

1. *Cocleorchis* Szlach.

Fragm. Flor. Geobot. **39**(2): 557. 1994.

GENERITYPE: *Cocleorchis sarcoglottidis* Szlach.

Delicate plants with fleshy, clustered roots. A few petiolate leaves form a basal rosette; blade sagittate, acute, with truncate base, delicate. Scape erect, delicate, glandular in the upper part, covered by few herbaceous, acute, glabrous, cauline

bracts adnate to the stem, slightly shorter than internodes. Spike dense or lax, all-sided. Flowers small, suberect, glabrous. Floral bracts lanceolate, acute, membranous, herbaceous, glabrous. Ovary sessile or shortly pedicellate. Sepals connate to each other to 1/5 of their length, forming a prominent tube. Dorsal sepal oblong-lanceolate, subobtuse. Petals narrowly oblanceolate, obtuse, agglutinate with the dorsal sepal. Lateral sepals oblong, obtuse, slightly falcate at the base. Lip clawed; claw adnate to the sepaline tube; lamina – hypochile narrowly obovate, thin at the base, thickening toward the concave, glabrous center, with basal lip auricles ornamented by hornlike, fleshy appendices or thickened along nerves; isthmus broadly winged, wings fleshy, in natural position bent inward, midvein thickened, papillate; epichile elliptical, shallowly 4-lobed, fleshy, papillate.

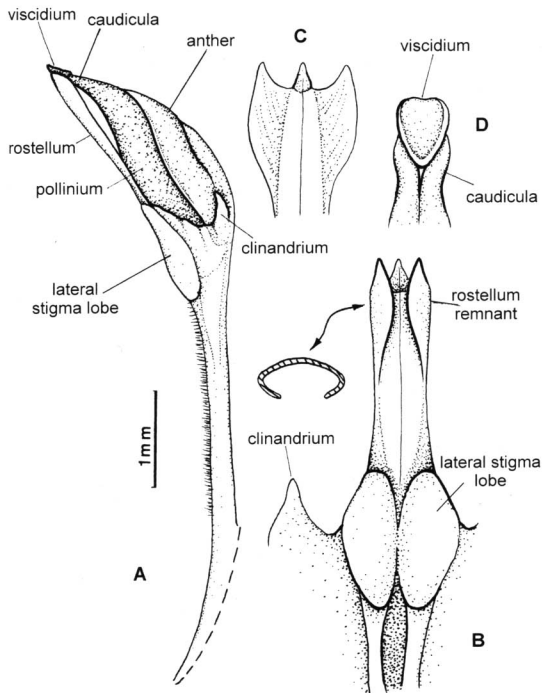


Fig. 484. Gynostemium of *Cocleorchis* Szlach. A – gynostemium, side view, B – the receptive surface and the rostellum remnant, C – rostellum remnant, spread, D – the apex of the pollinarium (*C. sarcoglottidis* Szlach. – Hammel 6275, MO; Szlachetko & Rutkowski 2000).

Gynostemium slender, erect, slightly arcuate at the apex only. Column part prominent, longer than the anther, ciliate on the ventral surface below the stigma. Column foot obliquely adnate to the ovary apex, short. Anther suberect, motile, ovate-lanceolate, dorsiventrally flattened, 2-chambered; the chambers parallel, slightly basally divergent. Connective narrow, thickened basally. Pollinia 4, powdery, oblong-ovoid, unequal in size. Caudiculae inconspicuous, formed from the apices of pollinia. Stamines transformed into spacious dorsal clinandrium, thin, membranous, spread between the filament and the stigma margins, sometimes with free, wing-like apices. Stigma ventral, bilobed, confluent, flat. Rostellum formed from the entire middle stigma lobe, erect, blunt, thin, membranous, with involute apical margins. Viscidium produced on the dorsal surface of rostellum, single, detachable, cellular, multi-layered, obovoid, thick. Rostellum remnant equally 3-dentate, widest at the apex, all teeth acute (Fig. 484).

A genus with two species endemic to Panama. It is related to *Cyclopogon* from which is easily distinguishable in the rostellum morphology.

#### KEY TO THE SPECIES

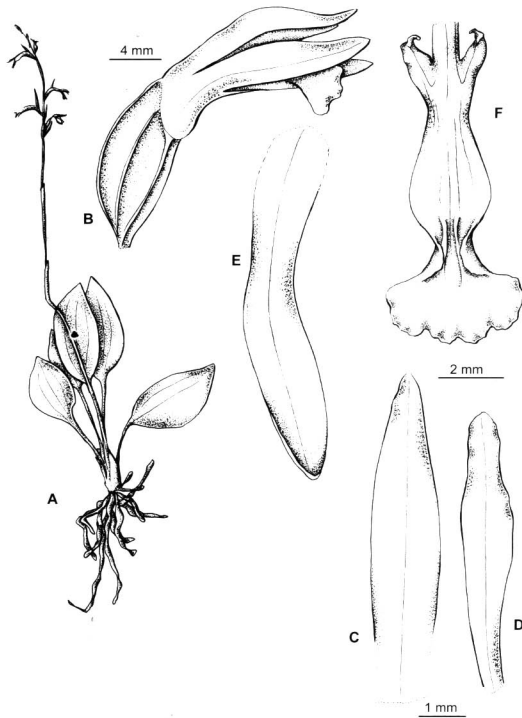
1. Dorsal sepal almost flat. Petals suberect, narrowly oblanceolate, blunt. Callus appendages on the basal lip auricles horn-like, lip glabrous in the centre . . . . . 1. *C. dressleri*
- 1\*. Dorsal sepal strongly concave. Petals falcate, linear in the lower third, oblong-lanceolate above, subacute. Lip auricles with no appendages, densely papillate in the centre . . . . . 2. *C. sarcoglottidis*

#### 1. *Cocleorchis dressleri* (Szlach.) Szlach. (Figs 485 & 486)

Fragm. Flor. Geobot. **39**(2): 558. 1994. – *Cyclopogon dressleri* Szlach., Novon **4**: 172. 1994. – TYPE: PANAMA. PROV. COCLE. Upper Rio Blanco NW of El Cope (Caribbean slope). Alt. 600–800 m. *Dressler 5986* (HOLOTYPE: FLAS!).

Roots 0.1–0.15 cm diameter, fleshy, clustered. Leaves 8, forming a basal rosette, petiolate; petiole up to 5 cm long, narrow; blade up to 5 cm long and to 2.8 cm wide, sagittate, acute, with truncate

base, delicate. Scape 24–28 cm tall, erect, delicate, glandular in the upper 1/3–2/3. Cauline bracts 4–5, herbaceous, acute, glabrous, adnate to the stem, slightly shorter than internodes. Spike 6–8 cm long, 10–15-flowered, dense or lax, all-sided. Flowers small, suberect, glabrous, green with white tips. Floral bracts 8 mm long, lanceolate, acute, membranous, herbaceous, glabrous, single-nerved. Ovary *ca* 7 mm long, sessile or subsessile with pedicel up to 1 mm long. Sepals connate to each other to 1/5 of their length, thin with thickened tips, glabrous, single-nerved. Dorsal sepal 8.5 mm long, 1.2 mm wide, oblong-lanceolate, subobtusate. Petals 7.5 mm long, 1 mm wide, narrowly oblanceolate, thickened at apices, obtuse, suberect, 1-nerved. Lateral sepals 10.5 mm long, 1.4 mm wide, oblong, obtuse, slightly falcate at the base, 1-nerved. Lip clawed; claw 1.3 mm long, narrow, adnate to the sepaline tube; lamina – hypochile 6.5 mm long, 2.5 mm wide, narrowly obovate,



**Fig. 485.** *Cocleorchis dressleri* (Szlach.) Szlach. (type of *Cyclopogon dressleri* Szlach.). A – plant, B – flower, C – dorsal sepal, D – petal, E – lateral sepal, F – lip (Dressler 5986, FLAS!).



**Fig. 486.** Distribution of *Cocleorchis dressleri* (Szlach.) Szlach. in Mesoamerica.

thin at the base, thickening toward the concave, glabrous center, with basal lip auricles ornamented by hornlike, fleshy appendices; isthmus 1.2 mm long, 2.2 mm wide, broadly winged, wings fleshy, in natural position bent inward, midvein thickened, papillate; epichile 2 mm long, 4 mm wide, elliptical, shallowly 4-lobed, fleshy, papillate. Column 5 mm long (Fig. 485).

**ECOLOGY.** No data. Flowering in December.

**DISTRIBUTION.** PANAMA (Prov. Chiriqui, Cocle) (Fig. 486). Alt. 600–1700 m.

**REPRESENTATIVE SPECIMENS.** PANAMA. PROV. CHIRIQUI. Cerro Hornito. Alt. 1700 m. 14 Dec. 1976, Luer C., Luer A., Dressler & Williams 1322 (SEL!). PROV. COCLE. Upper Rio Blanco NW of El Cope (Caribbean slope). Alt. 600–800 m. Dressler 5986 (FLAS!).

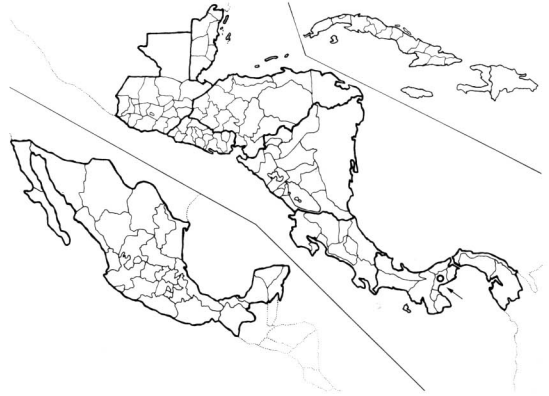
## 2. *Cocleorchis sarcoglottidis* Szlach.

(Figs 487 & 488)

Fragm. Flor. Geobot. **39**(2): 558. 1994. – TYPE: PANAMA. PROV. COCLE. El Cope, Atlantic slope E of Sawmill, high ridge E of Sawmill. Alt. *ca* 800 m. 26 Feb. 1979, Hammel 6275 (HOLOTYPE: MO!).

Roots fleshy, clustered. Leaves 8, gathered in basal rosette, petiolate; petiole up to 5 cm long, narrow; blade up to 5 cm long, up to 2.5 cm wide, sagittate-ovate to ovate-lanceolate, acute, with truncate base, delicate. Scape 30 cm high,

erect, delicate, in the upper half glandular, densely along inflorescence. Cauline bracts 4, acute, herbaceous, membranous, thin, glabrous, shorter than internodes. Spike 5 cm long, 7-flowered, lax, subsecund. Flowers erect, more or less tubular, glabrous, green. Floral bracts 13 mm long, narrowly lanceolate, acute, herbaceous, membranous, thin. Ovary 12 mm long, sessile, twisted at the base. Sepals fused together in the basal 1/5. Dorsal sepal 8 mm long, 1 mm wide, linear-lanceolate, subobtusate, slightly fleshy, strongly concave in the center, at the base adnate to the gynostemium, 1-nerved. Petals 7.5 mm long, 0.9 mm wide, falcate-oblancoelate, subacute, fleshy, 1-nerved. Lateral sepals 12 mm long, 1.1 mm wide, falcate-oblancoelate, acute, oblique at the base, 1-nerved. Lip clawed; claw 1 mm long, adnate to the sepaline tube; lamina – hypochile 5.5 mm long, 2.2 mm wide,



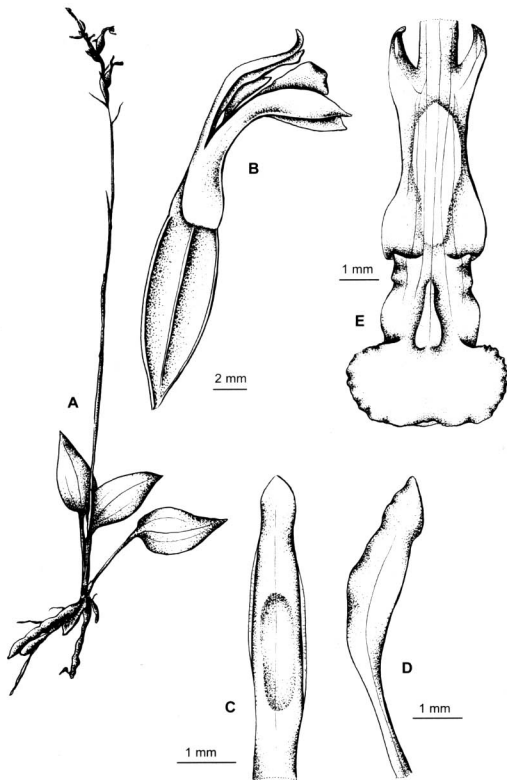
**Fig. 488.** Distribution of *Cocleorchis sarcoglottidis* Szlach. in Mesoamerica.

obscurely pandurate, thin, minutely glandular in the center, concave at the apex, basal lobules falcate, acute, thickened along nerves; isthmus *ca* 2 mm long, thickened and fleshy on margins and along the midnerve; epichile 2 mm long, 4 mm wide, reniform, minutely crenated along margins, fleshy, papillate. Gynostemium 5 mm long. Viscidium 0.4 mm long (Fig. 487).

**ECOLOGY.** Terrestrial herb growing in forests. Flowering in February.

**DISTRIBUTION.** Panama (Prov. Cocle) (Fig. 488). Alt. 800 m.

**REPRESENTATIVE SPECIMENS.** PANAMA. PROV. COCLE. El Cope, Atlantic slope E of Sawmill, high ridge E of Sawmill. Alt. *ca* 800 m. 26 Feb. 1979, Hammel 6275 (MO!).



**Fig. 487.** Type of *Cocleorchis sarcoglottidis* Szlach. A – plant, B – flower, C – dorsal sepal, D – petal, E – lip (Hammel 6275, MO).