

НОВЫЕ ТАКСОНЫ NEW TAXA

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L.V. Averyanov
H.-J. Tillich

Л.В. Аверьянов
Г.-Ю. Тиллих

NEW TAXA OF *ASPIDISTRA* (ASPARAGACEAE) FROM CENTRAL VIETNAM

НОВЫЕ ТАКСОНЫ РОДА *ASPIDISTRA* (ASPARAGACEAE) ИЗ ЦЕНТРАЛЬНОГО ВЬЕТНАМА

Summary. A new variety, *Aspidistra elatior* var. *vietnamensis* and a new species, *A. zinaiidae* discovered in central Vietnam (Quang Nam and Thua Thien – Hue provinces) are described and illustrated. First discovery represents the only verified finding in continental Asia of the widely cultivated species – *A. elatior*, incorrectly regarded before as endemic of Osumi Islands (Japan). New variety distinctly differs from typical cultivated plants of the type variety in the smaller flowers, much thicker rhizome and in the peltate stigma with straight (not revolute) lobes. The second taxon has close relations to *A. marasmioides* and *A. bicolor*, but distinctly differs in densely grouped leaves, the perigone lobes straight upright, the white, shallowly trifold stigma, much smaller flowers and in unusual shape of the stamens.

Key words: *Aspidistra elatior* var. *vietnamensis*, *Aspidistra zinaiidae*, new variety, new species, Asparagaceae (Convallariaceae), flora of Vietnam.

Аннотация. В статье описывается новая для науки разновидность – *Aspidistra elatior* var. *vietnamensis* и новый вид – *A. zinaiidae*, найденные в центральной части Вьетнама, в провинциях Куанг Нам и Туа Тиен-Гуе. Описания обоих таксонов сопровождаются детальными диагнозами, цветными иллюстрациями и комментариями об изменчивости и возможном распространении. Описываемая разновидность хорошо отличается от типовой мелкими цветками, значительно более толстым, массивным корневищем и щитовидным рыльцем с прямыми (не дуговидно изогнутыми) долями. Эта находка представляет первое документально подтвержденное нахождение широко культивируемого вида – *A. elatior* в природе, ранее ошибочно считавшегося островным эндемиком островов Осуми (южная Япония). Описываемый вид – *A. zinaiidae* наиболее близок к *A. marasmioides* и *A. bicolor*, но отличается густой куртиной тесно сближенных листьев, прямыми, прямо-стоячими долями околоцветника, чисто-белым, неясно 3-лопастным рыльцем, значительно более мелкими цветками и необычной формой тычинок.

Ключевые слова: *Aspidistra elatior* var. *vietnamensis*, новая разновидность, *Aspidistra zinaiidae*, новый вид, Asparagaceae (Convallariaceae), флора Вьетнама.

INTRODUCTION

Recent botanical field exploration works distinctly designated southeastern mainland Asia, particularly area of southern China and eastern Indochina, as very important center of the genus *Aspidistra* Ker Gawl. diversity and species formation (Brauchler, Ngoc, 2005; Lang, 1981; Li, 2004; Liang, Tamura, 2000; Tillich, 2005, 2006; Tillich, Averyanov, 2008; Tillich et al., 2007). More than 50

new species and varieties of this genus were discovered and described from this area during last years, and succeeding expeditions in earlier unstudied localities bring each time more and more new discoveries. Two of such novelties are described and illustrated below.

***Aspidistra elatior* Blume var. *vietnamensis*
Aver. et Tillich, var. nov.**

Described from central Vietnam («Quang

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¹Ботанический институт им. В.Л. Комарова РАН, ул. Проф. Попова, 2; 197376, Санкт-Петербург, Россия; E-mail: av_leonid@mail.ru; av_leonid@yahoo.com

²Мюнхенский Университет Людвига-Максимилиана, Факультет биологии, систематики и микологии, Мензингерстрассе, 67, 80638 Мюнхен, Германия; E-mail: hjttillich@gmx.de

¹Russian Academy of Sciences, Komarov Botanical Institute, Prof. Popov str., 2; 197376, St. Petersburg, Russia

²Ludwig-Maximilians-Universität München, Faculty of Biology, Systematic Botany and Mycology, Menzingerstr. 67, 80638 München, Germany

Nam province, Dong Giang district, Ma Cooih municipality around point 15°58'11"N 107°40'15"E. Remnants of primary closed evergreen broad-leaved forests on very steep slopes of hill composed with solid highly eroded limestone at elevation 400–500 m a.s.l. Terrestrial herb on steep shady slope. Leaves with numerous small yellow spots. Locally very common. 9 January 2009, L. Averyanov, P.K. Loc, P.V. The, N.T. Vinh, HAL 12116a»).

Type («Plant flowered under cultivation. 10 July 2011, coll. L. Averyanov, HAL 12116aa») – LE.

Epitype – d-EXSICCATES OF VIETNAMESE FLORA 0179/HAL 1211a (fig. 1).

Rhizome terete, epigeous to hypogeous, creeping to ascending, branching, 1.5–2 cm in diam., densely nodal. Cataphylls convolute, dull reddish-brown, up to 10 cm long. Leaves solitary, petiolate. Petiole stiff, erect, to 20 cm long. Leaf blade upright to horizontal, lanceolate to narrowly elliptic, attenuate at base and apex, 20–30 cm long, (2.5)3–6 cm wide, dark green, commonly with numerous small irregular yellowish spots, plicate, with prominent midvein on lower surface and 1–3 inconspicuous secondary veins at both sides. Flowers odorless, solitary, subsessile to pedunculate. Peduncle greenish to almost white, (2)3–6(10) mm long, 1.5–2 mm in diam., with 3 bracts; bracts broadly ovate, papery, white to dull dirty purple, obtuse, 6–10 mm long and wide. Perigone cup-shaped to shallowly urceolate, 2.5–3 cm in diam., of 8 lobes, tube broad, 8–10 mm long, 10–15 mm in diam., outside glossy, reddish-purple, inside dark purple-violet. Lobes triangular-cuneate, acute to obtuse, fleshy, rugose or finely warty, reflexed, dull reddish-pink to yellowish, 6–8 mm long, 3–5 mm wide, with 2–3 ridge-like prominent keels and 2 deep longitudinal grooves toward the base. Stamens 8; anthers sessile to subsessile, ovoid, 1.5–2 mm in diam., inserted at lower quarter of tube, horizontally spreading, pollen sacs oriented downwards; pollen yellow-white. Pistil mushroom-shaped, peltate; ovary inconspicuous; style stout, white, shortly cylindrical, 4–5 mm tall, 2.5–3 mm in diam.; stigma fleshy, shortly obpyramidal, white below, indistinctly 4(8) lobed, 8–10 mm in diam., upper surface dirty purple-violet, stigma lobes irregularly folded forming prominent radial ridges and deep grooves. Fig. 1.

Distribution. Central Vietnam (Quang Nam province, Dong Giang district). Endemic of limestone regions of central and northern Vietnam.

Ecology. Primary and secondary evergreen broad-leaved forests on rocky limestone at elevations 400–500 m a.s.l. Terrestrial herb forming large

dense colonies in shady places, particularly on rich soils of flat depressions between rocks. Flowering under cultivation was observed at June – July. In known habitats not rare (LR).

Etymology. Variety name refers to the area of its distribution.

Note. Distribution of the widely cultivated *Aspidistra elatior* regarded as an endemic to Japan remains unclear. Literature data noted that the species originated from Kuroshima, Suwanose, and Uji Islands (Osumi Islands, S of Kyushu, Japan), where it grows abundantly in understory of *Castanopsis sieboldii* forests (Li, 2004; Liang, Tamura, 2000). A well documented species from Osumi Islands is *A. insularis*, which was described based on specimens from the herbaria of Osaka and Munich (Tillich, 2006). Taking into account the current knowledge on the variability of *A. elatior*, it seems to be possible that this species may be reduced to a variety of *A. elatior* in the future. *Aspidistra elatior* was also said to be of Chinese origin, but no wild plants have been hitherto found in China (Liang, Tamura, 2000). Actually, our discovery of *A. elatior* in Vietnam is the first record of this species in continental Asia. It is noticeable that mainland specimens distinctly differ from many cultivated plants of the type variety in the smaller flowers, much thicker rhizome and in the peltate stigma with straight (not revolute) lobes. On the basis of clear morphological differences, we describe our plants as a new variety, which may be also regarded as a separate species with distinct geographically isolated distribution. Voucher specimens for this record were collected in Quang Nam province of central Vietnam. Identical plants were also observed in a number of limestone areas throughout the northwestern part of the country where it forms many large colonies. In most observed colonies, the leaves of *A. elatior* var. *vietnamensis* bear yellowish spots, however, samples with uniformly green, unspotted leaves were also occasionally found.

The taxonomic problem with *Aspidistra elatior* is further complicated by the conclusion of Ying (2000). He regarded three Taiwanese species described by Hayata (1912, 1920) as conspecific and reduced them all to *A. elatior* var. *attenuata* (Hayata) S.S. Ying. However, Taiwanese *Aspidistras* are highly variable in flower characters, judging from Hayata's descriptions (1912, 1920). A careful revision of the genus in Taiwan is urgently needed. The affinity between the Vietnamese variety and Taiwanese congeners should closely be surveyed in the future.



FLORA OF VIETNAM
 Fam. Compositae
Aspidistra elatior Blume var. *vietnamensis* Aver. et R. A. Thlich var. nov. Epitype
 Quang Nam Prov., Dong Giang Dist., Ma Coeth Municipality around point 15°28'11"N 107°40'15"E.
 Remnants of primary closed evergreen broad-leaved forests on very steep slopes of hill composed with solid
 highly eroded limestone at elevation 426-500 m a.s.l. Terrestrial herb on steep shady slope. Leaves with
 numerous small yellow spots. Locally very common.
 HAL 12116a 9 January 2009
 Coll.: L. Averyanov, P.K. Loo, P.V. Tho, N.T. Vinh
 Flowered under cultivation at June - July 2011. Flowers coloration, dark dirty purple, tepal apices still whitish.
 d-EXSICCATES OF VIETNAMESE FLORA 0179/ HAL 12116a (21)
 © Herbar. Bot. Inst. L. Averyanov, Phn. Kp. Ltd.

Fig. 1. *Aspidistra elatior* var. *vietnamensis*. Digital epitype: d-EXSICCATES OF VIETNAMESE FLORA 0179/ HAL 12116a (all photos and design by L. Averyanov).

***Aspidistra zinaidae* Aver. et Tillich, sp. nov.**

Described from central Vietnam («Thua Thien – Hue province, Nam Dong district, Thuong Lo municipality, Cha Mang river basin, around point 16°07'53"N 107°43'27"E. Primary evergreen broad-leaved lowland forest on very steep hill slopes composed with stratified shale at elev. 400–500 m a.s.l. Terrestrial herb on very steep rocky shady river slope. Common. 11 April 2007, L. Averyanov, N.S. Khang, A. Averyanova, N.D. Phuong, L.V. Hung, HAL 1111a»).

Type («Plant flowered under cultivation. 5 December 2011, coll. L. Averyanov, HAL 1111b») – LE. **Epitype** – d-EXSICCATES OF VIETNAMESE FLORA 0191/HAL 1111b (fig. 2).

Rhizome terete, epigeous, ascending to erect, much and densely branching, 4–8 mm in diam., densely nodal, with numerous thick rigid, semi woody, straight roots. Cataphylls convolute, cuneate, young dull reddish-brown, later light yellowish-brown, papyraceous, to 8 cm long and 1(1.4) cm wide. Leaves very dense, petiolate. Petiole stiff, erect, straight, (4)6–10(12) cm long. Leaf blade upright to almost horizontal, lanceolate to narrowly elliptic, attenuate at base and apex, (12)15–30(35) cm long, (1.5)2–5(6) cm wide, plicate, dark uniformly green above, light green below, with prominent midvein on lower surface and 1–5 inconspicuous secondary veins at both sides. Flowers odorless, numerous, pedunculate (rarely sessile), kept in horizontal position, not widely opening. Peduncle purple-violet to almost white at apex, (2)5–30(40) mm long, 1–2 mm in diam., appearing in groups, kept horizontally to obliquely ascending, with 3–4 bracts; bracts broadly ovate to almost orbicular, concave, papyraceous, with scarious, lacerate margins, white to dull dirty purple, obtuse, 3–6 mm long and wide. Perigone shallowly urceolate, (6)8–10 mm in diam., of 6 lobes, tube broad, 4–6 mm long, 4–5 mm in diam., glossy white outside, deep purple inside. Lobes clearly in two circles, broadly triangular-ovate, slightly concave, obtuse to almost orbicular at apex, fleshy, smooth, straight or hardly reflexed, 4–6 mm long, 3–4 mm wide, upper surface smooth, dark dull brown-violet, outsides glossy white with a narrow dull-brown margin, lobes of inner whorl (petals) slightly smaller than outer lobes (sepals). Stamens 6; inserted at middle part of tube, anthers sessile to subsessile, bean-shaped, 2–3 mm long, about as long as wide, pollen sacs facing the style, embedded into an unusually broad, fleshy, white connective; pollen brightly yellow. Pistil mushroom-shaped, peltate; ovary inconspicuous; style

stout, white, cylindrical, 2.5–3.5 mm tall, 1–1.5 mm in diam.; stigma fleshy, discoid to shortly obpyramidal, entirely white, indistinctly 3 lobed, 2.5–3.5 mm in diam., upper surface of stigma smooth to indistinctly verrucose. Fig. 2.

Distribution. Central Vietnam (Thua Thien – Hue province, Nam Dong district). Endemic of central Vietnam.

Ecology. Primary and secondary evergreen broad-leaved lowland and hill forests on soils derived from stratified shale at elev. 400–500 m a.s.l. Terrestrial herb on shady steep rocky river valley slopes. Flowering under cultivation was observed at November – December. In known habitats very common (LR).

Etymology. Species is named after Mrs. Zinaida Zaitseva, an excellent gardener for our living plant collections at the Komarov Botanical Institute of the Russian Academy of Sciences. For many years she succeeded in growing even small cuttings to well flowering specimen.

Note. The species is closest to *A. marasmioides* Tillich and *A. bicolor* Tillich. It shares with both species the 6-merous flower, the perigone tube cup-shaped and outsides silvery-white, and the mushroom- or desk-like pistil; from *A. marasmioides* it deviates by the densely grouped leaves (vs. spaced on a long creeping rhizome), the perigone lobes straight upright (vs. reflexed), and the stigma white and shallowly trifold (vs. pink and hemispherical); from *A. bicolor* it is mainly distinguished by much smaller flowers (8–10 mm in diam. vs. 25–35 mm), and the lobes upright (vs. reflexed). Additionally, it is distinguished from both species by the unusual shape of the stamens.

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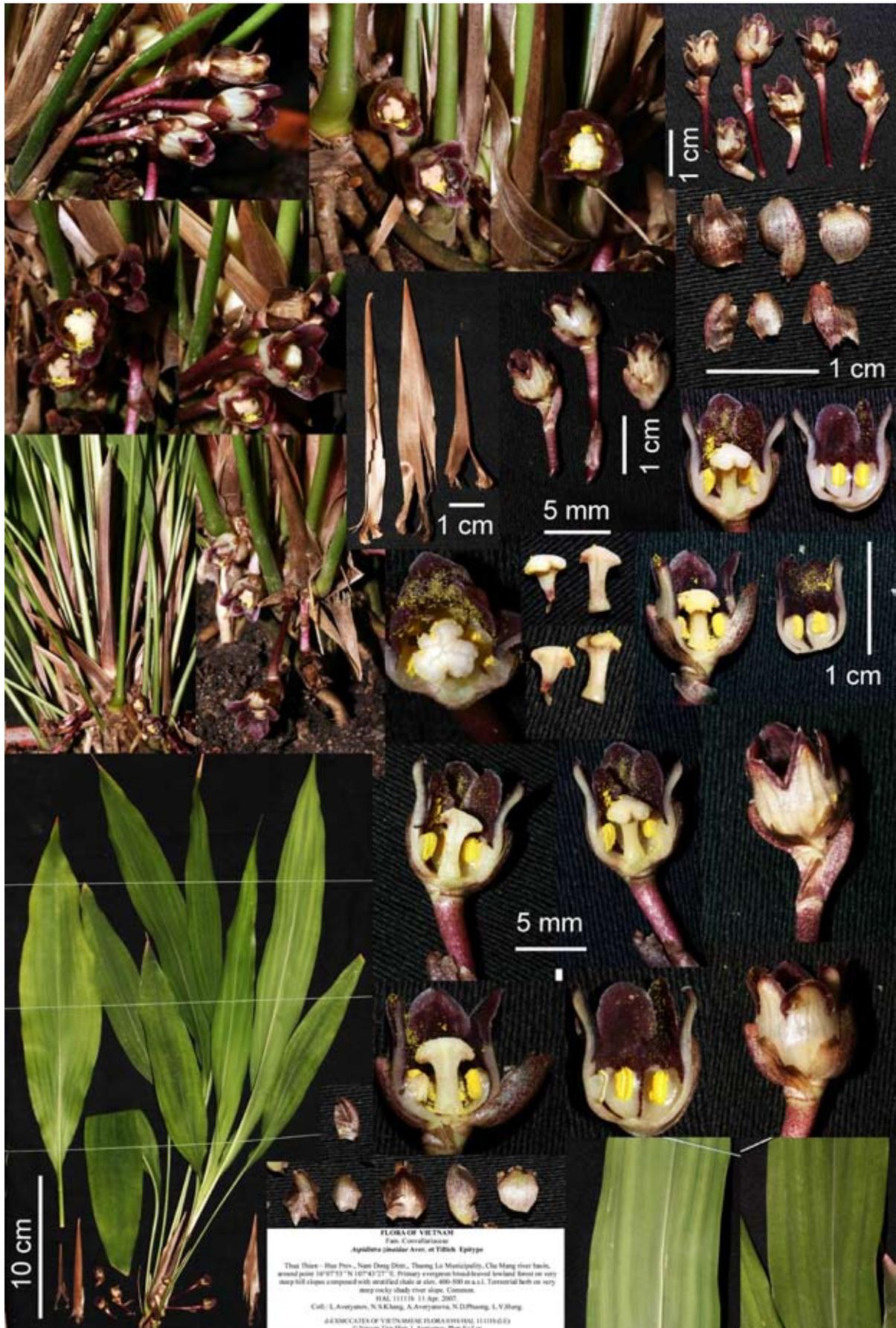


Fig. 2. *Aspidistra zinaiidae*. Digital epitype: d-EXSICCATES OF VIETNAMESE FLORA 0191/HAL 11111b (all photos and design by L. Averyanov).

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