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DIVERSITY AND CONSERVATION OF ORCHIDS IN SAN ANTONIO DEL TEQUENDAMA, CUNDINAMARCA, COLOMBIA

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Abstract. The municipality of San Antonio del Tequendama, Cundinamarca, Colombia, harbours remnants of cloud forests that support a rich diversity of orchids, primarily threatened by habitat loss. This study aims to guide conservation efforts through fieldwork and herbarium records, focused on orchid spatial distribution. The study area covers 82 km², situated at elevations between 1090 and 2700 meters. We conducted 31 field trips between 2017 and 2019. A total of 151 species from 54 genera were documented, offering the most comprehensive list of orchid species recorded in the region, accounting for 3.51% of Colombia's orchid species. The most diverse genera were *Epidendrum* (23 spp.), *Maxillaria* (13 spp.), *Stelis* (10 spp.), and *Cyrtochilum* (10 spp.). Thirty genera (19.86%) were represented by only one species. Six threatened species were identified: *Cattleya trianae* and *Masdevallia caudata* (Endangered), *Cyrtochilum ioplocon*, *Dracula psittacina*, *Oncidium gloriosum* , and *Pleurothallis mundula* (Vulnerable). Although the conservation status of some endemic species (26 spp., 17.21%) remains unknown or unassessed, many observed during field trips are rare and vulnerable to illegal collection for commercial purposes. The remaining forests of San Antonio del Tequendama, especially those within protected natural reserves, are crucial for in situ conservation actions at the local level. Our findings on species distribution provide a baseline for assessing the conservation status of orchid populations in cloud forests.

Resumen. El municipio de San Antonio del Tequendama, Cundinamarca, Colombia, alberga relictos de bosque de niebla, ecosistemas clave para una gran diversidad de orquídeas, cuya principal amenaza es la pérdida de hábitat. Este estudio presenta la diversidad de orquídeas de San Antonio del Tequendama, su estado de conservación y algunas proyecciones para su manejo, con el fin de promover su gestión y uso sostenible. El área de estudio abarcó 82 km², en elevaciones entre los 1090 y 2700 metros. Entre 2017 y 2019, se realizaron 31 salidas de campo en distintas localidades, empleando transectos lineales. En total, se registraron 151 especies distribuidas en 54 géneros, lo que constituye el listado más completo de la región, representando el 3.51 % de las orquídeas del país. Los géneros más diversos fueron *Epidendrum* (23 spp.), *Maxillaria* (13 spp.), *Stelis* (10 spp.) y *Cyrtochilum* (10 spp.). Sin embargo, un 19.86 % de los géneros (30 spp.) estuvieron representados por una sola especie. Se identificaron cinco especies amenazadas a nivel nacional: *Cattleya trianae* y *Masdevallia caudata* están catalogadas como especies En Peligro, mientras que *Cyrtochilum ioplocon*, *Dracula psittacina* y *Oncidium gloriosum* se clasifican como Vulnerables. Aunque la mayoría de las especies endémicas nacionales (26 spp., 17.21 %) no han sido evaluadas, se consideran raras en la zona y enfrentan la amenaza de extracción ilegal con fines comerciales. Los bosques remanentes de San Antonio del Tequendama, especialmente en áreas protegidas, son fundamentales para la conservación in situ de estas orquídeas a nivel local. Estudiar la

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demografía de estas especies podría proporcionar las bases necesarias para evaluar su estado de conservación en los bosques de niebla.

Keywords/Palabras clave: Andean forest, bosque Andino, bosque nuboso, cloud forest, diversidad, diversity, endemic, endémico, *Epidendrum*, epífitas, epiphytes

Introduction. Colombia is one of the most orchid-rich countries in the world, with over 4300 documented species (Betancur *et al.*, 2015; POWO, 2025). However, this remarkable diversity is concentrated in ecosystems such as Colombia's cloud forests, where between 60% and 73% of the species reported for the country are found (Orejuela-Gartner, 2010; Ospina, 1996). These ecosystems, though vital for biodiversity conservation, face threats from habitat fragmentation, loss, and climate change, factors that directly threaten both overall biodiversity and the health of orchid communities (Karmalkar *et al*., 2008; Parra-Sánchez *et al.*, 2016; Saunders *et al*., 1991).

The municipality of San Antonio del Tequendama, located in the department of Cundinamarca, harbours remnants of cloud forests. These ecosystems are characterized by high species richness, but their coverage has been severely reduced 50% of their original coverage has been lost in the country, (Armenteras *et al.*, 2007).

Known for its richness in orchids, the Tequendama region has been a focal point of botanical exploration since the 19th century. One of the most influential works documenting the local flora was *"Florae Columbiae"* by Hermann Karsten, who described numerous orchid species, significantly advancing botanical knowledge of the region (Tryon, 1963). Similarly, in the *"Geografía pintoresca de Colombia",* Karsten highlighted the diversity and beauty of Tequendama's orchids (Saffray, 1971). These explorations not only cataloged species but also emphasized the importance of conserving these valuable ecosystems (Saffray, 1971). However, currently, there is no comprehensive list of orchid species, especially for key areas like the Cuchilla de Peñas Blancas, an Integrated Management District, and the Chicaque Reserve (Castellanos-Castro & Torres-Morales, 2018), representing a gap in our knowledge of orchid diversity and conservation (Calderón González *et al.*, 2017).

Our research addresses the biogeographical gap regarding regional orchid distribution by providing a comprehensive and updated inventory of species richness, geographic distribution, and conservation status of orchids in San Antonio del Tequendama. This work establishes the baseline for developing *in situ, ex situ*, and *circa situm* conservation strategies, which are essential for preserving orchid species both in their natural habitats and under controlled conditions.

Material and methods. *Study Area.*— San Antonio del Tequendama is situated in the eastern mountain range of Colombia, within the department of Cundinamarca (4°36′58″N 74°21′08″W, Fig. 1). The local temperature ranges from 12 °C to 18 °C (IDEAM, 2024), with annual rainfall between 900 and 1700 mm, following a bimodal rainfall pattern. Peak rainfall occurs in April and November (around 200 mm), while July is typically the driest month with about 50 mm of rain. The study area spans elevations from 850 to 2700 meters and covers 82 km². Notably, above 1800 meters, the area is heavily influenced by fog originating from the Magdalena River valley for much of the year. According to Holdridge's classification (1996), San Antonio del Tequendama falls within the very humid low montane forest life zone, characterized by high humidity and dense vegetation typical of mountainous regions between 1000 and 2500 meters above sea level.

Collection and identification.— Between January 2017 and November 2019, a comprehensive inventory of the orchids in the region was compiled. Eighteen localities were visited. The inventory relied on direct observation of the species, and binoculars were used when needed to examine treetops. Phenological and ecological data, including hosts, elevation, and geographic coordinates, were recorded, along with photographic documentation of the species. A total of 186 hours of field observation was conducted. Fertile botanical samples were collected under the umbrella of the framework collection permit granted by ANLA to the Jardín Botánico José Celestino Mutis in Bogotá for the period 2017–2019, which included the lead author, including vouchers of miniature species stored in ethanol, especially when multiple individuals were found in a location. Some species lack information because they are species for which there are no herbarium records and for which only a single indi-

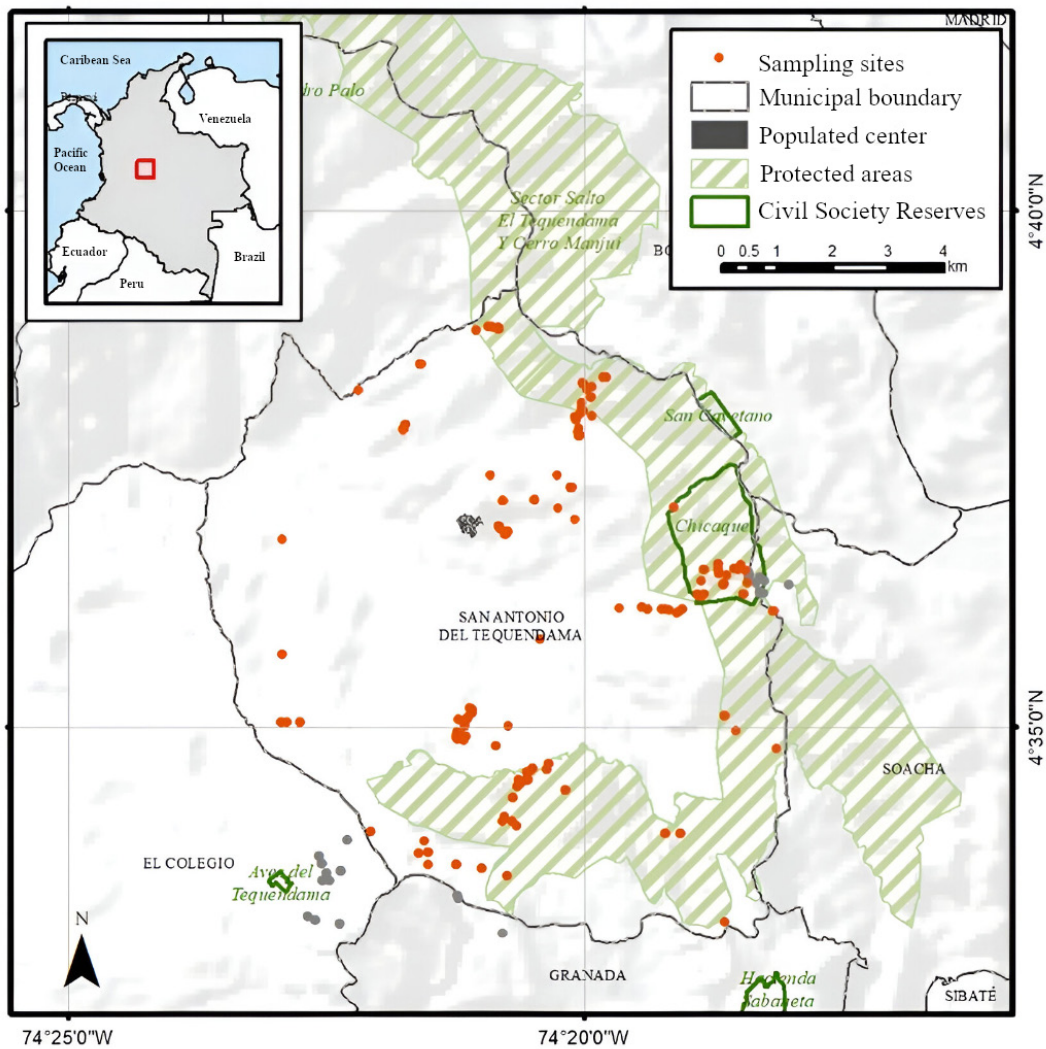

Figure 1. General map of the study area. The localities of the recorded specimens are detailed. The orange colour shows the collection points within the municipality and the grey colour shows populations located on the borders of neighbouring municipalities.

vidual was found in the field, so they were not collected. Samples were processed following standard herbarium techniques and deposited in the herbarium JBB. Additionally, live individuals were collected for the JBB living collections to enable monitoring and future preservation as herbarium specimens.

For the compilation of the species list, sources such as the work of Castellanos-Castro and Torres-Morales (2018) were used and further complemented by examination of specimens from the herbaria ANDES, BOG, COL, FAUC, UDBC, HPUJ, HUQ and JBB. Species identification was performed using taxonomic keys and specialized literature (Chiron, 2005; Christenson, 2009; Dorr *et al.*, 2000; Dueñas & Fernández, 2009; Dunsterville & Garay, 1979; Escobar *et al.*, 1991; Farfán *et al.*, 2003; Hágsater & Sánchez-Saldaña, 2001, 2004; Karremans & Rincón-González, 2015; Luer, 1986, 1994; Nowak *et al.*, 2015; Romero

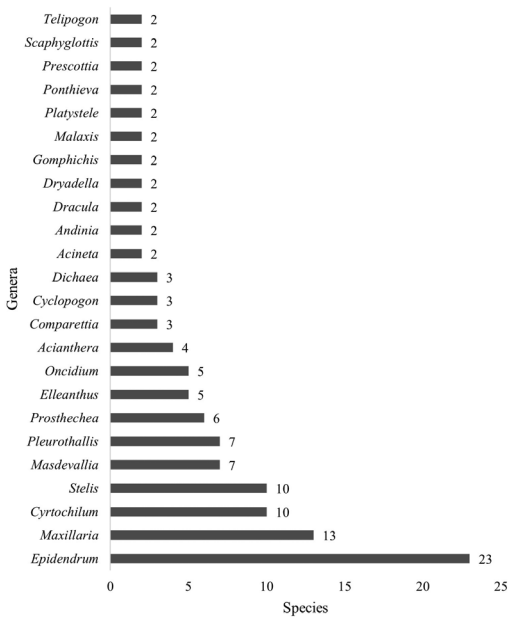

Figure 2. Most diverse orchid genera in San Antonio del Tequendama (Cundinamarca, Colombia).

& Carnevali, 2000; Uribe, 2015). We also consulted specialists to assist with species identification. We collaborated with AMO Herbarium of Mexico for the genus *Epidendrum* L. and Stig Dalström for Oncidiinae.

Accepted species names were verified using online databases such as Govaerts *et al.* (2019), Missouri Botanical Garden (2024) and POWO (2025), Conservation status was determined by referencing Resolution 0126 of 2024 from the Ministry of Environment and Sustainable Development, the International Union for Conservation of Nature (IUCN) Red List online database (IUCN, 2025), the "Libro Rojo de Plantas de Colombia" (Calderón-Sáenz, 2007), and the "Lista Roja de Plantas Vasculares Endémicas de la Alta Montaña de Colombia" (Baca Gamboa *et al.*, 2021). Taxonomic, biogeographic, ecological, and conservation data were also reviewed in the "Catálogo de plantas y líquenes de Colombia" and the "Plan para el estudio y la conservación de las orquídeas en Colombia" (Bernal *et al.*, 2019; Betancur *et al.*, 2015).

A Bray-Curtis dissimilarity analysis was performed in R studio (Nenadic & Greenacre, 2007) to evaluate significant differences (where 0 = identical, 1 = completely different) between the orchid species composition in this study and the records by Castellanos-Castro and Torres-Morales (2018).

Results. *Diversity.*— The 31 field trips conducted between 2017 and 2019 allowed us to identify 151 orchid species across 54 genera (Annex 1, Fig. 5–16). The most diverse genera were *Epidendrum* (23 species), *Maxillaria* Ruiz & Pav. (13 species), *Stelis* Sw. (10 species), and *Cyrtochilum* Kunth (10 species) (Fig. 2). Conversely, 30 of the genera (19.86%) included only one species, and 58 species (38.41%) were found in just one location (Table 1). To supplement the information on regional species, specimens from local herbaria such as ANDES, BOG, COL, FAUC, UDBC, HPUJ, HUQ and JBB were examined, revealing 16 species collected between 1949 and 1986 that were not identified in this study (Fig. 3).

There are significant differences between the composition of orchid species in our field study and previous records (BC = 0.799), both from herbariums and those reported by Castellanos-Castro & Torres-Morales (2018). Our findings differ greatly from other sources, indicating possible ecological changes or potential sampling biases (Fig. 3).

Life form.— Most of the species inventoried are epiphytes, which comprise 69 species (45.69%) of the total recorded. Geophytes comprise 21 species, equivalent to 13.90%, while lithophytes comprise 17 species, corresponding to 11.25% (Annex 1). Likewise, species with two life forms were identified: epiphytes-lithophytes, with 22 species representing 14.56%; epiphytes-geophytes, with 11 species equivalent to 7.28%; and lithophytes-geophytes, with 7 species constituting 4.63%. In addition, five facultative species (3.31%) were recorded: *Cyrtochilum exasperatum* (Linden & Rchb.f.) Kraenzl., *C. orgyale* (Rchb.f. & Warsz.) Kraenzl., *Epidendrum arachnoglossum* Rchb.f. ex André, *Maxillaria aurea* (Poepp. & Endl.) L.O.Williams, and *M. quelchii* Rolfe (Fig. 4).

Geographic distribution.— We identified 26 species (17.2%) as Colombian endemics and 21 species (13.9%) as binational endemics, occurring in Colombia and one neighbouring country. Sixty-seven species (44.4%) have a broader South American distribution, and 36 species (23.8%) are found across the Neotropical region. Additionally, we recorded one naturalized species, *Eulophia maculata* (Lindl.) Rchb.f., native to tropical Africa and now widespread in the Neotropics, where it

Table 1. Colombian endemic orchids recorded in San Antonio del Tequendama (Cundinamarca, Colombia). Elevation range and distribution in Colombia by departments are listed, and species that constitute a new locality for Colombia are indicated in asterisk and in bold (Betancur *et al.*, 2015). Antioquia (Ant), Boyacá (Boy), Caldas (Cal), Casanare (Cas), Cauca (Cau), Chocó (Cho), Cundinamarca (Cun), Huila (Hui), Magdalena (Mag), Meta (Met), Nariño (Nar), Norte De Santander (Nsa), Quindio (Qui), Putumayo (Put), Risaralda (Ris), Santander (San), Tolima (Tol), Valle Del Cauca (Val).

Species	Elevation above sea level		Distribution in Colombia
	Midlands (1000–1500 m)	Highlands (>1500 m)	
Acianthera adeodata* P.Ortiz, O.Pérez & E.Parra		×	Val, Cun
Acianthera serratifolia* Rinc.-González & Karremans		×	Tol, Cun
Andinia pendens (Garay) Karremans & S.V.Uribe		×	Boy, Cau, Cun, Cas
Bulbophyllum antioquiense Kraenzl.	×		Ant, Cau, Cun, Met, San, Tol
Cattleya trianae Linden & Rchb.f.	×		Cun, Hui, Tol
Comparettia macroplectron Rchb.f. & Triana	×	×	Boy, Cas, Cun, Mag, Met
Cyrtochilum baldeviamae (Rchb.f.) Kraenzl.		×	Cun
Cyrtochilum ioplocon (Rchb.f.) Dalström		×	Ant, Cal, Cun
Dracula houtteana (Rchb.f.) Luer	×	×	Ant, Cau, Cho, Cun, Ris, Tol
Dracula psittacina (Rchb.f.) Luer & R.Escobar		×	Ant, Cun
Epidendrum cleistocoleum Hágsater & E.Santiago		×	Ant, Cun, Ris, Val
Epidendrum fusagasugaënse E.Parra, Hágsater & L.Sánchez		×	Cun
Epidendrum mamapachae* Hágsater, F.O.Espinosa & E.Santiago		×	Boy, Cun
Epidendrum ortizii Hagsater & Santiago		×	Cun, San
Epidendrum scytocladium Schltr.		×	Ant, Boy, Cal, Cho, Cun, Hui, Qui, Ris, San, Tol
Epidendrum tequendamae F.Lehm. & Kraenzl.		×	Cun
Maxillaria carrilloi Christenson		×	Cun
Maxillaria tenuibulba Christenson		×	Ant, Cun, Val
Oncidium luteopurpureum (Lindl.) Beer		×	Ant, Boy, Cal, Cun, Hui, Put, Ris, San, Tol, Val
Platystele schneideri P.Ortiz		×	Ant, Boy, Cau, Cun, Val
Pleurothallis mundula Luer & R.Escobar		×	Cun, Tol
Rodriguezia granadensis (Lindl.) Rchb.f.	×	×	Ant, Boy, Cun, Mag, Nar, Nsa, San, Tol, Val
Scaphyglottis bicornis (Lindl.) Garay		×	Ant, Cau, Cun, Hui, Nsa, Ris, San
Sobralia mutisii P.Ortiz		×	Ces, Cun, Hui
Stelis alba Kunth		×	Ant, Boy, Cal, Cau, Cun, Ris
Telipogon albertii Rchb.f.		×	Cun

behaves invasively (Cohen & Ackerman, 2009; Baptiste *et al*., 2010; see Annex 1, Fig. 10B). We also provide new distribution records in Colombia for three species: *Acianthera adeodata* P.Ortiz, O.Pérez & E.Parra (Fig. 5A), *Acianthera serratifolia* Rinc.-González & Karremans (Fig. 5C), and *Epidendrum mamapachae* Hágsater, F.O.Espinosa & E.Santiago (Fig. 9B).

Altitudinal distribution.— Altitudes above 1500 m showed the greatest species richness (139 species), and a total of 48 species were recorded between 1000 and 1500 m. Finally, although no sampling was carried out in areas below 1000 m, 17 species are found in lowland areas (below 1000 m) and six species are from temperate lands (between 1000 and 1500 m).

Conservation status.— Of the 151 orchid species documented in San Antonio del Tequendama, only 11.9% (18 species) have been officially evaluated and classified as nationally threatened under IUCN-based national assessments. Among these, three species are categorized as Endangered (EN): *Cattleya trianae* Linden & Rchb.f., *Masdevallia caudata* Lindl., and *Pleurothallis mundula* Luer & R.Escobar. Another three species are listed as Vulnerable (VU): *Cyrtochilum ioplocon* (Rchb.f.) Dalström, *Dracula psittacina* (Rchb.f.) Luer & R.Escobar, and *Oncidium gloriosum* (Linden & Rchb.f.) M.W.Chase & N.H.Williams (Annex 2). The remaining 133 species (88.1%) have not yet been assessed, highlighting a gap in conservation evaluation.

Discussion. Endemism in San Antonio del Tequendama represents 1.65% of Colombia's national orchid flora, increasing to 2.98% when binational endemics are considered. This study confirms the presence of ten species endemic to Cundinamarca and twenty-six species (17.21%) endemic to Colombia. These results corroborate the high endemism levels reported for the Andean region, where at least 944 endemic orchid species have been documented (Betancur *et al*., 2018) and are consistent with the remarkable orchid richness of Cundinamarca, which ranks third nationally with 273 endemic species, including 87 restricted to the department.

This high species richness is closely linked to the presence of cloud forest ecosystems, which are affected by moisture-laden currents from the Magdalena River Valley (Ospina-Arguello & Silva-Tabio, 2015). This pattern is also seen in other tropical regions (Haber, 2000). In the Andes, orchid diversity especially of epiphytes peaks between 1000 and 2000 m in elevation, where plants take advantage of available niches, access to sunlight, and steady moisture from runoff and canopy drip (Gentry & Dodson, 1987; Granados-Sánchez *et al.*, 2003; Molina-García *et al.*, 2024; Parra-Sánchez *et al.*, 2016). In our study, 139 species (92.05%) were found above 1500 m, where diversity is highest and conservation concerns are greatest (Dressler, 1981; Willis, 2017). The reliance of epiphytes on host trees makes them vulnerable to deforestation and microclimatic changes (Benzing, 1990; Valencia, 2014).

Despite this ecological richness, threats to orchid populations are evident. Secondary forests, especially in protected areas like Cuchilla de Peñas Blancas and the Subia Integrated Management District are essential for orchid growth conservation.

Yet, these Andean remnants face increasing pressures from deforestation, selective harvesting, and climate change (Christmann *et al.*, 2023; Fay, 2018; Ospina, 1996; Parra-Sánchez *et al.*, 2016). Species such as *Dracula psittacina*, *Kefersteinia tolimensis* Schltr., *Masdevallia caudata* Lindl., and *Oncidium luteopurpureum* (Lindl.) Beer, continue to be collected for commercial purposes (Hinsley *et al.*, 2018a; Hinsley & Roberts, 2018b; Parra-Sanchez & Baquero, 2023). The rarity of species like *Cattleya trianae* and *Acianthera adeodata* likely reflects decades of extraction, severely threatening their survival (Calderón-Sáenz, 2007).

The remarkable orchid diversity in this region is characterized by the dominance of the epiphytic habit. Geophytes make up 21 species (13.90%), typically found in moist, well-preserved habitats that support stable populations (Zhang *et al.*, 2018). Lithophytes, with 17 species (11.25%), thrive in niches within humid rock formations, benefiting from the abundant mosses, liverworts, and lichens typical of cloud forests (Dressler, 1981; Viancha-Plazas & Córdoba-Cárdenas, 2019). The coexistence of diverse life forms indicates the presence of unique microhabitats in the region complexity.

Our results differ from the 163 species listed by Castellanos-Castro and Torres-Morales (2018). The difference probably comes from including cultivated specimens in the earlier study voucher specimens from the HPUJ herbarium that were not collected in their natural habitat. For example, *Maxillaria lawrenceana* (Rolfe)

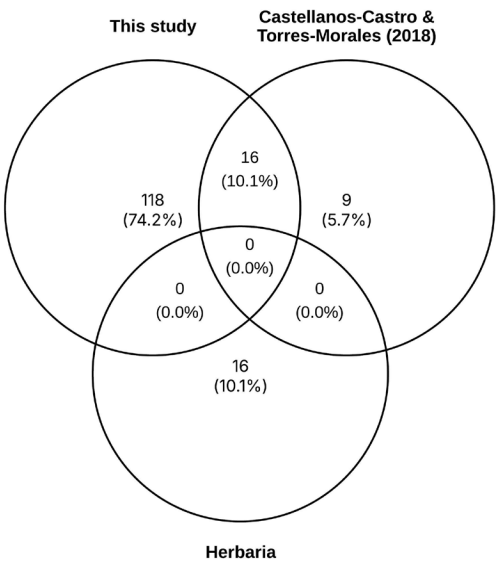

Figure 3. Venn diagram showing the number of shared and exclusive records between the current study, the study by Castellanos-Castro and Torres-Morales (2018), and local herbaria.

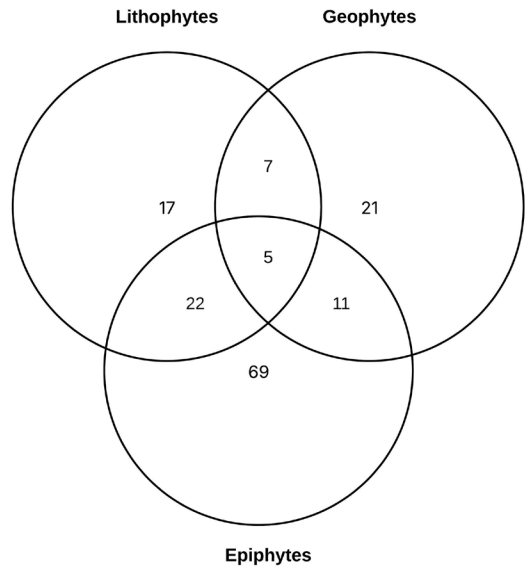

Figure 4. Distribution of orchid species according to life form in the municipality of San Antonio del Tequendama, Cundinamarca, Colombia.

Garay & Dunst., and *Masdevallia coccinea* Linden ex Lindl. are not known to occur naturally in the area. In our research, we included 16 species last collected between 1949 and 1986 that have not been reported since, indicating potential local extinction. However, our findings are consistent with other studies in Andean forests where Pleurothallidinae, Laeliinae, and Oncidiinae are predominant (Cascante-Marín & Hernández, 2019; Dressler, 1981; Orejuela-Gartner, 2012).

Finally, this study highlights the urgent need for targeted conservation efforts. Many species in the region are endemic, rare, or have not been observed in decades, as those marked in bold and with an asterisk in Annex 1, actors that increase their risk of extinction. However, knowledge of their ecology and population status remains limited. Geographic distribution data, like that presented in this study, are crucial for predictive modelling of extinction risk (Darrah *et al.*, 2017). Effective conservation in San Antonio del Tequendama should include: (1) *in situ* conservation through habitat protection and species reintroduction, (2) *ex situ* strategies including germplasm banks and nursery propagation, and (3) *circa situm* approaches involving local communities in sustainable propagation and ecotourism (Flanagan & Mosquera-Espinosa, 2016; Swarts & Dixon, 2009).

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Author contribution. Conceptualization: J.C.O.B. and G.M. Methodology: J.C.O.B., G.M., and C.C. Formal Analysis: J.C.O.B. and E.P.S. Writing – Original Draft Preparation: J.C.O.B. Writing – Review & Editing: J.C.O.B., E.P.S., and J.S.G.

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Conflict of interest. The author declares no commercial, financial, academic, or personal conflicts of interest related to this study.

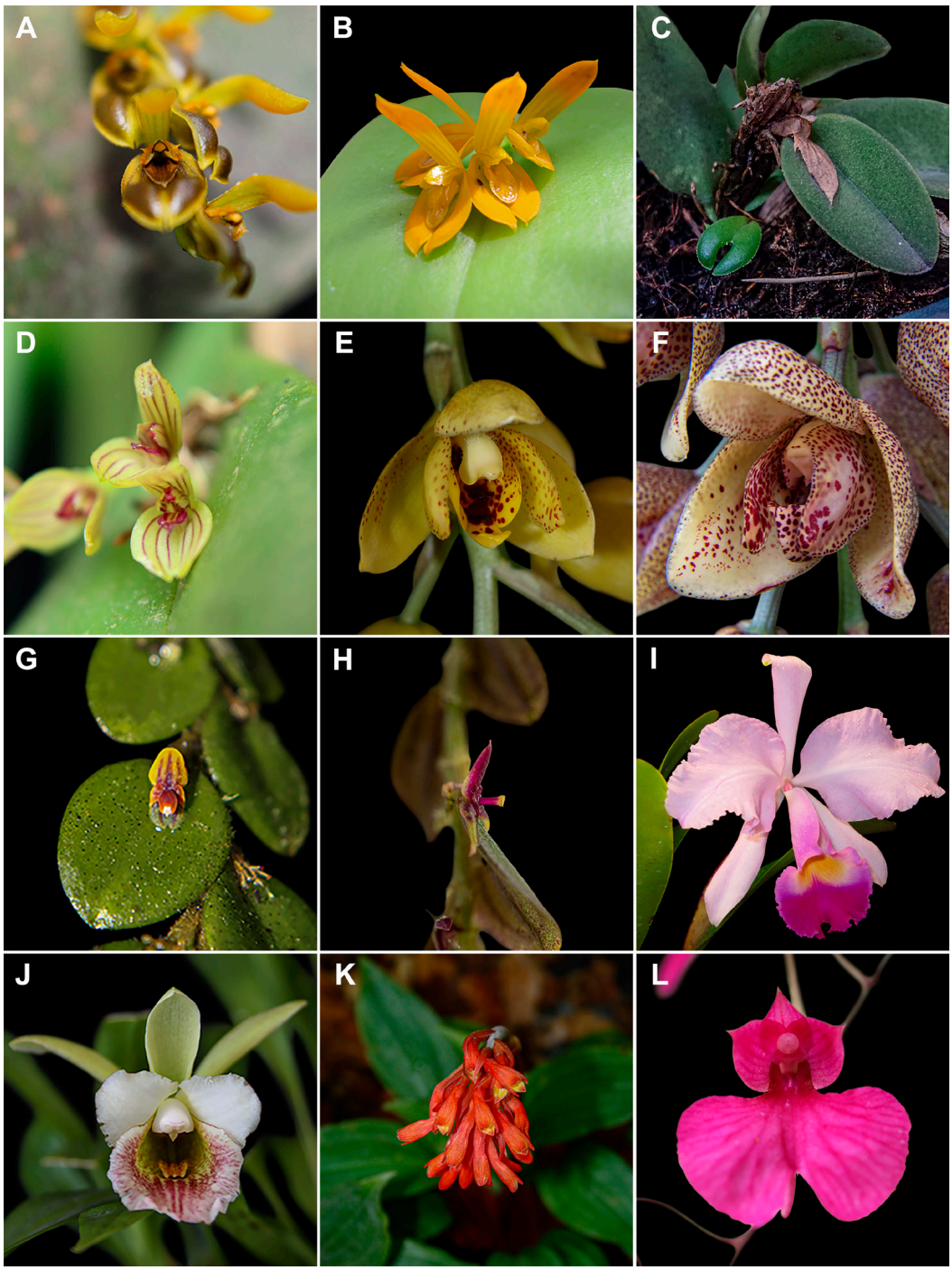

FIGURE 5. **A**. *Acianthera adeodata* P.Ortiz, O.Pérez & E.Parra. **B**. *Acianthera polystachya* (Ruiz & Pav.) Pupulin. **C**. *Acianthera serratifolia* Rinc.-González & Karremans. **D**. *Acianthera sicaria* (Lindl.) Pridgeon & M.W.Chase. **E**. *Acineta cryptodonta* Rchb.f. **F**. *Acineta superba* (Kunth) Rchb.f. **G**. *Andinia nummularia* (Rchb.f.) Karremans & S.V.Uribe. **H**. *Andinia pendens* (Garay) Karremans & S.V.Uribe. **I**. *Cattleya trianae* Linden & Rchb.f. **J**. *Chondrorhyncha hirtzii* Dodson. **K**. *Coccineorchis cernua* (Lindl.) Garay. **L**. *Comparettia falcata* Poepp. & Endl. Photos by J. C. Ordóñez-Blanco.

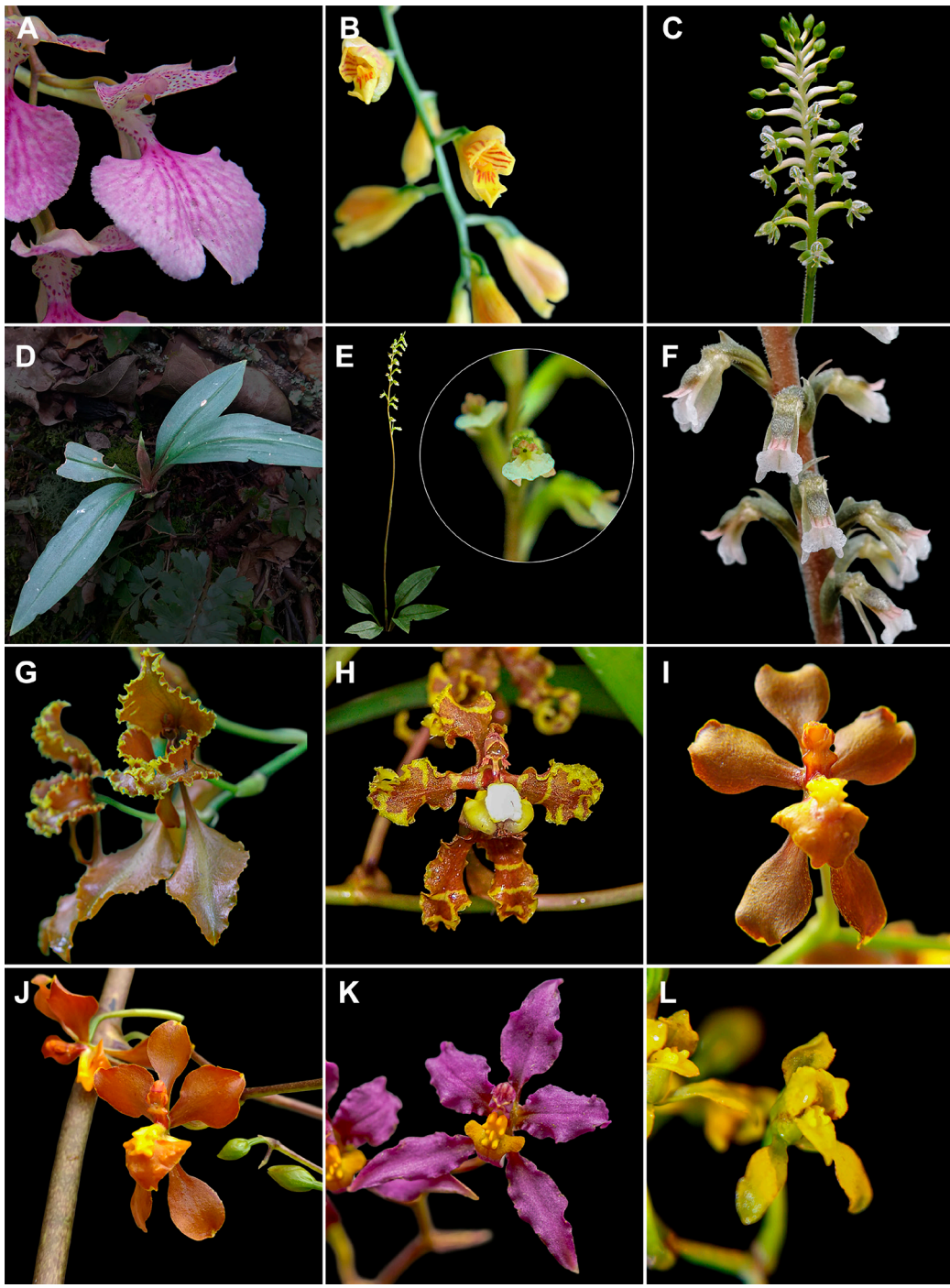

Figure 6. **A**. *Comparettia macroplectron* Rchb.f. & Triana. **B**. *Comparettia ottonis* (Klotzsch) M.W.Chase & N.H.Williams. **C**. *Cranichis antioquiensis* Schltr. **D**. *Cyclopogon* cf. *peruvianus* (C.Presl) Schltr. **E**. *Cyclopogon elatus* (Sw.) Schltr. **F**. *Cyclopogon lindleyanus* (Link, Klotzsch & Otto) Schltr. **G**. *Cyrtochilum baldeviamae* (Rchb.f.) Kraenzl. **H**. *Cyrtochilum divaricatum* (Lindl.) Dalström. **I**. *Cyrtochilum exasperatum* (Linden & Rchb.f.) Kraenzl. **J**. *Cyrtochilum flexuosum* Kunth. **K**. *Cyrtochilum ioplocon* (Rchb.f.) Dalström. **L**. *Cyrtochilum megalophium* (Lindl.) Kraenzl. Photos by J. C. Ordóñez-Blanco.

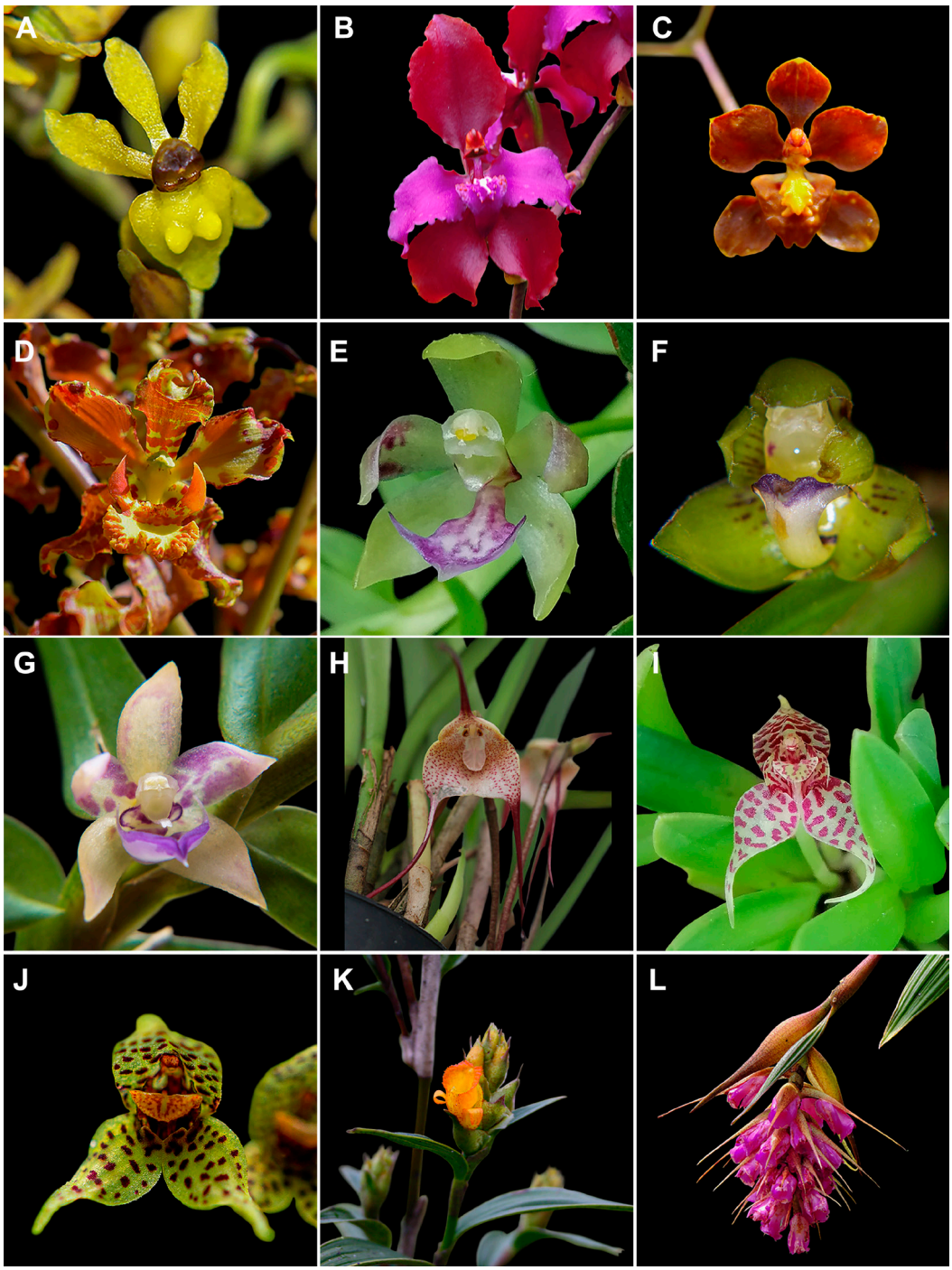

FIGURE 7. **A**. *Cyrtochilum murinum* (Rchb.f.) Kraenzl. **B**. *Cyrtochilum orgyale* (Rchb.f. & Warsz.) Kraenzl. **C**. *Cyrtochilum porrigens* (Rchb.f.) Kraenzl. **D**. *Cyrtopodium punctatum* (L.) Lindl. **E**. *Dichaea longa* Schltr. **F**. *Dichaea morrisii* Fawc. & Rendle. **G**. *Dichaea pendula* (Aubl.) Cogn. **H**. *Dracula psittacina* (Rchb.f.) Luer & R.Escobar. **I**. *Dryadella minuscula* Luer & R.Escobar. **J**. *Dryadella simula* (Rchb.f.) Luer. **K**. *Elleanthus aurantiacus* (Lindl.) Rchb.f. **L**. *Elleanthus ensatus* (Lindl.) Rchb.f. Photos by J. C. Ordóñez-Blanco.

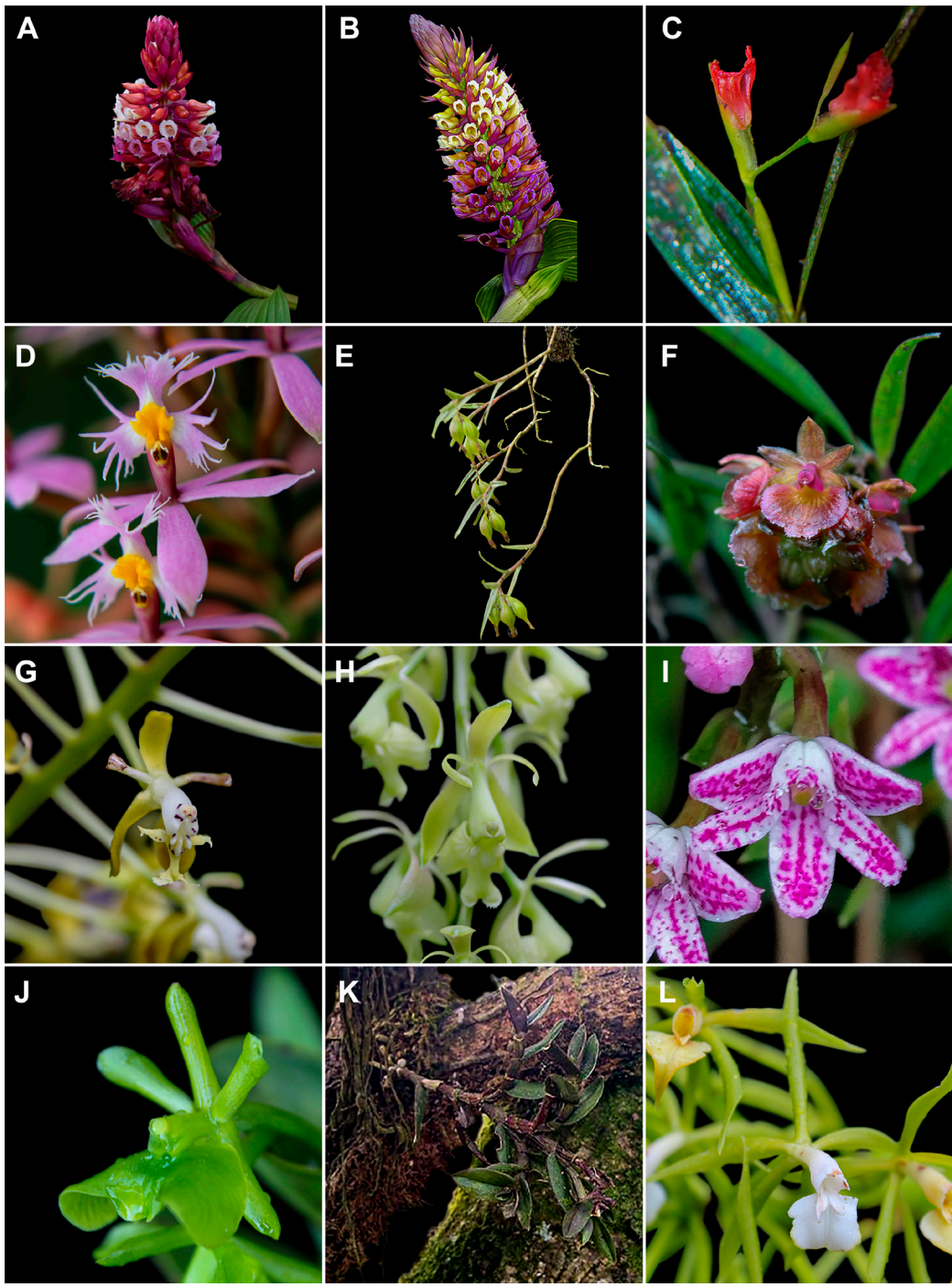

Figure 8. **A**. *Elleanthus purpureus* (Rchb.f.) Rchb.f. **B**. *Elleanthus smithii* Schltr. **C**. *Elleanthus virgatus* (Rchb.f.) C.Schweinf. **D**. *Epidendrum arachnoglossum* Rchb.f. ex André. **E**. *Epidendrum cleistocoleum* Hágsater & E.Santiago. **F**. *Epidendrum cottoniiflorum* (Rchb.f.) Hágsater. **G**. *Epidendrum cylindraceum* Lindl. **H**. *Epidendrum excisum* Lindl. **I**. *Epidendrum fimbriatum* Kunth. **J**. *Epidendrum fusagasugaënse* E.Parra, Hágsater & L.Sánchez. **K**. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson. **L**. *Epidendrum lacustre* Lindl. Photos by J. C. Ordóñez-Blanco (A–J, L) and C. Arias (K).

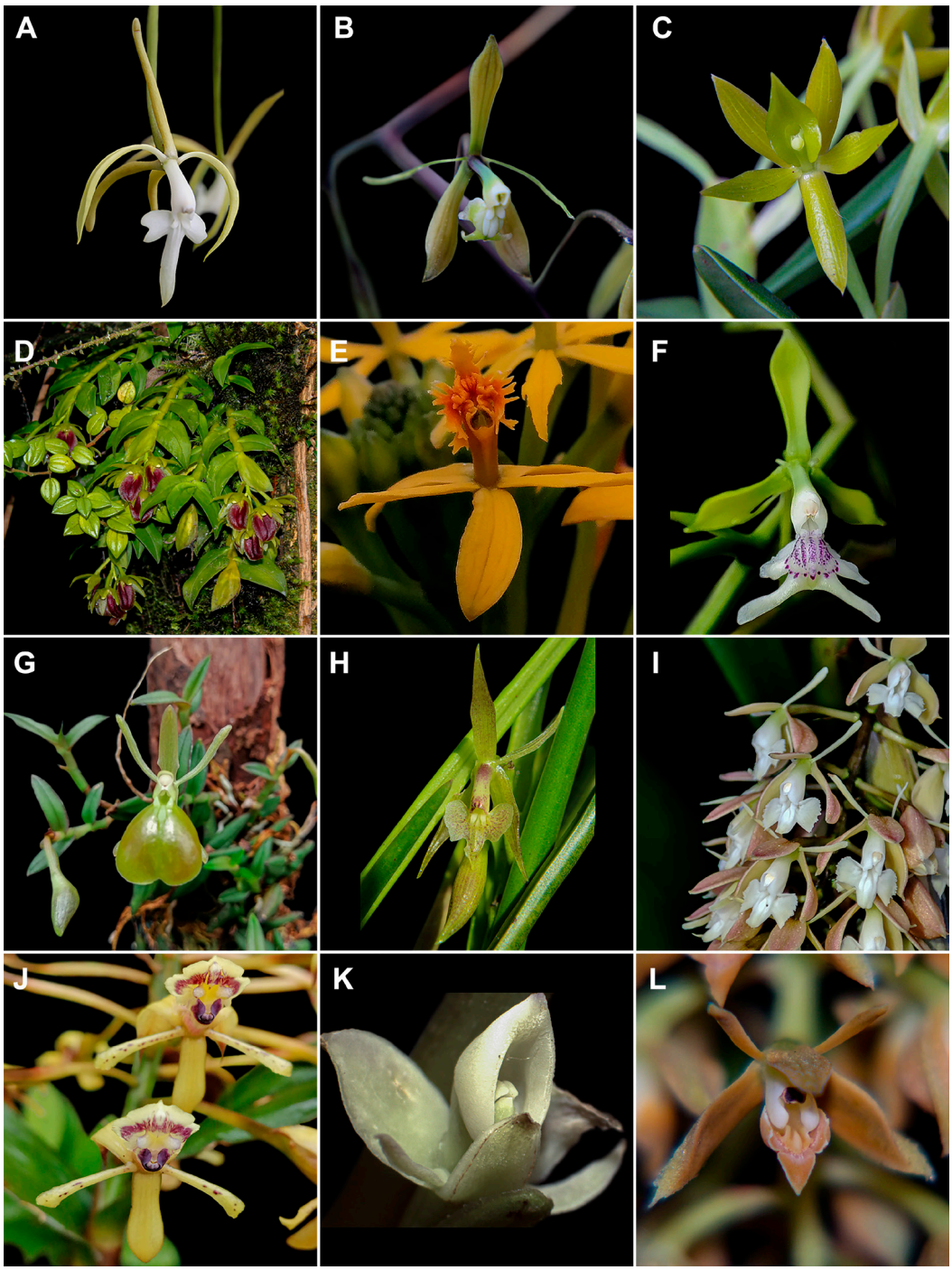

FIGURE 9. **A**. *Epidendrum leucochilum* Link, Klotzsch & Otto. **B**. *Epidendrum mamapachae* Hágsater, F.O.Espinosa & E.Santiago. **C**. *Epidendrum marsupiale* F.Lehm. & Kraenzl. **D**. *Epidendrum megalospathum* Rchb.f. **E**. *Epidendrum melinanthum* Schltr. **F**. *Epidendrum ortizii* Hagsater & Santiago. **G**. *Epidendrum peperomia* Rchb.f. **H**. *Epidendrum porquerense* F.Lehm. & Kraenzl. **I**. *Epidendrum ruizianum* Steud. **J**. *Epidendrum scytocladium* Schltr. **K**. *Epidendrum stenobractistachyum* Hágsater & E.Santiago. **L**. *Epidendrum tequendamae* F.Lehm. & Kraenzl. Photos by J. C. Ordóñez-Blanco.

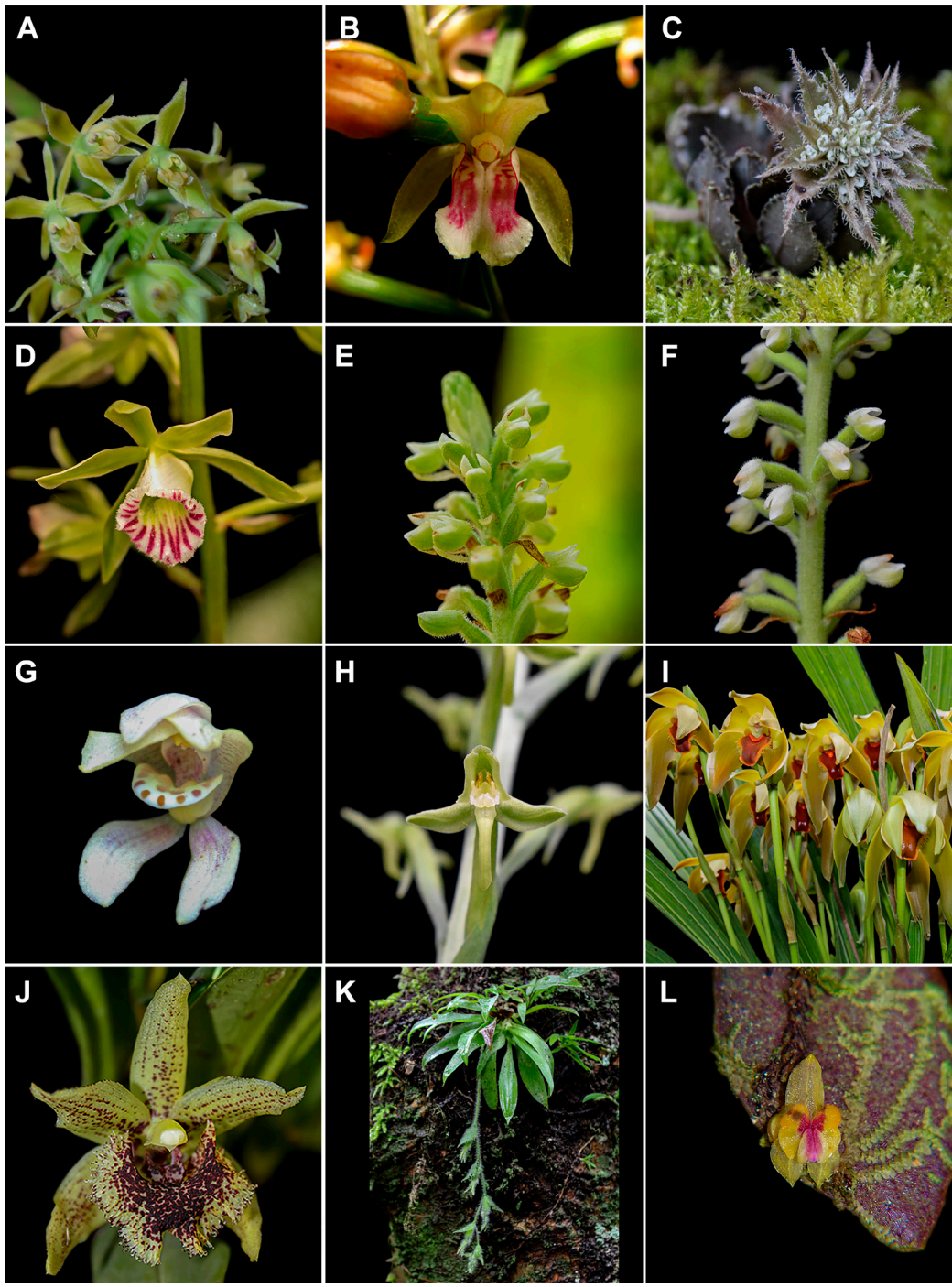

Figure 10. **A**. *Epidendrum viridialpicola* Hágsater & Ordóñez-Blanco. **B**. *Eulophia maculata* (Lindl.) Rchb.f. **C**. *Eurystyles cotyledon* Wawra. **D**. *Galeandra beyrichii* Rchb.f. **E**. *Gomphichis hetaerioides* Schltr. **F**. *Gomphichis longifolia* (Rolfe) Schltr. **G**. *Govenia fasciata* Lindl. **H**. *Habenaria floribunda* Lindl. **I**. *Ida castanea* Oakeley. **J**. *Kefersteinia tolimensis* Schltr. **K**. *Lankesterella orthantha* (Kraenzl.) Garay. **L**. *Lepanthes wageneri* Rchb. Photos by J. C. Ordóñez-Blanco.

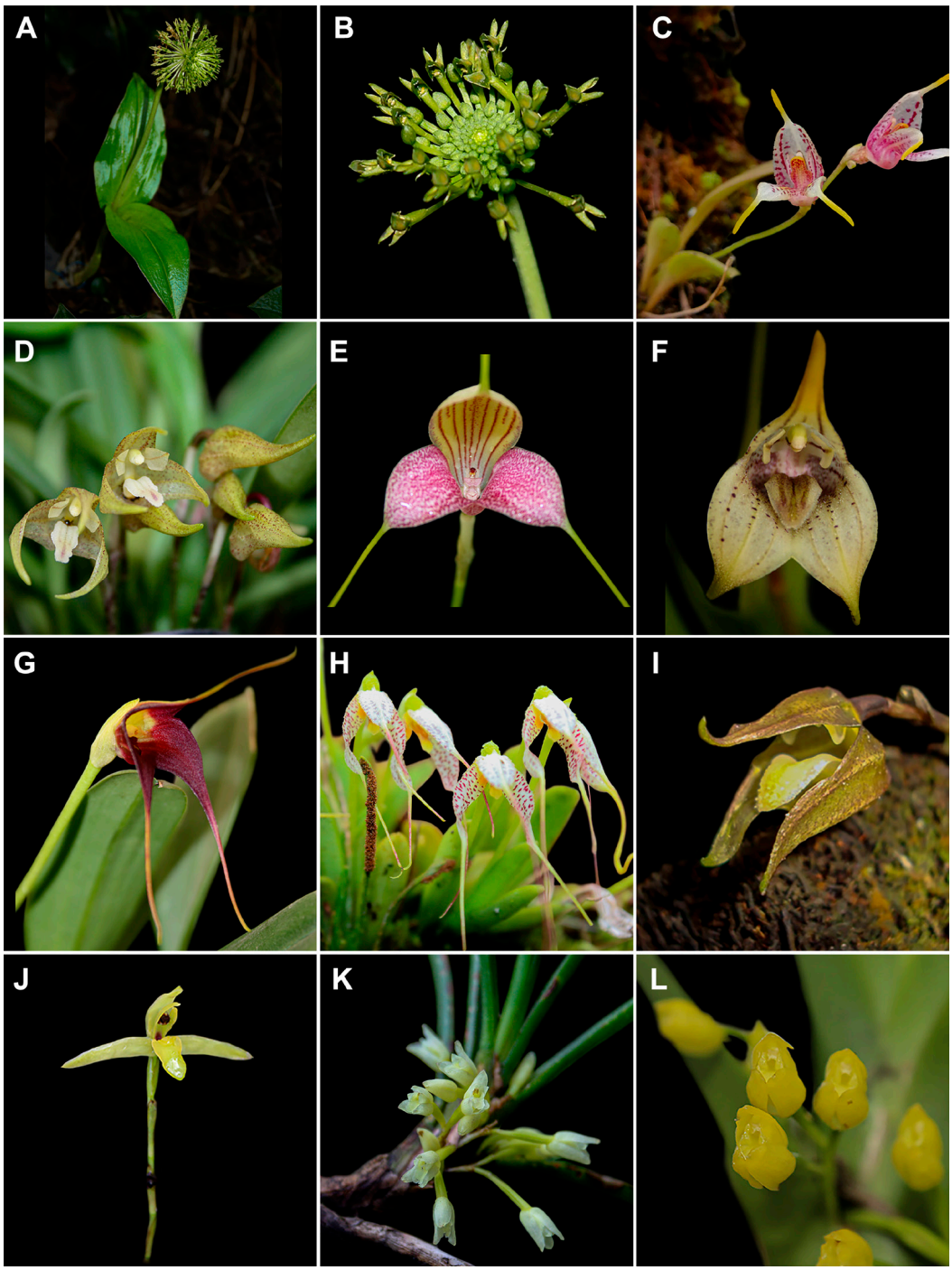

FIGURE 11. **A**. *Malaxis crispifolia* (Rchb.f.) Kuntze. **B**. *Malaxis* cf. *excavata* (Lindl.) Kuntze. **C**. *Masdevallia amanda* Rchb.f. & Warsz. **D**. *Masdevallia campyloglossa* Rchb.f. **E**. *Masdevallia caudata* Lindl. **F**. *Masdevallia coriacea* Lindl. **G**. *Masdevallia cucullata* Rchb.f. **H**. *Masdevallia picturata* Rchb.f. **I**. *Masdevallia platyglossa* Rchb.f. **J**. *Maxillaria acuminata* Lindl. **K**. *Maxillaria aggregata* (Kunth) Lindl. **L**. *Maxillaria aurea* (Poepp. & Endl.) L.O.Williams. Photos by J. C. Ordóñez-Blanco.

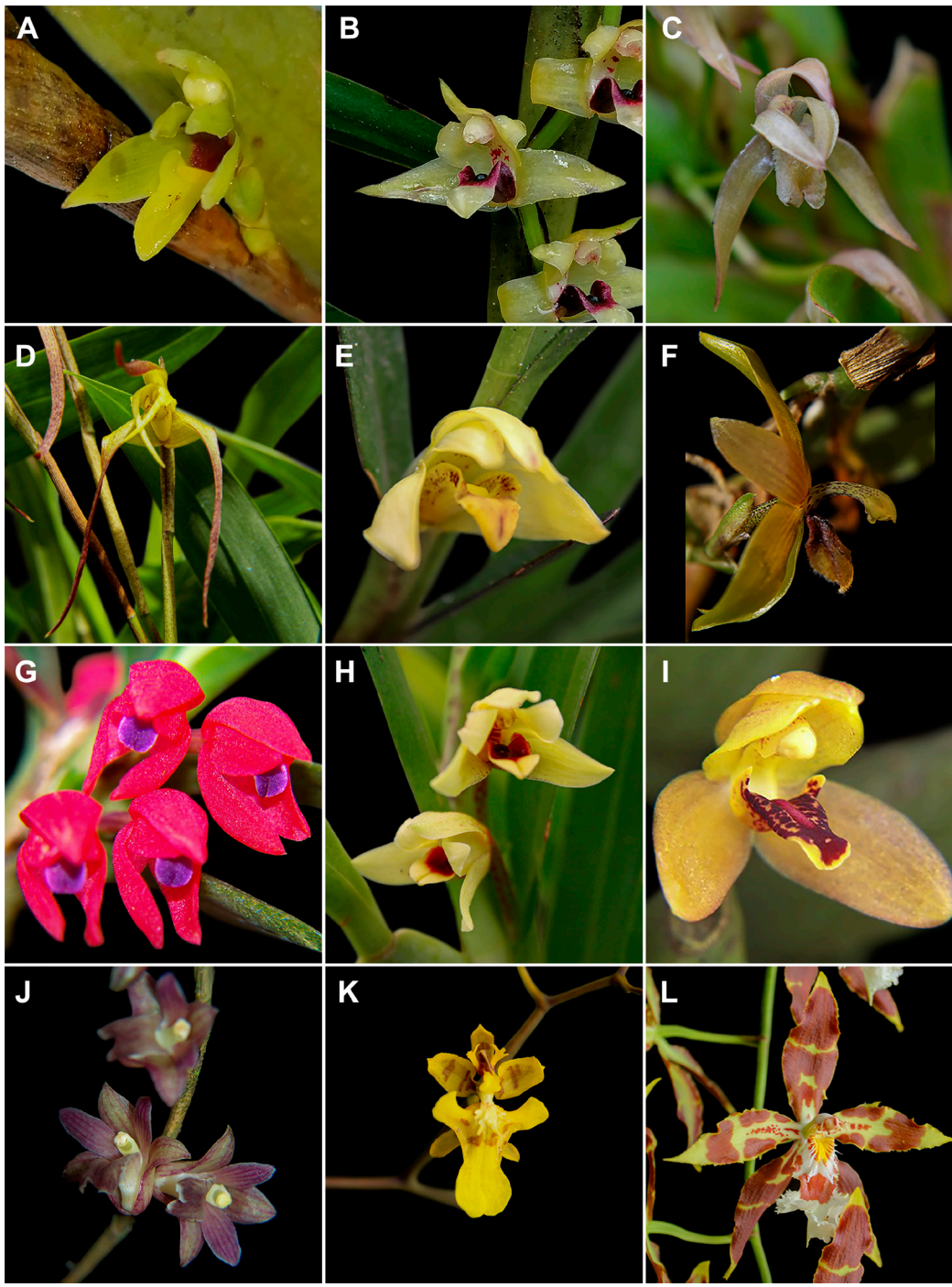

Figure 12. **A**. *Maxillaria carrilloi* Christenson. **B**. *Maxillaria cassapensis* Rchb.f. **C**. *Maxillaria fimbriatiloba* Carnevali & G.A.Romero. **D**. *Maxillaria lepidota* Lindl. **E**. *Maxillaria meridensis* Lindl. **F**. *Maxillaria rhomboglossa* (F.Lehm. & Kraenzl.) Molinari. **G**. *Maxillaria ruberrima* (Lindl.) Garay. **H**. *Maxillaria spilotantha* Rchb.f. **I**. *Maxillaria tenuibulba* Christenson. **J**. *Nemaconia striata* (Lindl.) Van den Berg, Salazar & Soto Arenas. **K**. *Oncidium lancifolium* Lindl. **L**. *Oncidium luteopurpureum* (Lindl.) Beer. Photos by J. C. Ordóñez-Blanco.

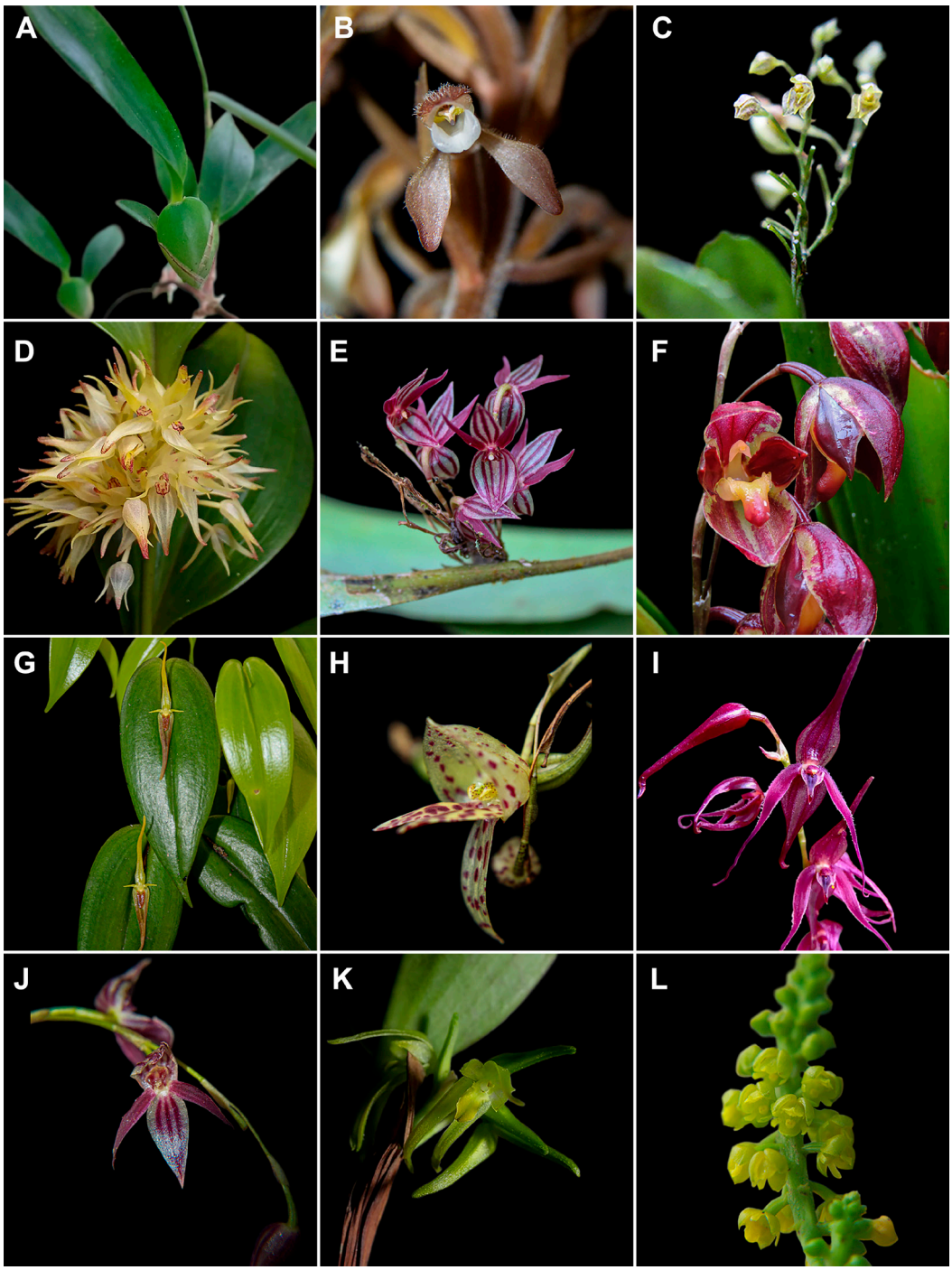

FIGURE 13. **A**. *Otoglossum globuliferum* (Kunth) N.H.Williams & M.W.Chase. **B**. *Pelexia weberbaueri* (Kraenzl.) Schltr. **C**. *Platystele schneideri* P.Ortiz. **D**. *Pleurothallis chloroleuca* Lindl. **E**. *Pleurothallis lindenii* Lindl. **F**. *Pleurothallis macrophylla* Kunth. **G**. *Pleurothallis microcardia* Rchb.f. **H**. *Pleurothallis mundula* Luer & R.Escobar. **I**. *Pleurothallis phalangifera* (C.Presl) Rchb.f. **J**. *Pleurothallis secunda* Poepp. & Endl. **K**. *Pleurothallopsis microptera* (Schltr.) Pridgeon & M.W.Chase. **L**. *Polystachya foliosa* (Hook.) Rchb.f. Photos by C. Arias (A) and J. C. Ordóñez-Blanco (B–L).

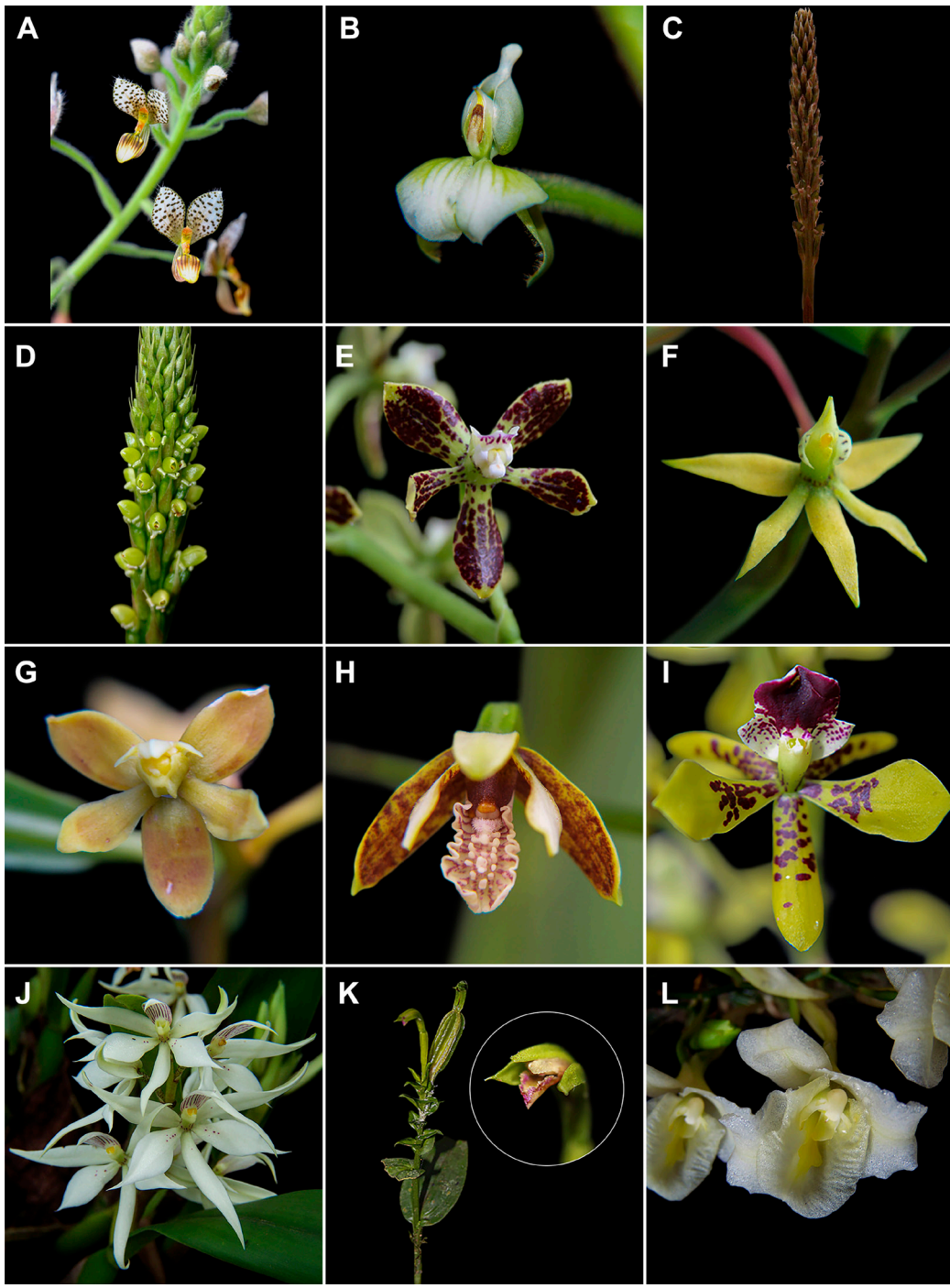

Figure 14. **A**. *Ponthieva maculata* Lindl. **B**. *Ponthieva rostrata* Lindl. **C**. *Prescottia petiolaris* Lindl. **D**. *Prescottia stachyodes* (Sw.) Lindl. **E**. *Prosthechea crassilabia* (Poepp. & Endl.) Carnevali & I.Ramírez. **F**. *Prosthechea grammatoglossa* (Rchb.f.) W.E.Higgins. **G**. *Prosthechea hartwegii* (Lindl.) W.E.Higgins. **H**. *Prosthechea livida* (Lindl.) W.E.Higgins. **I**. *Prosthechea sceptra* (Lindl.) W.E.Higgins. **J**. *Prosthechea sima* (Dressler) W.E.Higgins. **K**. *Psilochilus macrophyllus* (Lindl.) Ames. **L**. *Rodriguezia granadensis* (Lindl.) Rchb.f. Photos by J. C. Ordóñez-Blanco.

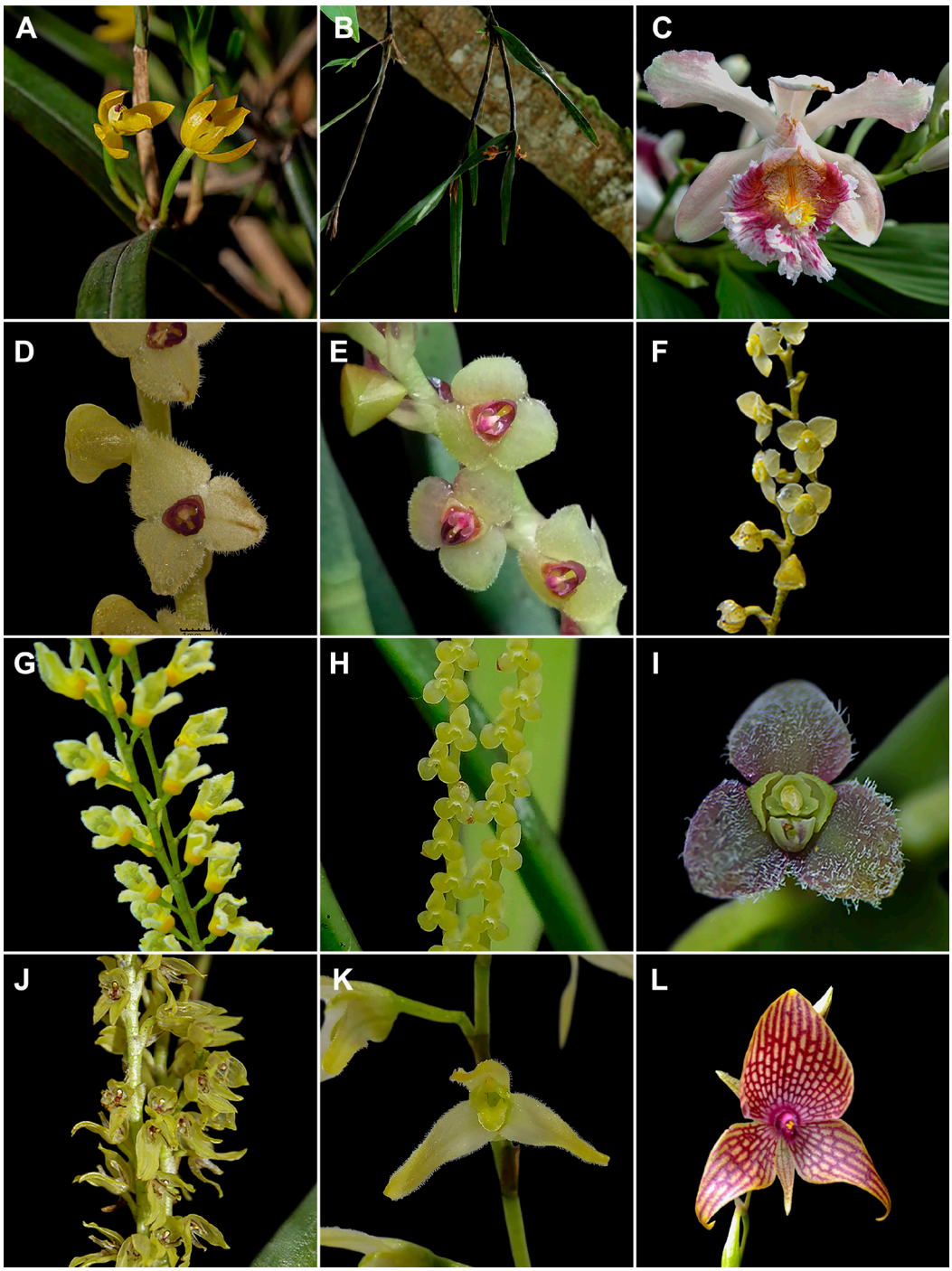

FIGURE 15. **A**. *Scaphyglottis bicornis* (Lindl.) Garay. **B**. *Scaphyglottis* sp. **C**. *Sobralia mutisii* P.Ortiz. **D**. *Stelis alba* Kunth. **E**. *Stelis angustifolia* Kunth. **F**. *Stelis ascendens* Lindl. **G**. *Stelis gelida* (Lindl.) Pridgeon & M.W.Chase. **H**. *Stelis hylophila* Rchb.f. **I**. *Stelis oblonga* (Ruiz & Pav.) Willd. **J**. *Stelis pulchella* Kunth. **K**. *Stelis spathilabia* (Schltr.) Karremans. **L**. *Telipogon albertii* Rchb.f. Photos by J. C. Ordóñez-Blanco (A, C–L) and C. Arias (B).

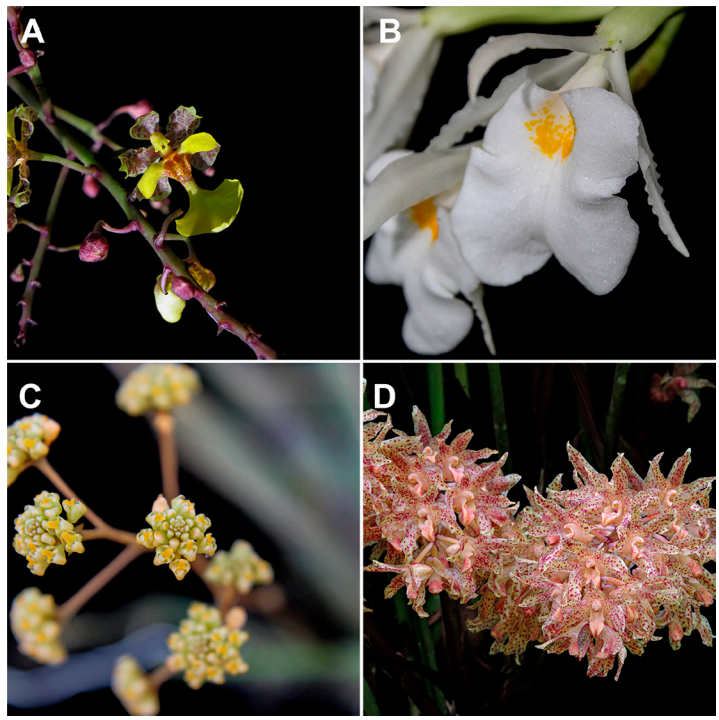

Figure 16. **A**. *Trichocentrum cebolleta* (Jacq.) M.W.Chase & N.H.Williams. **B**. *Trichopilia fragrans* (Lindl.) Rchb.f. **C**. *Trizeuxis falcata* Lindl. **D**. *Xylobium leontoglossum* (Rchb.f.) Benth. ex Rolfe. Photos: **A-D** by J. C. Ordóñez-Blanco.

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Supporting Information: Additional material related to this article is available in the online Supporting Information section.

Annex 1. List of orchids from the municipality of San Antonio del Tequendama (Cundinamarca, Colombia). Distribution (AFRICA: África; ARG: Argentina; BHS: Bahamas; BLZ: Belice; BOL: Bolivia; BRA: Brasil; COL: Colombia; CRI: Costa Rica; CUB: Cuba; CUR: Curazao; CYM: Islas Caimán; DOM: República Dominicana; ECU: Ecuador; GTM: Guatemala; GUY: Guyana; GUF: Guayana Francesa; HND: Honduras; HTI: Haití; JAM: Jamaica; MEX: México; NIC: Nicaragua; PAN: Panamá; PER: Perú; PRY: Paraguay; PRI: Puerto Rico; SLV: El Salvador; SUR: Surinam; TTO: Trinidad y Tobago; URY: Uruguay; US-FL: Florida; VEN: Venezuela), the life form (Epiphyte E, Lithophyte L, Geophyte G), the phenology (month of flowering and fruiting) and we present in the column "Other research" the specimens recorded in other research in the herbaria ANDES, BOG, COL, FAUC, UDBC, HPUJ, HUQ and JBB. In addition, species that were collected and are stored in the living collection of the Botanical Garden of Bogotá are highlighted with an ×. Species not sighted in this research are highlighted in bold.

Annex 2. Conservation status of the orchids of San Antonio del Tequendama (Cundinamarca, Colombia). Conservation status according to: Resolución 1912 de 2017 (Colombia. Ministerio de Ambiente y Desarrollo Sostenible. (2017), IUCN Red List (IUCN, 2025) and Libro Rojo de plantas de Colombia (Cálderon-Sáenz, 2007). Species not sighted in this research are highlighted in bold and with an asterisk.