

vel lineari-lanceolatis, inflorescentia congesta, labello obovato obtuso in medio non decrescens marginibus non revolutis, carina breve in basi ornato differt.

Plant epiphytic, erect, to 10 cm tall. **Roots** flexuous, glabrous. **Stem** short, about 2.5 cm long, densely leaved. **Leaves** narrowly elliptic to linear-lanceolate, retuse, membranaceous, with undulate margins, 5–11 cm long, 0.7–1.9 cm wide. **Inflorescence** an elongate, erect to arching, many-flowered, successive, terminal raceme, to 17 cm long, strongly four-angulate in transverse section, the ridges of the rachis sparsely warty. **Floral bracts** conspicuous, triangular, acuminate to attenuate, 13 mm long, 3 mm wide. **Flowers** small, spreading, creamish white, the lip with an orange stripe along the midrib and a brownish red callus. **Dorsal sepal** narrowly ovate, slightly falcate, obtuse to obscurely retuse, 5.8 mm long, 2.0 mm wide. **Lateral sepals** obliquely narrowly ovate, obtuse, 5.5 mm long, 1.9 mm wide. **Petals** linear, obtuse, 5.5 mm long, 1.0 mm wide. **Lip** cordate-obovate, obtuse, shortly carinate at the base, the apical margins minutely denticulate, the basal lobes erect, tomentose, clasping the column, 6.2 mm long, 3.5 mm wide; callus bilobed, erect, the two comma-like lobules forming a circular collar around the column, apically ending in two denticular plates. **Column** short and stout, terete, 0.8 mm long, 0.6 mm wide; anther cap cucullate, widely ovate, one-celled; pollinia two, transversely ovate. **Ovary** pedicellate, clavate, glabrous, 4 mm long.

ETYMOLOGY: From the Latin *aurantiacus*, “orange,” and *lineatus*, “striped,” in allusion to the orange stripe along the midrib of the lip.

DISTRIBUTION: Known only from Costa Rica.

ECOLOGY: Epiphytic on the base of large tree trunks along a river in wet premontane primary forest, in deep shade and wet conditions.

Crossoglossa aurantilineata is closely related to *C. blephariglottis* (Schltr.) Dressler, but it has larger flowers with an obovate lip provided at the base with a short keel; the lip is obtuse, not constricted in the middle, and the apical margins are not revolute. The flowers of *C. blephariglottis* are hyaline, usually whitish, translucent green (Atwood, 1989a), whereas those of *C. aurantilineata* are solid pale yellow with a vivid orange stripe along the midrib of the lip. Dressler (pers. comm.)

Crossoglossa aurantilineata Pupulin, *sp. nov.*
TYPE: COSTA RICA. Cartago: Turrialba, road between Torito and Bonilla Arriba, 1480 m, along a small river upstream from the road, 4 Aug. 1998, flowered in cultivation at Jardín Botánico Lankester at Paraíso de Cartago, 15 May 1999, *F. Pupulin, R.L. Dressler, K. Dressler, D.E. Mora & R. Dodero 990* (holotype, USJ!; isotype, SELspirit!). Fig. 2.

Species *Crossoglossae* fratrum (Schltr.) Dressler similis, sed foliis sessilibus anguste ellipticis

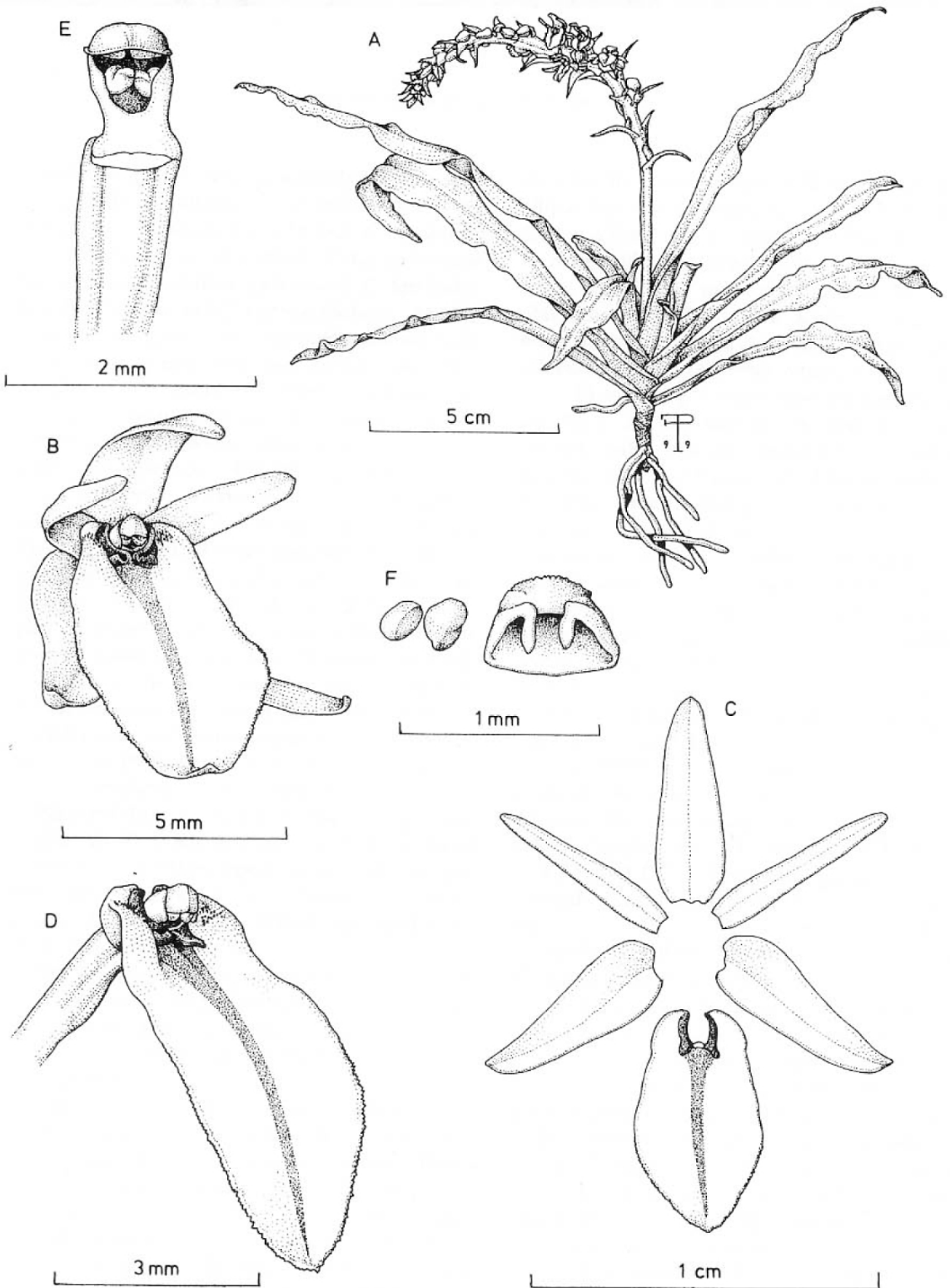


Fig. 2. *Crossoglossa aurantilineata* Pupulin. A. Habit. B. Flower. C. Dissected perianth. D. Column and lip, three-quarter view. E. Column, abaxial view. F. Pollinia and anther cap. Illustration voucher: Costa Rica. Cartago: Turrialba, road between Torito and Bonilla Arriba, 1480 m, 4 Aug. 1998, F. Pupulin, R.L. Dressler, K. Dressler, D.E. Mora & R. Doderio 990 (USJ). Drawing from the holotype.

considers *C. blephariglottis* a highly variable species and the possibility of a hybrid swarm exists at Monteverde, Costa Rica. In fact, *C. aurantilineata* shares the general shape of the flower and the peculiar semilunate callus with *C. tipuloides* (Lindl.) Dressler and *C. fratum* (Schltr.) Dressler. However, the plants of *C. aurantilineata* are nearly acaulescent epiphytes with sessile, linear-lanceolate leaves, whereas *C. fratum* and *C. tipuloides* are usually terrestrial, with stems to 30–40 (60) cm long and widely oblanceolate leaves provided with a petiole to 4.5 cm long (Hamer, 1983; Atwood, 1989b). Moreover the short, congested inflorescence, the wider sepals, and the obovate lip with a short keel easily distinguish *C. aurantilineata* from *C. tipuloides* and *C. fratum*. Although the specific epithet *fratra* has been adopted by authors to agree in gender with the female generic name *Crossoglossa* (Dressler and Dodson, 1993), the word *fratum* was selected by Schlechter (1923) to honor the two brothers Alexander Curt and Alfred Brade who collected the species in 1909, so the genitive plural of *frater*, “of the brothers,” is maintained here.