

DAVIS EXPEDITION FUND

REPORT ON EXPEDITION / PROJECT

Expedition/Project Title:	Understanding the colonization of the Chocó biogeographic region: Expedition II Southern Colombia
Travel Dates:	September – December 2022
Location:	Colombia
Group Members:	Kelly Tatiana Bocanegra González
Aims:	The project proposes to explore the south of the Chocó biogeographic region in Colombia in order to collect species of the genus <i>Inga</i> . Subsequently, include the collected species in the ongoing phylogeny of the genus the Chocó region.
Photography consent form attached: (please refer to your award letter)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Outcome (a minimum of 500 words):

In this expedition we completed the first assessment of the genus *Inga* in the south of the Chocó biogeographic region. Three localities were sampled in the department of Cauca (San Antonio, El Loro and San Miguel) and three localities in the department of Nariño Colombia (Barbacoas, El Pangan Natural Reserve - ProAves, and one private reserve). Sixty-seven individuals of the genus *Inga* were sampled and measured. Eighteen species were identified. The presence of a species registered exclusively in Ecuador is reported (*Inga carinata* T.D. Penn). We also report the presence of a sub-specie of *Inga chocoensis* Killip ex T.S. Elias in the locality of San Antonio (Cauca) previously considered to be exclusive to the Bajo Calima Region. This expedition enabled us to fill important gaps in our understanding of the floristics of the region. The specimens collected will be sequenced for incorporation into the *Inga* phylogeny.

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REPORT OF THE EXPEDITION IN THE CENTRAL REGION OF COLOMBIA

Methodology

Sampling sites

This field work initially proposed sampling at four sites, San Antonio, El Loro and San Miguel in Cauca department and Barbacoas in Nariño department. However, two additional sites were sampled in the Nariño department for a total of six localities (Figure 1). These two additional sites correspond to two nature reserves El Pangan de ProAves and one private reserve.

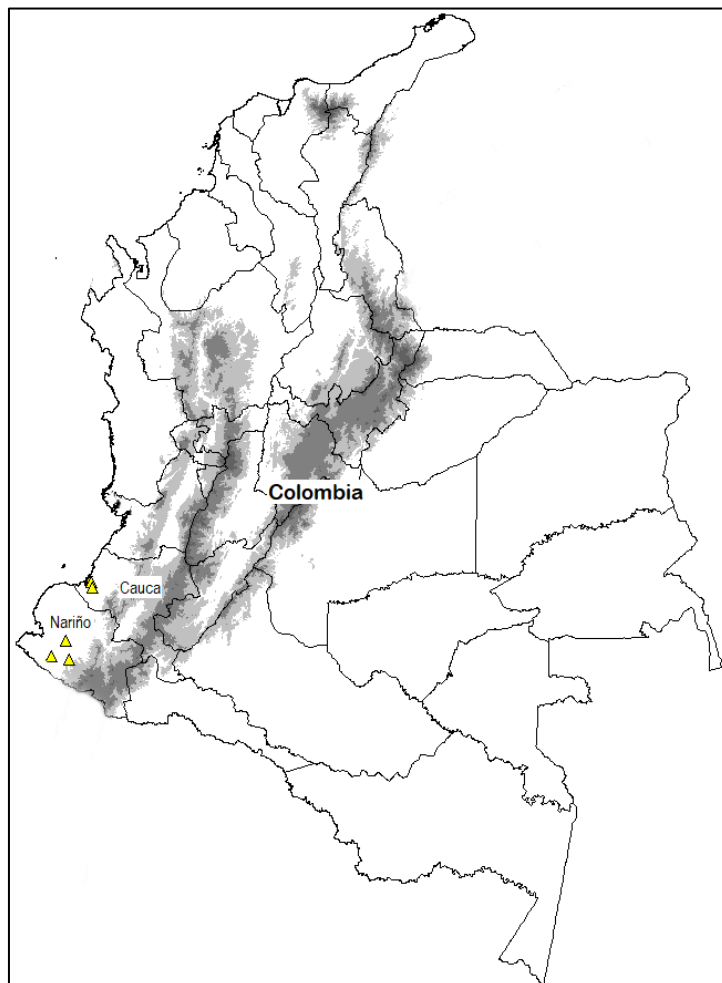


Figure 1. Sampled sites in the expedition

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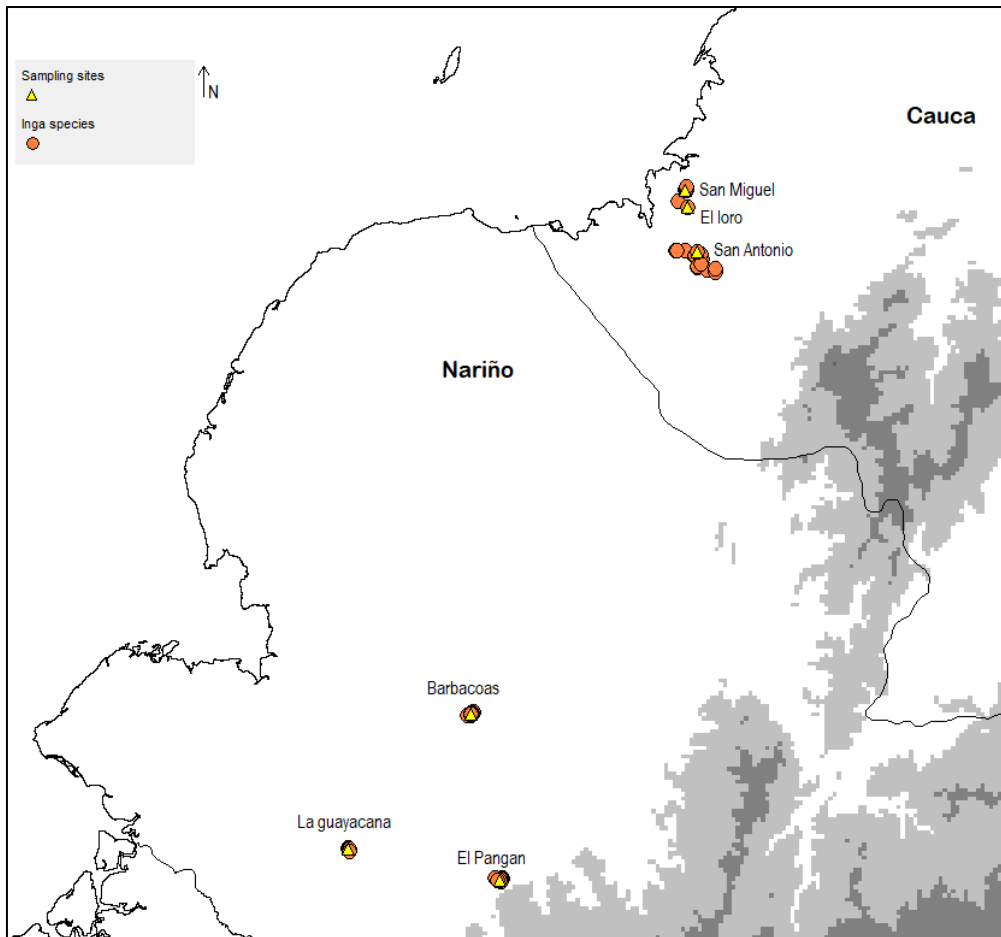


Figure 1. Sampling sites and *Inga* records

Sampling

The sampling took 6 to 9 days in each locality. In each one, trails were walked, and all individuals of *Inga* were registered and collected (Figure 4). At the same time, dasometric variables (Diameter at Breast Height, Total Height, and Diameter of canopy) were measured and each tree was georeferenced.

Herbarium activities

The collected material was processed at the herbarium TOLI of the University of Tolima. There it was dried and mounted and was included in this collection. Also, this material was digitized for future assessments and stereoscope images were taken for most of the specimens. All silica gel material was processed as well and packaged for its transportation to RBGE in the UK.

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Figure 3. Chocó forest in Barbacoas, Tumaco

Table 1. Individuals collected in each locality

Department	Municipality	Localities	Coordinates	Collected <i>Inga</i>
Cauca	Guapi	San Antonio	2.596242 - 77.70135	18
		Timbiquí	2.69851 - 77.735778	3
		San Miguel	2.721717- 77.721552	7
Nariño	Barbacoas	Barbacoas	1.682049 - 78.153164	13
	Junín	El Pangan	1.360856 - 78.09812	14
	Tumaco	La Guayacana	1.419652 - 78.388447	12
Total				67

Results

The studied localities were well conserved areas of forest, and 67 individuals of the genus *Inga* were registered across all of them (Table 1). Forty-nine individuals were assigned to 18 species and 18 individuals are still without identification (Table 2).

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Table 2. *Inga* species collected

Nº	Identified species	Nº Individuals
1	<i>Inga acreana</i> Harms.	3
2	<i>Ingaacrocephala</i> Steud.	3
3	<i>Inga acuminata</i> Benth.	3
4	<i>Inga capitata</i> Desv.	3
5	<i>Inga carinata</i> T.D.Penn.	1
6	<i>Inga chocoensis</i> Killip ex T.S. Elias	8
7	<i>Inga edulis</i> Mart.	2
8	<i>Inga goldmanii</i> Pittier.	4
9	<i>Inga heterophylla</i> Willd.	1
10	<i>Inga laurina</i> (Sw.) Willd.	1
11	<i>Inga leiocalycina</i> Benth.	1
12	<i>Inga multijuga</i> Benth.	2
13	<i>Inga pezizifera</i> Benth.	4
14	<i>Inga polita</i> Killip.	1
15	<i>Inga sapindoides</i> Willd.	1
16	<i>Inga sertulifera</i> DC.	2
17	<i>Inga thibaudiana</i> subsp. <i>thibaudiana</i> DC.	5
18	<i>Inga venusta</i> Standl.	4
19	<i>Inga</i> sp.	18
Total		67

The species *Inga carinata* T.D.Penn. has been reported in the Pangan Natural reserve. This species was thought to be exclusively from Ecuador (Figure 4). Also, was identified the presence of a sub-specie of *Inga chocoensis* Killip ex T.S. Elias in the municipality of Guapi (Cauca) though exclusively in the Bajo Calima Region (Figure 5).

Conclusions

- The forests of the explored localities are well conserved. However, we identified some fragmentation due to palm and coca cultivation.
- Individuals of *Inga* were common in the sampled areas.
- Previous expeditions in the Chocó region have been carried out, however, the sampling of *Ingas* in this exploration (south region) stand out because the individual are some of the biggest individuals collected in all the Chocó biogeographic region.

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This is because these forests are still very conserved and isolated from any selective logging.

-*Inga carinata* was recorded for the first time in Colombia.

-*Inga chocoensis* subsp. *calimaensis* was recorded in the municipality of Guapi, Cauca.

-The collections in this expedition enriched the molecular sampling for the *Inga* phylogeny.



Figure 4. *Inga carinata* T.D.Penn.

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Figure 5. Inga chocoensis subs calimaensis