BOOKS

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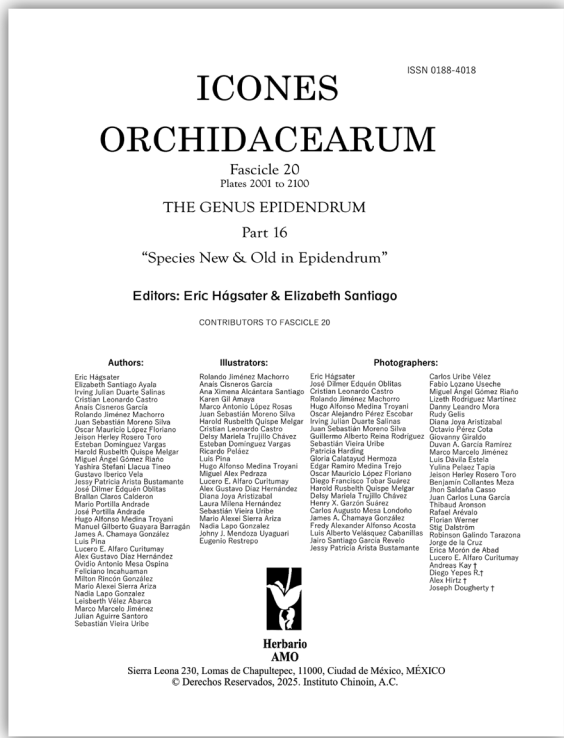

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ICONES
ORCHIDACEARUM

Fascicle 20
Plates 2001 to 2100

THE GENUS EPIDENDRUM

Part 16

"Species New & Old in Epidendrum"

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For over thirty years, *Icones Orchidacearum* has served as a key reference in the study of the species-rich genus *Epidendrum* L. It was established by Eric Hágsater and Gerardo A. Salazar to share the accumulated knowledge about this genus, particularly in Mexico. However, they recognized that a comprehensive understanding of the taxonomy of this mega genus was unattainable if limited to Mexican species alone. Since then, this publication has advanced the study of the genus for over three decades, featuring hundreds of species, describing new species to science, and clarifying obscure concepts and poorly known species across the Neotropical region.

Under the editorial leadership of Eric Hágsater and Elizabeth Santiago, *Icones Orchidacearum* continues its thorough examination of *Epidendrum* with Fascicle 20 (plates 2001–2100), titled *The Genus Epidendrum* Part 16, "New and Old Species in *Epidendrum*". As in the recent editions, this fascicle highlights an exceptional collaborative effort, involving 34 authors and co-authors, supported by 23 illustrators, 53 photographers, and 19 reviewers. The work represents a broad collaborative initiative across the Neotropics, especially in biodiversity-rich countries such as Colombia, Ecuador, and Peru. Recent volumes of *Icones Orchidacearum* feature texts evaluated by at least two external reviewers, particularly for newly described taxa, adding scholarly rigor to the series.

This issue honors the memory of geologist and renowned orchidologist Alexander C. Hirtz

(1951–2024), who made noteworthy contributions to the understanding and conservation of orchids in Ecuador. Since 1978, his scientific legacy has been documented through extensive herbarium collections and field photographs. Much of his collection formed the basis for describing at least 52 new species within *Epidendrum*, including a species he co-authored, *E. roseobicirrhatum* Hágsater & Hirtz. He passed away in Quito on July 2, 2024, but his influence endures through hundreds of specimens, photographs, and records that remain a valuable resource for the orchid community.

The core of the Fascicle 20 contains 100 texts, of which 87 are already described species. A notable new feature is the republication of 60 species that were previously illustrated only in black and white; these have now been updated with full-color digital images using the Lankester Composite Dissection Plate (LCDP) technique. These plates complement the classic inked illustrations and are particularly helpful when color distinctions are difficult to depict or when photographs can better show differences among species. This issue introduces 13 new species to science, distributed geographically as: one from Peru (*E. caducispathum* Hágsater, E.Santiago & J.Duarte), four from Ecuador (*E. callosum* Hágsater, M.Portilla & E.Santiago; *E. cubicum* Hágsater, H.Medina & J.Portilla; *E. kiat-tanii* Hágsater, E.Santiago, H.Medina & J.Portilla; and *E. parvialbertii* Hágsater & E.Santiago), seven from Colombia (*E. expansilobum* C. Castro & Hágsater; *E. juaicaense* Hágsater, L.Pina & J.Duarte; *E. julieannae* Hágsater & C.Castro; *E. noriadelapaz* Est.Domínguez, O.A.Mesa & Hágsater; *E. quilinsayacoense* Hágsater & E. Santiago; *E. rioalisalense* Hágsater & E.Santiago; and *E. sisavitaense* Hágsater & E.Santiago), and one shared between Colombia and Ecuador (*E. pseudopurum* Hágsater & Sierra-Ariza). Regarding nomenclature, the volume presents the lectotypification of *Epidendrum stramineum* Lindl., considered a synonym of *Epidendrum moritzii* Rchb.f., and the neotypification of *Epidendrum cebolleta* Schltr. (*nom. illeg.*), a synonym of *E. uribei* A. D. Hawkes.

Also, this edition stress the importance of regional herbaria as repositories and essential sources of information for understanding highly diverse genera such as *Epidendrum*. Many of the described species come from herbarium surveys, especially through multiple visits by expert taxonomists to COL, the National Herbarium of Colombia. The editors also stress the need for sustained study in underexplored areas such as northern Peru, particularly the Alto Mayo Protection Forest (BPAM) and the La Pampa del Burro Private Conservation Area, where the flora remains insufficiently documented despite its high diversity. They note that most specimens from these studies are kept at the KUELAP Herbarium (National University Toribio Rodríguez de Mendoza of Amazonas), with appropriate collection permits. The involvement of new generations of orchidologists and taxonomists, especially in Colombia and Peru, is particularly noteworthy. I am confident that, under the guidance of Eric and Elizabeth, these future researchers will continue to advance the understanding of the genus, as many areas of the Neotropics remain unexplored and numerous species await discovery.

The appendix includes corrections to previous volumes, covering amendments to information on 10 species names. Complete holotype data are provided for *E. althaniorum* Hágsater & Collantes, and it is clarified that an additional cited specimen does not exist. Elevation data have been corrected for *E. constricolumna* Hágsater, Chocce & E. Santiago and *E. croceoserpens* Hágsater & Salas Guerr. In *E. franckei* Hágsater, *E. lufinorum* Ocupa & Hágsater, *E. oenochrochilum* Hágsater, Ric.Fernández & E. Santiago, *E. porphyreodiscum* Hágsater, D. Trujillo & E. Santiago, and *E. tetartociclium* Collantes & Hágsater, collection and pressing dates have been updated. For *E. naviculare* Hágsater, M.E. Acuña & E. Santiago, one collection number has been corrected, and in *E. unifoliatum* Schltr., the collection date and elevation have been adjusted. These corrections are important for herbarium curators and researchers to ensure accurate data in their databases and studies, especially concerning taxonomy and species distribution, thereby also preventing nomenclatural issues.

One of the practical advantages of this volume is its availability in both print and free PDF formats via the AMO Herbarium website (the PDF can be downloaded at https://www.herbarioamo.org). Print copies are distributed to libraries and herbaria worldwide. While the PDF version broadens access to the information, the print edition remains the

primary and most reliable means for long-term data preservation. As a suggestion, a general index of the species names treated across the more than 20 published fascicles would be highly beneficial in the future.

Overall, *Icones Orchidacearum* is a critical reference for *Epidendrum* specialists, offering mostly high-quality illustrations along with detailed morphological descriptions, diagnoses, taxonomic and nomenclatural notes, conservation, etymology, phenology, and bibliographic references. As such, the series is also a valuable data resource for research in ecology, biogeography, morphometrics, herbarium and living collection management, and orchid conservation across the Neotropics.

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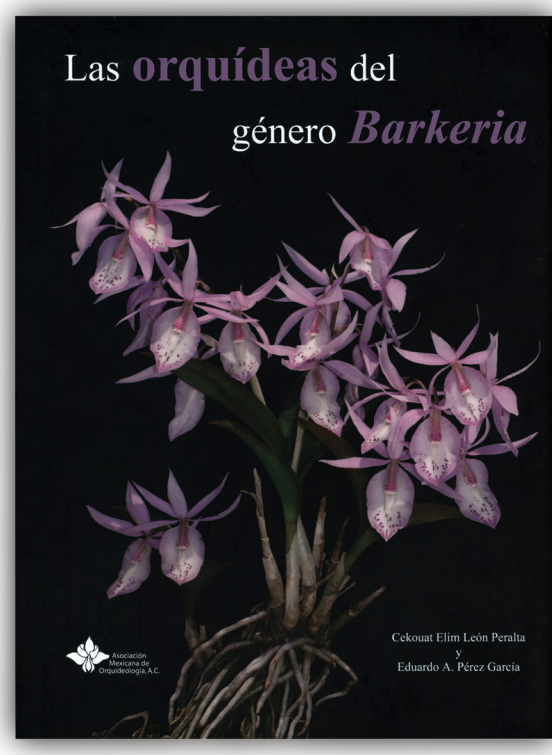
León Peralta, Cekouat, and Eduardo Alberto Pérez García. 2025. **Las orquídeas del género *Barkeria***. 1st ed. Mexico: Asociación Mexicana de Orquideología. 253 pp. 19.5 × 26 cm. Hardcover (tapa dura/cartoné). Price: MXN $500 (USD $28). ISBN 978-970-96997-0-8. Published October 31, 2025. (In Spanish).



Any serious attempt to understand *Barkeria* inevitably begins in Mexico. The genus was described in 1838 by George Beauchamp Knowles and Frederic Westcott in honor of George Barker, the English horticulturist and chemist who introduced *B. elegans* Knowles & Westc. (now regarded as a synonym of *B. uniflora* (Lex.) Dressler & Halb., the type species) to Europe. Although some of the earliest species historically linked to the group were collected in 1825 by Juan José Martínez de Lexarza and published in his *Orchidalium Opusculum* under *Pachyphyllum* Kunth (a genus in Oncidiinae, somewhat distant from Laeliinae), modern classification recognizes 18 species, 17 of which are found in Mexico with 15 endemic, making the country the center of diversity for the genus. The only species not found in Mexico is *Barkeria lindleyana* Bateman ex Lindl., endemic to Costa Rica, where it is popularly known as the "Independence flower" or "September 15th" because its peak flowering coincides with that date.

In this context, "Las orquídeas del género *Barkeria*", by Mexican biologists Cekouat Elim León Peralta and Eduardo A. Pérez García and published by the Asociación Mexicana de Orquideología, offers a modern monograph designed to provide the most up-to-date information on the genus, enable accurate species identification, and sustain the interest of a broad audience. With its monographic purpose and illustrated approach, the work evokes classic titles devoted to other orchid groups in Mexico, such as "El género *Lepanthes* Sw. en México" by Gerardo Salazar and Miguel A. Soto, or "Laelias of Mexico" by Federico Halbinger and Miguel A. Soto; yet it

also offers contributions that strengthen its value as a contemporary synthesis such as phylogenomic information, uptated conservation status and color plates for all the species of the genus. The book begins with brief chapters on general background and taxonomic history, followed by sections on vegetative and floral morphology, discussing the main organs and illustrated by schematic diagrams of the two main diagnostic growth habits present in the genus (caespitose and scandent). A comparative plate of the flattened lip view for all the species is included, and it is useful for comparing size, structure, and coloration of this diagnostic structure among the 18 species.

The book discusses the genus's distribution, which spans from southern Sonora, Mexico, through Central America into western Panama. The ecology chapter covers habitat, forest types, and common phorophytes, and it presents photographs of the habitats where the species occur. It also includes images of floral visitors, such as a *Bombus* carrying the pollinia of *B. spectabilis* Bateman ex Lindl. and a hummingbird visiting *B. whartoniana* (C.Schweinf.) Soto Arenas. Despite these observations, the authors note that pollination in *Barkeria* remains insufficiently understood. For example, one untested hypothesis is that *B. vanneriana* may mimic *Achimenes* (Acanthaceae) species because of similarities in flower color. However, the pollinators of both the orchid and *Achimenes* remain unidentified. However, clarifying species taxonomy is a critical step for advancing ecological research, and in my opinion, the book achieve this objective effectively.

The next chapter provides conservation assessments for all *Barkeria* species based on IUCN categories. Notably, *Barkeria fritz-halbingeriana* Soto Arenas is classified as Critically Endangered (CR) due to the only two known individuals. Additionally, *B. dorotheae* Halb., *B. melanocaulon* A.Rich. & Galeotti, *B. strophinx* (Rchb.f.) Halb., *B. uruapani* León-Peralta, Valdez-Partida & Pérez-García, *B. whartoniana* (C.Schweinf.) Soto Arenas, and *B. wixarika* León-Peralta & Pérez-García are categorized as Endangered (EN) because of their small, geographically close populations. Currently, the only *Barkeria* evaluated by the IUCN is *B. naevosa*, listed as Least Concern (https://www.iucnredlist.org/species/44392591/44453006); however, the authors advise classifying it as Vulnerable. Overall, these new assessments will significantly aid the development of more effective conservation policies for *Barkeria* species.

In addition, for those interested in cultivating *Barkeria*, the book offers practical guidance in the next chapter on light requirements, substrates, watering, fertilization, pests, and diseases. The scientific content is strengthened by a phylogenetic section that presents a maximum-likelihood tree based on whole plastomes from all 18 species and their close relatives. The results support a division of the genus into three main clades, referred to as the *B. lindleyana*, *B. obovata*, and *B. uniflora* groups, with maximal support. However, given the frequent conflicts between plastid and nuclear signals, the authors should test this hypothesis with multilocus nuclear data to evaluate potential supported incongruences between both datasets.

The core of the book continues with a comprehensive classic taxonomic treatment, including detailed species descriptions, a dichotomous key, etymology, common names, distribution, historical notes, identification, conservation status, and additional examined specimens. This section is richly illustrated with "Lankester Composite Disection Plates" (LCDP), photographs of flowers and plants in their natural habitats, and distribution maps for each species. Although some images are slightly out of focus or could benefit from focus-stacking, most are high-quality and clearly show color patterns and floral variations. The volume concludes with a glossary of botanical terms and a list of references.

Overall, "Las orquídeas del género *Barkeria*" provides the most comprehensive treatment of the genus to date, serving as both an authoritative monograph and a practical guide for researchers, curators, horticulturists, enthusiasts, and anyone interested in the natural history of this iconic, mostly Mexican lineage. Beyond documenting what is known, it also makes clear what remains to be studied, especially the still poorly understood pollination biology of the genus, and calls for urgent conservation of these species and their natural habitats.

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