

Stelis anagraciae (Orchidaceae), a new pleurothallid species from Guatemala

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Abstract: A new species of the orchid genus *Stelis* Sw. – *S. anagraciae* Archila & Szlach. – from Guatemala is described and illustrated.

Key words: Orchidaceae, Pleurothallidinae, *Stelis*, Mesoamerica, Guatemala, new species

1. Introduction

The genus *Stelis* Sw. was described by the Swedish botanist Olof Peter Swartz in Schrader's Journal of Botany in 1799, published in April 1800. The genus is considered a very difficult taxonomic object, hence very interesting. Generally, all species of *Stelis* are easily distinguishable from other pleurothallid genera. Like most of its relatives, *Stelis* is characterized by the presence of ramicaul subtended by a few sterile bracts, terminated by a single, rather leathery leaf. Racemose inflorescence is terminal and usually multiflowered. What is a striking feature of the genus is the form of the flower. In most species, sepals are subsimilar, basally more or less connate to form a kind of a cup. Sepals give a general appearance of triangle. In most species an inner surface of sepals is covered by various kinds of papillae or hairs. The petals and lip are greatly reduced and thickened, often covered by various appendages. The gynostemium is also characteristic. It is short, massive, erect, extended distinctly at the apex. The column part is usually obscure, terete. The column foot is absent. The anther base is situated near the stigma base. It is subincumbent to incumbent, dorsiventrally flattened, ovate, oblong to elliptic and motile. Two pollinia are clavate, obovate, laterally flattened, attenuate apically. Caudiculae are tiny, granular, sticky, probably sometimes absent. The apical clinandrium is very obscure, if

any. Stigma is horizontal, bilobed, both lobes are well separated, spread, convex, flat to slightly concave. The rostellum is suberect to incumbent, ligulate, triangular to subulate, blunt to acute, rather thin. The viscidium is single, apical, small, detachable and sticky.

The exact number of species belonging to *Stelis* is unknown. Usually inconspicuous flowers, very small petals and lip, fleshy and often pliable, are very difficult to study, especially in herbarium specimens. The International Plant Name Index (2012) cited over 2000 taxa ever described in this genus. Probably most of them should be synonymised. According to various authors, *Stelis* includes between 250 and 400 species, of which most are endemic to the Central and Northern Andes; many of them are known from single, isolated populations. According to Ames & Correll (1952), Guatemala, located in Mesoamerica, housed about 20 species of the genus, but the World Checklist of Selected Plant Families (2012) recognised twice more species in the country. During the field work by the senior author, unusually large plants of *Stelis* have been collected in Alta Verapaz in Guatemala. We tried to determine this plant using various keys but we finally had to give up.

2. Description and taxonomic notes

Stelis anagraciae Archila & Szlachetko, *sp. nov.* (Figs. 1-4).

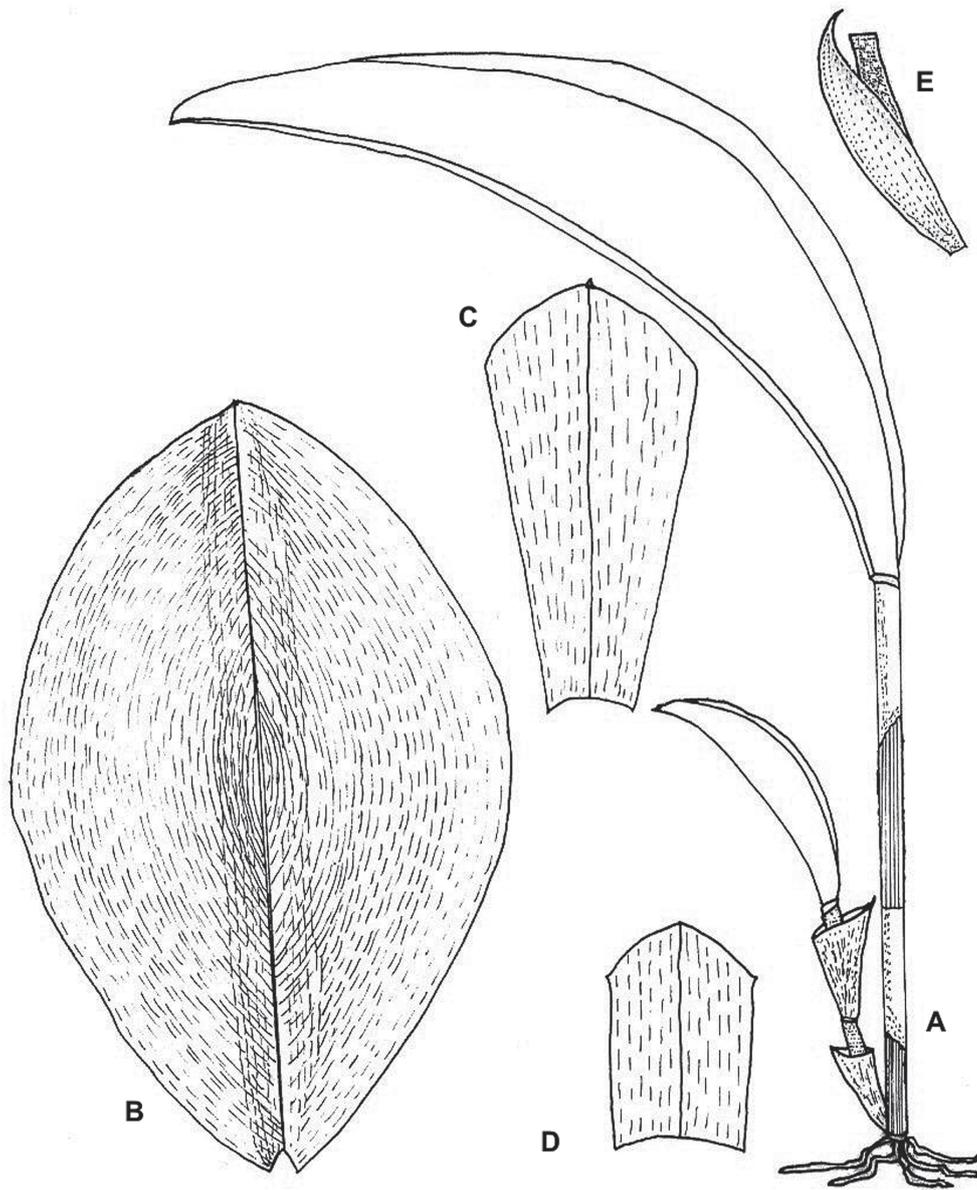


Fig. 1. *Stelis anagraciae* Archila & Szlach.

Explanations: A – plant, B-D – cauline sheath, E – spatha (drawn by F. Archila)

The new species appears to be somewhat similar to *S. despectans* Schltr., but flowers are twice as large and leaf much wider than in the latter. The lip is hippocrepiform and lip middle lobe is obscure in contrast to *S. despectans*.

Type: Guatemala Alta Verapaz. Colectada en San Pedro Carcha. Alt. 1400 m. Sobre ramillas de árboles. Nov 1993. Planta en cultivo en la estación experimental de orquídeas de la familia Archila. *Fredy Archila & Francisco Archila FA- s.n.* (Holotype: BIGU!; Isotype: UGDA-DLSz!).

Etymology: Dedicated to Anagracia de Reyes, an orchid enthusiast and cultivator in Guatemala, who has collaborated in the investigation of the orchids of Guatemala.

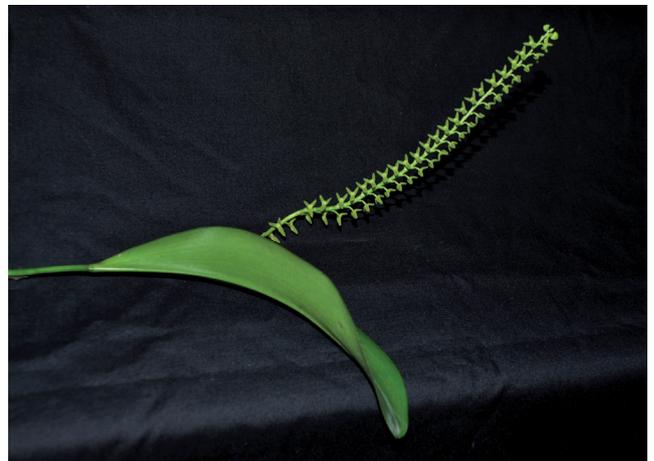


Fig. 3. Habit of *Stelis anagraciae* Archila & Szlach. (photograph by F. Archila)

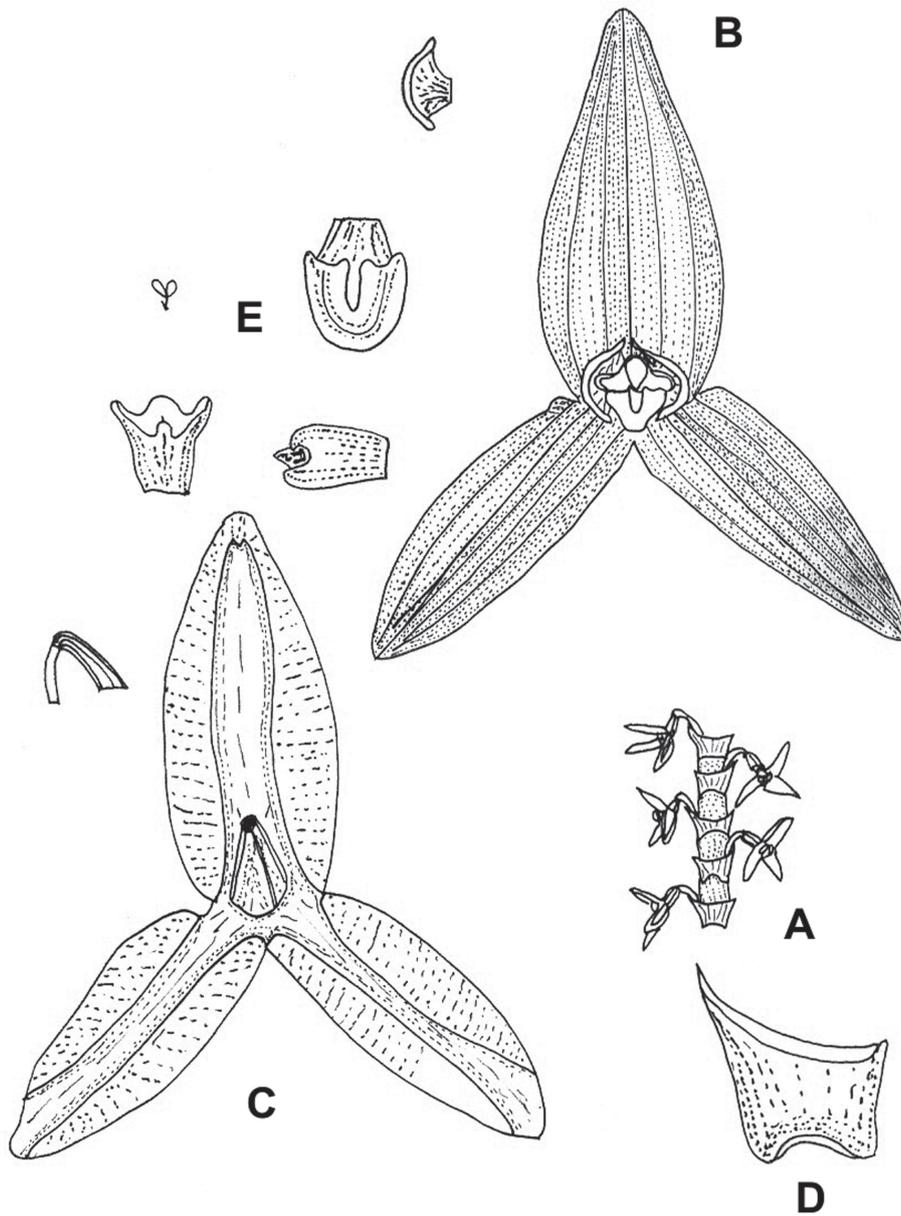


Fig. 2. *Stelis anagraciae* Archila & Szlach.

Explanations: A – part of inflorescence, B – flower front view, C – flower back view, D – floral bract, E – lip, F – petal, G – details of gynostemium (drawn by F. Archila)

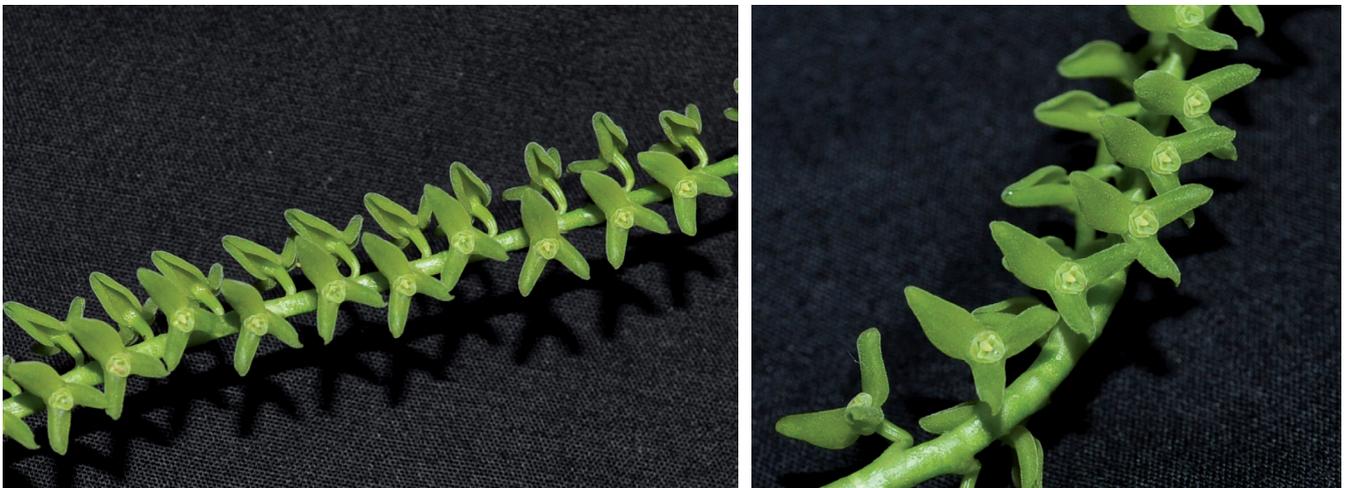


Fig. 4. Part of inflorescence of *Stelis anagraciae* Archila & Szlach. (photograph by F. Archila)

Roots elongated up to 100 cm in length to sustain the weight of the plant, ca 0.13 cm in diameter. Plants to 100 cm long in natural condition. Ramicaul to 15 cm long and 0.6 cm in diameter, with 2 internodes. Anulus ca 0.25 cm long. Bracts on ramicaul always small with large ostium; the lower bract 3 cm long and 1 cm wide with ostium and 0.6 cm wide at the base; the upper bract 5 cm long and 2 cm wide at the ostium, 0.6 cm wide at base. The bracts are light green and well developed, when the ramicaul develops. When it reaches its maximum size, bracts become contracted and dried, acquiring a brown color, they are completely appressed to ramicaul. Leaf blade 17-20 cm long and 11.5 cm wide, suborbicular-elliptic, with the apex microscopically aristate, the base ribbed-elliptic. Inflorescence consists of a dense cluster of green flowers with strong scent. Dorsal sepal 7 mm long and 4 mm wide, lanceolate with the apex cuspidate, but rolled backwards, so not visible in front, the margins are also turned backward. Lateral sepals 7 mm long and 3 mm wide, oblong, with rounded apex with rolled back margins. Petals 0.9 mm long and 1.4 mm wide, subtrapezoid, with recurved linear visible part and rounded apex. Lip 0.8 mm long, 1 mm deep and wide, hippocrepiform, with a foot subquadrate. Gynostemium 1 mm long, 2 mm wide, short, massive. Pollinia with small apical viscidium.

E c o l o g y : Plants litophytic or epiphytic, very rare. **N o t e s .** According to infrageneric classification of the genus *Stelis* proposed by Luer (2002), the new species belongs to the section *Stelis*, which comprises species with widely expanded, free sepals. *Stelis anagraciae* appears to be somewhat similar to *S. despectans* Schltr., but it has wider leaf and larger flowers. Lateral sepals of the new species are oblong, relatively narrow and free to the base, but in contrast to *S. despectans* the dorsal sepal is subequal in length to, but distinctly wider than lateral ones (vs dorsal sepal longer and narrower than lateral sepals). Both species are separable also by the lip form, which is hippocrepiform in the new species, with very obscure middle lobe. The lip of *S. despectans* is 3-lobed, the middle lobe is ligulate, blunt, prominently longer than both lateral lobes.

The other species with which *S. anagraciae* can be misidentified is *S. guatemalensis*. However, in the latter, lateral sepals, are obliquely elliptic-ovate, connate almost to the apices forming a cochleate, boat-shaped structure, typical to the section *Humboldtia* (Ruiz & Pav.) Pers. Additionally, the lip of *S. guatemalensis* is prominently 3-lobed with elongate, triangular middle lobe.

References

- AMES O. & CORRELL D. S. 1952. Orchids of Guatemala. *Fieldiana* 26(1-2): 1-727.
- LUER C. A. 2002. A first century of new species of *Stelis* of Ecuador. Part 1. *Icones Pleurothallidarum* 24: 122 pp.
- THE INTERNATIONAL PLANT NAMES INDEX. Dec 2012. <http://www.ipni.org/>
- WORLD CHECKLIST OF SELECTED PLANT FAMILIES. Dec 2012. <http://apps.kew.org/wcsp/qsearch.do>