

Annual report for the Dracula Natural Protected Area 2022

Photo: Marco Monteros

The Dracula Natural Protected Area (NPA) is located in the Carchi province, Tulcán and Mira cantons, in the western foothills of the Andes in northern Ecuador, on the border with Colombia, and presents unique habitats in an altitudinal range between 900 to 2400m. The reserve is divided in three unconnected blocks (Lower Dracula 910.13 ha, Middle Dracula 479.4 ha, and Upper Dracula 328.6 ha) and it has a total area of 1718.14 ha. Among the most significant threats to the reserve are mining concessions, illegal logging and hunting, illegal collection of orchids and invertebrates, and the expansion of the agricultural frontier. This reserve is very important for providing various ecosystem services, with one of the most crucial being that it is a water recharge area, providing water to the Tulcán canton. The reserve has a manager and five park guards. On April 25, 2022, in collaboration with the municipal government (GADM) of Tulcán, established the Creation in Shared Management of the Dracula Protected Natural Area through the ordinance included in the Official Gazette - Special Edition No. 154.

Priority species

Dracula protects a wide variety of endemic and globally threatened species including, *Phragmipedium fischeri* (CR and locally endemic), the Carchi Andes Toad (*Rhaebo colomai*; EN and endemic to Ecuador), the Hammond's Rice Rat (*Mindomys hammondi*, EN and endemic to Ecuador), the Rio Faisanes Stubfoot Toad (*Atelopus coynei*, CR and endemic to Ecuador), the Brown-headed Spider Monkey (*Ateles fusciceps*, EN), the Olinguito (*Bassaricyon neblina*, NT) and the Cloud-forest Pygmy Owl (*Glaucidium nubicola*, VU). This reserve also preserves numerous new species of flora and fauna that have been recently discovered, many of them endemic, including *Chilomys carapazi*, *Anolis dracula*, *Pleurothallis chicalensis*, *Lepanthes kayii*, *Pleurothallis ecomingae*, *Scaphosepalum zieglerae*, *Platystele pamela*, *Dracula trigonopetala*, *Dracula psyche*, *Platystele finleyae* y *Lepantes tulcanensis*. The area is also rich in large mammals, including the Andean bear (*Tremarctos ornatus*, VU), the Dwarf Red Brocket (*Mazama rufina*, VU), the Jaguarundi (*Herpailurus yagouaroundi*, LC) and the Ocelot (*Leopardus pardalis*, LC).

Dracula reserve

Annual report 2022



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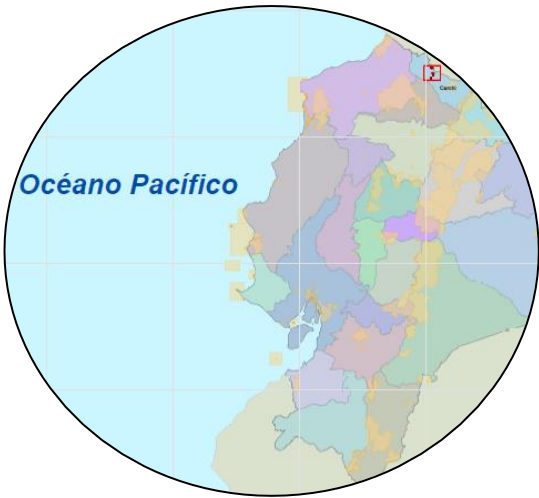
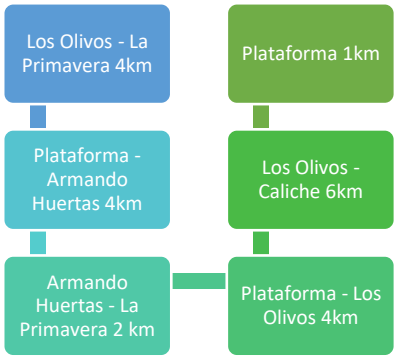
2. Reserve management

1.1 Adaptation, construction, and maintenance of the reserve infrastructure: The NPA Dracula has 20 trails that are distributed in the Upper (6 trails; 38 km), Middle (7 trails, 30 km), and Lower (7 trails; 33.5 km) parts of the reserve, with a total length of 101.5 km. The trails are maintained at the same time that control and surveillance tasks are carried out. The maintenance consists of cleaning the trails to improve access. The trails are maintained at a condition that is optimal to move along them. In order to mark the trails, 115 signs were placed at the beginning and end points of the trails and on the main roads: Chical-El Carmen and Chical-Río Blanco.

Within Dracula Reserve are campsites, or control points, called La Plataforma, Campamento Mirador 1 and Mirador 2, Casa Falconil Córdoba, Casa Levi, and Casa Fischer, which all receive maintenance once a week, in addition to cleaning the gutters and water tanks. Additionally, in December of 2022, the camping zone at Station Fischer was expanded (500m²) in order to host approximately 90 people who participated in the Dracula Bike Ride.

1.2 As part of their **control and surveillance** tasks, the reserve staff (seven park rangers) made 651 trips during 2022, covering an approximate annual distance of 1,825.5 km, with an average of 152.12 km per month (Table 1). The park rangers cover four trails per week, dedicating a total of 13,440 hours per year to this activity.

Upper Dracula trails:



Location of the Dracula reserve

The map shows the following trail connections and distances:

- km 12 - Falconil** to **Córdoba**: 5km
- Mirador 1** to **Mirador 2**: 3km
- Laguna - Camp. Fermín Acero** to **Barberíferas**: 4km
- Camp. Fermín Acero - Camp. Cuchilla**: 6km
- Casa Levi trail**: 5km

Este mapa de rutas de senderismo muestra las conexiones entre varios puntos de interés en la zona de La Esperanza y Casa Fischer. Las rutas están representadas por líneas rectas que conectan los nodos de destino. Los nodos están coloreados: naranja para rutas que comienzan o terminan en 'Hermanos Yela' y gris para la ruta final a 'Sendero Las Cascadas'.

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graph TD
    A["Hermanos Yela  
- La Esperanza  
6km"] --- B["Hermanos Yela  
- Casa Fischer;  
5km"]
    B --- C["Hermanos Yela  
- Río Pailón  
6km"]
    C --- D["Casa Fischer –  
La Angostura;  
8km"]
    D --- E["Reserva Ester  
Ortiz – La  
Oscurana; 5km"]
    E --- F["Sendero  
Plantas - Casa  
Fischer; 1,5km"]
    F --- G["Sendero Las  
Cascadas 7km"]

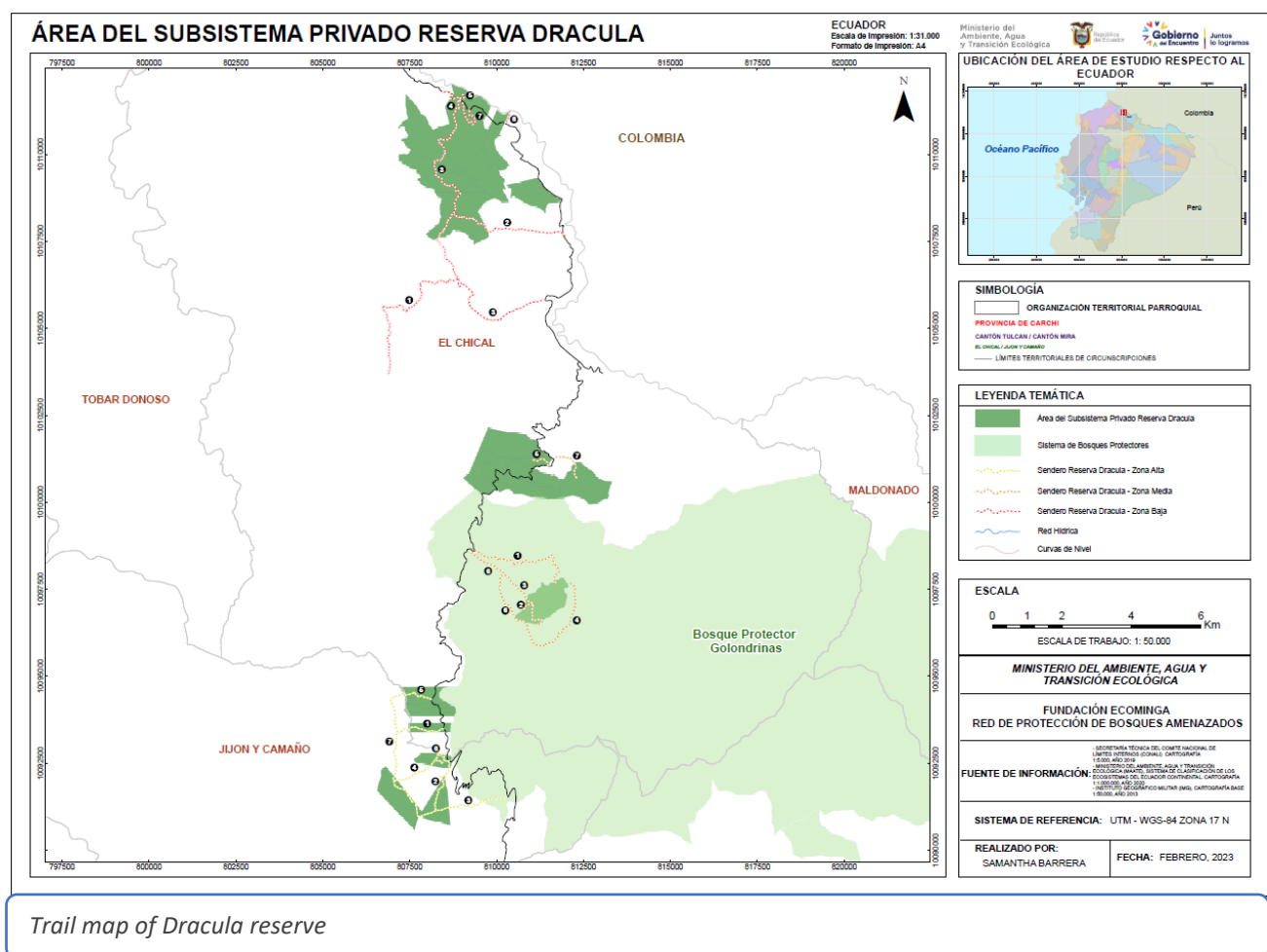
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- Hermanos Yela - La Esperanza** (6km) conecta con **Hermanos Yela - Casa Fischer** (5km).
- Hermanos Yela - Casa Fischer** (5km) conecta con **Hermanos Yela - Río Pailón** (6km).
- Hermanos Yela - Río Pailón** (6km) conecta con **Casa Fischer – La Angostura** (8km).
- Casa Fischer – La Angostura** (8km) conecta con **Reserva Ester Ortiz – La Oscurana** (5km).
- Reserva Ester Ortiz – La Oscurana** (5km) conecta con **Sendero Plantas - Casa Fischer** (1,5km).
- Sendero Plantas - Casa Fischer** (1,5km) conecta con **Sendero Las Cascadas** (7km).

Table 1: Total distance and rounds on the trails of Dracula reserve (2022)

Reserve	Number of rounds	Length of trails	Total distance traveled/year
Upper Dracula reserve	182	38 km	224 km
Middle Dracula reserve	353	30 km	1340 km
Lower Dracula reserve	116	33.5 km	261.5 km
TOTAL	651	101.5 km	1825.5 km

In the map below, the 20 trails of NPA Dracula are displayed.



1.3 Research and monitoring: Within the significant research results in 2022, there is the description of the orchid *Platystele finleyae*, which inhabits on the border of Dracula reserve and is endemic to the region, with the only known population in an area of less than 10 km², even after having carried out constant explorations to look for the orchid in the last 5 yearsⁱ, which suggests that it be classified as Critically Endangered species by the UICN. Other species described in 2022 include the mice *Chilomys carapazi* and *Chilomys georgeledecii*, for both being the Dracula Reserve type localityⁱⁱ.

Platystele finleyae

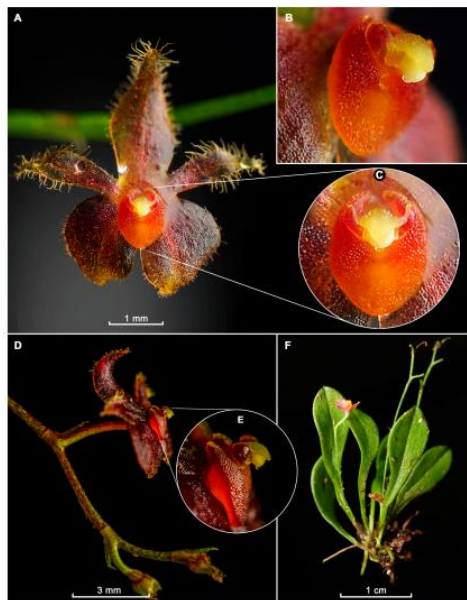


FIGURE 2. Photographs of *Platystele finleyae* M.F. Monteros, E. Restrepo & Baquero A. Flower, frontal view. B. Close-up of the lip and column, 1/2 view. C. Close-up of the lip and column, frontal view. D. Inflorescence, lateral view. E. Close-up of the lip and column, lateral view. F. Habit. Photographs by Marco F. Monteros (A-C, F) & Andres Beller (D-E) from the plant that served as the holotype (MFSM 209, QCNE). Prepared by Eugenio Restrepo.

Chilomys carapazi



Chilomys georgeledecii



LANKESTERIANA 22(1): 63–72. 2022.

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PLATYSTELE FINLEYAE (PLEUROTHALLIDINAE), A NEW SPECIES FROM NORTHWESTERN ECUADOR

MARCO F. MONTEROS^{1,2,4,7}, EUGENIO RESTREPO^{3,4,5,6} & LUIS E. BAQUERO^{4,5}

¹ Fundación EcoMinga, 270 12 de noviembre and Luis A Martínez, Baños, Tungurahua, Ecuador.

² Reserva: The Youth Land Trust, Washington, D.C., USA

³ Programa de Biología, Facultad de Ciencias Exactas y Naturales, Universidad de Caldas, Manizales, Colombia.

⁴ Grupo Científico Calaway Dodson: Investigación y Conservación de Orquídeas del Ecuador, Quito, 170510, Pichincha, Ecuador.

⁵ Grupo de Investigación en Medio Ambiente y Salud BIOMAS, Carrera de Ingeniería Agroindustrial y Alimentos, Facultad de Ingeniería y Ciencias Agropecuarias, Universidad de Las Américas, Calle José Queri, Quito 170137, Pichincha, Ecuador.

⁶ Semillero de Investigación en Plantas y Afines – PHYTOS, Grupo de Investigación en Biodiversidad y Recursos Naturales – BIONAT, Calle 65 #26-10, Manizales, Colombia.

⁷ Author for correspondence: marcomonteros24@gmail.com

ABSTRACT. A new species of *Platystele* from northwestern Ecuador is described and illustrated. The new species, *Platystele finleyae*, belongs to the “pubescens” morphological informal group of species, and it is similar to *P. ximenesae* in the broad flowers with pubescent sepals and petals but is easily distinguished by the vermilion to vinaceous flowers (vs. yellow, suffused with purple at the basal middle) and long ciliate petals (vs. shortly pubescent in *P. ximenesae*). *Platystele finleyae* was found near Dracula Reserve, and it is named in honor of Elizabeth Finley Broadbent, who inspires many people, especially the youth, in environmental conservation. In addition, information is provided on its distribution, habitat, and conservation status.



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There are also various orchid species that are in the process of being described:



Lephantes sp. 1
Source: Marco Monteros



Lephantes sp. 2
Source: Marco Monteros



Pleurothallis pambertonii
Source: Marco Monteros



Pleurothallis markgruinii
Source: Marco Monteros

To record the biodiversity of the area, monitor mammals, and support control and monitoring of the reserve, we have placed 12 camera traps in strategic locations in the upper, middle, and lower parts of the reserve. The camera traps are monitored every 3 months in order to clear the memory, dry the equipment, and change the batteries. As a result, we have registered various medium and large vertebrate species with the most significant including the *Puma concolor* (LC), *Tremarctos ornatus* (VU), *Tayassu pecari*, and *Leopardus tigrinus*.



Record of the Andean Bear (*Tremarctos ornatus*) - Trail km 18



South American Coati or Cuchucho (Nasua nasua) - Trail km 18



Record of a puma (Puma concolor)

There are also photographic records of flora and fauna in the rounds and patrols by the forest guards in Dracula reserve:



Cloudforest Pygmy-owl (VU)
Glaucidium nubicola



Stump-tailed Porcupine (LC)
Coendou rufescens



Sickle-winged Guan (LC)
Chamaepetes goudotii



1.6 Management of Dracula Reserve: In 2022, various activities were carried out directed at improving the management of Dracula Reserve, including the creation of the management plan, the declaration of the reserve as a protected area, and the implementation of METT:



Meeting with the Municipal Assembly of Tulcán to approve the ordinance
Photo: Sara Chingal

a) Creation of the Municipal Ordinance of Dracula reserve: At the beginning of 2022, in collaboration with the Municipal Government of Tulcán, the ordinance for the Creation of Shared Management of the Dracula Protected Area included in the Official Gazette - Special Edition N°154 was created. The objective of this ordinance is to strengthen the conservation efforts of the endemic and globally threatened biodiversity of the area, as well as to safeguard the environmental services of the Tulcán canton.

- b) Development of the Management Plan for Dracula Reserve:** In December 2022, the Dracula NPA Management Plan was submitted to the Tulcán Municipality as part of the agreement included in the creation of the Municipal Ordinance for the Dracula Natural Reserve. The Management Plan will be reviewed by the Committee on the Environment and Sustainability to proceed with the registration and approval by the Ministry of the Environment, Water, and Ecological Transition. Copies of the document have also been provided to the Joint Command of the Armed Forces of Ecuador
- c) Evaluation of Dracula Reserve using the tool METT4:** In order to continue with the progress of the efficacy of the reserve's management over the long term, an evaluation of Dracula reserve was carried out using the METT4 matrix. As a result, the reserve received a score of 47/100 points, in addition to identifying the principal conservation values, environmental services, key indicator species, and a detailed diagnostic of the threats to the reserve.

Conservation values of Dracula Reserve following the METT evaluation matrix

Conservation values	Selection justification
High montane forest, low montane forest	Remnants of primary forest in Dracula reserve
Rivers and water sources	Conservation of water sources
Conectivity	Part of Dracula reserve connects with the Protected Forest Cerro Golondrinas and with the reserve of the Ethnic Awá communities
Endemic plant species	Biodiversity, specifically populations of <i>Lepanthes tulcanensis</i> , <i>Dracula trigonopetala</i> , <i>Phragmipedium hirtzii</i> .
Endemic and globally-threatened mammals	Biodiversity (<i>Chilomys carapazi</i> , <i>Ateles fusciceps</i>).
Endemic and globally-threatened amphibians	Records in Dracula reserve of protected unique populations of <i>Atelopus coynei</i> and <i>Rhaebo colomai</i> .

Environmental goods and services of the Dracula Reserve according to the MEET evaluation matrix

Environmental services	Notes
Hydrologic resources	The Dracula reserve is located within important hydrographic basins such as the Mira River basin.
Tourism	Dracula Reserve has landscapes, flora, and fauna that allow for the development of CAVE tourism, which would further support research and sustainability in the region.
Biodiversity	The Dracula reserve is located in one of the world's most biodiverse areas, home to around 429 species of vascular plants, 63 species of mammals, 52 species of amphibians, 42 species of reptiles and 304 species of birds.

2. WORK WITH KEY ACTORS



*General Assembly of the Federation of Ethnic Awá centers carried out in the El Baboso community
Photo: Sara Chingal*



*Support with supplies to the Awá communities
Photo: Marco Monteros*

2.1 Work with communities: In 2022, various activities were developed to support the Awá communities that are located in the vicinity of the Dracula reserve. In December, Fundación EcoMinga participated in the assembly of the Federation of Ethnic Awá Centers (FCAE) that was carried out in the El Baboso community in Carchi Province, to elect the new council. As part of our social assistance work with the communities adjacent to the Dracula reserve, we supported the delivery of a variety of food supplies for the development of the event, as well as we delivered educational materials.

Also in December, with the support of the Municipality of Tulcán, the Tulcán Social Protection Board, the Tulcán Military Fort and Jhon Bustos, member of the El Chical Parish Council, during the year we prepared and delivered food kits to 700 families in the Awá community from areas surrounding the reserve: La Guaña, Morán, Untal, Río Pablo, Esperanza, Pailón, La Angostura, Guaré, Gualpi Bajo, Gualpi Medio, Gualpi Alto, the Quinshul Women's Group and the Maldonado Support Group. Likewise, we organized a medical brigade to carry out general medicine, pediatrics, dentistry and psychology check-ups, benefiting approximately 150 people who received various services, ending

with a Christmas reception for the 250 children of Chical. All of the mentioned services were carried out thanks to the support of Urs Fischer.

2.2 Educational events: Together with the Municipality of Tulcán we developed a series of projects directed at promoting the importance of the biodiversity of Tulcán and Dracula reserve, including the publication of 14,000 copies of the **sticker album *Tulcán Megadiverso***, created in collaboration with the National Biodiversity Institute, which as an environmental education tool has captured the attention of children and adults in Tulcán Canton.

Additionally, in October, together with the Mayor's Office of Tulcán, we carried out the **seminar *Tulcán Megadiverso*** on October 27th and October 28th, with 110 participants. This event was focused on providing knowledge about the importance of ecology, environmental services, and biodiversity and its threats in Tulcán Canton, to promote the importance of natural resources, respect for nature, the rights of nature, and the importance of conservation. The seminar included participants from various entities, including the Universidad Técnica del Norte (UTN), the Universidad Politécnica Estatal del Carchi, and the Echoes of the Forest Project.



invitation to the seminar Tulcán megadiverso



Official launching of the Tulcán megadiverso album

Additionally, with the support of the Mayor's Office of Tulcán, the Travesía Dracula - Dracula Bike Ride was held on December 10th and 11th, 2022. An event which brought together cyclists in the province and the country to get to know the Dracula reserve and promote it as a tourist attraction. Approximately 90 people

participated, and as part of the event they completed a ride from the city of Tulcán to the Fischer Station in Dracula Reserve, where the participants had the opportunity to explore the waterfall trail and the biodiversity and ecosystem services of the area.



Participants in the Dracula Bike Ride, from left to right, Matías Benavidez, Jorge Montenegro, and Elvis Cotocachi, elite cyclists from Carchi Province
Photo: Sara Chingal

In the area of Dracula reserve, a new genus endemic to the northwest region of Carchi was discovered and a new frog species *Phyllonastes cerrogolondrinas*. The new genus is *Urkuphryne*, which means "mountain frog," and it will have two species that are in the process of being described. As part of the dissemination activities, these discoveries were shared with the Quinchul community to involve them in amphibian conservation and in the naming of frog species, a process that took place with the help of Jael Ortega and Julio Cesar Carrión. Both discoveries were made by the EcoMinga team, with the support of researchers from the National Biodiversity Institute (INABIO), the Pontificia Universidad Católica de Quito, and Reserva YLT.

As part of the educational events, expeditions were carried out in March and August 2022 to the Middle Dracula Reserve, with the goal of exploring new areas of the reserve. The expeditions were conducted in collaboration with the National Biodiversity Institute (INABIO) and Reserva YLT, and included the attendance of herpetofauna, avifauna, and botanic researchers. Approximately 15 people participated in each expedition, with the accompaniment and assistance of two forest guards from the reserve. The explored area is the land of Fermín Acero, a lot that is in the process of being purchased



Participants on the expeditions in Dracula reserve (August 2022)

Photo: Anderson Yela

3. FUND MANAGEMENT

3.1 Socio Bosque program: In 2022, we completed and delivered the documentation for 22 parcels (855.75) of Dracula Reserve (Lower, Middle, and Upper) to the Socio Bosque Program II.

Dracula reserve	Area of the reserve (ha)	Area of the parcels of Socio Bosque II (ha)	Estimated value of the incentive (USD)
	1718.14	855.75	US\$29,688.75

3.2 CAVE tourism: In 2022, we received approximately 180 visitors. In addition, we signed an agreement with the Carchi State Polytechnic University, to start the CAVE Tourism project, aimed at promoting tourism in the upper, middle and lower parts of the reserve. We also had a visit from National Geographic and Reserva The Youth Land Trust, with a team of 20 people, for the production of an episode about the work of both organizations against mining, to show the landscape and relevant biodiversity of the reserve, and the importance of the conservation of the cloud forests of northwestern Ecuador.

4. CONFLICTS/ILLEGAL ACTIVITIES INSIDE OF THE RESERVES



During 2022, there were various illegal events inside of Dracula reserve:

4.1 Entrance of cattle: In September 2022, the entrance of cattle in Dracula Reserve was recorded in the area known as the tree houses (km 9). In response, there was a formal complaint with the political body and the owner of the cattle was located. The cattle inside the reserve were collected and returned to the owner with the support of lieutenant politician and our forest guards

4.2 Cutting of trees: In September 2022, cutting of trees on the border of the road (km 20) by the Electric Company and other small companies contracted by the Ministry of Public Works was recorded in Dracula reserve. In response, a formal complaint was submitted to the Ministry of the Environment, Water, and Ecological Transition.

4.3 Mining: A campsite in one of the properties being purchased was found, along with verbal aggression by the miners, in addition to the damage to a ravine where the extraction of samples of stone material was observed. Illegal mining actions were also recorded in Reserve Awá, adjacent to Dracula reserve.

4.4 Presence of the National Liberation Army of Colombia (ELN): In the area surrounding Dracula reserve, there are informal groups of people who belong to the ELN, which has occasionally had a negative impact on the region by generating fear, which has limited the development of tourism.

4.5 Incompliance with the rules of the reserve: In August 2022, there was unacceptable behavior by the part of the chief ranger, who solicited orchids without permission from the rest of the forest guards for his own benefit. As a result, he resigned from his position.

5. HOW CAN YOU HELP US?

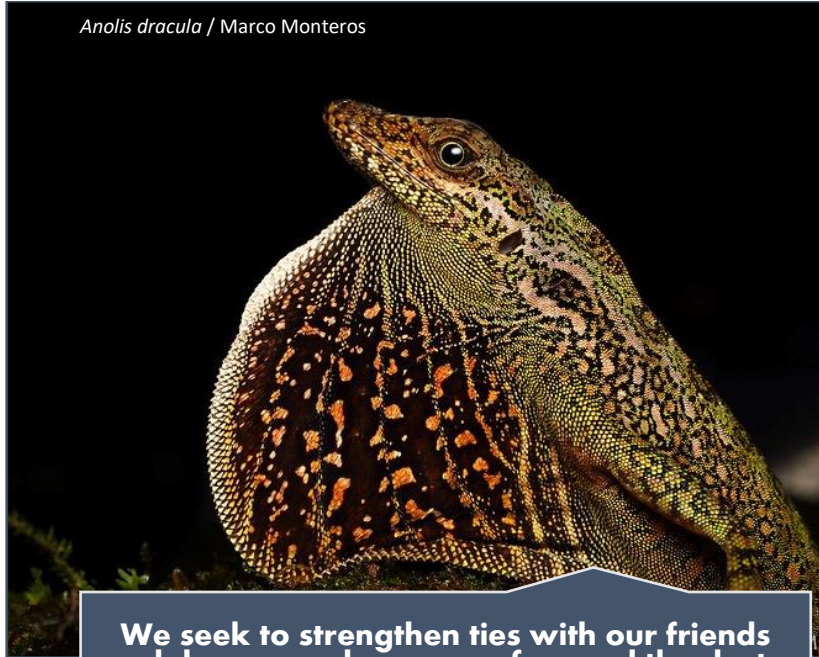
To conserve Dracula Reserve, we have identified various areas of priority that are in need of financing:

1. Priority expansion of Dracula reserve

AMPLIACIÓN DE LA RESERVA						
Lot	Reserve	No. ha	Price per ha	Cost	Legal costs	Total
Juan Zurita	Middle Dracula	180	US\$611/ha	US\$110,000	US\$3300	US\$113,300
Fuentes family	Middle Dracula	108	US\$1111/ha	US\$120,000	US\$3400	US\$123,400
La Esperanza reserve	Middle Dracula	830	US\$650/ha	US\$540,000	US\$12,000	US\$552,000

2. Equipment for five control points (US\$20,000).
3. Construction of the Río Blanco bridge (US\$5,000)
4. Provision of electricity in the control zones (US\$5,000)

Anolis dracula / Marco Monteros



We seek to strengthen ties with our friends and donors, and we move forward thanks to their commitment.

For more information, please contact our team:
info@ecominga.org

STAFF OF THE DRACULA RESERVE



Sara Chingal
Reserve manager
30 years old



David Yela
Forest guard
25 years old



Milton Cantincuz
Forest guard
44 years old



Jeovanni Guerra
Forest guard
36 years old



Nilo Ortiz
Forest guard
63 years old



Carlos Castro
Forest guard
45 years old

STAFF OF THE DRACULA RESERVE



Marco Monteros
**Orchid Monitoring Project Coordinator and
Research Associate**
30 years old



David Monteros
**Reserve Assistant to Dracula, Manduriacu, and
CELS Reserves**
30 years old



The *Fundación EcoMinga – Red de Protección de Bosques*, created in 2006, is a non-profit NGO dedicated to the protection of areas of high endemism and biological diversity, through the creation of a system of private protected reserves, dedicated to the conservation of species globally threatened with extinction.

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Written by: Sara Chingal (ecominga.sara@gmail.com), Manager of the Dracula reserve

Revision, editing, and design: Itziar Olmedo (program.manager.ecominga@gmail.com), Program Manager

Approved by: Javier Robayo, Executive Director (f.javierobayo@gmail.com); Lou Jost (loujost@gmail.com), Scientific Director

ⁱ Monteros, M. F., Restrepo, E., & Baquero, L. E. (2022). *Platystele finleyae* (Pleurothallidinae), a new species from northwestern Ecuador. *Lankesteriana*, 22 (1), 63-72.

ⁱⁱ Brito, J., Tinoco, N., Pinto, C. M., García, R., Koch, C., Fernández, V., Burneo, S. & Pardiñas, U. F. (2022). Unlocking Andean sigmodontine diversity: five new species of Chilomys (Rodentia: Cricetidae) from the montane forests of Ecuador. *PeerJ*, 10, e13211.