

## NOVELTIES IN GUATEMALAN FLORA: “THE CORYANTHES FILE” (ORCHIDACEAE)

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**ABSTRACT.** Guatemala is a country rich in biodiversity. A good example of this is the genus *Coryanthes* Hook. In the 1950s, two species of *Coryanthes* had been documented for Guatemala. After two decades of research, the author presents seven new *Coryanthes* species. A study of this group of plants demonstrates the complexity of the geographical distribution of the genus.

**Key words:** Guatemala, *Coryanthes* Hook., epichile, mesochile, hypochile

### INTRODUCTION

The tropical and subtropical forests of Guatemala are full of surprises that range from an incredible topography dotted with the ruins of ancient Mayan cities to an enormous biodiversity (Archila 1992). A good example of this diversity of life is the genus *Coryanthes* Hook. (Orchidaceae De Jussieu), (Dressler 1993) which was reported for Guatemala in the book Orchids of Guatemala (Ames and Correll 1952; Hamer 1974, 1981, 1988). Ames and Correll indicated that Guatemala had two species of *Coryanthes*: *C. picturata* Reichb.f. and *C. speciosa* Hook. Recently, however, some researchers have indicated that *C. speciosa* Hook. was an endemic species from South America (Gerlach & Schill 1993).

After completing more than two decades of research, we are now able to present seven new species of plants of the genus *Coryanthes* in Guatemala (Table 1):

*Coryanthes oscarii* Archila  
*Coryanthes angelantha* Archila  
*Coryanthes recurvata* Archila  
*Coryanthes javieri* Archila  
*Coryanthes selbyana* Archila  
*Coryanthes gustavo-romeroi* Archila  
*Coryanthes melissae* Archila.

***Coryanthes oscarii*** Archila, sp. nov. TYPE: Guatemala, Chisec, Alta Verapaz, at 500 m, collected by Oscar Archila, Jan. 1997, FA-062, draw SEL FA13-Gua (Holotype: BIGU 35858) FIGURE 1

*Coryanthes maculata* similis, floribus flavus et epychyle differentibus. Herba caespitosa.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 8–11 cm long. **Leaves** green, plicate, 50–70 × 10 cm. **Flowers** yellow. **Dorsal sepal** reflexed corrugated in the middle, orbicular oblanceolate, acute-acuminate, 2.2 × 2.5 cm. **Lateral sepals** oblique lanceo-

late, acute-acuminate, 7 × 3.5 cm. **Petals** oblique oblong, 3.3 × 0.6 cm. **Labellum** divided in three parts: epichile deeply saccate, square, thick, 3.2 × 3.6 cm; mesochile oblong-oblanceolate 2.21 × 1.4 cm, gland-pubescent; hypochile semispherical trivalvate, obtuse, 1.5 × 1.8 cm. **Column** oblong 4.1 cm long, gradually dilated 0.8 cm wide across the apex.

**Folia** 50–70 × 10 cm. **Sepalum dorsalis** orbiculari-oblanceolatus, 2.2 × 2.5 cm. **Sepala laterales**, oblique lanceolati, acuto-acuminati, 7 × 3.5 cm. **Petala** oblique lineares, oblonga, acuta, 3.3 × 0.6 cm. **Labellum** in epyquilum, mesoquilum et hypoquilum divisus. **Columna** oblonga, 4.1 cm longa.

**ETYMOLOGY:** Named after Oscar Archila, the collector of the species.

***Coryanthes angelantha*** Archila, sp. nov. TYPE: Guatemala—Alta Verapaz, Polochic valley, at 900 m, collected by Oscar and Francisco Archila, 1985, draw SEL FA14-Gua (Holotype: BIGU). FIGURE 2

*Coryanthes horichiana* similes, leviter majore herba caespitosa vidi spontaneum.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 6 cm long. **Leaves** green, plicate, 25 × 7 cm. **Flowers** brown. **Dorsal sepal** reflexed corrugated in the middle, orbicular, acute, 1.5 × 2 cm. **Lateral sepals** oblique oblong, acute, 5.5 × 3 cm. **Petals** oblique linear, 2.9 × 0.4 cm. **Labellum** divided in three parts: epichile, deeply saccate, subtriangular thick, 2.2 × 3 cm; mesochile oblong 2 × 1.1 cm; hypochile sub-spherical subvalvate, 1.8 × 2.2 cm. **Column** linear-oblong 3.6 cm long, gradually dilated 0.5 cm wide across the apex.

**Folia** 25 × 7 cm. **Sepalum dorsalis** orbicularis, acutus, 1.5 × 2 cm. **Sepala laterales** oblique oblongi, acuti, 5.5 × 3 cm. **Petala** oblique lineares, 2.9 × 0.4 cm. **Labellum** in epyquilum, mesoquilum et hypoquilum divisus. **Columna** lineare-oblonga, 3.6 cm longa.

**ETYMOLOGY:** From the Latin words “angelus” meaning angel and “anthos” meaning flower, because of the angel form of the flowers.

***Coryanthes recurvata*** Archila, sp. nov. TYPE:

TABLE 1. Color and morphological differences in seven new *Coryanthes* species from Guatemala.

Species	Flower color	Epichile	Mesochile	Hypochile	Leaves	Pseudobulbs
<i>Coryanthes oscarii</i>	Yellow	Square, thin 3.2 × 3.6 cm	Oblong-ob lanceolate, gland-pubescent 2.21 × 1.4 cm	Obtuse trivalvate 1.5 × 1.8 cm	50–70 × 10 cm	8–11 cm long
<i>Coryanthes angelantha</i>	Brown	Saccate thick sub- triangular 2.2 × 3 cm	Oblong 2 × 1.1 cm	Subspherical subval- vate 1.8 × 2.2 cm	25 × 7 cm	6 cm long
<i>Coryanthes recurvata</i>	Yellow and red	Sub-square, trun- cate 3.5 × 4 cm	Oblique oblanceolate 2.5 × 1.5 cm	Oblique headed cur- vated 2.5 × 2 cm	45 × 15 cm	10–15 cm long
<i>Coryanthes javieri</i>	White with vina- ceous spots	Lanceolate, sub- truncate 3 × 3.5 cm	Oblong-linear 2 × 1 cm	Headed-suborbicular 1.8 × 2.2 cm	35 × 7 cm	5–7 cm long
<i>Coryanthes selbyana</i>	Pink	Orbicular-oval, rounded 3.3 × 3.5 cm	Oblong lanceolate 1.8 × 1.3 cm	Headed-valvate or- bicular 1.7 × 2.5 cm	40–50 × 8–10 cm	7–8 cm long
<i>Coryanthes gustavo- romeroi</i>	Pink with red spots	Membranaceous lit- tle saccate, oval-lanceolate 1.9 × 3 cm	Oblong 2 × 1 cm	Orbicular-headed in basis truncate 1.2 × 1.9 cm	25–35 × 6–8 cm	15 cm long
<i>Coryanthes melissa</i>	Red	Oblique oblong- square, thin sac- cate 2.7 × 3 cm	Curved oblong 1.5 × 0.7 cm	Sub-hastate, gland- pubescent 1.5 × 1.5 cm	25 × 10 cm	22 cm long

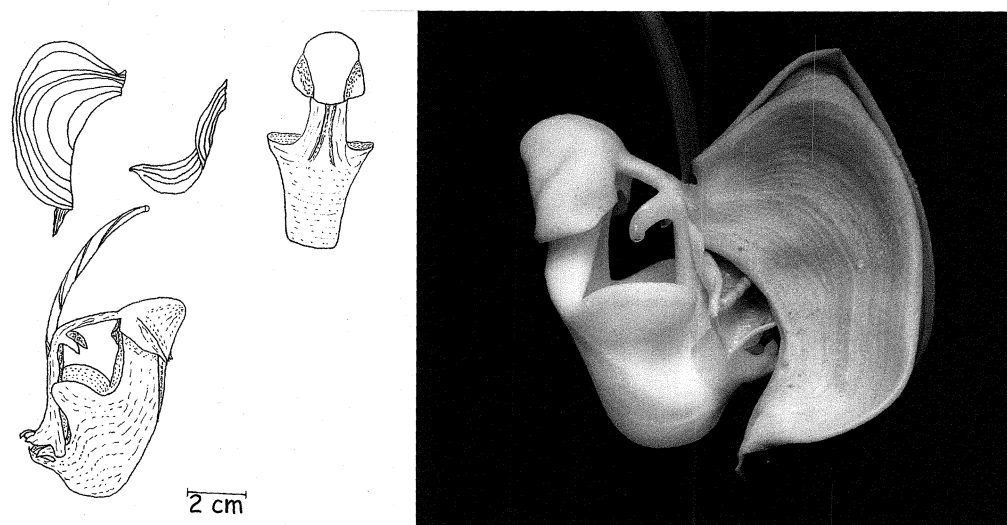


FIGURE 1. Drawing and photo of *Coryanthes oscarii* (FA13-Gua). Art and photo by Fredy Leonel Archila Morales.

Guatemala—El naranjo, El Petén, at 300 m, collected by Fredy Archila in 1995, draw SEL FA15-Gua (Holotype: BIGU). FIGURE 3

*Coryanthes horichiana* similes, epichile incurvatum et majore. Herba caespitosa. Vidi spontaneum.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 10–15 cm long. **Leaves** green, plicate, 45 × 15 cm. **Flowers** yellow and red. **Dorsal sepal** flat, orbicular, acute, 2 × 3 cm. **Lateral sepals** oblique lanceolate, acuminate, 10 × 4.5 cm. **Petals** oblique linear, 3 × 0.7 cm. **Labellum** divided in three parts: epichile, sub-square, truncate, deeply saccate, thick, 3.5 × 4 cm; mesochile oblique oblanceolate 2.5 × 1.5 cm; hypochile oblique headed, curved 2.5 × 2 cm. **Column** oblong 4.3 cm long, gradually dilated 0.9 cm wide across the apex.

**Folia** 45 × 15 cm. **Sepalum dorsalis** orbicularis. **Planus** acutus, 2 × 3 cm. **Sepala laterales** oblique lanceolati, acuminati, 10 × 4.5 cm. **Petala** oblique lineares, 3 × 0.7 cm. **Labellum** in epyquilum, mesoquilum et hypoquilum divisus. **Columna** oblonga, 4.3 cm longa.

ETYMOLOGY: From the Latin “recurvatus” because of the shape of the hypochile.

**Coryanthes javieri** Archila, sp. nov. TYPE: Guatemala—Cobán, Alta Verapaz, in Cubilgüitz, at 500 m, collected by Fredy Archila and Javier Archila in Nov. 2002, draw SEL FA16-Gua (Holotype: BIGU). FIGURE 4

*Coryanthes mastersiana*, simile labelo differentibus. Herba caespitosa. Vidi spontaneum.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 5–7 cm long. **Leaves** green, plicate, 35 × 7 cm. **Flowers** white with vinaceous spots. **Dorsal sepal** re-

flexed, orbicular-oblanceolate, corrugated in the middle aristate, 2 × 2.5 cm. **Lateral sepals** oblique oblanceolate, acute-acuminate, 6 × 2.7 cm. **Petals** oblique linear twisted, 2.5 × 0.5 cm. **Labellum** divided in three parts: epichile, lanceolate, sub-truncate deeply saccate, thick, 3 × 3.5 cm; mesochile oblong-linear 2 × 1 cm; hypochile headed, suborbicular 1.8 × 2.2 cm. **Column** linear 3.9 cm long, gradually dilated 0.5 cm wide across the apex.

**Folia** 35 × 7 cm. **Sepalum dorsalis** orbiculari-oblanceolatus, reflexus, aristatus, 2 × 2.5 cm. **Sepala laterales** oblique oblanceolati, acuto-acuminati, 6 × 2.7 cm. **Petala** oblique lineares, tortiles 2.5 × 0.5 cm. **Labellum** in epyquilum, mesoquilum et hypoquilum divisus. **Columna** linear, 3.9 cm longa.

ETYMOLOGY: Named after Javier Archila Cortez, co-collector of the species.

**Coryanthes selbyana** Archila, sp. nov. TYPE: Guatemala—Fray Bartolomé de las Casas, Alta Verapaz, at 700 m, collected by Fredy Archila, March 1990, draw SEL FA17-Gua (Holotype: BIGU). FIGURE 5

*Coryanthes picturata* simile, labelum differentibus. Herba caespitosa. Vidi spontaneum.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 7–8 cm long. **Leaves** green, plicate, 40–50 × 8–10 cm. **Flowers** pink. **Dorsal sepal** reflexed, oblanceolate, acute corrugated in the middle aristate, 2.1 × 2.4 cm. **Lateral sepals** oblique oblanceolate, acute-acuminate, 5 × 3.5 cm. **Petals** oblique oblong, 4 × 0.3 cm. **Labellum** divided in three parts: epichile, orbicular-oval rounded deeply saccate, thick, 3.3 × 3.5 cm; mesochile oblong, lanceolate 1.8 × 1.3 cm; hypochile headed-valvate, orbicular 1.7 × 2.5 cm. **Column** linear 4 cm long, gradually dilated 0.5 cm wide across the apex.

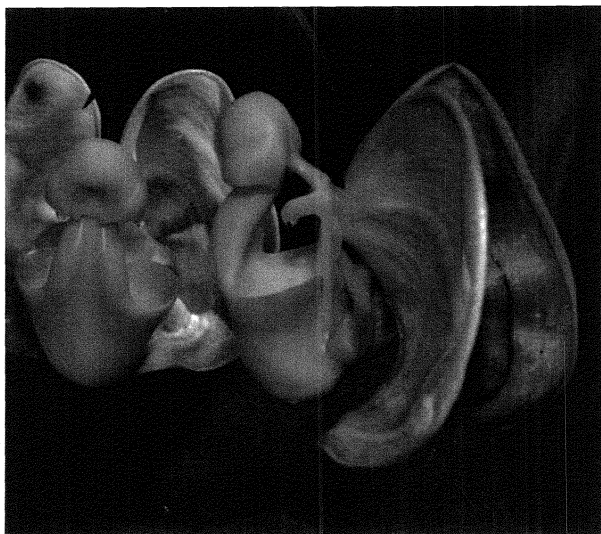
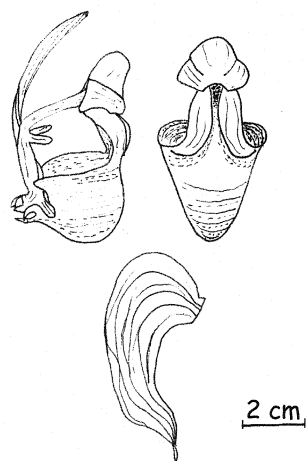


FIGURE 2. Drawing and photo of *Coryanthes angelantha* (FA14-Gua). Art and photo by Fredy Leonel Archila Morales.

*Folia* 40–50 cm longa et 8–10 cm lata. *Sepalum dorsalis*, oblanceolatus, reflexus, acutus, 2.1 × 2.4 cm. *Sepala laterales* oblique falcate, acuti, 5 × 3.5 cm. *Petala* oblique oblongus, acutus 4 × 0.3 cm. *Labellum* in epyquilum, mesoquilum et hypoquilum divisus. *Columna* linearis, 4 cm longa.

ETYMOLOGY: Named after the Marie Selby Botanical Gardens in Sarasota, Florida, where I began my scientific interest in orchids at the Orchid Identification Center in the Research and Conservation Department.

***Coryanthes gustavo-romeroi* Archila, sp. nov.**

TYPE: Guatemala—Chisec, Alta Verapaz, at 500 m, collected by Fredy Archila and Javier Archila, Apr. 2002, draw SEL FA18-Gua (Holotype BIGU). FIGURE 6

*Coryanthes tricuspidata* simile differentibus epychilus. Herba caespitosa. Vidi spontaneum.

*Plant* epiphytic in ant gardens, caespitosa. *Pseudobulbs* 15 cm long. *Leaves* green, plicate, 25–35 cm long, 6–8 cm wide. *Flowers* pink with red spots. *Dor-*

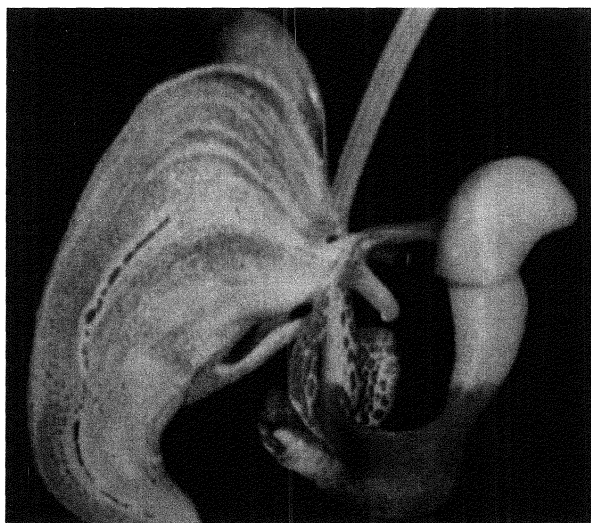
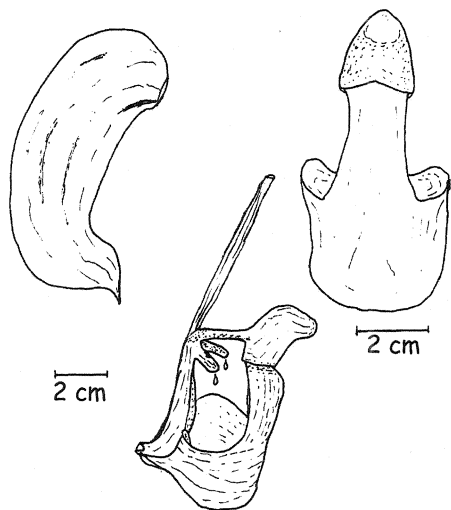


FIGURE 3. Drawing and photo of *Coryanthes recurvata* (FA15-Gua). Art and photo by Fredy Leonel Archila Morales.

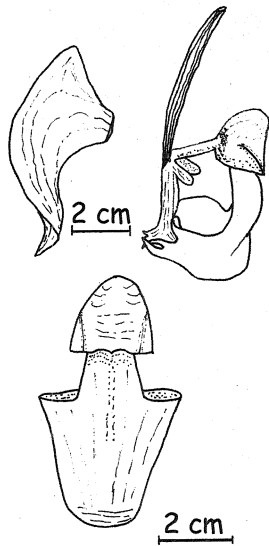


FIGURE 4. Drawing and photo of *Coryanthes javieri* (FA16-Gua). Art and photo by Fredy Leonel Archila Morales.

*sal sepal* reflexed, elliptic, acuminate corrugated in the middle,  $1.4 \times 1.8$  cm. *Lateral sepals* oblique oblanceolate, long-acuminate,  $5 \times 3$  cm. *Petals* linear,  $2.5 \times 0.4$  cm. *Labellum* divided in three parts: epichile, membranaceous, little saccate, oval-lanceolate  $1.9 \times 3$  cm; mesochile oblong,  $2 \times 1$  cm; hypochile orbicular headed, in basis truncate,  $1.2 \times 1.9$  cm. *Column* oblong 3.8 cm long, gradually dilated 0.8 cm wide across the apex.

*Folia* 25–35  $\times$  6–8 cm. *Sepalum dorsalis* ellipticum,

reflexus, acutus,  $1.4 \times 1.8$  cm. *Sepala laterales* oblique oblanceolati, longo-acuminati,  $5 \times 3$  cm. *Petala* lineares  $2.5 \times 0.4$  cm. *Labellum* membranaceus in epyquilum, mesoquilum et hypoquilum divisus. *Columna* oblonga, 3.8 cm longa.

ETYMOLOGY: Named after Dr. Gustavo Romero of Harvard University, who works with this genus *Coryanthes* and helped me gain access to plant materials in the Ames herbarium.

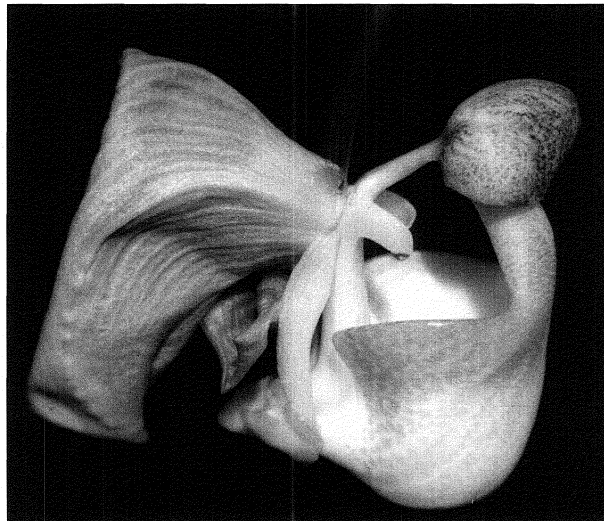
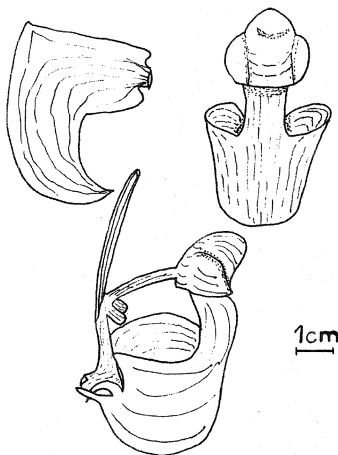


FIGURE 5. Drawing and photo of *Coryanthes selbyana* (FA17-Gua). Art and photo by Fredy Leonel Archila Morales.

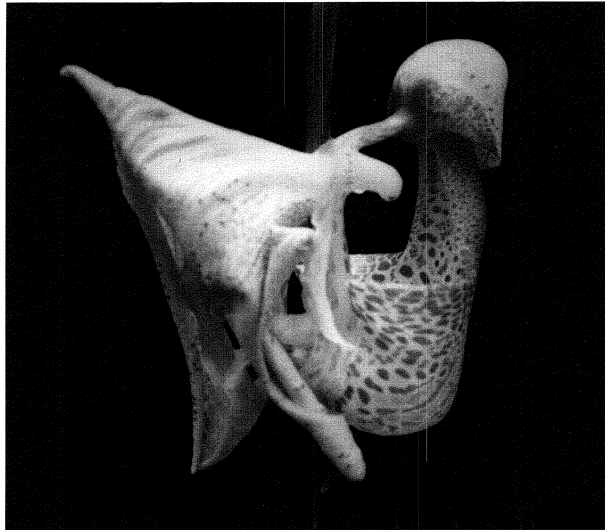
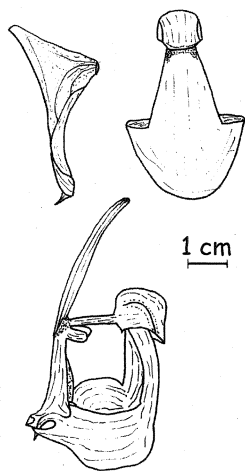


FIGURE 6. Drawing and photo of *Coryanthes gustavo-romeroi* (FA18-Gua). Art and photo by Fredy Leonel Archila Morales.

***Coryanthes melissae*** Archila, sp. nov. TYPE: Guatemala—Chixoy, Alta Verapaz, at 800 m, collected by Fredy Archila and Javier Archila FA-75, April 2002, draw SEL FA19-Gua (Holotype: BIGU 35859). FIGURE 7

*Coryanthes speciosa* simile et differentibus epichile et mesochyle. Herba caespitosa. Vidi spontaneum.

**Plant** epiphytic in ant gardens, caespitosa. **Pseudobulbs** 22 cm long. **Leaves** green, plicate, 25 × 10 cm. **Flowers** red. **Dorsal sepal** reflexed, subrhombic, ac-

minate corrugated in the middle, 1.7 × 1.5 cm. **Lateral sepals** oblique oblong, oblique acuminate, 5.8 × 2.8 cm. **Petals** linear, acute-aristate 2.8 × 0.4 cm. **Labellum** divided in three parts: epichile oblique oblong-square thin, saccate, 2.7 × 3 cm; mesochile curved oblong, 1.5 × 0.7 cm; hypochile oblique headed, sub-hastate, gland-pubescent, 1.5 × 1.5 cm. **Column** linear 2.5 cm long.

**Folia** 25 × 10 cm. **Sepalum dorsalis** subrhombicus, reflexus, acuminatus, 1.7 × 1.5 cm. **Sepala laterales** oblique oblongi, oblique acuminati, 5.8 × 2.8 cm. **Petala** lineares 2.8 × 0.4 cm. **Labellum** in epyquilum,

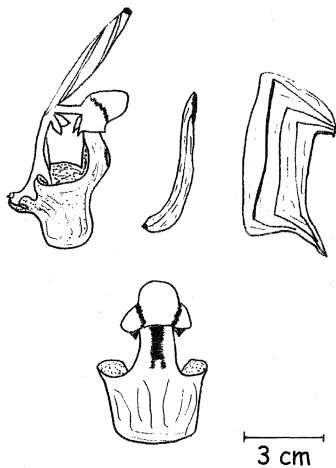


FIGURE 7. Drawing and photo of *Coryanthes melissae* (FA19-Gua). Art and photo by Fredy Leonel Archila Morales.

mesoquilum et hypoquilum divisus. *Columna* linearis, 2.5 cm longa.

ETYMOLOGY: Named after Melissa Archila, who provided the inspiration for this work.

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