Tam Municipality, near Ban Cai village (22°29'N, 105°20'E). Primary broad-leaved evergreen dry forest on very steep slopes of highly eroded remnant limestone ridge at elev. 450-500 m a.s.l. Common epiphyte. 22 March 2001, P.K. Loc, N.X. Tam, L. Averyanov, HAL 240 (holotype: HN!; isotype: LE!). Fig. 1.

A speciebus proximis (Cleisostoma aspersum (Rehb.f.) Garay et C. discolor Lindl.) species nova foliorum apice bilobato rotundato-obtuso, floribus minoribus flaviscentibus, labelli structura et calli posteriori forma valde differt.

Epiphyte with roots about 2 mm wide, covered throughout with gray or whitish satiny velamen. *Stem* ascendant, suberect, curved at the base, rigid, about

4-6(12) cm long, 8 mm in diam., internodes about 0.7 cm long. *Leaves* usually 5-8.8-8, dorsiventral, coriaceous, up to 20 cm long and 2.1 cm wide, conduplicate with distinct, prominent median vein, unequally bilobulate at the apex, with broad obtuse asymmetric lobes. *Inflorescences* lateral, 11-14(16) cm long, branched; scape and rachis thin, rigid, twig-like, deep green with purple or purple-violet tint. *Inflorescence bracts* ovate, about 4 mm long and 1.5 mm wide. *Flower bracts* small, ovate, about 1 mm long and 0.5 mm wide. *Pedicel and ovary* 3-5 mm long, to 1 mm wide. *Flowers* odorless, tepals and lip light dull yellow, side lobes and apex of the lip white, column yellowish-white, anther cup dull yellow with few small purple marks near the apex; ovary dull yellowish-green with light indistinct purple tint. Dorsal sepal and petals curved forward, tepals except lip with indistinct purplish median veins. *Sepals* obovate, about 3.8 mm long and 2.1 mm wide. *Petals* narrowly ovate, about 1 mm long and 1.5 mm wide. *Lip* about 6 mm from tip of mid-lobe to apex of spur. *Spur* cylindrical, slightly flattened from lateral sides, more or less straight, about 3 mm long and 1.4 mm at the widened base, the back-wall callus triangular in sagittal section, with two distal narrowing horns. *Side lobes* recurved, broadly truncate, finely denticulate at the edges. *Mid-lobe* fleshy, short, obtuse-acuminate, almost at right angle to the spur. *Column* about 1.5 mm high. *Anther cup* hemispherical, at front attenuate, dull light yellowish, with small indistinct purplish marks. *Pollinia* 4 sub-equal, in two pairs.

Etymology: The name reflects dull pale-yellow color of flowers.

Note. *Cleisostoma flavescens* may be related to *Cleisostoma aspersum* (Rchb.f.f.f.) Garay and *C. discolor* Lindl., but distinguished by having broadly obtuse apical leaf lobes, in distinctly smaller dull pale yellowish flowers and in form of back-wall callus in the spur. This species was observed as locally common epiphyte in primary broad-leaved evergreen dry forest on very steep slopes of highly eroded remnant limestone ridge at elevation 450-500 m a.s.l. It flowered under cultivation in December-January. The species is local endemic of the northern Vietnam probably associated in its distribution with area of *Paphiopedilum hangianum*, *P. P. tranlienianum* and *P. vietnamense* (Fig. 1j).

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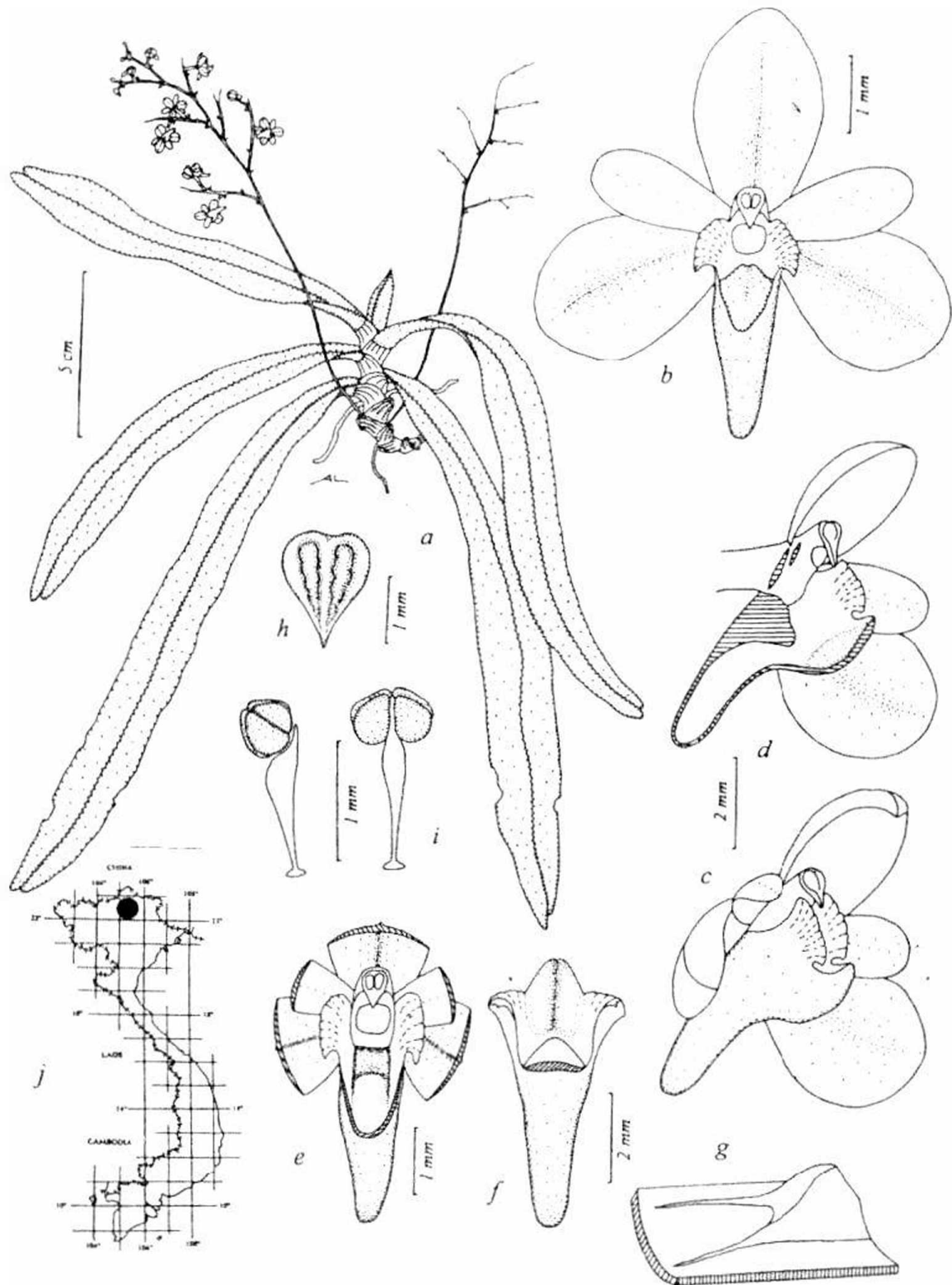


Fig. 1. *Cleisostoma flavescens* Aver. & Averyanova

a – flowering plant; b- flower with flattened sepals and petals; c- flower, side view; d- flower, side view, with sagittal section of the lip; e- lip with cut of mid-lobe; f- lip, back view; g- back-wall callus, side view; h- anther cup (operculum), view from above; i- pollinarium, frontal and side views; j- location of alone discovered population. Drawn from the type.

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CLEISOSTOMA FLAVESCENS - MỘT LOÀI LAN MỚI ĐỐI VỚI KHOA HỌC THU Ở BẮC VIỆT NAM

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Trong bài báo đã mô tả một loài Lan (Orchidaceae) mới đối với khoa học thuộc tông *Cleisostoma* của chi *Cleisostoma* Blume, *Cleisostoma flavescens* Aver. & Averyanova. Mẫu vật được P.K. Lộc, N.X. Tâm và L. Avêrianốp (số HAL 240, nơi lưu trữ- holotype: HN!; isotype: LE!) thu thập ngày 22 tháng 3 năm 2001 ở gần Bản C. C. Cài (22°29' B, 105°20' Đ) thuộc xã Xuân Tam, huyện Na Hang, tỉnh Tuyên Quang. Đây là loài Lan gặp khá phổ biến, sống bám trên cây gỗ, trong rừng nguyên sinh rất thường xanh cây lá rộng trên sườn núi đá vôi ở gần đỉnh và đường đỉnh, rất dốc và bị xói mòn mạnh, nơi có độ cao 450-500 m so với mặt biển. Loài Lan mới này rất gần gũi với 2 loài khác trong cùng chi là *Cleisostoma aspersum* (Rchb.f.) Garay and *C. discolor* Lindl. nhưng nó phân biệt bởi thủy của chóp lá tù rộng hay tròn, hoa màu vàng nhạt và nhỏ hơn rõ rệt và hình dạng của thể chai ở vách sau của hốc chứa mật. Cây nở hoa trong trồng trọt vào các tháng 12 và 1 năm sau. Đây là loài đặc hữu hẹp của bắc Việt Nam gặp trong vùng phân bố của một số loài Lan hài đặc hữu hẹp như *Paphiopedilum hangianum*, *P. tranlienianum* và *P. vietnamense* (Fig. 1j).