

# Revision of Stenospermation for Central America

Thomas B. Croat  
Missouri Botanical Garden

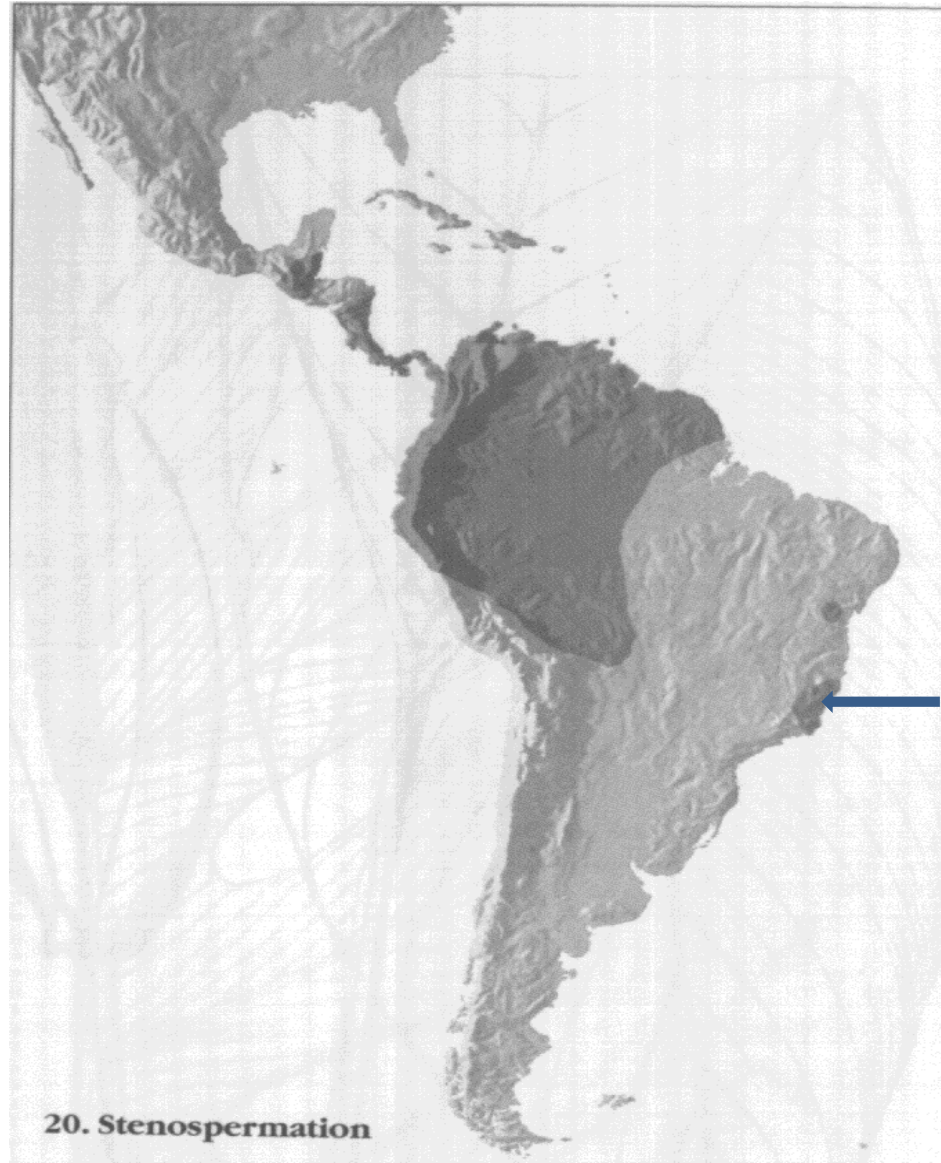
# Worldwide Distribution

- More than 300 Neotropical species
  - 28 Central America
    - Mexico 6 species
    - Middle America 8 Species
    - Costa Rica alone 7 Species
    - Panama alone 27 Species
  - Much of Costa Rica, especially the Talamanca Mountains and much of Panama remain poorly explored

# Stenospermatation Distribution

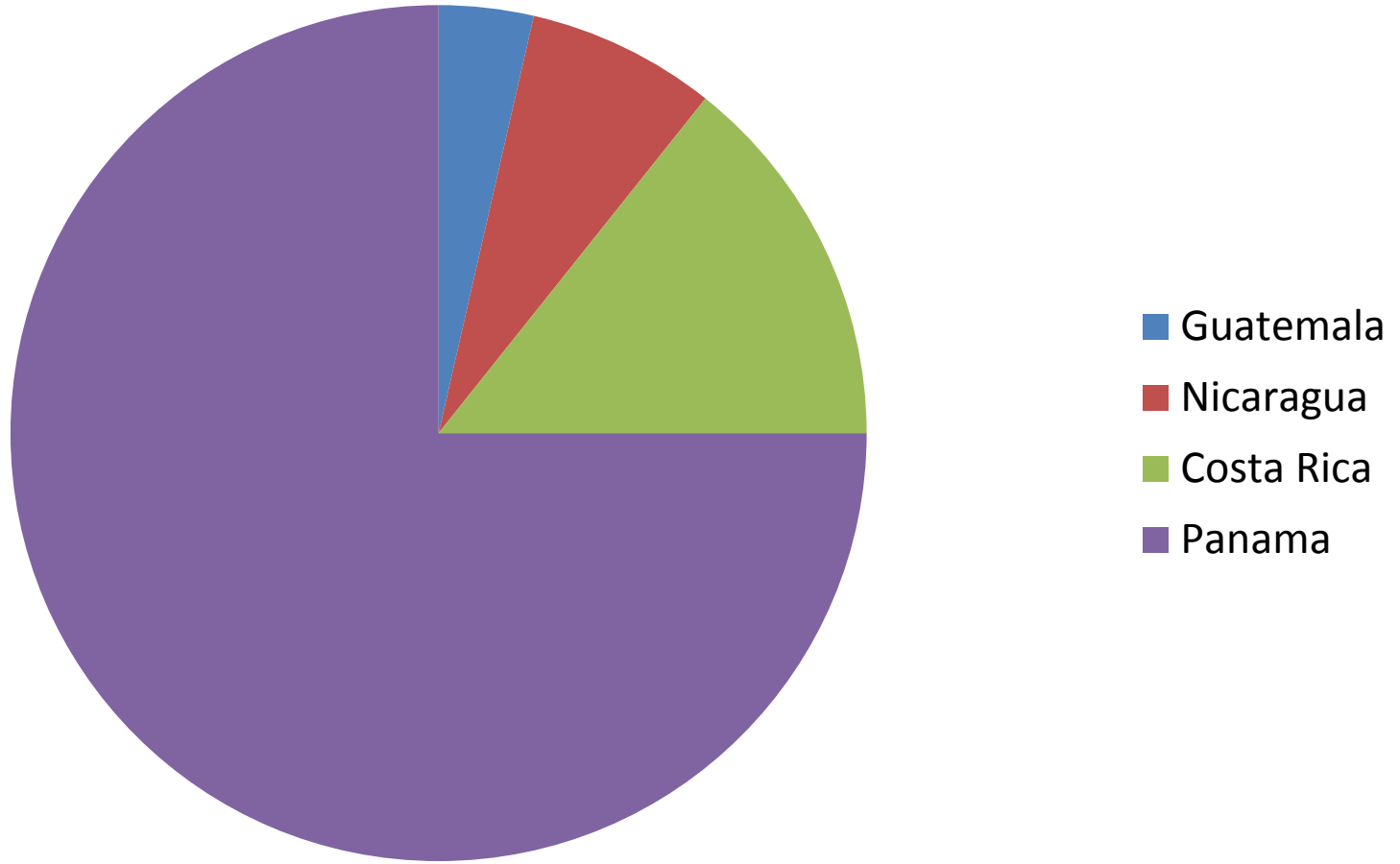
Center of Diversity –  
Panama, Colombia,  
Ecuador

Click on Home Tab  
Click on your slide  
In the Drawing Box,  
click on the arrow up  
or arrow down of the  
Shapes (it doesn't say  
shapes. you'll just see a  
box and text box and  
whatnot)  
A variety of arrows are  
available in Block  
Arrows and Recently  
Used Shapes.

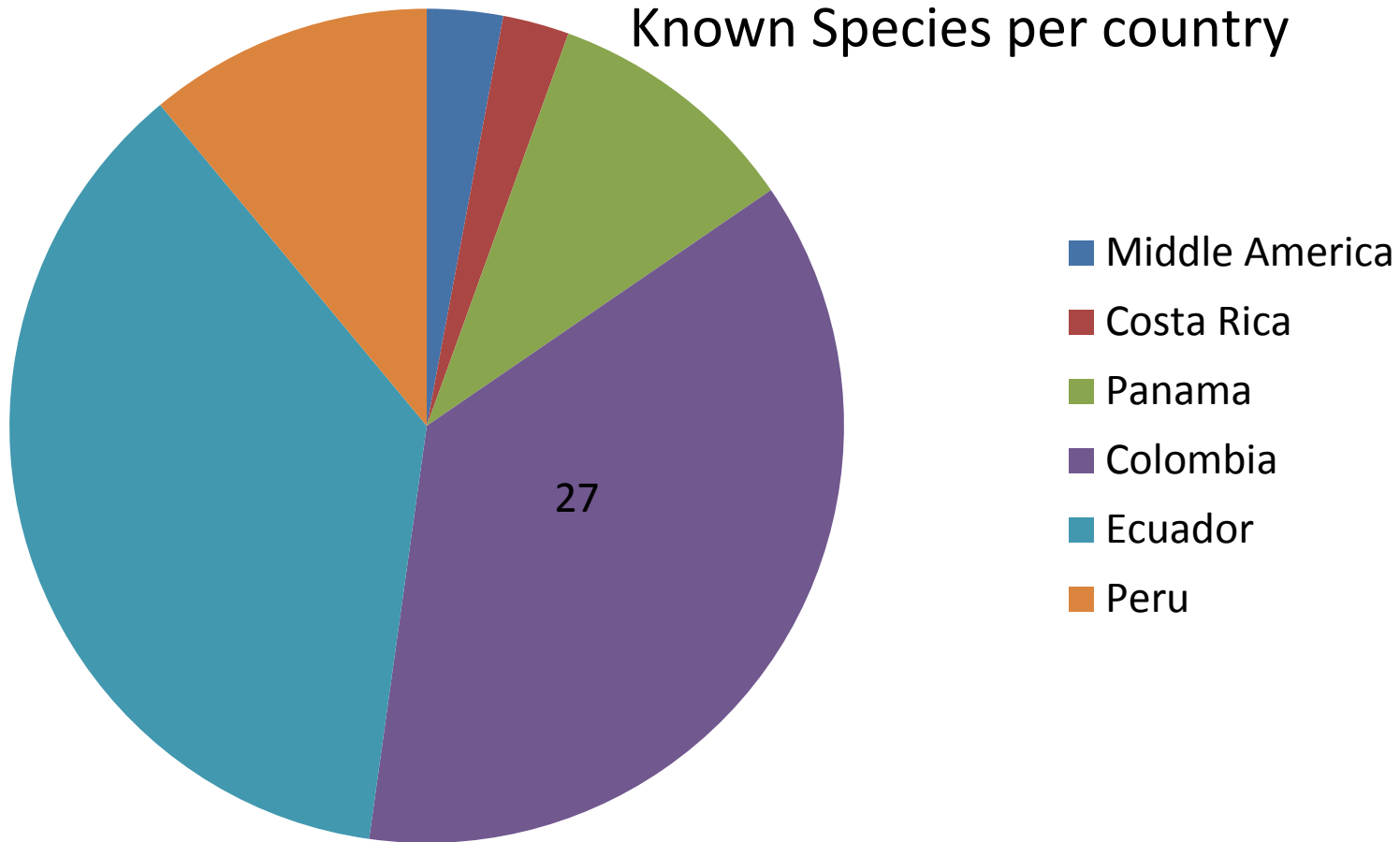


Brazil- Atlantic  
forest and western  
Amazonia [Amy:  
Add arrow to both]

# Percentage of Stenospermatation Species per Country

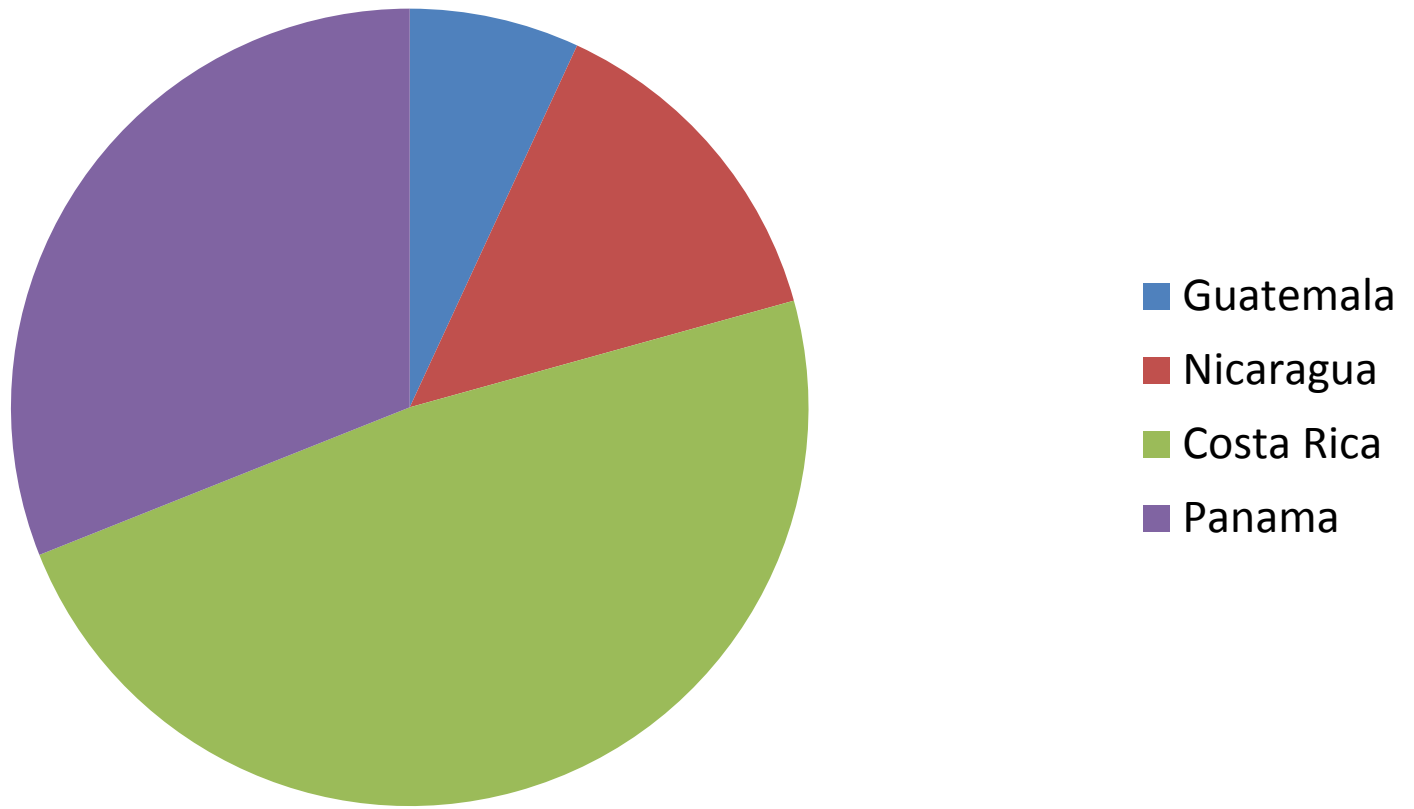


# Known Species per country



# Number of endemic species per country

Series 1



# Key to Stenospermation

- **A1. Blades drying coriaceous, dark yellow-brown or dark brown, usually 19-36 cm long**
  - B1. Spadix sessile
    - D. blades greater than 34 cm long, spadix greater than 10 cm long, spathe greater than 14 cm long     **S. hammelii** Croat
    - D. blades less than 34 cm long, spadix less than 10 cm long, spathe less than 14 cm long
      - E. Adaxial blade surface glossy (areolate when magnified)
        - **S. ellipticum** Croat & Bay
      - E. Adaxial blade semi-glossy, upper blade surface unevenly striate when magnified     **S. sessile** Engl.
  - B2. Spadix stipitate



# Second main couplet of key



- **A2. Blades drying subcoriaceous to thin, usually gray-green, yellow-green, brown, dark brown, or black.**
  - O1. Petioles always sheathed less than 4/5 times the length of the petiole, often around 2/3 sheathed.
    - UU. Leaf blades 2.3–3.1 times longer than broad.
      - UUU. Leaf blade upper surface aereolate-pitted with short pale lineations in the pits; spadix lacking an apical appendage; Guatemala, 1356 m. ....**S. quichense** Croat
      - UUU. Leaf blade densely granular with faint scarcely raised, slightly paler lines, not at all aeriolate-pitted, lacking short pale lineations; spadix with sterile apical knob-like apical appendage present; Panama, 12–1400 m.
        - **S. fortunense** Croat
  - O2. Petioles sheathed to apex or 4/5 the length of the petiole more often than not, inconsistently sheathed significantly less than 4/5 petiole length.



# Most Stenospermation are epiphytic or hemiepiphytic



Typical habitat for  
genus



Typical epipetric habit

## Characteristics of Stenospermation

- Elongated, non cordate leathery leaves
- Obscure venation on both surfaces
- Heavily sheathed petioles
- Long often cernuous inflorescences
- Boat-shaped promptly deciduous spathes
- Highly variable patterns on dried upper blade surface



Plate 20. *Stenospermation*. A, habit, inflorescence removed  $\times 1/2$ ; B, inflorescence  $\times 1/2$ ; C, gynoecium, longitudinal section; D, habit  $\times 1/2$ ; E, detail of leaf venation  $\times 5$ ; F, detail of spadix  $\times 5$ ; G, flower  $\times 10$ ; H, gynoecium, longitudinal section  $\times 10$ ; J, infructescence  $\times 1$ ; K, habit  $\times 1/2$ . *Stenospermation rusbyi*: A–B, Rusby 2609 (IC); S. *ulei*: C, E–H, *Cult. Kew* 1990–2738; D, *Ule* 8490 (IC); S. *angustifolium*: J–K, Gómez et al. 20533 (IC).



# Typical leaf blade venation for lateral veins is boringly simple





Typical form and texture of Stenospermation leaves





# Inflorescences may be erect or cernuous





Spathe usually promptly adhisces leaving a scar at base

These *insects* are not pollinators

Spathe pos-anthesis

Flowers are pollinated at night before the spathe opens and usually falls soon

Pollen accumulation in end of spathe



# Cernuous Inflorescence with spathe acting as rain shield

from IAS website





The spathe rarely persist for a long time as in *S. zeacarpium*



Stenospermation berries are usually orange or yellow to white and loosen like kernels of corn



Note here the spathe is erect but infructescences are usually pendent





# Stenospermatation sessile maturing berries



Photo B. Hammel

# Stenospermatation sessile seeds



Dispersal is probably by  
birds which carry away  
seeds individually

Photo B. Hammel

# Stenospermatation insect visitors



Stenospermation sessile  
Hammel, Costa Rica



# S. Sessile

## Hammel, Costa Rica





# Stenospermation andreanum





# Stenospermation andreanum





# Stenospermation andreanum Engl.



# Stenospermation angustifolium





# Stenospermation andreanum Juncosa 989

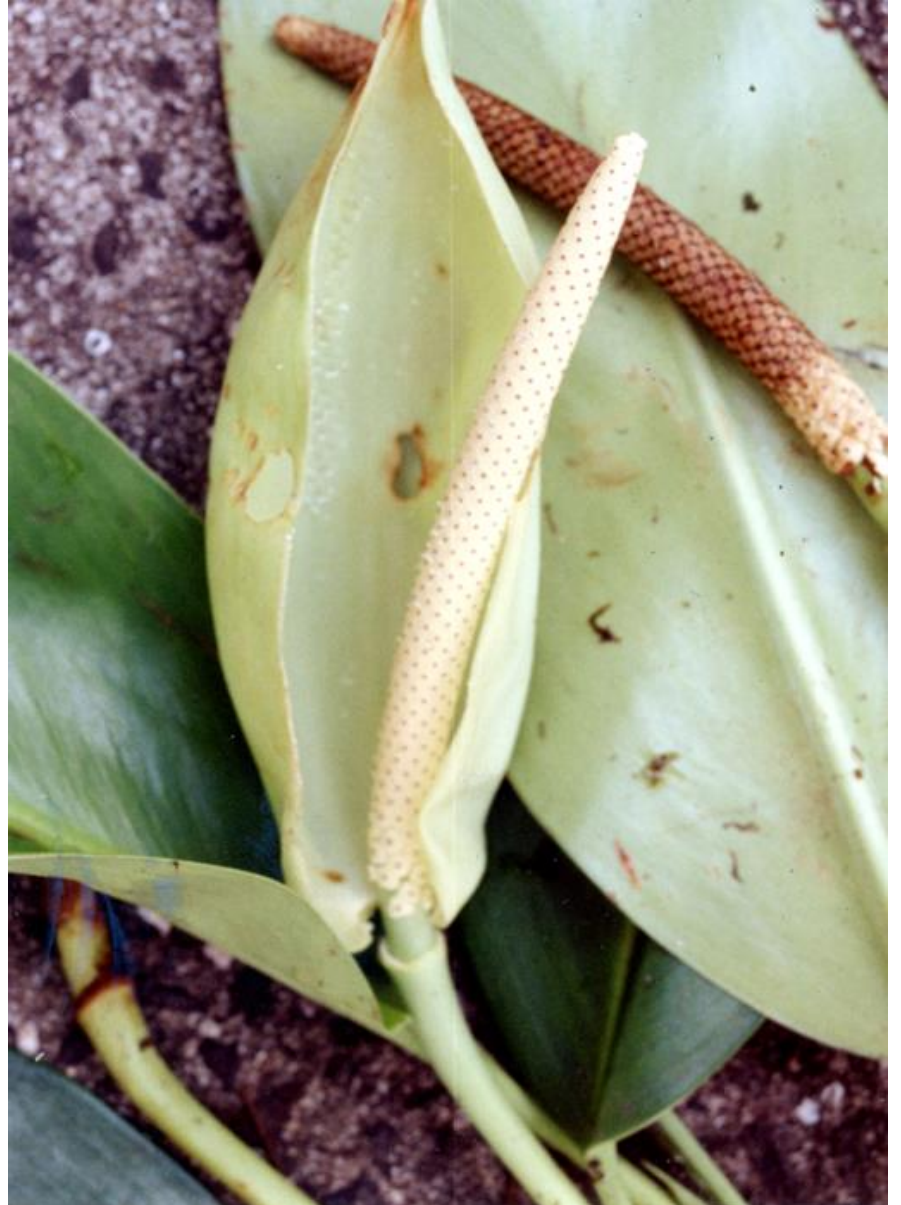


# Stenospermation andreanum





calvarioense, 75065





Stenospermation  
castanoanum







Stenospermation  
darienense, 77143



# Stenospermation luis-gomezii





# Stenospermation marantifolium





# Stenospermation multiovulatum



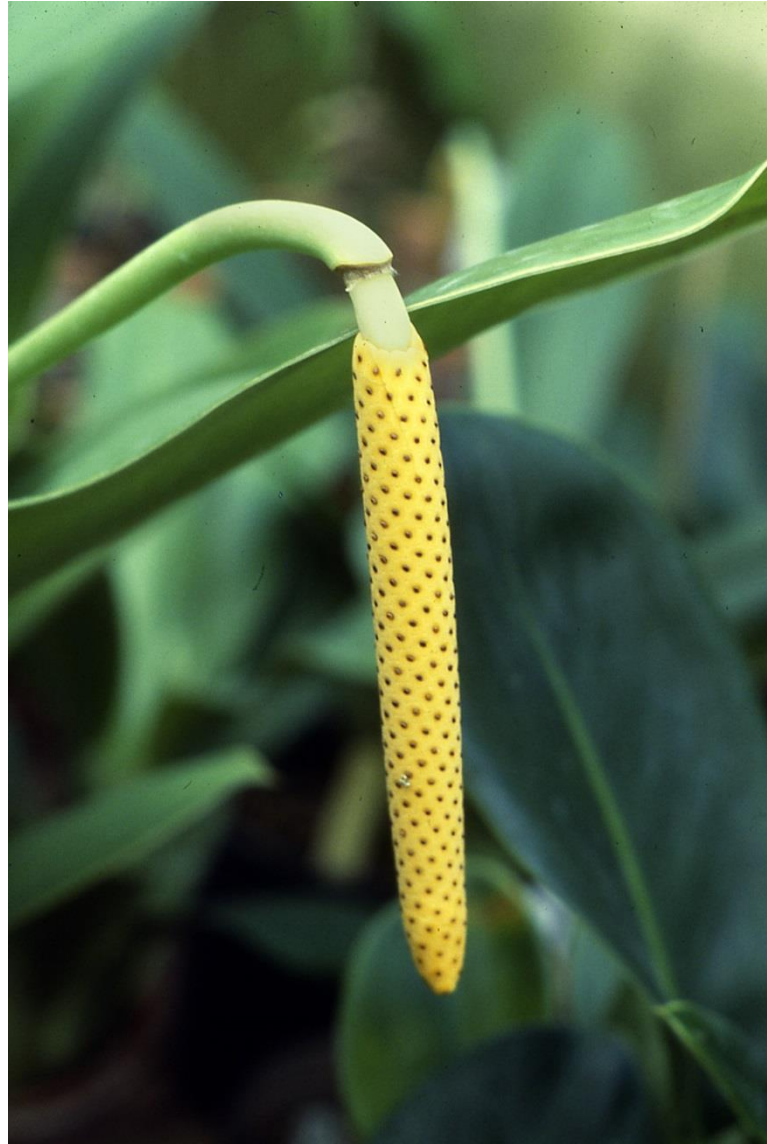


# Stenospermation multiovulatum 74174



# Stenospermation multiovulatum

33595





# Stenospermation sessile 75124



# Stenospermation multiovulatum





# Stenospermation sessile







*S. sessile*,  
Monteverde



# Stenospermation sessile





# Stenospermation sessile 37560



# Stenospermation sesile 48802





# Stenospermation sp. nov. 75122







# Stenospermation moralesii Croat



Guatemalan species not  
yet studied





*S. hageniorum*



# Stenospermation nusigandense 75122



# Stenospermation robustum Engl.





# Stenospermation robustum



MISSOURI  
BOTANICAL GARDEN  
HERBARIUM

№ 6430074



ARACEAE      COLOMBIA      *TROPIDOS*      [23]  
*Stenospermation*      *Ericoides*

Valle del Cauca

along road between Quereamal and  
Tandayapa, old road from Cali to  
Buenaventura Hwy, 5 km beyond Quereamal.

03°32'00"N 076°40'00"W      1200 m

Terrestrial to ca. 1 m tall; internodes  
to 3 cm long, 1.3-1.9 cm diam., dark  
green, semiglossy; petioles dark green,  
matte; blades subcoriaceous, dark green  
and glossy above, moderately paler and  
glossy below; midrib narrowly sunken.

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Thomas B. Croat; Geneviève Ferry & David  
Scherbarich 10406B  
MISSOURI BOTANICAL GARDEN HERBARIUM (MO)  
MISSOURI BOTANICAL GARDEN HERBARIUM (MO)







































