

## *Sobralia quadricolor* (Orchidaceae), a new species from Costa Rica

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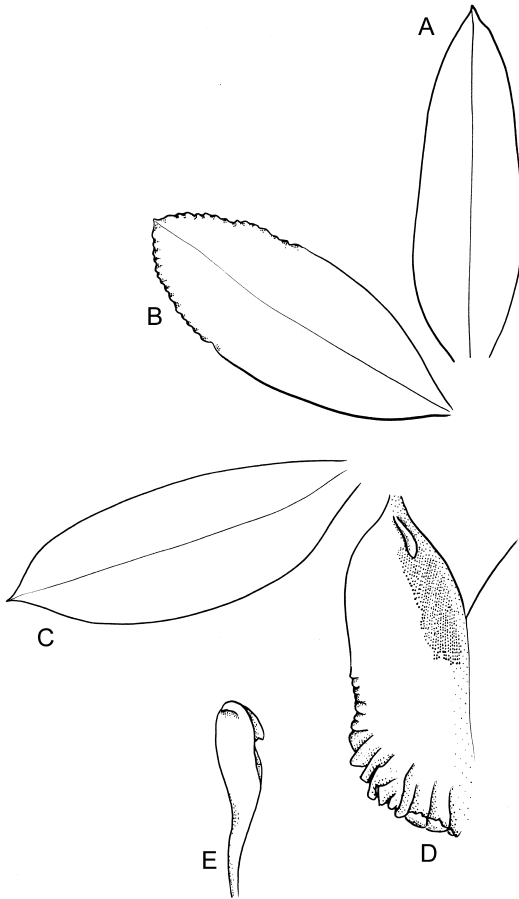
*Sobralia quadricolor* Endrés & Rehb. f. ex Szlach., Kolan. & Baranow *sp. nova* (Orchidaceae) is described and illustrated. It was discovered by A. R. Endrés and H. G. Reichenbach, but they did not publish the description but just attached a note and illustration to the type specimen. Based on our observations and on the documentation prepared by Endrés and Reichenbach, we here describe *S. quadricolor* as a new species to validate the name. It is a member of the *Sobralia-leucoxantha* complex, resembling especially *S. blancoi*, but differs in the shape of the staminodes and in the colour of the lip.

The 19th century was notable for the botanical overseas explorations carried out by European naturalists. They resulted in descriptions of thousands of new species from the tropical regions. The plants collected during the expeditions were usually brought to Museum National d'Histoire Naturelle (Paris) and the Royal Botanic Gardens (Kew), the two leading institutions in botanical studies those days. The incoming material was intensively studied by the European scientists. The orchid material from Kew was handed to John Lindley and his protégé, Heinrich Gustav Reichenbach (Ossenbach 2009), who after Lindley's death became the most influential scientist in orchidology. In a floristic study, Reichenbach (1866) noticed the richness of the Mesoamerican orchid flora. Based on the material obtained from several colleagues and collectors he was able to discover and describe numerous species from Central America.

The whole Reichenbach herbarium, including the material he received from other bota-

nists, was donated, according to his testament, to the Museum of Vienna after his death in 1889. The extraordinary number of about 52 000 orchid specimens was allocated in Austria and, in accordance with Reichenbach's last will, it was not accessible for researchers for 25 years (Elliot 1994).

During the studies of Neotropical orchids conducted in the Natural History Museum in Vienna we came across a herbarium sheet with the name *Sobralia quadricolor* and had a closer look. Except the plant specimen and an illustration of its perianth segments, a piece of paper with hand-written notes of the plant habit and flower morphology was attached to the sheet. While we were not able to unambiguously determine the author of the note and illustration, we assume that the discovery was made by the plant collector in cooperation with Reichenbach. Additional specimens determined as *S. quadricolor* in the same herbarium (Endrés 212) was found. Examination of the available material convinced



**Fig. 1.** *Sobralia quadricolor*. — **A:** Dorsal sepal. — **B:** Petal. — **C:** Lateral sepal. — **D:** Labellum. — **E:** Gynostemium. Redrawn by P. Baranow from an original drawing of the holotype by an unknown author (W).

us that *S. quadricolor* should be treated as a distinct species. As the authors did not effectively publish their discovery (McNeill *et al.* 2012: Art. 29.1), we provide a description and notes on the taxonomic affinities of *S. quadricolor* here.

***Sobralia quadricolor*** Endrés & Rchb. f. ex Szlach., Kolan. & Baranow, *sp. nova* (Fig. 1)

TYPE: Costa Rica. [Alajuela]. San Carlos, San Ramón, *Endrés* 276 (holotype W). — PARATYPE: Same locality, *Endrés* 212 (W!).

Stem 30–50 cm long, erect, rigid, slender, terete, glabrous, covered on basal half with 4 or

5 tubular sheaths, apical part 4–5-leaved. Leaves to 14 cm long and 3 cm wide, with 9 prominent nerves, papery, plicate, acuminate. Inflorescence terminal, sessile. Spatha 8.5 cm long, lanceolate, often foliaceous, convolute, acuminate. Bracts 3–4, similar, membranaceous, glabrous, longer than pedicellate ovaries. Sepals and petals cream-coloured, lip orange on disc, with centre of basal half deep purplish-brown, sides cream-colored, apical margins deep carmine and basal keels white, gynostemium white. Dorsal sepal 43 mm long, 14 mm wide, elliptic, acuminate, nerves numerous, simple. Petals cream-coloured, 42 mm long, 17 mm wide, elliptic to elliptic-obovate, irregularly and minutely dentate in upper margins, subacute, nerves branching. Lateral sepals 43 mm long, 13 mm wide, oblong-ovate, acuminate, somewhat falcate, nerves numerous, simple. Lip 37 mm long, 22 mm wide, oblong-elliptic to elliptic-rectangular, prominently concave at base, entire, margins somewhat undulate and irregularly minutely dentate, stronger towards truncate apex. Gynostemium, 23 mm long, staminodes strongly falcate, acute, equalling anther.

DISTRIBUTION: So far this species is known from the Costa Rican Canton of San Ramón, which is located on the eastern slopes of the Cordillera de Tilarán.

Description of the new species was made on the basis of the drawing left on *Endrés* 276 and the specimen kept in W. Although there is no information on the date of collection of the specimens, we suppose that the material was gathered during *Endrés*' expedition to Costa Rica between 1866 and 1874 (Pupulin *et al.* 2012).

While the authors did not made any note about the derivation of the species name, we assume that it was chosen in allusion to the lip colouration: orange disc, deep purplish-brown centre of basal part, cream sides and deep carmine apical margins. Those colours distinguish *S. quadricolor* from all other species in the genus. The most similar lip colouration is encountered in the flowers of *S. blancoi*, classified within the *Sobralia-leucoxantha* complex. Considering the new species habit, its floral bract shape and the form of its perianth parts, it should also be placed within this group. The key below is modified from Dressler and Pupulin (2008).

### Key to the species of the *Sobralia-leucoxantha* complex

1. Lip with central, low, rounded keels, running along central nerves ..... *S. macra*
1. Lip without central keels running along central nerves 2
2. Staminodes acute ..... *S. quadricolor*
2. Staminodes obtuse ..... 3
3. Lip yellowish-white with two basal purple blotches in throat ..... *S. leucoxantha*
3. Lip dark purple, with a pink or lilac base and two yellow ventral streaks ..... *S. blancoi*

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