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Review of Vellozo's Bignoniaceae: synonym detected, historical localities interpreted, and new lectotypes designated, plus epitypifications

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ABSTRACT
A comprehensive overview of the Bignoniaceae described in *Floræ Fluminensis* is provided, and all names received a careful analysis. This review includes three interpretations of original collection localities and an illustrated explanation of the differences between the collections of illustrations. Besides, each name was re-evaluated and received comments on its distribution and/or original collection location, as well as nomenclatural and taxonomic notes. Here, we propose 41 new lectotypes, two new epitypes, one new synonym, and two new orthographic variants that were recognized.

KEY WORDS
Bignonia,
Crescentia,
Rio de Janeiro,
Vellozo,
lectotypifications,
epitypifications,
new synonym.

RÉSUMÉ
Révision des Bignoniaceae de Vellozo : synonyme détecté, localités historiques interprétées et nouveaux lectotypes désignés, avec épitypifications.
Un aperçu complet des Bignoniaceae décrites dans la *Floræ Fluminensis* est présenté, et tous les noms ont fait l'objet d'une analyse rigoureuse. Cette révision comprend trois interprétations des localités de collecte originales ainsi qu'une explication illustrée des différences entre les collections d'illustrations. Par ailleurs, chaque nom a été réévalué et a reçu des commentaires sur sa distribution et/ou sa localité de collecte d'origine, ainsi que des remarques nomenclaturales et taxonomiques. Nous proposons ici 41 nouveaux lectotypes, deux nouveaux épitypes, un nouveau synonyme et deux nouvelles variantes orthographiques qui ont été reconnues.

MOTS CLÉS
Bignonia,
Crescentia,
Rio de Janeiro,
Vellozo,
lectotypifications,
épitypifications,
synonyme nouveau.

INTRODUCTION

José Mariano da Conceição Vellozo (Friar Vellozo) revealed himself as a self-taught botanist and Brazilian naturalist (Blake 1899; Nunes & Brigola 1999). Thus, Luís de Vasconcelos e Sousa (viceroy of Rio de Janeiro) put Friar Vellozo to prepare and send natural specimens to Portugal (Nunes & Brigola 1999; Pataca & Pinheiro 2005). Despite the main focus being on plants, these expeditions also resulted in the collection of insects, birds, shells, fish, and other natural history artifacts (Kury 2015; Bediaga & Lima 2015). In botanical studies, the well-known '*Floræ Fluminensis*' (FF) comprises descriptions and illustrations of 1,639 plant species from the captaincy of Rio de Janeiro (Bediaga & Lima 2015).

The expeditions to compose the FF began in 1783 and were completed in 1790 (Nunes & Brigola 1999; Pataca & Pinheiro 2005). However, botanical practices of the 18th century required expertise that was not easily obtained outside of Europe (Kury 2015). In this context, Friar Vellozo encountered challenges in obtaining recognition and publishing his work (Blake 1899; Nunes & Brigola 1999).

The first printing version of the *Floræ Fluminensis* text (up to page 352) began in 1825 and was archived in 1829; Illustrations of the species were produced over a year, in 1827, and distributed or sold in 1831. In 1881, after almost a century, the complete text was finally published (Carauta 1973). This delay in publishing the manuscripts, influenced by several factors, led to a loss of priority for many names of species proposed by Vellozo, leading to taxonomic instability (Bediaga & Lima 2015). To address that, several revision studies focused on names and/or groups (Lima 1995; Knapp *et al.* 2015; Yamamoto *et al.* 2022), including Bignoniaceae (Gentry 1975a; Nascimento *et al.* 2024a, b, c).

Bignoniaceae is represented in *Floræ Fluminensis* by 43 species placed in *Bignonia* and one in *Crescentia* (Vellozo 1829). The first attempt to revise these names was carried out by Sampaio & Peckolt (1943). These authors provided a list of names and their current designations — following the Index Kewensis. Later, Gentry (1975a) provided a more comprehensive study on the names of the *Bignonia* published in *Floræ Fluminensis*. However, Gentry (1975a) highlighted that certain issues would require further clarification in the future. In this context, to refine the treatment and complete the revision of Bignoniaceae from *Floræ Fluminensis*, we conducted a comprehensive new analysis.

MATERIAL AND METHODS

The species were identified based on analyses of the original archives available at the National Library of Rio de Janeiro (http://bndigital.bn.gov.br/acervodigital/). Taking into consideration the likelihood that the initial plates and descriptions of *Floræ Fluminensis* were originally sketched in the field, all plates of Bignoniaceae species and their descriptions were printed and taken along on field expeditions for in vivo morphology comparison. The copies of these illustrations at the Arquivo Nacional da Torre do Tombo in Portugal (https://antt.dglab.gov.pt/) were consulted. Furthermore, specimen images available through the platform databases, such as Herbário Virtual REFLORA (http://reflora.jbrj.gov.br/), Plants of the World Online – POWO (http://www.plantsoftheworldonline.org/), JSTOR – Global Plants (https://plants.jstor.org/), and TROPICOS (https://tropicos.org) were consulted for assertive identifications.

The taxonomic review had as background Gentry's (1975a) work, which was the first comprehensive review of Vellozo's names for Bignoniaceae and includes the most modern approach for Vellozo's names presented by Pastore *et al.* (2021, 2022). Therefore, all Bignoniaceae names were analyzed taxonomically, and their nomenclature was revised, including their typification. Taxonomic accounts, mainly the modern ones, based on the Brazilian flora, were consulted on the taxonomic review. The *Floræ Fluminensis* descriptions were comprehensively analyzed to interpret the correct application of the terms used by Vellozo (1829). The original descriptions and plates of the FF for Bignoniaceae were cross-checked to verify potential inconsistencies. The original plates were carefully analyzed, and the details and identity of the species illustrated were discussed for each name.

In the nomenclatural analysis, Art. 9 of the International Code of Nomenclature for algae, fungi, and plants was followed (Turland *et al.* 2025). Therefore, the original material for all names involved was verified based on the protologue information available, and their historical context was also considered with the support of the information present in the Taxonomic Literature – II (Stafleu & Cowan 1976-1988). Also, several digital images of specimens were consulted, mainly in large databases available, especially Herbário Virtual REFLORA, JABOT (http://jabot.jbrj.gov.br/v3/consulta.php), JSTOR (https://plants.jstor.org/), and speciesLink (https://specieslink.net/search/). Vellozo's names were typified following Pastore *et al.* (2022) recommendations. Therefore, the lectotypes were selected on the original (non-published) plates available at the Biblioteca Nacional in Rio de Janeiro (BN), which were consulted online at the following site https://bdlb.bn.gov.br.

Lastly, the original collection localities were interpreted following Pastore *et al.* (2021), and this information was compiled in Table 1, including all Bignoniaceae names in FF and their original toponyms associated. Additionally, three places were interpreted here.

In the current taxonomic treatment presented below, all accepted names were presented in bold plus italics. Synonyms or names that remain as *incertae sedis* were presented in italics only.

Abbreviations

Herbaria

B	Herbarium, ZE Botanischer Garten und Botanisches Museum, Freie Universität Berlin;
BM	Herbarium, The Natural History Museum, London;
C	Herbarium, University of Copenhagen;
F	Herbarium, Field Museum of Natural History, Chicago;
FB	Herbarium, Albert-Ludwigs Universität, Freiburg;

CJBG-G	Herbarium, Geneva;
G-DC	Jardin botanique de Genève, De Candolle collection;
HAL	Herbarium, Martin-Luther-Universität, Halle;
HBG	Herbarium, University of Hamburg;
HUEFS	Herbarium, Universidade Estadual de Feira de Santana;
K	Herbarium, Royal Botanic Gardens, Kew;
LE	Herbarium, Komarov Botanical Institute of RAS, Saint Petersburg, Russia;
M	Herbarium, SNSB-Botanische Staatssammlung München;
MO	Herbarium, Missouri Botanical Garden, Saint-Louis;
NY	Herbarium, The New York Botanical Garden;
P	Herbarium, Muséum national d'Histoire naturelle, Paris;
P-LA	Muséum national d'Histoire naturelle, Herbarium, Lamarck collection;
RBR	Herbarium, Universidade Federal Rural do Rio de Janeiro;
S	Herbarium, Swedish Museum of Natural History, Stockholm;
SJRP	Herbarium, UNESP, Campus São José Rio Prêto;
SP	Herbarium, Instituto de Pesquisas Ambientais, São Paulo;
SPF	Herbarium, Universidade de São Paulo;
UEC	Herbarium, Universidade Estadual de Campinas;
US	Herbarium, Smithsonian Institution, Washington;
VIES	Herbarium, Federal University of Espírito Santo;
W	Herbarium, Naturhistorisches Museum Wien/Natural History Museum, Vienna;

Brazilian states

RJ	Rio de Janeiro;
RS	Rio Grande do Sul;
SC	Santa Catarina;
SP	São Paulo.

Other abbreviations

BN	Institution, Biblioteca Nacional do Rio de Janeiro;
FF	*Floræ Fluminensis*;
ICN	International Code of Nomenclature for Algae, Fungi, and Plants (Madrid Code);
INPA	Instituto Nacional de Pesquisas da Amazônia, Amazonas;
LINN	Linnean Society of London, London;
MBM	Museu Botânico Municipal, Paraná;
RB	Jardim Botânico do Rio de Janeiro.

RESULTS AND DISCUSSION

The plants collected on Vellozo's expeditions were deposited and registered in the library of the Museum da Ajuda (Portugal) with the name '*Nomes vulgares d'algumas plantas do Rio de Janeiro reduzidos aos triviais do systema de Linneo, e da Floræ Fluminense do P.de Velloso. 1790*' (Nunes & Brigola 1999). In the meantime, his herbarium has not been located since then, and without the original gatherings, the typification of the names is done based on the illustrations that constitute the unique original material. Thus, according to Art. 9.3. and 9.4 of the ICN, when the holotype is lost or destroyed, it is possible to designate a lectotype based on original elements (Turland *et al.* 2025).

In the selection of lectotypes to Vellozo's names, it is important to note that there are three sets of materials (Pastore *et al.* 2022): 1) the published plates (Vellozo 1831) that began to be produced after the death of Friar Vellozo and, therefore, are not part of the original material of names published in 1829 (Costa-Lima & Chagas 2021); 2) the complete set of illustrations deposited in the *Biblioteca Nacional do Rio de Janeiro*; and 3) an incomplete set at the *Arquivo Nacional da Torre do Tombo*, Lisbon. The drawings of BN belonged to Queen D. Maria I of Portugal and possibly served as the base for the plates published in 1831, which are Torre do Tombo's plates belonging to the Viceroy Luís de Vasconcelos e Sousa. Still, they have differences, as observed in *Bignonia ignea* (Fig. 1), which suggests that the BN's illustrations are the first elaborated set and those in the Torre do Tombo ones are copies of these (Pastore *et al.* 2022).

Also, it was noticed that many names do not present terms related to the original vegetation and/or the location where the plants were collected. Among these names, 44 in total, 14 do not include information about phenology, collection location, and/or vegetation (*Bignonia convoluta* Vell., *B. cymosa* Vell., *B. dichotoma* Vell., *B. elegans* Vell., *B. exoleta* Vell., *B. flavescens* Vell., *B. grandifolia* Vell., *B. hirta* Vell., *B. longa* Vell., *B. longisiliqua* Vell., *B. perianthomega* Vell., *B. rego* Vell., *B. triflora* Vell., and *B. unguiculata* Vell.). Furthermore, all previous studies designated a neotype instead of a lectotype, because the authors treated the names anchored to Vellozo's (1831) illustrations. Considering that the only known complete set of original material is the illustrations deposited at the Biblioteca Nacional Digital, these illustrations can be considered as lectotypes, whereas the published plates, when selected as lectotypes are considered neotypes instead (Art. 9.16 of the ICN, Turland *et al.* 2025). Additionally, according to Art. 9.8 of the ICN, a neotype is selected when the original material does not exist (Turland *et al.* 2025), therefore, the neotypes are superseded once the original material – the plates at BN – is available.

However, as previously seen, all the *Bignonia* names had mistaken lectotypification because the responsible for the analysis mentioned or used the plates published in the *Floræ Fluminensis*. Even in the most recent studies, it was possible to find these cases (Sandwith & Hunt 1974; Lohmann & Taylor 2014; Fonseca & Lohmann 2019; Fonseca 2024). However, there are studies that made the correct typification with archives of BN, even without citing the illustration copies at Torre do Tombo (Knapp *et al.* 2015; Pellegrini *et al.* 2015; Milward-de-Azevedo 2017). Gentry (1975a) does not have a direct indication of the typification of the species. However, his comments cited 'based on' plus the name provided by Vellozo and the specific information about the plate of species. Thus, based on Art. 7.11 of the ICN (Turland *et al.* 2025), we are considering the indication of the plates published by Vellozo (1831) as a clear 'type element' for his decision and, consequently, as the typification of some of Vellozo's names of Bignoniaceae. Additionally, Fonseca *et al.* (2017) shared the same interpretation and considered the mention by Gentry (1975a) as a typification.

In Gentry (1975a), all names of *Bignonia* were analyzed on five topics: 'Established names'; 'Existing but little-used combinations'; 'Later homonyms'; 'Junior synonyms', and 'Names

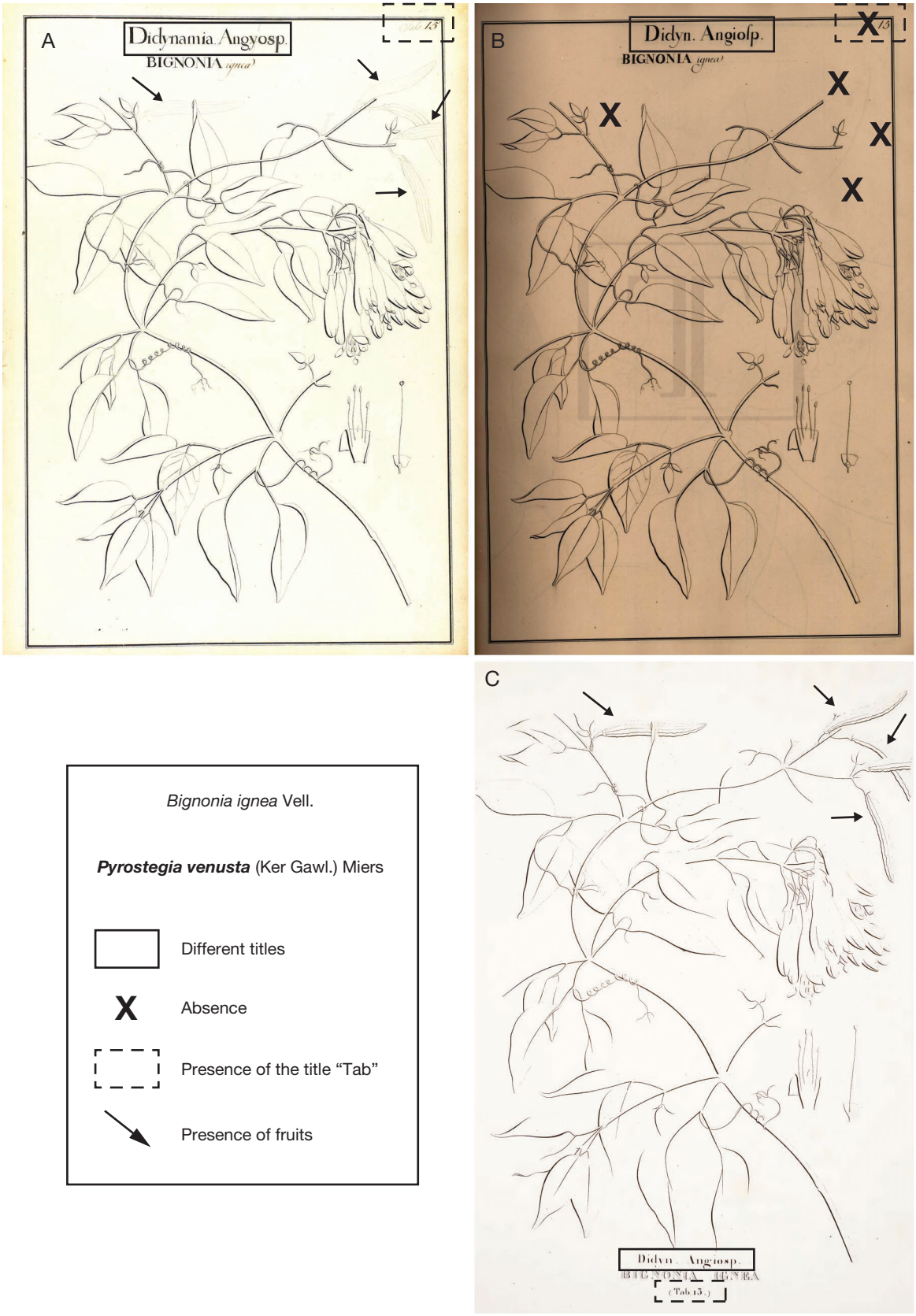

FIG. 1. — Illustration of *Bignonia ignea* Vell.: **A**, lectotype; **B**, copy of illustration; **C**, published plate (Vellozo 1831). Source: *Biblioteca Nacional do Rio de Janeiro, Torre do Tombo* and Vellozo (1831).

TABLE 1. — All Vellozo's Bignoniaceae original names, their localities (or not), and currently accepted names.

Vellozo's name	Localities [Interpretation]	Currently accepted name
Bignonia angrensis	*Habitat stivis maritimis Angrensibus* [Angra dos Reis, Rio de Janeiro].	Unknown
Bignonia arvensis	*Habitat campis apricis mediterraneis trans-alpinis* [The stretch in RJ before the SP border, known locally nowadays as 'Virada da Serra'].	*Anemopaegma arvense* (Vell.) Stellfeld ex J.F.Souza
Bignonia caroba	*Campis apricis mediterraneis habitat* [It is the typical savanna (Cerrado) vegetation in SP state].	*Jacaranda caroba* (Vell.) DC.
Bignonia coccinea	*Habitat silvis mediterraneis* [presumably from the municipality of Cunha].	Unknown
Bignonia coito	*Habitat silvis maritimis ad declivia Alpium* Jerissinò [Bocaína mountain area in direction to Cunha/SP].	*Bignonia corymbosa* Vent.
Bignonia conjugata	*Habitat silvis maritimis Regii Prædii S. Crucis* [Royal Santa Cruz farm in the Southwest of Rio de Janeiro State].	*Fridericia conjugata* (Vell.) L.G.Lohmann
Bignonia convoluta	[without locality data].	*Cuspidaria convoluta* (Vell.) A.H.Gentry
Bignonia cordata	*Habitat silvis maritimis Pharmacopolitanis* [Paraty municipality in Rio de Janeiro state].	*Lundia corymbifera* (Vahl) Sandwith
Bignonia curialis	*Habitat silvis maritimis, et mediterraneis* [the ambiguous occurrence in RJ and SP].	*Jacaranda jasminoides* (Thunb.) Sandwith
Bignonia cymosa	[without locality data].	Unknown
Bignonia dichotoma	[without locality data].	*Tanaecium pyramidatum* (Rich.) L.G.Lohmann
Bignonia digitalis	*Habitat campis apricis mediterraneis, trans-alpinis* [The stretch in RJ before the SP border, known locally nowadays as 'Virada da Serra'].	*Zeyheria montana* Mart.
Bignonia elegans	*Oſſendi ail viam publicam prope Molendinum Sacchariferum vulgo dictum Lamarão* [Rio de Janeiro city].	*Fridericia elegans* (Vell.) L.G.Lohmann
Bignonia elliptica	*Habitat silvis mediterraneis trans-alpinis prope prædium dictum Boavista* [The Chapel of São José da Boa Vista in Cunha/SP].	*Jacaranda macrantha* Cham.
Bignonia exoleta	[without locality data].	*Dolichandra unguis-cati* (L.) L.G.Lohmann
Bignonia falcata	*Habitat silvis maritimis Pharmacopolitanis* [Paraty municipality in Rio de Janeiro state].	*Amphilophium falcatum* (Vell.) L.G.Lohmann
Bignonia fasciculata	*Habitat silvis maritimis Regii Prædii S. Crucis* [Royal Santa Cruz farm in the Southwest of Rio de Janeiro State].	*Tynanthus fasciculatus* (Vell.) Miers
Bignonia flavescens	[without locality data].	*Handroanthus serratifolius* (Vahl) S.O.Grose
Bignonia fluminensis	*Habitat silis maritimis* [Rio de Janeiro state].	*Pleonotoma fluminensis* (Vell.) A.H.Gentry
Bignonia grandifolia	[without locality data].	*Adenocalymma grandifolium* Mart. ex DC.
Bignonia heptaphylla	*Habitat silvis maritimis* [Rio de Janeiro state].	*Handroanthus heptaphyllus* (Vell.) Mattos
Bignonia hirta	[without locality data].	*Cuspidaria simplicifolia* DC.
Bignonia ignea	*Habitat fruticetis mediterraneis* [presumably from the municipality of Cunha].	*Pyrostegia venusta* (Ker Gawl.) Miers
Bignonia leucantha	*Habitat silvis maritimis* [Rio de Janeiro state].	*Sparattosperma leucanthum* (Vell.) K.Schum.
Bignonia leucoxylla	*Hunc oſſendi apud scaturiginem fluvii Taguahy* [Rio de Janeiro state].	*Tabebuia obtusifolia* (Cham.) Bureau
Bignonia longa	[without locality data].	*Lundia longa* (Vell.) DC.
Bignonia longiflora	*Habitat silvis maritimis Pharmacopolitanis* [Paraty municipality in Rio de Janeiro state].	*Handroanthus speciosus* (DC. ex Mart.) M.Nascim., J.F.B.Pastore & Zuntini
Bignonia longisiliqua	[without locality data].	*Stizophyllum perforatum* (Cham.) Miers
Bignonia obovata	*Habitat silvis maritimis, campisque* [fields in Rio de Janeiro state].	*Jacaranda puberula* Cham.
Bignonia pedunculata	*Habitat campis apricis mediterraneis* [It is the typical savanna (Cerrado) vegetation in SP state].	*Adenocalymma pedunculatum* (Vell.) L.G.Lohmann
Bignonia perianthomega	[without locality data].	*Perianthomega vellozoi* Bureau
Bignonia quinquefolia	*Habitat silvis Phannæopolitanis* [Paraty municipality in Rio de Janeiro state].	*Cybistax antisyphilitica* (Mart.) Mart.
Bignonia rego	[without locality data].	*Fridericia rego* (Vell.) L.G.Lohmann
Bignonia scandens	*Habitat silvis maritimis* [Rio de Janeiro state].	*Anemopaegma chamberlaynii* (Sims) Bureau & K.Schum.
Bignonia squalus	*Habitat maritimis* [Rio de Janeiro state].	*Amphilophium crucigerum* (L.) L.G.Lohmann
Bignonia tababuya	*Habitat maritimis au loca inundata, vel a mari, vel a fluviis* [Rio de Janeiro state].	*Tabebuia cassinoides* (Lam.) DC.
Bignonia ternata	*Habitat silvis maritimis* [Rio de Janeiro state].	Unknown
Bignonia triflora	[without locality data].	*Cuspidaria pulchella* (Cham.) K.Schum.
Bignonia trifoliata	*Habitat maritimis Regii. Prædii S. Crucis* [Royal Santa Cruz farm in the Southwest of Rio de Janeiro State].	*Adenocalymma trifoliatum* (Vell.) R.C.Laroche
Bignonia triphylla	*Habitat maritimis Pharmacopolitanis* [Paraty municipality in Rio de Janeiro state].	*Pleonotoma tetraquetra* (Cham.) Bureau

Table 1. — Continuation.

Vellozo's name	Localities [Interpretation]	Currently accepted name
Bignonia tuberculosa	*Habitat silvis maritimis Pharmacopolitanis* [Paraty municipality in Rio de Janeiro state].	*Zeyheria tuberculosa* (Vell.) Bureau
Bignonia unguiculata	[without locality data].	*Dolichandra unguiculata* (Vell.) L.G.Lohmann
Bignonia unguis	*Habitat silvis maritimis Paratyensibus* [Paraty, Rio de Janeiro].	*Dolichandra unguis-cati* (L.) L.G.Lohmann
Crescentia cuyeté	*Habitat tum maritimis, tum mediterraneis* [the ambiguous occurrence in RJ and SP].	*Crescentia cujete* L.

previously unaccounted for'. For this reason, he organized each name based on the evaluation and description of morphological characteristics under nomenclatural analysis. In this way, ten names were synonymized: *Bignonia coito* Vell., *B. cordata*, *B. exoleta*, *B. flavescens*, *B. ignea*, *B. quinquefolia* Vell., *B. scandens* Vell., *B. squalus* Vell., *B. tababuya* Vell., and *B. unguis* Vell.; ten later homonyms were detected: *Bignonia coccinea* Vell., *B. dichotoma*, *B. elliptica* Vell., *B. grandifolia*, *B. leucoxylla* Vell., *B. longa*, *B. longiflora* Vell., *B. longisiliqua*, *B. obovata* Vell., and *B. triphylla* Vell.; four new combinations proposed: *Cuspidaria convoluta* (Vell.) A.H. Gentry (based on *Bignonia convoluta*), *Arrabidaea elegans* (Vell.) A.H. Gentry (based on *Bignonia elegans*), *Pleonotoma fluminensis* (Vell.) A.H. Gentry (based on *Bignonia fluminensis* Vell.), and *Parabignonia unguiculata* (Vell.) A.H. Gentry (based on *Bignonia unguiculata*). Besides, other five names remained with no precise solution: *B. angrensis* Vell., *B. cymosa*, *B. falcata* Vell., *B. hirta*, and *B. triflora*.

Before Gentry (1975a), Laroche (1973) had already utilized the plates published in Vellozo (1831) as the 'type element' for *Bignonia trifoliata* Vell. and *B. grandifolia*. However, these illustrations were published subsequently to the protologue (Vellozo 1829) and cannot be considered as the 'type' since there is unpublished material from 1790 housed at BN. In the following years, Sandwith & Hunt (1974) treated five species (*B. angrensis*, *B. dichotoma*, *B. ignea*, *B. quinquefolia*, and *B. rego*) and also used the plates published in Vellozo (1831) as 'type element'. Years later, Pool (2007) treated and designated the lectotype for *Bignonia squalus* and *B. falcata*. However, like Laroche (1973), Sandwith & Hunt (1974), and Gentry (1975a), she also used the plates published by Vellozo (1831) as the 'type element', which is deemed inappropriate. In addition, Lohmann & Taylor (2014) referenced the typifications made by Laroche (1973) and Pool (2007) and made 14 inappropriate designations (*Bignonia arvensis* Vell., *B. conjugata* Vell., *B. convoluta*, *B. cordata*, *B. elegans*, *B. fasciculata*, *B. fluminensis*, *B. longa*, *B. pedunculata* Vell., *B. perianthomega*, *B. rego*, *B. scandens*, *B. ternata* Vell., and *B. unguiculata*). Besides, other recent studies referenced these inappropriate typifications (Udulutsch *et al.* 2013; Fonseca *et al.* 2017; Fonseca & Lohmann 2019). Thus, all previous lectotypes designated to Vellozo's names are considered neotypifications and, following Art. 9.19 of the ICN (Turland *et al.* 2025) are superseded here. Moreover, the illustration's copies stored in Torre do Tombo were also indicated in the nomenclatural notes.

Additionally, it was necessary to clarify the epitypifications for *Adenocalymma trifoliatum* (Vell.) R.C.Laroche and *Amphilophium falcatum* (Vell.) L.G.Lohmann. Under note 8 in Art. 9.20 of the ICN, an epitype supports only the type to which it is linked by the typifying author. So, if the supported type is substituted, the epitype has no validity, and for this, all epitypes previously proposed to Vellozo Bignoniaceae names also need to be designated (Turland *et al.* 2025).

Adenocalymma trifoliatum was recently treated by us, and it was perceived that just its lectotype (see *Bignonia trifoliata* treatment) does not contain conclusive details of species recognition. Because of this, an epitype was provided to help apply the name. *Amphilophium falcatum* also had the epitypification based on the neotype superseded here, being necessary to designate the epitype proposed by Pool (2007) and followed by other authors (Lohmann & Taylor 2014). With the intention of not causing problems for nomenclatural stability, the epitypes here designated were the same as those proposed by Pool (2007) and by Fonseca & Lohmann (2019). However, these types are now associated with the correct lectotypes.

All names of Bignoniaceae are compiled in Table 1, along with their accepted name and original localities, with the interpretations provided by Pastore *et al.* (2021) and here.

TAXONOMIC TREATMENT

Family Bignoniaceae Juss., *nom. cons.*
Genus *Bignonia* L., *nom. cons.*

1. ***Bignonia squalus*** Vell.

Bignonia squalus Vell., *Floræ Fluminensis*: 244 (Vellozo 1829). — *Pithecoctenium squalus* (Vell.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 194 (Candolle 1845). — Type: **Brazil** • Rio de Janeiro, '*Habitat maritimis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angyosp. BIGNONIA *squallus* Tab. 13' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_017 [photo!], **here designated**).

Amphilophium crucigerum (L.) L.G.Lohmann, *Nuevo Catálogo de la Flora Vascular de Venezuela* 270: (Lohmann 2008). — *Bignonia crucigera* L., *Species Plantarum* 2: 624 (Linnaeus 1753). — *Anisostichus crucigera* (L.) Small, *Manual of the Southeastern Flora*: 1240 (Small 1933). — *Pithecoctenium crucigerum* (L.) A.H.Gentry in *Taxon* 24: 123 (Gentry 1975b). — Type: • MORISON, *Plantae Historiae pars tertia*, *Pseudo-apocynum folliculis maximis obtusis seminibus amplissimis albis,* s. 15, t. 3, f. 16, 1699; lectotype, Illustration [photo!], designated by Barrie *et al.* [1991: 2].

Original locality and distribution. — *Bignonia squalus* was described by Vellozo (1829) as '*Habitat maritimis*', which is recognized as a place in Rio de Janeiro state. *Amphilophium crucigerum* is a native plant, but not endemic to Brazil. According to Gentry (1977), Lohmann & Taylor (2014), and Thode (2023), this species is found in semideciduous to evergreen forests, including disturbed vegetation. In Brazil, it is found in Amazônia, Caatinga, Cerrado, Brazilian Atlantic Forest, Pampa, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia squalus* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0033 [photo!].

Taxonomic notes

Gentry (1975a) considered *Bignonia squalus* as a synonym of *Pithecoctenium crucigerum* (L.) A.H.Gentry [*Amphilophium crucigerum*]. This position was also accepted in later treatments (Pool 2007; Zuntini 2014), and it is reinforced here.

The *Bignonia squalus* plate well represents *Amphilophium crucigerum* and includes relevant diagnostic features, such as the equinate capsule of the fruit (Reiche *et al.* 2020). In addition to the fruit morphology, 2 or 3 leaves with multifid terminal tendril, cordate base, acuminate apex, 5-dentate calyx, and corolla shape form also agree with *A. crucigerum* (Reiche *et al.* 2020). However, there is a likely mistake in the line drawing of one leaf, where two small leaves were illustrated in the central foliole. Besides, the leaves' venation was not represented in the illustration. The original descriptions include features, such as '*caulis volubilis*' [twining vine] and '*Corolla flavescens*' [yellow corolla].

2. ***Bignonia triphylla*** Vell.

Bignonia triphylla Vell., *Floræ Fluminensis*: 244 (Vellozo 1829, *nom. illeg.*), *non* L. (Linnaeus 1763). — Type: **Brazil** • Rio de Janeiro, '*Habitat maritimis Pharmacopolitanis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angyosp. BIGNONIA *triphylla Tab. 14*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_018 [photo!], **here designated**).

Pleonotoma tetraquetra (Cham.) Bureau, *Journal de la Société centrale d'horticulture de France* 2 (2): 156 (Bureau 1868). — *Bignonia tetraquetra* Cham., *Linnaea* 7: 675 (Chamisso 1832). — *Memora tetraquetra* (Cham.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 185 (Miers 1863). — Type: **Brazil** • Minas Gerais, Lagoa Santa; 1840; *F. Sellow s.n.*; lectotype: BM[BM000882582, photo!], **here designated**; likely isolectotypes: B[†], K[K000449779, photo!], LE[*n.v.*], NY[NY00328752, photo!]).

Original locality and distribution. — *Bignonia triphylla* Vell. was described by Vellozo (1829) as '*Habitat maritimis Pharmacopolitanis*', which is recognized as someplace in the Brazilian Atlantic Forest in Rio de Janeiro state, likely in Paraty municipality, but there are no recent samples of this species from this area. *Pleonotoma tetraquetra* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Gomes (2023), this species is found in the Cerrado and the Brazilian Atlantic Forest.

Nomenclatural notes

Bignonia triphylla Vell. is a later homonym of *Bignonia triphylla* L. (1763), therefore it is illegitimate (Art. 53.1 of the ICN, Turland *et al.* 2025). Although it seems like a citation of a Linnean name, *B. triphylla* Vell. and *B. triphylla* L. are taxonomically different, since the protologue of the species presents contrasting descriptions, as the leaves: '*foliis ternatis*', '*foliolis ovatis*' in *B. triphylla* L., and '*foliis triternatis*', '*foliolis lanceolatis*' in *B. triphylla* Vell. Furthermore, the Vellozo plant is a *Pleonotoma tetraquetra*, and this genus is not distributed in Mexico.

A copy of the illustration of *Bignonia triphylla* Vell. stored in the Manuscript Section of Torre do Tombo is accessed under the code PT-TT-MSLIV-2776_m0035 [photo!].

In addition, *Bignonia tetraquetra* was published without the indication of a holotype, only mentioning the collector and collection locality: '*Brasilia tropica. Sellow.*' Thus, following McNeill (2014), it is not possible to identify a holotype. It is therefore necessary to designate a lectotype from available materials or, if no original material exists, a neotype.

The principal herbarium of Friedrich Sellow's collections was deposited in B, but this material was destroyed along with the great part of his collection (Merrill 1943). Gomes (2006) referred to a material as the 'holotype', but the specimen wasn't directly examined by the author. Subsequently, Lohmann & Taylor (2014) supported the selection of the specimen from LE as the 'holotype,' but it is likely that these authors also did not examine the voucher mentioned by Gomes (2006). It remains unclear why they chose a specimen from LE without an available image, especially since LE is not the principal herbarium for Sellow's collections (Stafleu & Cowan 1976-1988).

Based on all collections we reviewed, we have selected the specimen at BM (BM000882582 [photo!]) as the lectotype. This specimen bears a Berlin label and was examined and identified by Beatriz M. Gomes in 2008 – a specialist in *Pleonotoma*.

Taxonomic notes

Gentry (1975a) relates Vellozo's line drawing belonging to *Pleonotoma tetraquetra*, and in the revision of *Pleonotoma,* Miers maintained this decision (Gomes 2006), and it is reinforced here.

Bignonia triphylla Vell. well represents *Pleonotoma tetraquetra* and includes relevant diagnostic features, such as the trifoliate leaves and the corolla that is narrowly bell-shaped with rounded apices (Gomes 2006). Although a branch with a possible four-divided tendril is detailed, it is interpreted as a mistake once this species is known by its trifid tendril (Reiche *et al.* 2020). The original description includes features, such as '*caule quadrangulari, cirrhoso*' [quadrangular stem, with tendrils].

3. ***Bignonia ignea*** Vell.

Bignonia ignea Vell., *Floræ Fluminensis*: 244 (Vellozo 1829). — *Pyrostegia ignea* (Vell.) C.Presl, *Abhandlungen der Königlichen Böhmischen Gesellschaft der Wissenschaften* 5 (3): 523 (Presl 1845). — Type: **Brazil** • São Paulo, '*Habitat fruticetis mediterraneis*'; s.d.; lectotype: [Icon. Ined.] 'Didynamia. Angyosp. BIGNONIA *ignea Tab. 15*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_019 [photo!], **here designated**).

Pyrostegia venusta (Ker Gawl.) Miers., *Proceedings of the Royal Horticultural Society of London* 3: 188 (Miers 1863). — *Bignonia venusta* Ker Gawl. *Botanical Register* 3: t. 249 (Ker Gawler 1818). — *Tecoma venusta* (Ker Gawl.) Lem., *L'Horticulteur universel, Journal général des Jardiniers et Amateurs* 5: 1 (Lemaire 1843). — Type: • Ker Gawler in *Botanical Register* 3: t. 249; 1818; lectotype: Illustration [photo!], designated by Sandwith & Hunt (1974: 75).

Original locality and distribution. — *Bignonia ignea* was described by Vellozo (1829) as '*Habitat fruticetis mediterraneis*', which is recognized as a Cerrado vegetation in São Paulo state, likely Cunha municipality, but there are no recent samples of this taxon. *Pyrostegia venusta* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Lohmann (2023e), this species is found in dry to humid lowland forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, Pampa, and Pantanal.

Nomenclatural notes

Presl (1845) did the first treatment of *Bignonia ignea* and proposed *Pyrostegia ignea*. Later, Gentry (1975a) included *B. ignea* and *P. ignea* as synonyms of *Pyrostegia venusta*.

A copy of the illustration of *Bignonia ignea* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0037 [photo!].

Taxonomic notes

The lectotype of *Bignonia ignea* well represents *Pyrostegia venusta* and includes relevant diagnostic features, such as the trifoliate leaves with terminal trifid tendril, inflorescence morphology, and flower color (Reiche *et al.* 2020). Although the plate also details what is interpreted as a mistake: two simple tendrils, and the not-often-cordate base of the leaflets. The original descriptions include features, such as '*Caulis teres, volubilis*' [Cylindrical stem, twining], and '*corolla ignea*' [red corolla].

4. ***Bignonia trifoliata*** Vell.

Bignonia trifoliata Vell., *Floræ Fluminensis*: 245. (Vellozo 1829). — *Adenocalymma trifoliatum* (Vell.) R.C.Laroche., *Loefgrenia* 56: 5 (Laroche 1973). — Type: **Brazil** • Rio de Janeiro, '*Habitat maritimis Regii Prædii S. Crucis*'; s.d.; lectotype: [Icon. Ined.] 'Didy. Ang[i]yosp. BIGNONIA *trifoliata Tab. 16*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_020 [photo!], **here designated** • Rio de Janeiro, Niterói, Engenho do Mato; 20.XII.2004; *A.A.M. Barros 2332*; epitype: RB[RB00866364, photo!], **here designated**).

Original locality and distribution. — *Bignonia trifoliata* was described by Vellozo (1829) as '*Habitat maritimis Regii Prædii S. Crucis*', which is recognized as a place in Rio de Janeiro state, in the Southwest at Royal Santa Cruz farm region. In the past, the farm occupied an area of 50 square kilometers, located in the Province of Rio de Janeiro, extending from the coast (east) to reach the river Paraíba do Sul (west), including the regions called Piraí and Itagui (Pedroza 2018). *Adenocalymma trifoliatum* is a native plant endemic to Brazil. Following Fonseca & Lohmann (2019) and Fonseca (2023a), this species is found in the Brazilian Atlantic Forest Restinga and Cerrado. It is distributed only in the Rio de Janeiro state.

Nomenclatural notes

Adenocalymma longeracemosum DC. is considered a superfluous name (Art. 52.1 of the ICN, Turland *et al.* 2025), because Candolle (1845), when publishing this name, included *Bignonia trifoliata* as a synonym, instead of providing the combination *Adenocalymma trifoliatum.* Laroche (1973) provided the combination of *Adenocalymma trifoliatum*, and this position was followed by later authors (Gentry 1975a; Udulutsch *et al.* 2013; Lohmann & Taylor 2014; Zuntini 2014; Fonseca & Lohmann 2019), and it is reinforced here.

A copy of the illustration of *Bignonia trifoliata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0039 [photo!].

Taxonomic notes

The illustration includes relevant diagnostic features, such as the 2 or 3-leaves, lanceolate, entire margin, without tendril, short-pedunculate flowers (Laroche 1973). However, the venation of the leaves, which is a diagnostic feature for the species, was not represented in the illustration. To address this, Fonseca & Lohmann (2019) designated an epitype to stabilize the use name, but in our typification, the correct lectotype was chosen, and the epitype was also designated. Following their approach, we have re-designated the same voucher as the epitype in this study. The original descriptions include other features, such as '*Caulis scandens, teres*' [Scandent stem, cylindrical].

5. ***Bignonia falcata*** Vell.
(Fig. 2)

Bignonia falcata Vell., *Floræ Fluminensis*: 245 (Vellozo 1829). — *Pithecoctenium falcatum* (Vell.) A.Pool, *Annals of the Missouri Botanical Garden. St. Louis* 94 (3): 635-638, f. 2 (Pool 2007). — *Amphilophium falcatum* (Vell.) L.G.Lohmann., *Annals of the Missouri Botanical Garden. St. Louis* 99 (3): 404 (Lohmann & Taylor 2014). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis Pharmacopolitanis*', s.d.; lectotype: [Icon. Ined. (in part)] 'Didy. Angyosp. BIGNONIA *falcata Tab. 17*' (including branchlet, leaves, fruit, and seeds and excluding inflorescence and flowers) (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_021 [photo!], **here designated** • Bahia, Coaraci, Almandina, 18 km de estrada; 5.II.1970; *T.S. dos Santos 574*; epitype: MO[MO0000089383, photo!], **here designated**; isoepitype: NY[NY00569053, photo!]).

Original locality and distribution. — *Bignonia falcata* was described by Vellozo (1829) as '*Habitat silvis maritimis Pharmacopolitanis*', which is interpreted as someplace in Rio de Janeiro state (see comments under *Bignonia triphylla*). *Amphilophium falcatum* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Thode (2023), this species is found in humid vegetation. In Brazil, it is found in the Brazilian Atlantic Forest and Cerrado.

Nomenclatural notes

Pool (2007) decided to treat *Bignonia falcata* as a legitimate name and lectotypified part of the illustration. In view of Article 8.2 of the ICN for the typification of a species, it is possible to use a complete sample or part of it (Turland *et al.* 2025). Thus, Pool (2007) made the typification of part of the illustration [branchlet, leaves, fruit, and seeds] and excluded inflorescence and flowers that, obviously, are very different. *Amphilophium falcatum* can have a long inflorescence with 25-28 flowers, and the calyx of the flowers is noticeably larger

than that depicted by Vellozo. Thus, to address the lack of information about the flowers, Pool (2007) designates an epitype. Following her approach, we have designated the same voucher as the epitype in this study because we also designated the lectotype.

Lohmann & Taylor (2014) made generic delimitation changes and proposed a new combination, *Amphilophium falcatum*, maintaining the wrongly assigned lectotype plus the epitype selected by Pool (2007). However, even considering the author's expertise in delimiting the typification to legitimize the use of *Bignonia falcata*, she ended up typifying the species based on the published set of illustrations (Vellozo 1831; see comments under *Bignonia squalus*). Due to that, following the same separation made in Pool (2007) and the recommendations of Pastore *et al.* (2022), a part of the original illustration present at *Biblioteca Nacional* is chosen as the lectotype (Fig. 2).

A copy of the illustration of *Bignonia falcata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0041 (Noting that the species is recognized only by the branchlet, leaves, fruit, and seeds and excluding inflorescence and flowers) [photo!].

TAXONOMIC NOTES

Bureau & Schumann (1896-1897) recognized the identity of *Bignonia falcata* as a synonym of *Neves-armondia cordifolia* (Mart. ex DC.) K.Schum. However, Gentry (1975a) interpreted *Bignonia falcata* as a chimera of two species, once the vegetative part well represents *Neves-armondia cordifolia*, whereas the flowers illustrated were very dissimilar and justified the rejection under Article 40 of ICN Code (Turland *et al.* 2025). Later, Gentry (1979) revised the case of *N. cordifolia* and *Pithecoctenium cordifolium* DC., proposing a new name: *Pithecoctenium hatschbachii* A.H.Gentry.

Pool (2007) affirmed the arguments previously used that there is no support for *Bignonia falcata* rejection, thus she proposed the combination '*Pithecoctenium falcatum*'. To validate the application of the name, she anchored to the interpretation of the illustration, choosing part of the published plate (Vellozo 1831) as lectotype. Since then, many authors have followed this organization (Lohmann & Taylor 2014; Zuntini 2014), and it is reinforced here.

Bignonia falcata provides information about the leaves, fruits, and seeds, but lacks information on the flowers. In fact, upon examining all *Bignonia* illustrations, the appearance of the flowers closely resembles the species now known as *Lundia* species. Therefore, it is possible that the illustrator became confused and made this mistake.

6. ***Bignonia conjugata*** Vell.

Bignonia conjugata Vell. in *Floræ Fluminensis*: 245 (Vellozo 1829). — *Arrabidaea conjugata* (Vell.) Mart., *Flora* 24 (2, Beibl.): 46 (Martius 1841). — *Fridericia conjugata* (Vell.) L.G.Lohmann, *Annals of the Missouri Botanical Garden* 99 (3): 435 (Lohmann & Taylor 2014). — Type: **Brazil** • Rio de Janeiro, '*Habitat maritimis Regii Prædii S. Crucis*'; s.d.; lectotype: [Icon. Ined.] 'Didy. Angyosp. BIGNONIA *conjugata Tab. 18*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_022 [photo!], **here designated**).

ORIGINAL LOCALITY AND DISTRIBUTION. — *Bignonia conjugata* was described by Vellozo (1829) as '*Habitat maritimis Regii Prædii S. Crucis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia trifoliata*). *Fridericia conjugata* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014), and Kaehler (2023a), this species is found in humid forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Cerrado, and Pantanal.

NOMENCLATURAL NOTES

Gentry (1975a) recognized *Bignonia conjugata* citing the combination: *Arrabidaea conjugata*. Later, Lohmann & Taylor (2014) made generic delimitation changes and proposed *Fridericia conjugata*. This position is reinforced here.

A copy of the illustration of *Bignonia conjugata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0043 [photo!].

TAXONOMIC NOTES

Bignonia conjugata well represents *Fridericia conjugata* and includes relevant diagnostic features, such as the axillary inflorescence and campanulate flowers (Reiche *et al.* 2020). Besides, the illustrated leaves also seem to agree with many collections, for example: *Amorim et al. 1252* (NY), *Paniagua et al. 1212* (MBM), *Tamashiro et al. 208* (UEC). Although there are leaves without venation, absence of simple tendril, and tubular calyx instead of campanulate (Reiche *et al.* 2020). Even so, the lack of this characteristic does not harm the recognition of the species. In addition, the original description includes features, such as '*Corolla violacea*' [violet Corolla].

7. ***Bignonia coito*** Vell.

Bignonia coito Vell., *Floræ Fluminensis*: 243 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis ad declivia Alpium Jerissinò*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *coito Tab. 19*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_023 [photo!], **here designated**).

Bignonia corymbosa Vent., *Jardin de la Malmaison* 1: sub. t. 43, obs. 5 (Ventenat 1804). — *Spathodea corymbosa* (Vent.) Vent., *Mémoires de la Classe des Sciences mathématiques et physiques de L'Institut national de France* 1: 19 (Ventenat 1807). — *Macfadyena corymbosa* (Vent.) Griseb., *Bonplandia* 6: 10 (Grisebach 1858). — *Phryganocydia corymbosa* (Vent.) Bureau ex K.Schum., *Natürlichen Pflanzenfamilien* 4(Abt. 3b): 224, f. 89H (Schumann 1894). — *Phrygiobureaua corymbosa* (Vent.) Kuntze, *Lexicon generum phanerogamarum inde ab anno MDCCXXXVII*: 433 (Kuntze 1904). — *Bignonia corymbosa* (Vent.) L.G.Lohmann, *Nuevo Catálogo de la Flora Vascular de Venezuela*: 272 (Lohmann 2008, *isonym*). — Type: **Trinidad** • s.loc.; s.d.; *A. Riedle s.n.*; holotype: P[P00481551, photo!]).

ORIGINAL LOCALITY AND DISTRIBUTION. — *Bignonia coito* was described by Vellozo (1829) as '*Habitat silvis maritimis ad declivia Alpium Jerissinò*', which is recognized as a reference to the [base of the] Gericinó Massif, located in the now called 'Serra do Mendanha'

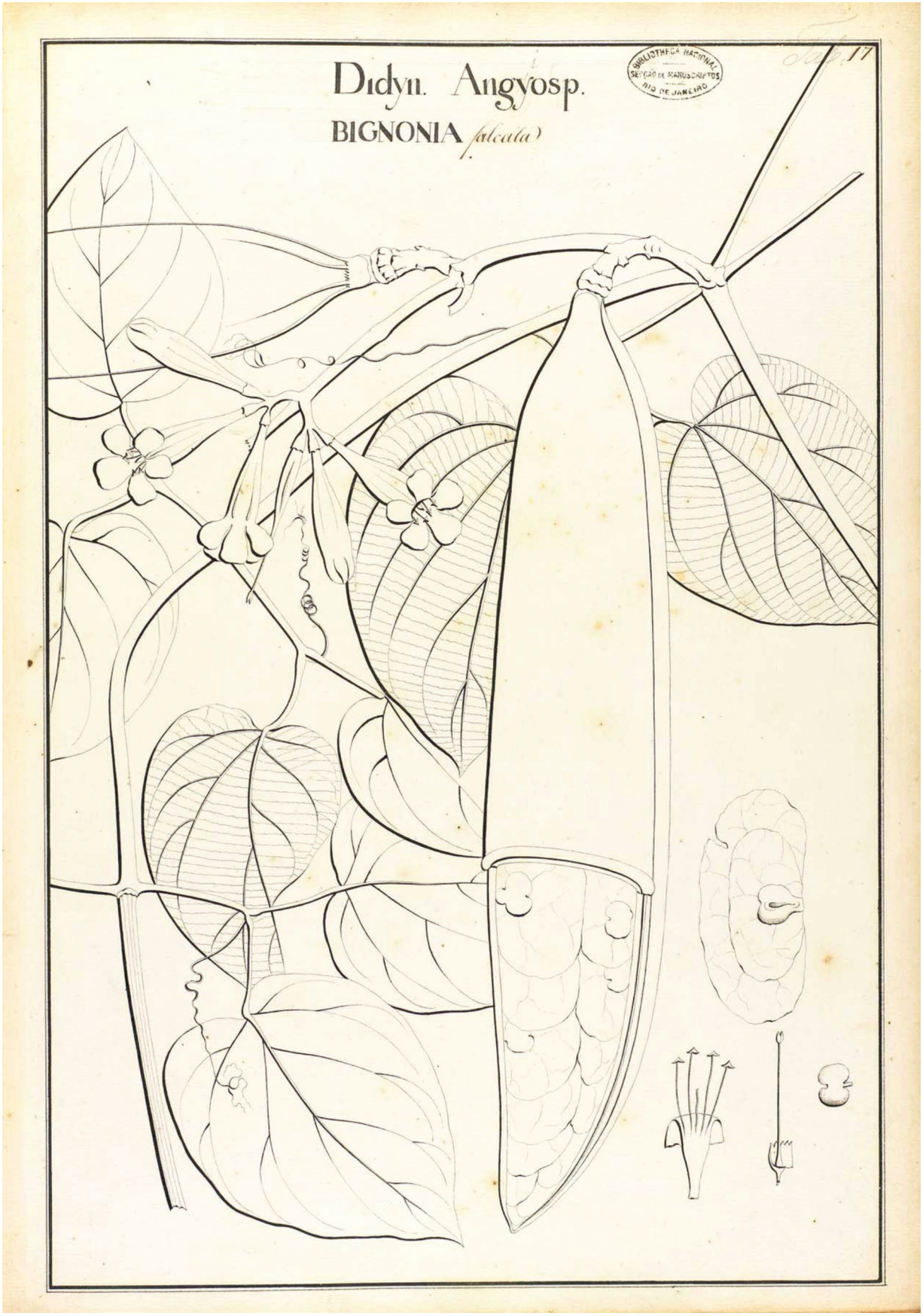

Fig. 2. — Lectotype of *Amphilophium falcatum* (Vell.) L.G.Lohmann, including branchlet, leaves, fruit, and seeds and excluding inflorescence and flowers. Source: *Biblioteca Nacional do Rio de Janeiro*.

in Rio de Janeiro state. *Bignonia corymbosa* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Zuntini (2023), this plant is found in disturbed vegetation or semideciduous to evergreen forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, and Cerrado.

Nomenclatural notes

The combination *Bignonia corymbosa* (Vent.) L.G.Lohmann (2008) would be proposed based on *Spathodea corymbosa* (Vent.) Vent. (Ventenat 1807). However, the name *B. corymbosa* Vent. (1804) already existed and therefore *Bignonia corymbosa* (Vent.) L.G.Lohmann is a later homonym, hence illegitimate (Art. 53.1 of the ICN, Turland *et al.* 2025). Nonetheless, several studies mentioned the inappropriate name instead of the correct one (Lohmann & Taylor 2014; Lohmann *et al.* 2018; Costa *et al.* 2019; Costa *et al.* 2021; Santos *et al.* 2021). This situation needs to be resolved, and *Bignonia corymbosa* Vent. must be appropriately used.

A copy of the illustration of *Bignonia coito* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0045 [photo!].

Taxonomic notes

Gentry (1975a) treated *Bignonia coito* as a synonym of *Phryganocydia corymbosa*. The lectotype of *B. coito* well represents *Bignonia corymbosa* Vent. and includes relevant diagnostic features, such as the cylindrical branchlets, 2-leaves, spathaceous calyx, and infundibuliform corolla (Costa *et al.* 2019), although one of the terminal branches seems to have two petioles growing in the same place. Maybe the illustrator wanted to represent a 2-leaf but misinterpreted it. The leaves are not fully represented; they are always folded (or part of them). Nevertheless, this situation does not harm the recognition of the species. The original description includes an important feature: '*Corolla ampla, flavescens*' [Wide corolla, yellow].

8. ***Bignonia unguis*** Vell.

Dolichandra unguis-cati (L.) L.G.Lohmann, *Nuevo Catálogo de la Flora Vascular de Venezuela*: 273 (Lohmann 2008). — *Bignonia unguis-cati* L., *Species Plantarum* 2: 623 (Linnaeus 1753). — *Bignonia unguis* L., *Systema Naturæ* ed. 10. 2: 1114 (Linnaeus 1759, *orth. var.*). — *Bignonia unguis* Vell., *Floræ Fluminensis*: 248 (Vellozo 1829, *orth. var.*). — *Batocydia unguis* Mart. ex DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 146 (Candolle 1845). — *Doxantha unguis* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 190 (Miers 1863). — *Doxantha adunca* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 189 (Miers 1863, *nom. nov.*). — *Doxantha unguis-cati* (L.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 189 (Miers 1863). — *Batocydia unguis-cati* (L.) Mart. ex Britton & P.Wilson, *Scientific Survey of Porto Rico and the Virgin Islands* 6: 194 (Britton & Wilson 1925). — *Macfadyena unguis-cati* (L.) A.H.Gentry, *Brittonia* 25: 236 (Gentry 1973b). — Type: • Plumier, *Description des plantes de l'Amérique*, tab. 94; 1693; lectotype: Illustration [photo!], designated by Nasir (1979: 18).

Original locality and distribution. — *Bignonia unguis* Vell. was described by Vellozo (1829) as '*Habitat silvis maritimis Paratyensibus*', which is recognized as the Brazilian Atlantic Forest in the Rio de Janeiro state, and here interpreted as the Paraty municipality region. In 1667, the 'Villa de Nossa Senhora dos Remédios de 'Parati' (or 'Paraty') was established, situated near the Paratiguaçu River (now Perequê-Açu) and the Patitiba River (Nascimento 2005; IBGE 2023). Thus, Vellozo (1829) may be referring to the region near the city because he refers to Paraty, as noted by Pastore *et al.* (2021), using '*Pharmacopolitanis*'. *Dolichandra unguis-cati* is a plant native but not endemic to Brazil. Following Gentry (1973a), Fonseca *et al.* (2017), and Fonseca (2023b), this species is found in dry forests, moist forests, or rarely in wet forests and tropical wet forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, Pampa, and Pantanal.

Nomenclatural notes

Bignonia unguis Vell. is here interpreted as a citation to *Bignonia unguis* L. (1759). Linnaeus initially published *Bignonia unguis-cati*, and, in 1759, changed its spelling, removing '*-cati*' (Linnaeus 1753; 1759). Therefore, Vellozo (1829) gave preference to (or eventually, only known) the later spelling '*Bignonia unguis*' from Linnaeus (1759). Thus, in this case, there would be no need to designate a 'type material', but rather to mention the 'reference material' deposited in the BN (mss1198655_024 [photo!]). A copy of the illustration of *Bignonia unguis* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0047 [photo!].

This decision follows the ICN code, as we assume that *Bignonia unguis* L. and *B. unguis* Vell. share the same type, allowing both names to be inserted as orthographic variants (Art. 61.2 of the ICN, Turland *et al.* 2025).

Taxonomic notes

Gentry (1975a) considered *Bignonia unguis* Vell. as a synonym of *Macfadyena unguis-cati*, but he asserted, according to Gentry (1972), that *Dolichandra unguis-cati* was the most used name. This position was also accepted in later treatments (Lohmann & Taylor 2014; Fonseca *et al.* 2017), and it is reinforced here.

The plate of *Bignonia unguis* well represents *Dolichandra unguis-cati* and includes relevant diagnostic features, such as the 2-leaves with a terminal modification into a trifid tendril and campanulate calyx, inflated and truncate with a straight to sinuous margin (Fonseca *et al.* 2017). Although the illustration lacks representations of striate prophylls, these omissions do not hinder species recognition. The original description includes features, such as '*Caulis scandens, teres*' [Scandent stem, cylindrical].

9. ***Bignonia ternata*** Vell.

Adenocalymma ternatum (Vell.) Mello ex Bureau & K.Schum., *Flora Brasiliensis* 8 (2): 104 (Bureau & Schumann 1896-1897). — *Bignonia ternata* Vell., *Floræ Fluminensis*: 246 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis*', s.d.; lectotype: [Icon. Ined.] 'Didyn. Angyosp. BIGNONIA *ternata Tab. 21*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_025 [photo!], **here designated**).

Original locality and distribution. — *Bignonia ternata* was described by Vellozo (1829) from '*Habitat silvis maritimis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*).

Nomenclatural notes

Gentry (1975a) mentioned *Adenocalymma ternatum* as an established name. However, the author was unsure about the name without observing the collection mentioned by Bureau & Schumann (1896-1897). Later, Lohmann & Taylor (2014) and Zuntini (2014) also accepted *Adenocalymma ternatum*.

Nevertheless, Gentry (1975a) himself already said that the species is rarely collected, and he has never seen it. Recently, Fonseca & Lohmann (2019) published an update about the novelties of *Adenocalymma*, but *Adenocalymma ternatum* is not addressed to any species. Fonseca (2023a) mentioned *Bignonia ternata* as *Adenocalymma acutissimum* (Cham.) Miers synonym, even treating *Adenocalymma ternatum* as 'in doubt'. Indeed, *Bignonia ternata* is a name with difficult resolution, which explains the different interpretations. The reason is that the illustration does not have conclusive details (L.H.M. Fonseca, pers. comm.), meaning it is devoid of specific characters.

A copy of the illustration of *Bignonia ternata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0049 [photo!].

Taxonomic notes

Previous analyses (Bureau & Schumann (1896-1897); Lohmann & Taylor 2014; Zuntini 2014) accepted *Bignonia ternata* [*Adenocalymma ternatum*]. Meanwhile, other authorities believe that the illustration is insufficient for full recognition (L.H.M. Fonseca, pers. comm.).

The lectotype of *Bignonia ternata* does not present diagnostic features to recognize an *Adenocalymma* species. The 3-leaves modified (or not) terminal foliole on the simple tendril, axillary inflorescence, and long flowers are common in several species. Therefore, we agree with L.H.M. Fonseca (pers. comm.) and believe it is better to leave *Bignonia ternata* without identification (*incertae sedis*) until a conclusive interpretation emerges.

10. ***Bignonia scandens*** Vell.

Anemopaegma scandens (Vell.) Netto ex K.Schum., *Natürlichen Pflanzenfamilien* 4, Abt. 3b: 215 (Schumann 1894). — *Bignonia scandens* Vell., *Floræ Fluminensis*: 246 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *scandens Tab. 22*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_026 [photo!], **here designated**).

Anemopaegma chamberlaynii (Sims) Bureau & K.Schum., *Flora Brasiliensis* 8 (2): 128 (Bureau & Schumann 1896-1897). — *Bignonia chamberlaynii* Sims, *Botanical Magazine* 47: t. 2148 (Sims 1820). — *Bignonia aequinoctialis* var. *chamberlaynii* (Sims) Ker Gawl., *Botanical Register* 9: t. 741 (Ker Gawler 1823). — Type: tab. 2148 in Sims, *Botanical Magazine* 47; 1820; lectotype: Illustration [photo!], designated by Lohmann & Taylor (2014: 410).

Original locality and distribution. — *Bignonia scandens* was described by Vellozo (1829) as '*Habitat silvis maritimis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*). *Anemopaegma chamberlaynii* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Firetti (2023), this species is found in dry to wet forests. In Brazil, it is found in the Brazilian Atlantic Forest, Caatinga, and Cerrado.

Nomenclatural notes

A copy of the illustration of *Bignonia scandens* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0051 [photo!].

Taxonomic notes

Gentry (1975a) considered *Bignonia scandens* as a synonym of *Anemopaegma chamberlaynii*. This position was also accepted in later treatments (Lohmann & Taylor 2014; Zuntini 2014), and it is reinforced here.

Bignonia scandens well represents *Anemopaegma chamberlaynii* and includes relevant diagnostic features, such as the 3 or 2 leaves with modified terminal foliole on the simple tendril, ovate leaves, acuminate apex, inflorescence with many flowers, infundibuliform corolla, fruit morphology, and winged seeds (Reiche *et al.* 2020). Although the complete leaf venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species. Even though it is common to find descriptions that indicate the presence of 'trifid tendrils' instead of 'simple tendrils' (Reiche *et al.* 2020), some materials of this species presented leaves with simple tendrils (e.g., *Hatschbach 39842* (MBM); *Furlan et al. CFSC6728* (SPF); *Zuntini et al. 213* (SP).

11. ***Bignonia angrensis*** Vell.

Bignonia angrensis Vell., *Floræ Fluminensis*: 246 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis Angrensibus*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *angrensis Tab. 23*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_027 [photo!], **here designated**).

Original locality and distribution. — *Bignonia angrensis* was described by Vellozo (1829) as '*Habitat silvis maritimis Angrensibus*', which is recognized as a place in Rio de Janeiro state, here interpreted as Angra dos Reis municipality region.

Although Angra dos Reis was only officially elevated to the status of a city with this name in 1835 (Capaz 2006; Soares & Rodrigues 2020), the name 'Angra dos Reis' was already in use long before that. Around 1593, the 'Freguesia de Nossa Senhora da Conceição de Angra dos Reis' was established. After that, in 1608, the locality was elevated to 'Vila de Angra dos Santos Reis Magos da Ilha Grande' (APERJ 2012; Rocha 2013). On the official documents, the locality is commonly found under the names 'Nossa Senhora da Conceição' and 'Vila da Ilha Grande' (Capaz 2006; Soares & Rodrigues 2020). Besides, the use of the name 'Angra dos Reis' in the region before the realization of *Floræ Fluminensis* can be proven through parts of letters documented by Rocha (2013) in documentary analysis, such as '*Angra dos Reis da Ilha Grande servimos este presente anno de 1749*…' and '*A Igreja Parochial da Villa de Angra dos Reys da Ilha grande se acha*…'. Thus, based on these explanations, it was concluded that *Bignonia angrensis* was collected in the current territory of Angra dos Reis municipality.

Nomenclatural notes

A copy of the illustration of *Bignonia angrensis* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0053 [photo!].

Taxonomic notes

Gentry (1975a) highlights certain characteristics that may cause confusion due to anomalous details but suggests *Bignonia angrensis* as a synonym of *Arrabidaea corallina* (Jacq.) Sandwith (*Tanaecium dichotomum* (Jacq.) Kaehler & L.G.Lohmann). However, *Bignonia angrensis* has not appeared recently as a synonym of any current names (Lohmann & Taylor 2014), being placed as '*nomina dubia*' in Zuntini (2014), and it is not mentioned in the *Tanaecium* synopsis (Frazão & Lohmann 2019).

Nevertheless, it was recently ascertained that *Tanaecium dichotomum* has no occurrence in RJ, RS, SP, and SC states (Frazão 2023). Thus, Gentry's (1975a) hypothesis is put in doubt. Frazão & Lohmann (2019) discussed the large morphological variation of *T. dichotomum,* and the species may be confused with others, such as *Tanaecium selloi*. Therefore, the illustration and plant collections from Rio de Janeiro were carefully analyzed, but we did not find morphological characteristics to suggest a synonymization assertion.

The lectotype of *Bignonia angrensis* resembles *Tanaecium selloi* and exhibits relevant features, such as 3-leaves and a terminal thyrsus. However, the calyx is not truncate, and the corolla also does not match that of *Tanaecium selloi* (Frazão & Lohmann 2019). It seems like the plate has not been well drawn, and the original descriptions also lack diagnostic features. Thus, in favor of nomenclatural stability, the absence of debates about the true identity of the illustration, and in agreement with Gentry (1975a), this name should remain unidentified (*incertae sedis*).

12. ***Bignonia fluminensis*** Vell.
(Fig. 3)

Pleonotoma fluminensis (Vell.) A.H.Gentry, *Taxon* 24: 342 (Gentry 1975a). — *Bignonia fluminensis* Vell., *Floræ Fluminensis*: 246 (Vellozo 1829). — *Memora fluminensis* (Vell.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 185 (Miers 1863). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *fluminensis Tab. 24*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_029 [photo!], **here designated**).

Original locality and distribution. — *Bignonia fluminensis* was described by Vellozo (1829) as '*Habitat silvis maritimis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*). *Pleonotoma fluminensis* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Gomes (2023), this species is found in the Brazilian Atlantic Forest.

Nomenclatural notes

A copy of the illustration of *Bignonia fluminensis* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0055 [photo!].

Taxonomic notes

Miers (1863) noted *Bignonia fluminensis* and proposed the combination *Memora fluminensis*. Later, Sandwith (1962) commented that *Memora fluminensis* is identifiable with Vellozo's description and illustration. Gentry (1975a) transferred *Bignonia fluminensis* to *Pleonotoma* but made it clear that this could be a very rare species and perhaps already extinct. This position was also accepted in later treatments (Gomes 2006; Lohmann & Taylor 2014; Zuntini 2014), and it is reinforced here. However, due to the low number of collections (only two), it has been classified as 'questionable' in the genus review (Gomes 2006).

Bignonia fluminensis well represents *Pleonotoma fluminensis* and includes relevant diagnostic features, such as the trifoliate leaves with a retuse or rounded apex (Gomes 2006). Although the venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species.

Pleonotoma fluminensis exhibits morphological similarities with *Pleonotoma tetraquetra* (Cham.) Bureau (1868), a resemblance previously observed and documented by Gentry in a Herbarium voucher (Fig. 3) and also seen by Gomes (2006). Additionally, this study identified a resemblance between *P. fluminensis* and *P. tetraquetra* var. *tetraquetra* proposed in Gomes (2006). It would not be surprising if, in the future, they were to be recognized as the same species.

13. ***Bignonia fasciculata*** Vell.

Tynanthus fasciculatus (Vell.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 193 (Miers 1863). — *Bignonia fasciculata* Vell., *Floræ Fluminensis*: 247 (Vellozo 1829). — *Arrabidaea fasciculata* (Vell.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 185 (Candolle 1845). — *Cuspidaria fasciculata* (Vell.) Sond., *Linnaea* 22: 560 (Sonder 1849). — *Schizopsis fasciculata* (Vell.) Bureau ex Baill., *Adansonia* 5: 379 (Baillon 1864-1865). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis Regii Prædii S. Crucis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *fasciculata Tab. 25*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_028 [photo!], **here designated**).

Original locality and distribution. — *Bignonia fasciculata* was described by Vellozo (1829) as '*Habitat silvis maritimis Regii Prædii S. Crucis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia trifoliata*). *Tynanthus fasciculatus* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Medeiros (2023), this species is found in humid forests. In Brazil, it is found in the Brazilian Atlantic Forest and Cerrado.

Nomenclatural notes

A copy of the illustration of *Bignonia fasciculata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0057 [photo!].

Taxonomic notes

Some authors arrange *Bignonia fasciculata* in different genera of Bignoniaceae (Candolle 1845; Sonder 1849; Bureau 1864-1865). Later, Miers (1863) made the combination, which is accepted for old and recent authors, and it is reinforced here (Sandwith 1962; Gentry 1975a; Lohmann & Taylor 2014; Zuntini 2014; Medeiros & Lohmann 2015).

Bignonia fasciculata well represents *Tynanthus fasciculatus* and includes relevant diagnostic features, such as the 3-leaves, acuminate apex, cuneate base, terminal thyrse that resembles corymbose or subcorymbose aspect, and denticulate calyx apices (Medeiros & Lohmann 2015). Although the venation

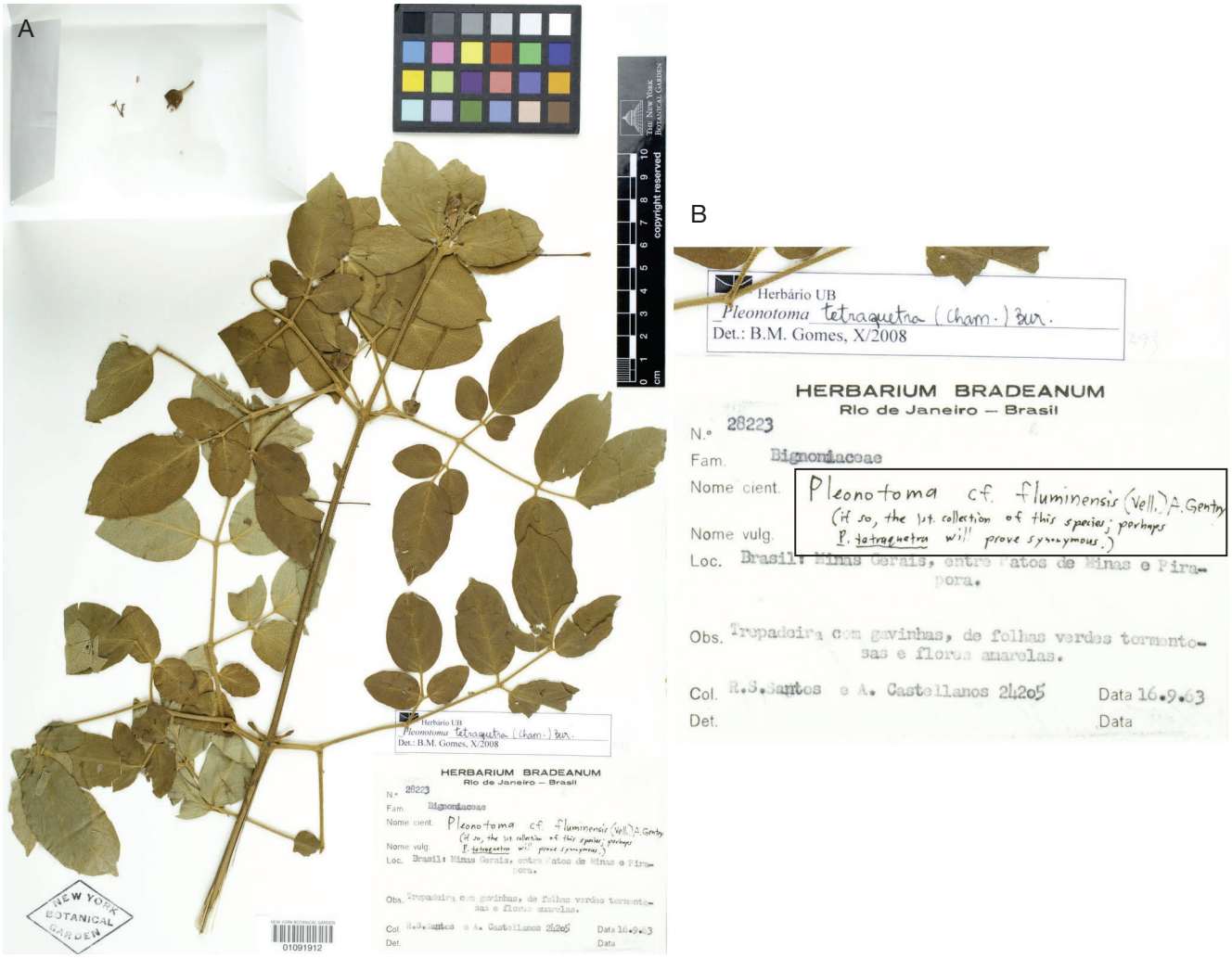

FIG. 3. — Annotation by Gentry about a possible first *Pleonotoma fluminensis* (Vell.) A.H.Gentry collection: **A**, *Santos 24205* (NY); **B**, Gentry commentary in black rectangle. Source: speciesLink, CRIA (2022).

leaves were not represented in the illustration, the lack of information does not harm the recognition of the species. The original description includes features, such as '*Corolla ex-luteo-albida, tubo brevissimo, vix calycis longitudine*' (Yellowish-white corolla, short tube, almost as long as the calyx).

14. ***Bignonia longisiliqua*** Vell.

Bignonia longisiliqua Vell., *Floræ Fluminensis*: 247 (Vellozo 1829, *nom. illeg.*), *non* Jacq. (1780). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didynamia. Angiosp. BIGNONIA *longisiliqua Tab. 26*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_030 [photo!], **here designated**).

Stizophyllum perforatum (Cham.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 198 (Miers 1863). — *Bignonia perforata* Cham., *Linnaea* 7: 667 (Chamisso 1832). — Type: **Brazil** • s.l.; 1840; *F. Sellow s.n.*; lectotype US[US00125839] [photo!], **here designated**; isolectotypes: B [†], K[K000449667 photo!, K000449668 photo!, K000449670 photo!], LE[*n.v.*], NY[NY00313145 photo!]).

ORIGINAL LOCALITY AND DISTRIBUTION. — *Bignonia longisiliqua* Vell. has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Stizophyllum perforatum* is a native plant, but it is not endemic to Brazil. Following Lohmann & Taylor (2014) and Beyer (2023), this species is found in humid forests or disturbed vegetation. In Brazil, it is found in the Brazilian Atlantic Forest and Cerrado.

NOMENCLATURAL NOTES

A copy of the illustration of *Bignonia longisiliqua* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0059 [photo!].

In addition, *Bignonia perforata* was described with only a mention of the collector and collection locality: '*E Brasilia calidiori misit Sellowius*'. Thus, the name lacks a holotype and requires typification (see comments on *Bignonia triphylla* Vell.).

Lohmann & Taylor (2014) addressed this name and referred to a specimen in LE as the 'holotype', but the authors did not examine this material. Therefore, based on the materials we studied and the information about Sellow's herbaria (see comments on *Bignonia triphylla* Vell.), we selected the specimen

in the US herbarium as the lectotype. This specimen bears the Berlin label and was examined and identified by Alwyn H. Gentry, a specialist in Bignoniaceae.

Taxonomic notes

Gentry (1975a) observed that *Bignonia longisiliqua* Vell. was a later homonym of *Bignonia longisiliqua* Jacq. (1780), and co-specific with *Stizophyllum perforatum*. Later, Zuntini (2014) also considered *B. longisiliqua* Vell. as a synonym of *S. perforatum*. Finally, Kataoka & Lohmann (2021) interpreted *B. longisiliqua* Vell. as an attempt to cite *Bignonia longisiliqua* Jacq. (*Catalpa longissima* (Jacq.) Dum.Cours.). Our analysis supports Gentry's (1975a) and Zuntini (2014) position and *Bignonia longisiliqua* Vell. is here considered a synonym of *Stizophyllum perforatum*.

Bignonia longisiliqua Vell. well represents *Stizophyllum perforatum* and includes relevant diagnostic features, such as 3-leaves with presence (or not) of simple tendril, cordate base, entire margin and long fruit, although the illustration does not seem to have been well executed, since in the protologue it is stated '*pedicellis unifloris*' [uniparous pedicel] and the characteristic was not depicted (Vellozo 1829). Besides, there are confusing details, as the curved structure resembles a simple tendril, but without leaves, and lacks the venation representation on the majority of leaves. Nevertheless, this detail does not harm the recognition of the species.

15. ***Bignonia elegans*** Vell.

Fridericia elegans (Vell.) L.G.Lohmann, *Annals of the Missouri Botanical Garden. St. Louis* 99 (3): 437 (Lohmann & Taylor 2014). — *Bignonia elegans* Vell., *Floræ Fluminensis*: 247 (Vellozo 1829). — *Adenocalymma elegans* (Vell.) Mart. ex K.Schum., *Natürlichen Pflanzenfamilien* 4: 214 (Schumann 1894). — *Pseudocalymma elegans* (Vell.) Kuhlm., *Rodriguésia* 14: 365 (Kuhlmann 1941). — *Arrabidaea elegans* (Vell.) A.H.Gentry, *Taxon* 24: 338 (Gentry 1975a). — Type: **Brazil** • Rio de Janeiro, '*Offendi ad viam publicam prope Molendimum Sacchariferum vulgo dictum Lamarão*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *elegans Tab. 27*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_031 [photo!], **here designated**).

Original locality and distribution. — *Bignonia elegans* was described by Vellozo (1829) as '*Offendi ad viam publicam prope Molendimum Sacchariferum vulgo dictum Lamarão*', which is recognized as someplace in the Rio de Janeiro state. *Fridericia elegans* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Kaehler (2023a), this species is found in seasonal Deciduous Forests or Ombrophilous Forests. In Brazil, it is found in the Brazilian Atlantic Forest.
When we carried out research about 'sugar mills' or 'sugar mills Lamarão' in Rio de Janeiro, it was shown that the information related to 'Freguesia de Campo Grande'. This place is currently a neighborhood in Rio de Janeiro (capital), but the region already has many sugar mills, with 'Lamarão' being one of these mills (Pedroza 2010). Hence, this collection locality is interpreted here in reference to the city of Rio de Janeiro.

Nomenclatural notes

A copy of the illustration of *Bignonia elegans* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0061 [photo!].

Taxonomic notes

Schumann (1894) made the first treatment with *Bignonia elegans* and proposed the combination: *Adenocalymma elegans*. Kuhlmann (1941) suggested a new generic delimitation and transferred the species to *Pseudocalymma* A.Samp. & Kuhlm. [*Mansoa* DC.]. Gentry (1975a) made a comprehensive treatment, explained the right position of *Bignonia elegans*, and made a combination: *Arrabidaea elegans*. This position was also accepted in later treatments (Gentry 1980, 1992a). Recently, Lohmann & Taylor (2014) proposed a new generic delimitation, transferring the species to *Fridericia* Mart. emend. L.G.Lohmann. This decision was accepted in subsequent studies (e.g., Kaehler *et al.* 2019), and it is reinforced here.

Bignonia elegans well represents *Fridericia elegans* and includes relevant diagnostic features, such as the 2-leaves, rounded base, acute apex, and yellow corolla. Although the fruits are not illustrated, this detail does not prejudice the species recognition.

16. ***Bignonia grandifolia*** Vell.

Adenocalymma grandifolium Mart. ex DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 199 (Candolle 1845). — *Bignonia grandifolia* Vell., *Floræ Fluminensis*: 247 (Vellozo 1829, *nom. illeg.*), *non* Jacq. (Jacquin 1798: 19). — *Adenocalymma prasinum* Miers, *Annals and Magazine of Natural History, including Zoology, Botany, and Geology* 3 (7): 395 (Miers 1861, *nom. superfl.*). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] Didyn. Angiosp. BIGNONIA *grandifolia Tab. 28* (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_032 [photo!], **here designated**).

Original locality and distribution. — *Bignonia grandifolia* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Adenocalymma grandifolium* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Fonseca (2023a), this species is found in the Ombrophilous Forests. In Brazil, it is found in the Brazilian Atlantic Forest.

Nomenclatural notes

Bignonia grandifolia Vell. is a later homonym of *Bignonia grandifolia* Jacq. (1798). Candolle (1845) published *Adenocalymma grandifolium* as a replacement name for *Bignonia grandifolia* Vell. (Art. 6.11 of the ICN, Turland *et al.* 2025). Later, Miers (1863) proposed *Adenocalymma prasinum* to *Bignonia grandifolia* Vell. However, Miers (1863) did not see that Candolle (1845) had already proposed *Adenocalymma grandifolium* as a substitute name, and therefore, *Adenocalymma prasinum* is superfluous. The appropriate treatment is presented in Udulutsch *et al.* (2013).

A copy of the illustration of *Bignonia grandifolia* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0063 [photo!].

Taxonomic notes

Since Laroche (1973), the name of Vellozo has been frequently associated with *Adenocalymma grandifolium* (Gentry 1975a; Udulutsch *et al.* 2013; Lohmann & Taylor 2014; Fonseca & Lohmann 2019), Zuntini (2014) being the only exception who proposes a connection with *Adenocalymma*

ternatum. In addition, *Bignonia grandifolia* Vell. received a confusing treatment in some databases. The POWO (2025), anchored in Lohmann & Taylor (2014) and Govaerts (1996), put *Bignonia grandifolia* Vell. as a synonym of *Adenocalymma ternatum*. However, on the Flora and Funga of Brazil, anchored to Fonseca & Lohmann (2019), *Adenocalymma grandifolium* accept the name, and this position is reinforced here.

Bignonia grandifolia Vell. well represents *Adenocalymma grandifolium* and includes relevant diagnostic features, such as the big 3-leaves, and terminal inflorescence with long flowers.

17. ***Bignonia cordata*** Vell.

Bignonia cordata Vell., *Floræ Fluminensis*: 247 (Vellozo 1829). — Type: **Brazil •** Rio de Janeiro, '*Habitat silvis maritimis Pharmacopolitanis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *cordata Tab. 29*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_033 [photo!], **here designated**).

Lundia corymbifera (Vahl) Sandwith, *Recueil des Travaux botaniques néerlandais* 34: 229 (Sandwith 1937). — *Bignonia corymbifera* Vahl, *Eclogae Americanae* 2: 45 (Vahl 1798). — *Petastoma corymbiferum* (Vahl) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 193 (Miers 1863). — *Arrabidaea corymbifera* (Vahl) Bureau ex K.Schum., *Natürlichen Pflanzenfamilien* 4: 213 (Schumann 1894). — *Cuspidaria corymbifera* (Vahl) Baill. ex K.Schum., *Natürlichen Pflanzenfamilien* 4: 216 (Schumann 1894). — Type: **Trinidad •** s.loc.; *J. P. von Rohr 6*; holotype: C[C10008613 photo!]).

Original locality and distribution. — *Bignonia cordata* was described by Vellozo (1829) as '*Habitat silvis maritimis Pharmacopolitanis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia triphylla*). *Lundia corymbifera* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014), Kaehler & Lohmann (2021), and Kaehler (2023b), this species is found in open and disturbed areas of wet forest environments or seasonal forests. In Brazil, it is found in the Amazon Forest and the Brazilian Atlantic Forest.

Nomenclatural notes

A copy of the illustration of *Bignonia cordata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0065 [photo!].

Taxonomic notes

Gentry (1975a) considered *Bignonia cordata* as a synonym of *Bignonia corymbifera* (*Lundia corymbifera*). Other authors accepted the combination *Lundia cordata* (Zuntini 2014). Later, Lohmann & Taylor (2014) treated *Bignonia cordata* as a heterotypic synonym of *Lundia corymbifera* and this position is reinforced here.

Bignonia cordata well represents *Lundia corymbifera* and includes relevant diagnostic features, such as the 3-leaves with terminal foliole modified in a simple tendril, acuminate apex, cordate base, axillary inflorescence, and infundibuliform corolla with acuminate apices. These characteristics agree with *Lundia corymbifera* (Kaehler & Lohmann 2021). Although existing information lacks fruits and seeds, it does not harm the recognition of the species.

18. ***Bignonia exoleta*** Vell.

Bignonia exoleta Vell., *Floræ Fluminensis*: 248 (Vellozo 1829). — Type: **Brazil •** s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *exoleta Tab. 30*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_034 [photo!], **here designated**).

Dolichandra unguis-cati (L.) L.G.Lohmann, *Nuevo Catálogo de la Flora Vascular de Venezuela*: 273 (Lohmann 2008). — *Bignonia unguis-cati* L., *Species Plantarum* 2: 623 (Linnaeus 1753). — *Bignonia unguis* L., *Systema Naturæ* ed. 10. 2: 1114 (Linnaeus 1759, *orth. var.*). — *Bignonia unguis* Vell., *Floræ Fluminensis*: 248 (Vellozo 1829, *orth. var.*). — *Batocydia unguis* Mart. ex DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 146 (Candolle 1845). — *Doxantha unguis* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 190 (Miers 1863). — *Doxantha adunca* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 189 (Miers 1863, *nom. nov.*). — *Doxantha unguis-cati* (L.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 189 (Miers 1863). — *Batocydia unguis-cati* (L.) Mart. ex Britton & P.Wilson, *Scientific Survey of Porto Rico and the Virgin Islands* 6: 194 (Britton & Wilson 1925). — *Macfadyena unguis-cati* (L.) A.H.Gentry, *Brittonia* 25: 236 (Gentry 1973b). — Type: Plumier, *Description des plantes de l'Amérique*, tab. 94 (Plumier 1693); lectotype: Illustration [photo!], designated by Nasir (1979: 18).

Original locality and distribution. — *Bignonia exoleta* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Dolichandra unguis-cati* is a native plant, but not endemic to Brazil. Following Gentry (1973a), Fonseca *et al.* (2017), and Fonseca (2023b), this species is found in dry forests, moist forests, or rarely in wet forests and tropical wet forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, Pampa, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia exoleta* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0067 [photo!].

Taxonomic notes

Gentry (1975a) listed *Bignonia exoleta* as a synonym of *Macfadyena unguis-cati*. Later, Zuntini (2014) accepted the connection between *Bignonia exoleta* and *Bignonia unguis-cati*. More recently, Fonseca *et al.* (2017) treated and also accepted these concepts. Thus, our study, following Fonseca *et al.* (2017), reinforces this position.

Bignonia exoleta well represents *Dolichandra unguis-cati* and includes relevant diagnostic features, such as the folioles with acute apex, cuneate base, serrated margin, campanulate calyces, inflated, with truncate to sinuous margin. These characteristics agree with *Dolichandra unguis-cati* (Fonseca *et al.* 2017). Besides, the illustration shows bifoliolate leaves without tendrils, a fact that disagrees with the *D. unguis-cati* description (Fonseca *et al.* 2017). However, consulting the *D. unguis-cati* collections, it is possible to note the morphological variation already cited by Gentry (1975a). In this example, the *Bueno & Siqueira 86* (SPF) and *Hoehne s.n.* (NY) present gatherings lacking the terminal foliole modified on tendril.

19. ***Bignonia convoluta*** Vell.

Cuspidaria convoluta (Vell.) A.H.Gentry, *Taxon* 24: 343 (Gentry 1975a). — *Bignonia convoluta* Vell., *Floræ Fluminensis*: 248 (Vellozo 1829). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *convoluta Tab. 31*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_035 [photo!], **here designated**).

Original locality and distribution. — *Bignonia convoluta* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Cuspidaria convoluta* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Francisco (2023), this species is found in dry forests. In Brazil, it is found in the Brazilian Atlantic Forest, Cerrado, Pampa, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia convoluta* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0069 [photo!].

Taxonomic notes

Gentry (1975a) interpreted *Bignonia convoluta* as *Cuspidaria* species for reasons of 'reflexed anther thecae'. He commented that Bureau & Schumann (1896-1897) treated *B. convoluta* as *Arrabidaea puberula* (Mart. ex DC.) Bureau (*Cuspidaria simplicifolia* DC.). Nevertheless, Gentry concluded that, for reasons of open panicule and small deeply dissected calyx illustrated, this species should be best associated with *Cuspidaria pterocarpa* (Cham.) DC. Thus, he finished the analysis by proposing a new (and currently accepted) combination: *Cuspidaria convoluta*. Later treatments also accepted this position (Zuntini 2014; Lohmann & Taylor 2014) and it is reinforced here.

20. ***Bignonia dichotoma*** Vell.
(Fig. 4)

Bignonia dichotoma Vell., *Floræ Fluminensis*: 248 (1829, *nom. illeg.*), **syn. nov.**, *non* Jacq. (Jacquin 1760). — *Arrabidaea dichotoma* (Vell.) Bureau, *Kongelige Danske Videnskabernes Selskabs Skrifter* 3 (422): 270 (Bureau 1892). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *dichotoma Tab. 32*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_036 [photo!], **here designated**).

Tanaecium pyramidatum (Rich.) L.G.Lohmann, *Nuevo Catálogo de la Flora Vascular de Venezuela* 274 (Lohmann 2008). — *Bignonia pyramidata* Rich., *Actes de la Société d'Histoire Naturelle de Paris* 1: 110 (Richard 1792). — *Tabebuia pyramidata* (Rich.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 214 (Candolle 1845). — *Haplolophium pyramidatum* (Rich.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 199 (Miers 1863). — *Paragonia pyramidata* (Rich.) Bureau, *Videnskabelige Meddelelser fra den Naturhistoriske Forening i Kjøbenhavn* 6 (6): 422 (Bureau 1892). — Type: **French Guiana** • s.loc.; s.d.; *J. B. Leblond 292*; lectotype: P-LA [2-part specimen: P00358235, P00358236, *n.v.*], designated by Callmander & Lohmann *in* Calvo (2024).

Original locality and distribution. — *Bignonia dichotoma* Vell. (Fig. 4) has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Tanaecium pyramidatum* is a native plant, but not endemic to Brazil. Following Frazão & Lohmann (2019) and Frazão (2023), this species is found in dry and wet vegetation. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, Pampa, and Pantanal.

Additional specimens examined. — **Brazil** • Rio de Janeiro, Nova Iguaçu, Reserva Biológica do Tinguá; 15.I.2002; *Silva-Neto 1613*; RBR[RBR00028554, photo!] • Petrópolis, Cortiço, à margem de um caminho, na capoeira; 13.I.1942; *Monteiro 2433*; RBR[RBR00002745, photo!] • Rio Claro; s.loc.; 6.XII.2003; *Assis 1695*; SPF[SPF00229616, photo!] • Santa Maria Madalena, Estrada para Sossego, via Cachoeirão; 20.XII.2017; *Ferreira et al. 514*; HUEFS[HUEFS246501, photo!]; VIES[VIES028311, photo!] • São Paulo, Pariquera-Açú, Estação Experimental do Instituto Agronômico; 16.XI.1996; *Ivanauskas & Gomes 883*; UEC[UEC082594, photo!] • Riolândia, a 5 km de Riolândia em direção a Cardoso 1º parada; 11.X.1994; *Souza et al. 29*; UEC[UEC127386, photo!] • São José do Rio Preto, Mirassol; 5.X.1995; *Rezende 210*; SJRP[SJRP00002067, photo!], UEC[UEC082593, photo!] • Ubatuba, Picinguaba; 15.XII.1995; *Pedroni & Sanchez 2340*; UEC[UEC026034, photo!].

Nomenclatural notes

Bignonia dichotoma Vell. is a later homonym of *Bignonia dichotoma* Jacq. (1760), therefore it is illegitimate (Art. 53.1 of the ICN, Turland *et al.* 2025).

A copy of the illustration of *Bignonia dichotoma* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0071 [photo!].

Taxonomic notes

Sandwith & Hunt (1974) treated *Bignonia dichotoma* Vell. as a synonym of *Arrabidaea selloi* (Spreng.) Sandwith (*Tanaecium selloi*). Gentry (1975a) also treated this name as a basionym of some species of *Arrabidaea* DC., especially *A. selloi* (*Tanaecium selloi*). However, still considering the big variation in morphology in the species, the analysis of the illustration and plants is a lot like *Tanaecium pyramidatum*. Although the protologue does not indicate locality, the search for information was concentrated in Rio de Janeiro and São Paulo states. Thus, based on the evaluation of characteristics of the illustration, description of species, and plant collections in RJ and SP, a new synonym is detected here. The illustrated characteristics are 2-foliolate leaves with an indication of a terminal foliole often modified on the simple tendril, axillary thyrse, and (apparently) tubular calyx; these are some characteristics that agree with *Tanaecium* Sw. (Frazão & Lohmann 2019).

Bignonia dichotoma Vell. well represents *Tanaecium pyramidatum* and includes relevant diagnostic features, such as the 2-leaves with a terminal leaflet modified into a simple tendril, rounded base, acute apex, entire margin, and flower morphology (Frazão & Lohmann 2019; Fernando *et al.* 2021). Although *Tanaecium pyramidatum* is described with a terminal inflorescence, in the lectotype, the inflorescence is axillary, which can also be seen in other gatherings, such as *Hatschbach & Guimarães 56149* (HUEFS, INPA, MBM), *Salis & Joly 78* (UEC), *Lombardi 6426* (SPF).

FIG. 4. — Lectotype of *Bignonia dichotoma* Vell. Source: *Biblioteca Nacional do Rio de Janeiro*.

21. ***Bignonia unguiculata*** Vell.

Dolichandra unguiculata (Vell.) L.G.Lohmann, *Annals of the Missouri Botanical Garden* 99(3): 431 (Lohmann & Taylor 2014). — *Bignonia unguiculata* Vell., *Floræ Fluminensis*: 248 (Vellozo 1829). — *Doxantha unguiculata* (Vell.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 190 (Miers 1863). — *Parabignonia unguiculata* (Vell.) A.H.Gentry, *Taxon* 24: 343 (Gentry 1975a). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *unguiculata Tab. 33*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_037 [photo!], **here designated**).

Original locality and distribution. — *Bignonia unguiculata* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Dolichandra unguiculata* is native and endemic to Brazil. Following Fonseca *et al.* (2017) and Fonseca (2023b), this species is found in tropical wet and coastal forests, mainly near riverbanks or at 'restinga' vegetation. In Brazil, it is found in the Brazilian Atlantic Forest.

Nomenclatural notes

A copy of the illustration of *Bignonia unguiculata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0073 [photo!]. The search for the name on *Biblioteca Nacional do Rio de Janeiro*, uses '*Bignonia unquiculata*' with a 'Q' instead of a 'G'.

Taxonomic notes

Gentry (1975a) proposed the combination *Parabignonia unguiculata*. Since then, the basionym *Bignonia unguiculata* has always been considered an accepted name, but in different genera (Lohmann & Taylor 2014; Zuntini 2014; Fonseca *et al.* 2017), and its actual organization is reinforced here.

Bignonia unguiculata well represents *Dolichandra unguiculata* and includes relevant diagnostic features, such as 2-leaves (terminal trifid tendril), apiculate apex, rounded base, inflated calyx, and infundibuliform corolla (Fonseca *et al.* 2017). Besides, it is interesting to note that a resemblance was perceived between *B. unguiculata* and *B. unguis*, when he wrote '*B. unguis assimilatur*' [resembling *Bignonia unguis*].

22. ***Bignonia perianthomega*** Vell.

Perianthomega vellozoi Bureau, *Videnskabelige Meddelelser fra den Naturhistoriske Forening i Kjøbenhavn* 105 (Bureau 1893). — *Bignonia perianthomega* Vell., *Floræ Fluminensis*: 248 (Vellozo 1829). — *Memora perianthomega* (Vell.) Miers, *Proceedings of the Royal Horticultural Society of London* 3: 185 (Miers 1863). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *perianthomega Tab. 34*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_038 [photo!], **here designated**).

Original locality and distribution. — *Bignonia perianthomega* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Perianthomega vellozoi* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Lohmann (2023d), this species is found in dry vegetation. In Brazil, it is found in the Brazilian Atlantic Forest, Cerrado, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia perianthomega* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0075 [photo!].

Taxonomic notes

Miers (1863) treated *Bignonia perianthomega* and made the combination: *Memora perianthomega*. Later, Bureau (1893) recognized the basionym *B. perianthomega* and combined the species in the monotypic genus *Perianthomega* Bureau ex Baill. This position was also accepted in later treatments (Gomes 1957; Gentry 1975a; Lohmann & Taylor 2014; Zuntini 2014), and it is reinforced here, and the illustration includes relevant diagnostic features, such as the 9-leaves, the folioles have an acuminate apex, rounded base, entire margin, and there is a simple tendril. Besides, the very large and campanulate calyx is diagnosed (Gentry 1992b).

23. ***Bignonia hirta*** Vell.
(Fig. 5)

Bignonia hirta Vell., *Floræ Fluminensis*: 249 (1829, *nom. utique rej. prop.*). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *hirta Tab. 35*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_039 [photo!], designated by Nascimento *et al.* [2024b]).

Cuspidaria simplicifolia DC., *Bibliothèque universelle de Genève, n.s. sér.* 2 (17): 125 (Candolle 1838). — *Setilobus simplicifolius* (DC.) K.Schum., *Natürlichen Pflanzenfamilien* 4, Abt. 3b: 221 (Schumann 1894). — Type: **Brazil** • Bahia, Sierra d'Apurna près le Rio Saint-François; 1838; *J. S. Blanchet 2801*; G-DC[G00133399 photo!], NY[NY00328767 photo!], P[P00608082 photo!, P00608083 photo!, P00608084 photo!].

Original locality and distribution. — *Bignonia hirta* (Fig. 5) has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Cuspidaria simplicifolia* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Francisco (2023), this species is found in dry forests. In Brazil, it is found in the Brazilian Atlantic Forest, Caatinga, and Cerrado.

Nomenclatural notes

Initially, Bureau & Schumann (1896-1897) tentatively associated the name with *Stizophyllum perforatum* (Cham.) Miers. Disagreeing with this position, Gentry (1975a) emphasized the resemblance with *Clytostoma campanulatum* (Cham.) Bureau & K.Schum. due to the illustrated pseudostipules. Another resemblance highlighted by Gentry (1975a) is with *Cuspidaria puberula* (*C. simplicifolia*), on account of the paniculate inflorescence and simple lower leaves of each branchlet. Nevertheless, he does not consider the anther thecae illustrated as reflexed and concludes by saying that he could not resolve it at that moment. Although Gentry (1975a) praised Vellozo's original illustration and noted some similarities, he did not address the name *Bignonia hirta*.

Nascimento *et al.* (2024b) explained that the name *Cuspidaria simplicifolia* was established almost two centuries ago, while the species has been transferred among several different genera (e.g., *Arrabidaea* DC., *Setilobus* Baill., and *Saldanhaea*

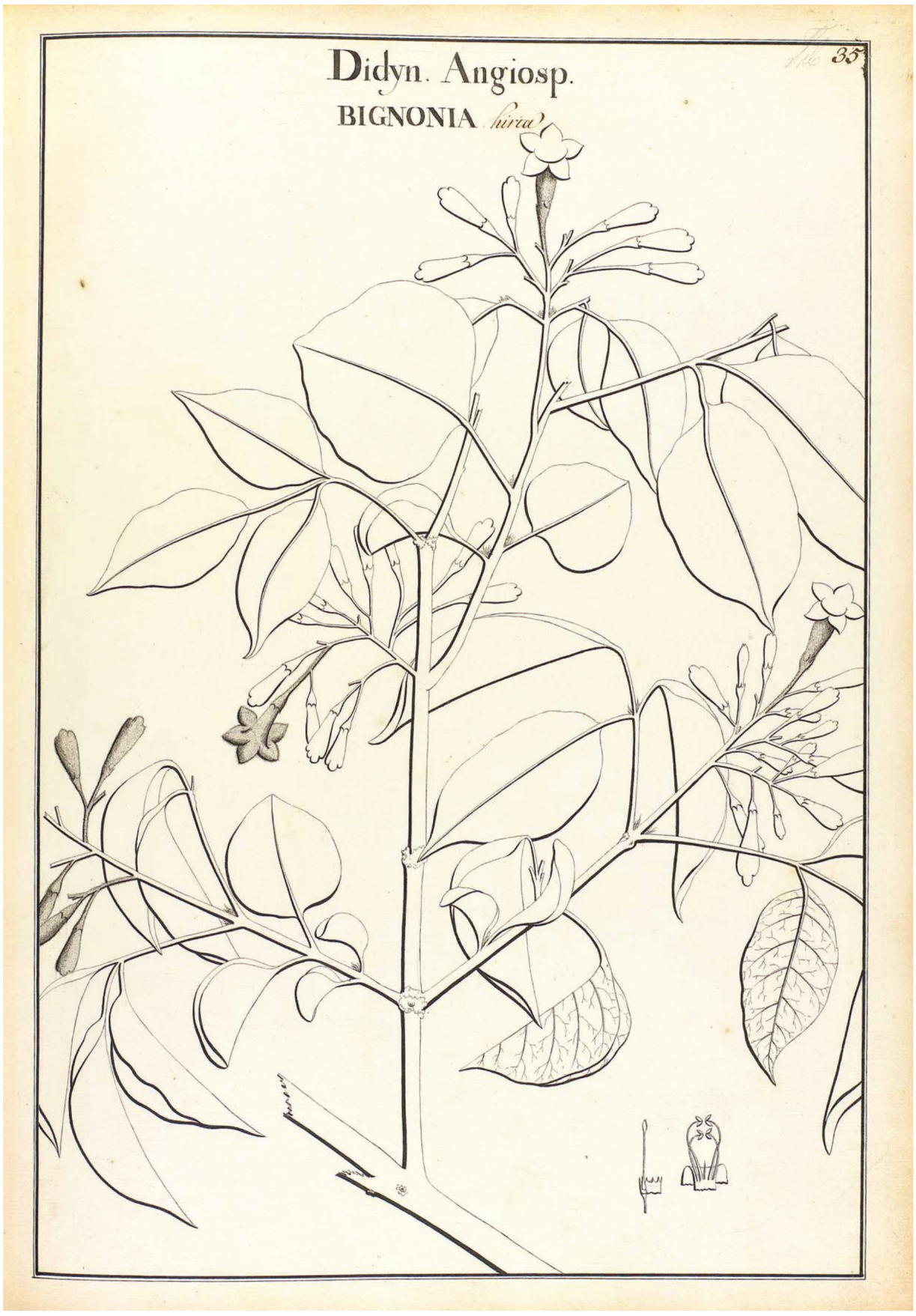

Fig. 5. — Lectotype of *Bignonia hirta* Vell. Source: *Biblioteca Nacional do Rio de Janeiro*.

Bureau). In addition, the authors mentioned that in other cases it has remained under *Cuspidaria* DC. as *C. puberula*, but in recent decades a consensus has developed in favor of adopting *Cuspidaria simplicifolia* as the correct name (e.g., Kaehler *et al.* 2019; Francisco *et al.* 2023). Therefore, Nascimento *et al.* (2024b) concluded that a new combination would cause nomenclatural confusion and possible disputes that would compromise nomenclatural stability. Thus, the authors proposed a rejection to maintain the use of *Cuspidaria simplicifolia*. In fact, the resolution case was better treated in Nascimento *et al.* (2024b), where things such as priority and nomenclatural stability are explained.

A copy of the illustration of *Bignonia hirta* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0077 [photo!].

Taxonomic notes

Bignonia hirta was frequently regarded as a heterotypic synonym of *Fridericia mollis* (Vahl) L.G.Lohmann, as documented by various sources (Zuntini 2014; BFG *et al.* 2022; Kaehler 2023a). However, in the Brazilian territory, *F. mollis* is only collected in the North. Thus, it does not make sense to associate it with *Bignonia hirta* (collected in the Southeast). *Clytostoma campanulatum* (*Bignonia campanulata* Cham.) has more elongated/lanceolate leaves with terminal foliole often modified on simple tendril – e.g., *Benson & Parentoni 5* (MO), *Gentry 49155* (NY), *Hoehne s.n.* (MO). Besides, *B. campanulata* can have persistent foliaceous bracts (Zuntini 2014), and *Bignonia hirta*'s illustration also does not show that.

The only detail that made Gentry (1975a) not relate *Bignonia hirta* with *Cuspidaria simplicifolia* was the less curved anthers present in the illustration. In fact, members of *Cuspidaria* often have anthers with forward-curved thecae (Lohmann & Taylor 2014), but this characteristic was not drawn in *Bignonia hirta*. The imprecise or insufficient illustrations are common in FF, but this lack of information does not prejudice the recognition of this species.

24. ***Bignonia cymosa*** Vell.

Bignonia cymosa Vell., *Floræ Fluminensis*: 249 (Vellozo 1829). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *cymosa Tab. 36*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_040 [photo!], **here designated**).

Original locality and distribution. — *Bignonia cymosa* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*.

Nomenclatural notes

A copy of the illustration of *Bignonia cymosa* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0079 [photo!].

Taxonomic notes

Gentry (1975a) commented that *Bignonia cymosa* does not correspond to any species already seen until that year. He still saw a possible resemblance to *Arrabidaea chica* (Bonpl.) Verl. (*Fridericia chica* (Bonpl.) L.G.Lohmann), but it would be necessary to consider some mistakes.

The interpretation of this drawing is difficult and, as Gentry (1975a) said, 'would never be positively identifiable without type material'. The species was referred to as a possible junior synonym of *Fridericia chica*, but the majority of the collections from Rio de Janeiro and São Paulo states disagree with Vellozo's representation. Some agree with the shape of the leaves, as *Ferreira & Patusco 567* (MBM), *Santoro 901* (US), *Santoro 853* (US), and *Stranghetti et al. 1458* (SJRP). However, we were not able to find any collection with 3 leaves or with a terminal foliole modified on a simple tendril. When a tendril appears, the shape of the leaves does not agree with Vellozo's drawing — e.g., *Hoehne 2628* (US), *Leitão Filho et al. 32746* (SPF). Besides, Vellozo illustrated flowers with lobes (apparently) crenate (details in two open flowers), but all collections of *Fridericia chica* seen in our study do not show this detail.

The last resource to obtain a convincing result was a search in collections of a lot of Bignoniaceae in Rio de Janeiro state and observing the resemblances with Vellozo's drawing. Thus, we noticed an affinity with *Fridericia*, particularly with the 'Group Six' of the identification key available on Kaehler (2023a). Therefore, we agree with Gentry (1975a) and believe it is better to leave *Bignonia cymosa* without identification (*incertae sedis*) until an assertive interpretation emerges.

25. ***Bignonia longa*** Vell.

Lundia longa (Vell.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 180 (Candolle 1845). — *Bignonia longa* Vell., *Floræ Fluminensis*: 249 (Vellozo 1829). — *Exsertanthera longa* (Vell.) Pichon, *Bulletin de la Société Botanique de France* 92: 226 (Pichon 1945). — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *longa Tab. 37*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_041 [photo!], **here designated**).

Original locality and distribution. — *Bignonia longa* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Lundia longa* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014), Kaehler & Lohmann (2021), and Kaehler (2023b), this species is found in open coastal vegetation, along road banks, forest edges, or wet sites. In Brazil, it is found in the Brazilian Atlantic Forest.

Nomenclatural notes

Candolle (1845) cites *Bignonia longa* at the *Lundia longa* (Vell.) DC. description. He also mentioned a collection of Martius, but this collection should be better interpreted as 'examined material' since he clearly indicates *Bignonia longa* as the basionym (Kaehler & Lohmann 2021).

Gentry (1975a) misunderstood when considering *Bignonia longa* as a synonym of *Lundia cordata* (Vell.) DC. (*Lundia corymbifera* (Vahl) Sandwith). In his opinion, *Lundia longa* (Vell.) DC. is based on the Martius collection (*Martius s.n.* of 1818 from Minas Gerais), which is different from Vellozo's illustration. However, Gentry (1975a), as well as other people since Bureau & Schumann (1896-1897), have mistaken the

species (Kaehler & Lohmann 2021) and identified *Lundia longa* as *Lundia corymbifera*.

Bignonia longa, as a synonym of *Lundia cordata*, was inaccurately associated in some treatments (Zuntini 2014). Nevertheless, the recognition of *Bignonia longa*, as the basionym of *Lundia longa* (Vell.) DC., is accepted in other treatments (e.g., Lohmann & Taylor 2014; Zuntini & Lohmann 2016; Kaehler & Lohmann 2021; Costa *et al.* 2022), and it is reinforced here.

A copy of the illustration of *Bignonia longa* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0081 [photo!].

Taxonomic notes

Bignonia longa well represents *Lundia longa* and includes relevant diagnostic features like the 3-leaves with terminal tendril modified in a trifid tendril, acuminate apex, cordate base, axillary and terminal inflorescence (Kaehler & Lohmann 2021). Although there are leaves without venation, the lack of this characteristic does not harm the recognition of the species.

26. ***Bignonia triflora*** Vell.
(Fig. 6)

Bignonia triflora Vell., *Floræ Fluminensis*: 249 (1829, *nom. utique rej. prop.*) — Type: **Brazil** • s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *[trifolia] triflora Tab. 38*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_042 [photo!], designated by Nascimento *et al.* [2024c]).

Cuspidaria pulchella (Cham.) K.Schum., *Natürlichen Pflanzenfamilien* 4: 216 (Schumann 1894). — *Bignonia pulchella* Cham., *Linnaea* 7: 663 (Chamisso 1832). — *Arrabidaea pulchella* (Cham.) Bureau, *Videnskabelige Meddelelser fra den Naturhistoriske Forening i Kjøbenhavn* 6 (6): 422 (Bureau 1892). — *Paracarpaea pulchella* (Cham.) Pichon, *Bulletin de la Société botanique de France* 92: 223 (Pichon 1945). — Type: **Brazil** • s.loc.; s.d.; *F. Sellow 5349*; (LE[*n.v.*], B[†], MO[*n.v.*], K[*n.v.*]).

Original locality and distribution. — *Bignonia triflora* (Fig. 6) has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Cuspidaria pulchella* is native and endemic to Brazil. Following Lohmann & Taylor (2014) and Francisco (2023), this species is found in the Cerrado.

Nomenclatural notes

Gentry (1975a) noted a resemblance between *Bignonia triflora* and *Arrabidaea pulchella* (*Cuspidaria pulchella*) by the few-flowered inflorescence, setae of the calyx, and the simple tendrils. However, the pubescent filaments presented in Vellozo's drawing led the Gentry to prefer maintaining this species without definitive identification.

Gentry (1975a) observed that the absence of illustrated reflexed thecae in the anthers does not correspond to *Arrabidaea pulchella*. This unresolved status remains today, and *B. triflora* has not been confidently assigned to any species (e.g., Zuntini 2014; Nascimento *et al.* 2024c; POWO 2025; Tropicos 2025).

Kaehler *et al.* (2019) revised the polyphyletic genus *Arrabidaea* DC., proposing a new circumscription divided among four genera: *Cuspidaria* DC., *Fridericia* Mart. emend. L.G.Lohmann, *Tanaecium* Sw. emend. L.G.Lohmann, and *Xylophragma* Sprague. Notably, the species formerly known as *Arrabidaea pulchella* is now recognized within *Cuspidaria*, which frequently possess anthers with forward-curved thecae (Francisco *et al.*, 2023). However, this feature is not depicted in Vellozo's illustration of *Bignonia triflora*. Gentry (1975a) himself acknowledged occasional inaccuracies in Bignoniaceae illustrations, suggesting that the anther drawing may reflect an illustration error rather than a true morphological discrepancy.

Nascimento *et al.* (2024c) critically examined *Bignonia triflora* and compared it with all *Cuspidaria* species occurring in the regions of Rio de Janeiro and São Paulo. Evaluation of the illustrated diagnostic traits such as the apparent liana habit, 2-foliolate leaves with a terminal simple tendril, axillary inflorescences bearing few flowers, and the geographical distribution of *Cuspidaria pulchella* – along with the anther profile in Vellozo (1831), aligns closely with the depiction of *A. pulchella* in Lohmann & Pirani (1998). These observations confirm the strong similarity between *Bignonia triflora* and *Cuspidaria pulchella*, supporting the proposal of a new combination and the reassignment of *C. pulchella*.

In the end, Nascimento *et al.* (2024c) conclude that, although lacking some important features, *Bignonia trifloral* makes clear the possibility of it being applied as the correct name for *Cuspidaria pulchella*. Thus, a new combination would be a continuing source of dispute on the application of the name, and the situation is disadvantageous to nomenclatural stability. For this situation and other details presented in Nascimento *et al.* (2024c), the authors propose to reject the name.

In addition, A copy of the illustration of *Bignonia triflora* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0083 [photo!].

Taxonomic notes

In collections of *Cuspidaria* species from Southeast Brazil, the resemblance between *Bignonia triflora* and *Cuspidaria pulchella* increases. Some species are restricted to one state: *Cuspidaria lasiantha* (Bureau & K.Schum.) L.G.Lohmann (Rio de Janeiro), *C. floribunda* (DC.) A.H.Gentry and *C. multiflora* DC. (São Paulo). Meantime, others can ambiguously occur: *C. octoptera* A.H.Gentry, *C. pulchella*, *C. pulchra* (Cham.) L.G.Lohmann (Francisco 2023; speciesLink 2023).

Almost all species mentioned above do not agree with Vellozo's drawing, due to the terminal panicle (sometimes axillary in *Cuspidaria lasiantha*). The shape of the leaves between them varies but is similar. Nevertheless, the only species to combine all details, including leaves, simple tendril, and axillary inflorescence reduced to a few flowers, is *Cuspidaria pulchella*.

The only detail that made Gentry (1975a) not relate *Bignonia triflora* to *Cuspidaria pulchella* (treated as *Arrabidaea pulchella*) was the less curved anthers present in the illustration. In fact, members of *Cuspidaria* often have anthers with forward-curved thecae (Lohmann & Taylor 2014), but this characteristic was not drawn in *Bignonia triflora*. Nevertheless, in Lohmann & Pirani (1998), an illustration was provided with the appearance of anthers, making the similarity to Vellozo's drawing clear. Besides, it is common for plates from

Fig. 6. — Lectotype of *Bignonia triflora* Vell. Source: *Biblioteca Nacional do Rio de Janeiro*.

Floræ Fluminensis not to include diagnostic details to support the species identification (Pastore *et al.* 2022).

27. ***Bignonia rego*** Vell.

Fridericia rego (Vell.) L.G.Lohmann, *Annals of the Missouri Botanical Garden. St. Louis* 99 (3): 444 (Lohmann & Taylor 2014). — *Bignonia rego* Vell., *Floræ Fluminensis*: 249 (Vellozo 1829). — *Arrabidaea rego* (Vell.) DC., *Bibliothèque Universelle de Genève* 17: 126 (Candolle 1838). — *Vasconcellia rego* (Vell.) Mart., *Flora* 24: 12 (Martius 1841). — *Chasmia rego* (Vell.) Kuntze, *Revisio Generum Plantarum* 2: 479 (Kuntze 1891). — **Type: Brazil •** s.loc.; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *sego Tab. 39*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_043 [photo!], **here designated**).

Original locality and distribution. — *Bignonia rego* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Fridericia rego* is a native plant endemic to Brazil. Following Lohmann & Taylor (2014) and Kaehler (2023a), this species is found in dry forests. In Brazil, it is found in the Brazilian Atlantic Forest.

Nomenclatural notes

A copy of the illustration of *Bignonia rego* stored in the Manuscript Section of Torre do Tombo is accessed under the code PT-TT-MSLIV-2776_m0085 [photo!]. The search for this name on the *Biblioteca Nacional do Rio de Janeiro*, uses '*Bignonia sego*' with an 'S' instead of an 'R'.

Taxonomic notes

Candolle (1838) makes the combination: *Arrabidaea rego* (Vell.) DC. (as '*sego*'). Later, Martius (1841) changed to *Vasconcellia* Mart. (also as '*sego*'). Kuntze (1891) transfers the species to *Chasmia* Schott ex Spreng. Later, Gentry (1975a) re-established *Arrabidaea rego* (Vell.) DC. and considered *Arrabidaea agnus-castus* (Cham.) DC. (*Bignonia agnus-castus* Cham.) as a synonym. However, Lohmann & Taylor (2014) combined this name into *Fridericia*, which was followed by Zuntini (2014) and Kaehler *et al.* (2019). This position is reinforced here.

Bignonia rego well represents *Fridericia rego* and includes relevant diagnostic features, such as the 3-leaves with terminal foliole modified on the simple tendril, the folioles are ovate with acuminate apex, plus the shape of the inflorescence, fruits, and seeds (Reiche *et al.* 2020).

In addition, Vellozo (1829) commented: '*Vulgò cognita est nomine Sipó-rego*' [Generally known by the name 'Cipó-rego']. A reference to the common name of the species in the region and time.

28. ***Bignonia arvensis*** Vell.
(Fig. 7)

Anemopaegma arvense (Vell.) Stellfeld ex J.F.Sousa, *Tribuna Farmaceutica* 13: 275 (Sousa 1945). — *Bignonia arvensis* Vell., *Floræ Fluminensis*: 250 (Vellozo 1829). — *Jacaranda arvensis* (Vell.) Steud., *Nomenclator Botanicus*, ed. 2, 1: 795 (Steudel 1840). — Type: **Brazil •** São Paulo, '*Habitat campis apricis mediterraneis trans-alpinis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *arvensis Tab. 40*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_044 [photo!], **here designated**).

Original locality and distribution. — *Bignonia arvensis* (Fig. 7) was described by Vellozo (1829) as '*Habitat campis apricis mediterraneis trans-alpinis*', which is recognized as someplace in São Paulo state. Especially the Cerrado vegetation in the stretch of BR-459 right before the São Paulo border, in the direction of Cunha town. *Anemopaegma arvense* is a native plant, but not endemic to Brazil. Following Lohmann & Taylor (2014) and Firetti (2023), in Brazil, this species is found in the Amazon Forest, Brazilian Atlantic Forest, and Cerrado.

Nomenclatural notes

A copy of the illustration of *Bignonia arvensis* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0087 [photo!].

Taxonomic notes

Steudel (1840) mentioned *Bignonia arvensis,* and later, in Sousa (1945), the combination was proposed: *Anemopaegma arvense*. Gentry (1975a) mentioned the combination made by Sousa (1945) and suggested *Bignonia arvensis* as a name to replace *Anemopaegma mirandum* (Cham.) DC. (*Bignonia miranda* Cham.). This position was also accepted in later treatments (Scudeller 2004; Zuntini 2014; Lohmann & Taylor 2014), and it is reinforced here.

The illustration includes relevant diagnostic features, such as the appearance of leaves, flower position, and morphology, as well as the details presented in fruits and seeds.

29. ***Bignonia pedunculata*** Vell.
(Fig. 8)

Adenocalymma pedunculatum (Vell.) L.G.Lohmann, *Annals of the Missouri Botanical Garden. St. Louis* 99 (3): 395 (Lohmann & Taylor 2014). — *Bignonia pedunculata* Vell., *Floræ Fluminensis*: 250 (Vellozo 1829). — *Memora pedunculata* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 185 (Miers 1863). — Type: **Brazil •** São Paulo, '*Habitat campis apricis mediterraneis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *pedunculata Tab. 41*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_045 [photo!], **here designated**).

Original locality and distribution. — *Bignonia pedunculata* (Fig. 8) was described by Vellozo (1829) as '*Habitat campis apricis mediterraneis*', which is recognized as someplace in the Cerrado vegetation in São Paulo state (see comments under *Bignonia ignea*). *Adenocalymma pedunculatum* is a native plant endemic to Brazil. Following Fonseca & Lohmann (2019) and Fonseca (2023a), this species is found in the Amazon Forest, Brazilian Atlantic Forest, and Cerrado.

Nomenclatural notes

A copy of the illustration of *Bignonia pedunculata* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0089 [photo!].

Taxonomic notes

Miers (1863) made the combination *Memora pedunculata* (Vell.) Miers. Sandwith (1962) had already synonymized *Bignonia glaberrima* Cham. in *Bignonia pedunculata*. Recently, other

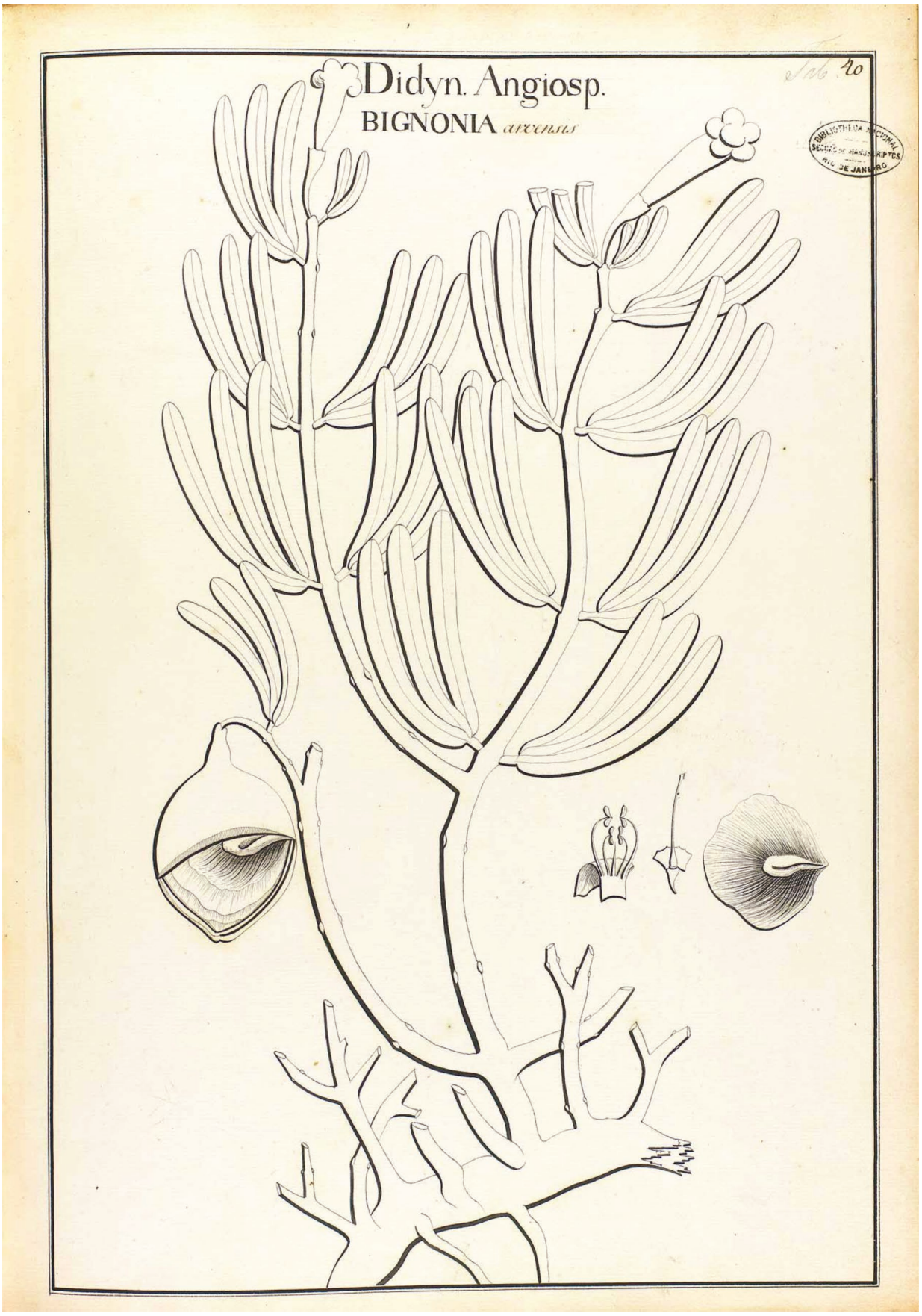

Fig. 7. — Lectotype of *Anemopaegma arvense* (Vell.) Stellfeld ex de Souza. Source: *Biblioteca Nacional do Rio de Janeiro*.

Fig. 8. — Lectotype of *Adenocalymma pedunculatum* (Vell.) L.G.Lohmann. Source: *Biblioteca Nacional do Rio de Janeiro*.

studies have followed this organization (Gentry 1975a; Zuntini 2014; Fonseca & Lohmann 2019), and it is reinforced here.

Bignonia pedunculata well represents *Adenocalymma pedunculatum* and includes relevant diagnostic features, such as the triternate leaves without tendril, ovate blade with ovate base, acute apex, entire margin, terminal inflorescence, floral morphology, and yellow color (Machado & Romero 2014). The original descriptions include features, such as '*caule herbaceo*' (herbaceous stem) and '*caulis cubitalis*' (stem measuring the length of a cubit, 40-50 cm).

30. ***Bignonia coccinea*** Vell.

Dolichandra coccinea (Vell.) M.Nascim., Zuntini & J.F.B.Pastore, *Phytotaxa* 616(2): 201 (Nascimento *et al.* 2023). — *Bignonia coccinea* Vell., *Floræ Fluminensis*: 250 (1829, *nom. utique rej. prop.*), *non* Steud. (Steudel 1821). — *Macfadyena coccinea* (Vell.) Miers, *Proceedings of the Royal Horticultural Society, London* 3: 200 (Miers 1863). — Type: **Brazil** • São Paulo, '*Habitat silvis mediterraneis*'; s.d.; lectotype: [Icon. ined.] 'Didyn. Ang[i]yosp. BIGNONIA *coccinea Tab. 42*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_046 [photo!], designated by Nascimento *et al.* 2023).

Original locality and distribution. — *Bignonia coccinea* Vell. was described by Vellozo (1829) as '*Habitat silvis mediterraneis*', which is recognized as someplace in São Paulo state (see comments under *Bignonia ignea*).

Nomenclatural notes

Gentry (1975a) recognized *Bignonia coccinea* Vell., non *Bignonia coccinea* (Prush) Steud. as *Dolichandra cynanchoides* Cham. and treated the Vellozo's name as a later homonym. However, Nascimento *et al.* (2023) revealed that *B. coccinea* Steudel is not validly published, and consequently, *B. coccinea* Vell. is legitimate. Thus, the combination '*Dolichandra coccinea* (Vell.) M.Nascim., Zuntini & J.F.B.Pastore' was made. However, some important taxonomic details were not illustrated and undermined the stability and correct use of this name.

Fonseca (2024) identified some mistakes in the illustration, including the portrayal of simple tendrils, a bi-labiate calyx, and linear fruits. In contrast, *Dolichandra cynanchoides* has trifid and uncinate tendrils, spathaceous calyx, and oblong fruits (Fonseca *et al.* 2017). Besides, Fonseca (2024) emphasized the misguided distribution presented, noting that *D. cynanchoides* occurs exclusively in southern Brazil (Fonseca *et al.* 2017). However, some occurrences exist in Southeast Brazil, but they are of cultivated plants (L.H.M. Fonseca, pers. comm.).

Thus, it is evident that an opinion conflict involves this name and its application; a debate, if it remains under discussion, is entirely unfavorable to nomenclatural stability. The arguments presented by Fonseca (2024) are thoroughly addressed in Nascimento *et al.* (2024d), which explained all issues and showed that a discussion may persist. Nonetheless, in conclusion, Nascimento *et al.* (2024d) propose rejecting *Bignonia coccinea* Vell., to preserve the use of *Dolichandra cynanchoides* and prevent this issue from resurfacing in the future.

Recently, Fonseca (2025) published a reappraisal of Nascimento *et al.* (2024d), explaining his reasons for maintaining the taxonomic disagreement regarding the identification of *Bignonia coccinea* Vell. as *Dolichandra cynanchoides*. However, he acknowledges the intention of Nascimento *et al.* (2024d) and, for taxonomic reasons, concurs with the rejection of the name *Bignonia coccinea* Vell. In summary, although for different reasons, both authors agree that preserving the use of *Dolichandra cynanchoides* is the best decision.

A copy of the illustration of *Bignonia coccinea* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0091 [photo!] (Nascimento *et al.* 2023).

31. ***Bignonia caroba*** Vell.
(Fig. 9)

Jacaranda caroba (Vell.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 232 (Candolle 1845). — *Bignonia caroba* Vell., *Floræ Fluminensis*: 250 (Vellozo 1829). — Type: **Brazil** • São Paulo, '*Campis apricis mediterraneis habitat*'; s.d.; (lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *caro[b]va Tab. 43*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_047 [photo!], **here designated**).

Original locality and distribution. — From the description at locality origin in Vellozo (1829) '*Campis apricis mediterraneis habitat*', which is recognized as someplace in São Paulo state (see comments under *Bignonia ignea*). *Jacaranda caroba* (Fig. 9) is a native plant endemic to Brazil. Following Gentry (1992b) and Farias-Singer (2023), this species is found in the Brazilian Atlantic Forest and Cerrado.

Nomenclatural notes

Morawetz (1982) chose the collection *Pohl 223* (F No. 875015 [photo!], W No. 0057739 [photo!]) as Neotype for *Jacaranda caroba*. Consequently, this typification is also superseded here due to the presence of the original illustrations of *Floræ Fluminensis* (Art. 9.19 of the ICN, Turland *et al.* 2025).

A copy of the illustration of *Bignonia caroba* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0093 [photo!].

Taxonomic notes

Candolle (1845) observed the species and arranged the combination: *Jacaranda caroba*. Gentry (1975a) also recognized *Jacaranda caroba* and listed a substantial number of illustrated characters. Later, other studies also accepted this organization (Gentry 1992b; Zuntini 2014), and it is reinforced here.

The illustration includes relevant diagnostic features, such as the bi-pinnate leaves with acute apex, terminal inflorescence, and color of flowers (Gentry 1992b). It is also commented '*Vulgo dicitur Carôba. Habet vim antivenereum. Ideo rusticani eam magni faciunt. Qualitas amara.*' [Generally, it is called 'Carôba'. It has anti-venomous power. Because of this, the peasants consider it of great value. The quality is bitter, a reference to the common name, flavor, and possible uses by regional people, which indicates Vellozo or someone in the entourage knew about this species.

Fig. 9. — Lectotype of *Jacaranda caroba* (Vell.) DC. Source: *Biblioteca Nacional do Rio de Janeiro*.

32. ***Bignonia elliptica*** Vell.

Bignonia elliptica Vell., *Floræ Fluminensis*: 250 (1829, *nom. illeg.*), *non* Thunb. (Thunberg 1821). — *Jacaranda elliptica* (Vell.) Steud., *Nomenclator Botanicus* ed. 2. 1: 795 (Steudel 1840). — Type: **Brazil** • São Paulo, '*Habitat silvis mediterraneis trans-alpinis propre prædium dictum Boavista*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *ellyptica Tab. 44*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_048 [photo!], **here designated**).

Jacaranda macrantha Cham., *Linnaea* 7: 552 (Chamisso 1832). — Type: **Brazil** • s.loc.; s.d.; *Sellow s.n.*; lectotype: HBG[HBG522947 photo!], designated by Morawetz (1982); isolectotype: K[K000449836 photo!]).

Original locality and distribution. — *Bignonia elliptica* was described by Vellozo (1829) as '*Habitat silvis mediterraneis trans-alpinis propre prædium dictum Boavista*', which is recognized as someplace in São Paulo state (see comments under *Bignonia ignea*), especially near the Chapel of São José da Boa Vista in Cunha/SP (Pastore *et al.* 2021). *Jacaranda macrantha* is a native plant endemic to Brazil. Following Gentry (1992b) and Farias-Singer (2023), this species is found in the Brazilian Atlantic Forest, and Cerrado.

Nomenclatural notes

Bignonia elliptica Vell. is a later homonym of *Bignonia elliptica* Thunb. (1821), therefore it is illegitimate (Art. 53.1 of the ICN, Turland *et al.* 2025). A copy of the illustration of *Bignonia elliptica* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0095 [photo!].

Taxonomic notes

Gentry (1975a) associated *Bignonia elliptica* Vell. with *Jacaranda macrantha* Cham. and explained that the substitute name *Jacaranda elliptica* Steud. (1840) is legitimate, but it is a synonym of *J. macrantha*. In Farias-Singer (2023), *Bignonia elliptica* Vell. does not appear in the search or as a synonym for *Jacaranda macrantha*. However, *Bignonia elliptica* Vell. (as a synonym of *Jacaranda macrantha*) is found in other studies (Gentry 1992b), and it is reinforced here.

Bignonia elliptica Vell. well represents *Jacaranda macrantha* and includes relevant diagnostic features, such as the bipinnate leaves, ovate, acuminate apex, cuneate base, entire margin, inflorescence, flowers, fruits, seeds morphology, and corolla color (Gentry 1992b). Although the line drawing lacks the majority of leaf venation, this detail does not harm the recognition of the species.

33. ***Bignonia obovata*** Vell.

Bignonia obovata Vell., *Floræ Fluminensis*: 251 (1829, *nom. illeg.*), *non* Spreng. (Sprengel 1825). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis, campisque*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *obovata Tab. 45*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_049 [photo!], **here designated**).

Jacaranda puberula Cham., *Linnaea* 7: 550 (Chamisso 1832). — Type: **Brazil** • s.loc.; s.d.; *Sellow s.n.*; lectotype: K[K000449847 photo!], designated by Gentry (1992b); isolectotypes: HAL[HAL0043170 photo!], F[F18473 photo!], HBG[HBG0522944 photo!, HBG0522945 photo!].

Original locality and distribution. — *Bignonia obovata* Vell. was described by Vellozo (1829) as '*Habitat silvis maritimis, campisque*', which is recognized as a place in Rio de Janeiro state (see comments under *Bignonia squalus*). *Jacaranda puberula* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Farias-Singer (2023), this species is found in coastal evergreen forests, semideciduous forests, or montane forests. In Brazil, it is found in the Brazilian Atlantic Forest and Cerrado.

Nomenclatural notes

Bignonia obovata Vell. is a later homonym of *Bignonia obovata* Spreng. (1825), therefore it is illegitimate (Art. 53.1 of the ICN, Turland *et al.* 2025). A copy of the illustration of *Bignonia obovata* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0097 [photo!].

Taxonomic notes

Gentry (1975a) treated *Bignonia obovata* Vell. as a later homonym, and it was synonymized in *Jacaranda puberula*. This position was also accepted in later treatments (Gentry 1992b; Zuntini 2014), but in Farias-Singer (2023), this name does not appear as a synonym of *J. puberula*. However, our study agrees with Gentry (1992b) and considers *Bignonia obovata* Vell. as a synonym of *J. puberula*.

Bignonia obovata Vell. well represents *Jacaranda puberula* and includes relevant diagnostic features, such as the bipinnate leaves, tubular-campanulate corolla and color (purple), oblong-obovate fruit, and winged seeds (Gentry 1992b). Although there is a lack of venation in the majority of the leaves and the margin is slightly serrate (a common characteristic in Rio de Janeiro collections), this detail can be variable, and its absence does not harm the recognition of the species.

In addition, Vellozo (1829) commented: '*Carôba etiam dicitur*' [Also known as 'Carôba'], as a reference to the common name of the species.

34. ***Bignonia tuberculosa*** Vell.
(Fig. 10)

Zeyheria tuberculosa (Vell.) Bureau, *Revue Horticole* 40: 154 (Bureau 1868). — *Bignonia tuberculosa* Vell., *Floræ Fluminensis*: 251 (Vellozo 1829). — *Jacaranda tuberculosa* (Vell.) Steud., *Nomenclator Botanicus* 2: 795 (Steudel 1840). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis pharmacopolitanis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *tuberculosa Tab. 46*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_050 [photo!], **here designated**).

Original locality and distribution. — *Bignonia tuberculosa* (Fig. 10) was described by Vellozo (1829) as '*Habitat silvis maritimis pharmacopolitanis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia triphylla*). *Zeyheria tuberculosa* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Lohmann (2023h), this species is found in the Brazilian Atlantic Forest, Caatinga, and Cerrado.

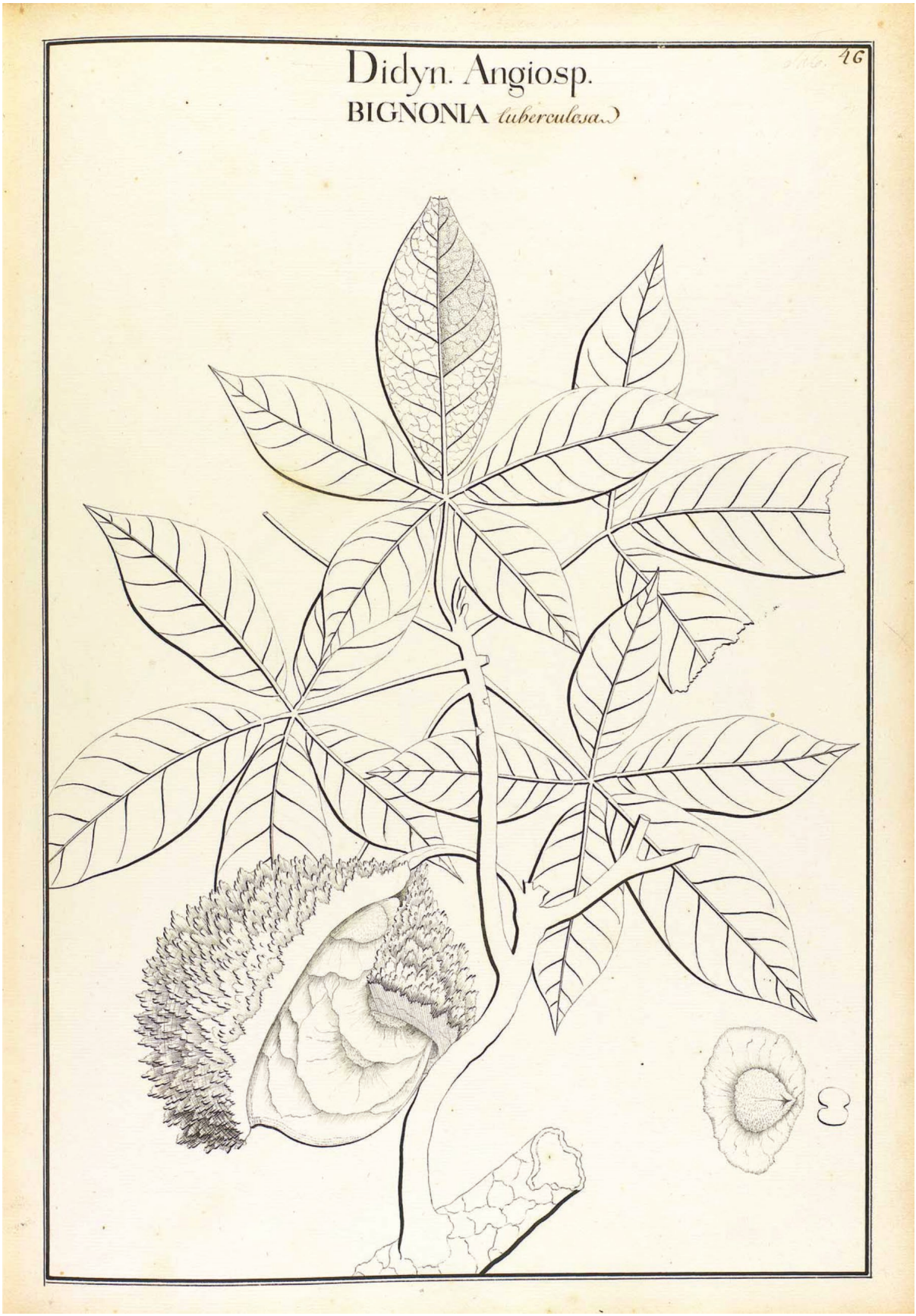

Fig. 10. — Lectotype of *Zeyheria tuberculosa* (Vell.) Bureau. Source: *Biblioteca Nacional do Rio de Janeiro*.

Nomenclatural notes

A copy of the illustration of *Bignonia tuberculosa* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0099 [photo!].

Taxonomic notes

Steudel (1840) treated *Bignonia tuberculosa* and made a combination: *Jacaranda tuberculosa*. Later, Bureau (1868) revised this name and proposed the combination in another generic delimitation: *Zeyheria tuberculata* (Vell.) Bureau. Gentry (1975a) and other studies also accepted it (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia tuberculosa well represents *Zeyheria tuberculosa* and includes relevant diagnostic features, such as the 5-leaves, more or less oblong, acuminate apex, rounded base, entire margin, fruit with obovoid capsule, and winged seeds. These characteristics agree with *Zeyheria tuberculosa* (Gentry, 1992b).

In addition, Vellozo (1829) commented: '*Florem non vidi*' [Unseen flower], an indication that at the moment of Vellozo and his entourage's passage, specimens of *Bignonia tuberculosa* were not found with flowers.

35. ***Bignonia digitalis*** Vell.

Bignonia digitalis Vell., *Floræ Fluminensis*: 251 (Vellozo 1829). — *Zeyheria digitalis* (Vell.) Hoehne, *Índice Bibliográfico e Numérico das Plantas Colhidas pela Comissão Rondon*: 365 (Hoehne *in* Hoehne & Kuhlmann 1951). — *Zeyheria velloziana* Miers, *Proceedings of the Royal Horticultural Society of London* 3: 201 (Miers 1863, *nom. superfl.*). — Type: **Brazil** • São Paulo, '*Habitat campis apricis mediterraneis. Trans-alpinis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *digitalis Tab. 47*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_051 [photo!], **here designated**).

Zeyheria montana Mart., *Nova genera et species plantarum* 2: 66 (Martius 1826). — *Spathodea montana* (Mart.) Spreng., *Systema vegetabilium* 16: 236 (Sprengel 1827). — Type: **Brazil** • Minas Gerais; s.d.; *Martius 533*; lectotype: M[M-0088988 photo!], designated by Gentry (1992b); isolectotype: G[G00177547 photo!]).

Original locality and distribution. — *Bignonia digitalis* was described by Vellozo (1829) as '*Habitat campis apricis mediterraneis. Trans-alpinis*', which is recognized as someplace in São Paulo state. Especially the Cerrado vegetation in the stretch of BR-459 (see comments under *Bignonia squalus*). *Zeyheria montana* is a native plant endemic to Brazil. Following Gentry (1992b) and Lohmann (2023h), this species is found in the Amazon Forest, the Brazilian Atlantic Forest, Caatinga, and Cerrado.

Nomenclatural notes

Gentry (1975a) accepting *Zeyheria digitalis* (Vell.) Hoehne does not consider the priority of *Z. montana* and mentions the posterior homonym *Zeyheria digitalis* (Vell.) L.B.Sm. & Sandwith (Sandwith 1953). However, Sandwith (1953) considered the year 1825 as the publication year of *Floræ Fluminensis*; this detail led the author to attribute priority to *Bignonia digitalis*. Nevertheless, 1825 represents the initial date of printing, which ended in 1829 (Carauta 1973). *Bignonia digitalis* has had priority over *Zeyheria montana* since 1826, the year of effective publication (Martius 1826). Later, other studies proposed the appropriate organization (Gentry 1992b; Zuntini 2014), and it is reinforced here.

A copy of the illustration of *Bignonia digitalis* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0101 [photo!].

Taxonomic notes

Bignonia digitalis well represents *Zeyheria montana* and includes relevant diagnostic features, such as the 5-leaves, elliptic, acute apex, cuneate base, entire margin, terminal inflorescence, irregularly 2-dentate calyx, tubular-cylindrical corolla, fruit, and seeds morphology. These characteristics agree with *Zeyheria montana* (Gentry 1992b). Although there are leaves without venation, the lack of this characteristic does not harm the recognition of the species.

In addition, Vellozo (1829) commented: '*Tota planta tomento subtilissimo rufo tecta*' [The entire plant is covered by a very fine and reddish tomentum], a reference to the indument present on the plant.

36. ***Bignonia heptaphylla*** Vell.
(Fig. 11)

Handroanthus heptaphyllus (Vell.) Mattos, *Loefgrenia* 50: 2 (Mattos 1970). — *Bignonia heptaphylla* Vell., *Floræ Fluminensis*: 251 (Vellozo 1829). — *Tecoma heptaphylla* (Vell.) Mart., *Flora* 24 (2, Beibl.): 14 (Martius 1841). — *Tabebuia heptaphylla* (Vell.) Toledo, *Arquivos de Botânica do Estado de São Paulo* 3: 33 (Toledo 1952). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis*'; s.d.; (lectotype: [Icon. Ined.] 'Didyn. Ang[i]yosp. BIGNONIA *heptaphylla Tab. 48*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_052 [photo!], **here designated**).

Original locality and distribution. — *Bignonia heptaphylla* (Fig. 11) was described by Vellozo (1829) as '*Habitat silvis maritimis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*). *Handroanthus heptaphyllus* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Lohmann (2023c), this species, in Brazil, is found in the Brazilian Atlantic Forest, Cerrado, and Pampa.

Nomenclatural notes

A copy of the illustration of *Bignonia heptaphylla* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0103 [photo!].

Taxonomic notes

Bignonia heptaphylla was first treated by Martius (1841), who made the combination *Tecoma heptaphylla* (Vell.) Mart. Then Toledo (1952) transferred it to *Tabebuia* Gomes ex DC. In Mattos (1970), the species was combined in *Handroanthus*.

Gentry (1974) initially considered *Bignonia heptaphylla* as '*nomen confusum*', but the next year, after analyzing many collections near Rio de Janeiro, Gentry (1975a) affirmed that *Tabebuia heptaphylla* should be adopted. After the re-establishment of *Handroanthus* by Grose & Olmstead (2007), *H. heptaphyllus* (Vell.) Mattos became the most widely used

Fig. 11. — Lectotype of *Handroanthus heptaphyllus* (Vell.) Mattos. Source: *Biblioteca Nacional do Rio de Janeiro*.

name. This position was also accepted in later treatments (Gentry 1975a; Zuntini 2014), and it is reinforced here.

The illustration includes relevant diagnostic features, such as the number of leaflets (6-7), more or less oblong, acuminate apex, rounded base, serrated margin, terminal inflorescence, cupular calyx, elongate fruit, and seed details, that agree with *H. heptaphyllus* (Gentry 1992b). Although the leaf venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species. The original description includes features, such as '*Caulis arboreus*' [tree stem] and '*Corolla violacea*' [purple corolla].

37. ***Bignonia leucantha*** Vell.

Sparattosperma leucanthum (Vell.) K.Schum., *Natürlichen Pflanzenfamilien* 4, Abt. 3b: 235 (Schumann 1894). — *Bignonia leucantha* Vell., *Floræ Fluminensis*: 251 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *leucantha Tab. 49*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_053 [photo!], **here designated**).

Original locality and distribution. — *Bignonia leucantha* was described by Vellozo (1829) as '*Habitat silvis maritimis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*). *Sparattosperma leucanthum* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Lohmann (2023f), this species, in Brazil, is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia leucantha* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0105 [photo!].

Taxonomic notes

Schumann (1894) treated *Bignonia leucantha* and made the combination: *Sparattosperma leucanthum*. Later, Gentry (1975a) recognizes and agrees with Schumann (1894). This position was also accepted in later treatments (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia leucantha well represents *Sparattosperma leucanthum* and includes relevant diagnostic features, such as the 5-leaves, oblong-ovate folioles, acuminate apex, cuneate base, entire margin, terminal inflorescence, irregular calyx, tubular-campanulate corolla, and color, elongated fruit, and winged seeds (Gentry 1992b). The original description includes features, such as '*Caulis arboreus*' [tree stem].

38. ***Bignonia quinquefolia*** Vell.

Bignonia quinquefolia Vell., *Floræ Fluminensis*: 252 (Vellozo 1829). — Jacaranda quinquefolia (Vell.) Steud., Nomenclator Botanicus, ed. 2. 1: 795 (Steudel 1840). — *Cybistax quinquefolia* (Vell.) J.F.Macbr., *Publications of the Field Museum of Natural History* 13: 90 (Macbride 1961). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis pharmacopolitanis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *quinquefolia Tab. 50*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_054 [photo!], **here designated**).

Cybistax antisyphilitica (Mart.) Mart., *Systema Materiae Medicae Vegetabilis Brasiliensis* 66 (Martius 1843). — *Bignonia antisyphilitica* Mart., *Reise in Brasilien* 1: 283 (Spix 1823). — Type: **Brazil** • Rio de Janeiro, *prope Sebastianópolis*; *Martius 232*; holotype: M[M-0086424 photo!]).

Original locality and distribution. — *Bignonia quinquefolia* was described by Vellozo (1829) as '*Habitat silvis pharmacopolitanis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia triphylla*). *Cybistax antisyphilitica* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Lohmann (2023b), this species, in Brazil, is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, Pampa, and Pantanal.

Nomenclatural notes

A copy of the illustration of *Bignonia quinquefolia* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0107 [photo!].

Taxonomic notes

Gentry (1975a) discussed the stabilization of *Cybistax antisyphilitica* and listed *Bignonia quinquefolia* as a synonym of *Cybistax antisyphilitica*. This position was also accepted in later treatments (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia quinquefolia well represents *Cybistax antisyphilitica* and includes relevant diagnostic features, such as the 5-leaves, elliptic, acuminate apex, cuneate base, entire margin, terminal inflorescence, calyx long, acuminate teeth, tubular-campanulate corolla, the oblong capsule fruit, and winged seeds. These characteristics agree with *Cybistax antisyphilitica* (Gentry 1992b). Although the leaf venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species.

39. ***Bignonia flavescens*** Vell.

Bignonia flavescens Vell., *Floræ Fluminensis*: 252 (Vellozo 1829). — *Handroanthus flavescens* (Vell.) Mattos, *Loefgrenia* 50: 2 (Mattos 1970). — Type: **Brazil** • s.loc.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *flavescens Tab. 51*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_055 [photo!], **here designated**).

Handroanthus serratifolius (Vahl) S.O.Grose, *Systematic Botany* 32 (3): 666 (Grose & Olmstead 2007). — *Bignonia serratifolia* Vahl, *Eclogae Americanae* 2: 46 (Vahl 1798). — *Tecoma serratifolia* (Vahl) G.Don, *A General History of the Dichlamydeous Plants* 4: 224 (Don 1837). — *Tabebuia serratifolia* (Vahl) G.Nicholson, *Illustrated Dictionary of Gardening, a Practical and Scientific Encyclopaedia of Horticulture for Gardeners and Botanists* 4: 1 (Nicholson 1887). — Type: **Trinidad** • The island Trinidad; s.d.; *Ryan s.n.*; lectotype: C[C10008627 photo!], **here designated**; isolectotypes: C[C10008628 photo!, C10008629 photo!]).

Original locality and distribution. — *Bignonia flavescens* has no indication of locality, vegetation, or month of the year in the original manuscript of *Floræ Fluminensis*. *Handroanthus serratifolius* is a native plant, but not endemic to Brazil. Following Gentry (1992b) and Lohmann (2023c), this species is found in seasonal forests. In Brazil, it is found in the Amazon Forest, Brazilian Atlantic Forest, Caatinga, Cerrado, and Pantanal.

Nomenclatural notes

Bignonia serratifolia was originally described with reference only to the voucher *Ryan s.n.*, without indicating the precise specimen or herbarium, and therefore the name lacks a designated holotype (McNeill 2014). Thus, a lectotype has been here designated from the main Vahl herbarium, which includes both vegetative and reproductive characteristics in the same specimen.

A copy of the illustration of *Bignonia flavescens* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0109 [photo!].

Taxonomic notes

Mattos (1970) recognized *Bignonia flavescens* and made the combination in *Handroanthus flavescens* (Vell.) Mattos. Later, Gentry (1975a) treated *B. flavescens* as a variation of *Tabebuia serratifolia* and suggested the synonymization. After the reestablishment of *Handroanthus* by Grose & Olmstead (2007), the name was synonymized with *Handroanthus*. This name, as a synonym of *H. serratifolius,* was also accepted in later treatments (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia flavescens well represents *Handroanthus serratifolius* and includes relevant diagnostic features, such as 5-leaves, elliptic, acuminate apex, rounded base, slightly serrated margin, terminal inflorescence, and infundibuliform corolla. These characteristics agree with *Handroanthus serratifolius* (Gentry 1992b).

In addition, Vellozo (1829) commented: '*Vulgo dicitur Ipéuva, vel Ipê do Campo*' [Generally known as 'Ipéuva,' or 'Ipê do Campo'], as a reference to the common name of the species.

40. ***Bignonia longiflora*** Vell.

Handroanthus speciosus (DC. ex Mart.) M.Nascim., J.F.B.Pastore & Zuntini, *Phytotaxa* 640 (2): 172 (Nascimento *et al.* 2024a). — *Bignonia longiflora* Vell., *Floræ Fluminensis*: 252 (Vellozo 1829, *nom. illeg.*), *non* Cav. (Cavanilles *in* Cavanilles & Antonio 1801). — *Tecoma speciosa* DC. ex Mart., *Flora* 24: 13 (Martius 1841). — *Tecoma longiflora* Bureau & K.Schum., *Flora Brasiliensis* 8 (2): 324 (Bureau & Schumann 1897, *nom. illeg.*), *non* Griseb. (Grisebach 1866). — *Gelseminum speciosum* (DC. ex Mart.) Kuntze, *Revisio Generum Plantarum* 3: 245 (Kuntze 1898). — *Tabebuia vellosoi* Toledo, *Arquivos de Botanica do Estado de São Paulo* 3: 34 (Toledo 1952). — *Handroanthus vellosoi* (Toledo) Mattos, *Loefgrenia* 50: 2 (Mattos 1970). — *Handroanthus longiflora* Mattos, *Loefgrenia* 100: 3 (Mattos 1991). — Type: **Brazil** • Rio de Janeiro, '*Habitat silvis maritimis pharmacopolitanis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *longiflora Tab. 52*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_056 [photo!], designated by Nascimento *et al.* [2024a]).

Original locality and distribution. — *Bignonia longiflora* was described by Vellozo (1829) as '*Habitat silvis maritimis pharmacopolitanis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia triphylla*). *Handroanthus speciosus* is a native plant endemic to Brazil. Following Gentry (1992b) and Lohmann (2023c), this species is found in montane forests. In Brazil, it is found in the Brazilian Atlantic Forest.

Nomenclatural notes

Several names, with the same basionym, were proposed as correct to *Bignonia longiflora* Vellozo. In chronological order, these include: *Tecoma speciosa* DC. ex Mart. (*Gelseminum speciosum* (DC. ex Mart.) Kuntze, *Tabebuia vellosoi* Toledo (*Handroanthus vellosoi* (Toledo) Mattos), *Tecoma longiflora* (Vell.) Bureau & K. K.Schum., and *Handroanthus longiflorus* (Vell.) Mattos. It should be highlighted that the earlier specific epithet *speciosum*/*speciosa*/*speciosus* could not be legitimately combined with the genus *Tabebuia* Gomes ex DC., because *Tabebuia speciosa* Standl. (*Callichlamys latifolia* (Rich.) K.Schum.) was already established. Therefore, when *Tabebuia* was generally accepted as the correct genus, the appropriate name was *Tabebuia vellosoi*. However, *Handroanthus* Mattos came to be regarded as the valid genus for many species, following the generic delimitation provided by Mattos (1970) and later supported by Grose & Olmstead (2007). Mattos (1970) treated the taxon as *Handroanthus vellosoi* yet seems to have overlooked the oldest epithet (i.e., "*speciosa*"), which continues to be available within the genus.

Nascimento *et al.* (2024a) proposed the new combination, accompanied by taxonomic notes, including a comparative table highlighting the morphological differences among species related to *Handroanthus speciosus*. In addition, the study presents distribution maps, further nomenclatural considerations (e.g., the suppression of the neotype), as well as typifications, habitat descriptions, distribution data, and phenological details.

41. ***Bignonia tababuya*** Vell.

Bignonia tababuya Vell., *Floræ Fluminensis*: 251 (Vellozo 1829). — Type: **Brazil** • Rio de Janeiro, '*Habitat maritimis au loca inundata, vel a mari, vel a fluviis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *tababuya Tab. 53*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_057 [photo!], **here designated**).

Tabebuia cassinoides (Lam.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 213 (Candolle 1845). — *Bignonia cassinoides* Lam., *Encyclopédie méthodique* 1: 418 (Lamarck 1785). — *Catalpa cassinoides* (Lam.) Spreng., *Systema vegetabilium* 16: 70 (Sprengel 1824). — Type: **Brazil** • Rio de Janeiro; s.d.; *Commerson s.n.*; lectotype: designated by Gentry (1992b): P[P00675480 photo!]; isolectotype: C[C10008624 photo!]).

Original locality and distribution. — *Bignonia tababuya* was described by Vellozo (1829) as '*Habitat maritimis au loca inundata, vel a mari, vel a fluviis*', which is recognized as someplace in Rio de Janeiro state (see comments under *Bignonia squalus*). *Tabebuia cassinoides* is a native plant endemic to Brazil. Following Gentry (1992b) and Lohmann (2023g), this species is found in the Brazilian Atlantic Forest.

Nomenclatural notes

Bignonia cassinoides was originally described with only a brief mention of the collector and collection locality: '[...] *découvert par M. Commerſon, aux environs de Rio-Janeiro, au Bréſil*'. As a result, the name lacks a holotype and requires typification (see comments on *Bignonia triphylla* Vell.). Gentry (1992b) treated *Tabebuia cassinoides* and indicated the specimen in P as the 'type' – a valid indica-

tion under (Art. 7.11 of the ICN, Turland *et al.* 2025). Although Gentry was probably only aware of the specimen in P, we interpret his reference as a lectotypification of that material. Additionally, we report the discovery of an isolectotype in C.

A copy of the illustration of *Bignonia tababuya* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0113 [photo!]. The spelling in the text is '*Bignonia tabebuya*', maybe he mistakenly used an 'E' instead of an 'A', because the original text, illustration, and its copies are spelled with an 'A'.

Taxonomic notes

Gentry (1975a) related *Bignonia tababuya* with *Tabebuia cassinoides.* Later, this position was also accepted in later treatments (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia tababuya well represents *Tabebuia cassinoides* and includes relevant diagnostic features, such as the simple leaves, elliptic, cuneate base, entire margin, terminal inflorescence, infundibuliform corolla, oblong fruit, persistent calyx, and winged seeds (Gentry, 1992b). Although the leaf venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species. It is also commented '*Radix eosdem usus habet, quos suberis cortex*' [The root has the same uses as the cork oak bark], regarding the common uses of the species, which shows that regional people, Vellozo, or someone in the entourage knew this plant.

42. ***Bignonia leucoxylla*** Vell.
(Fig. 12)

Bignonia leucoxylla Vell., *Floræ Fluminensis*: 252 (Vellozo 1829, *nom. superfl.*), *non* L. (Linnaeus 1753). — *Tabebuia leucoxylla* (Vell.) DC., *Bibliothèque Universelle de Genève* 17: 131 (Candolle 1838). — Type: **Brazil** • Rio de Janeiro and São Paulo, '*Habitat tum maritimis, cum mediterraneis ad cacumina, et declivia montium*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Angiosp. BIGNONIA *leucoxylla Tab. 54*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_058 [photo!], **here designated**).

Tabebuia obtusifolia (Cham.) Bureau, *Videnskabelige Meddelelser fra den Naturhistoriske Forening i Kjøbenhavn* 113 (Bureau 1893). – *Spathodea obtusifolia* Cham., *Linnaea* 7: 660 (Chamisso 1832). — Type: **Brazil** • s.loc.; s.d.; *Sellow s.n.*; lectotype: G-DC[G00133619 photo!], designated by Gentry (1992b); isolectotypes: K[K000449902 photo!], W[W0057673 [photo!]).

Original locality and distribution. — *Bignonia leucoxylla* (Fig. 12) was described by Vellozo (1829) as '*Habitat tum maritimis, cum mediterraneis ad cacumina, et declivia montium*', which recognized double occurrence in Rio de Janeiro and São Paulo states. Especially at the stretch of BR-459 right after the São Paulo border in the direction of Cunha town. *Tabebuia obtusifolia* is a native plant endemic to Brazil. Following Gentry (1992b) and Lohmann (2023g), this species is found in the Brazilian Atlantic Forest and Cerrado.

Nomenclatural notes

Gentry (1975a) considered *Bignonia leucoxylla* as 'orthographic variations' of *Bignonia leucoxylon* L. So, a binding decision was organized with the names and sent for review. However, parallel usages of the two epithets in the period between 1894 and 1953 were not documented, concluding that, in the interest of nomenclatural stability, the request was unnecessary (John McNeill, pers. comm.). Thus, *Bignonia leucoxylla* needs to be continually treated as a later homonym of *Bignonia leucoxylon* (Art. 53.2 of the ICN, Turland *et al.* 2025).

A copy of the illustration of *Bignonia leucoxylla* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0115 [photo!].

Taxonomic notes

Bignonia leucoxylla well represents *Tabebuia obtusifolia* and includes relevant diagnostic features, such as the marks presented in the young branches (dots or lines), simple leaves, elliptic, rounded apex, cuneate base, entire margin, terminal inflorescence, flowers with large and toothed calyx, and infundibuliform corolla. These characteristics agree with *Tabebuia obtusifolia* (Gentry 1992b).

In addition, Vellozo (1829) commented: '*Vulgò dicitur Caixeta*' [Commonly called 'Caixeta'] as a reference to the common name of the species; '*Præbet materiariis lignum tenue*' [Provides a thin wood for carpentry], a reference to potential uses of the species; '*Hunc offendi apud scaturiginem fluvii Tuguahy*' [This is observed at the source of the Taguay River], a comment about the probable collection place of the plant.

43. ***Bignonia curialis*** Vell.

Bignonia curialis Vell., *Floræ Fluminensis*: 253 (Vellozo 1829). — *Jacaranda curialis* (Vell.) DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 9: 232 (Candolle 1845). — Type: **Brazil** • Rio de Janeiro and São Paulo, '*Habitat silvis maritimis, et mediterraneis*'; s.d.; lectotype: [Icon. Ined.] 'Didyn. Ang[ios]. BIGNONIA *curialis Tab. 55*' (Divisão de Manuscritos, Biblioteca Nacional, Rio de Janeiro, No. mss1198655_059 [photo!], **here designated**).

Jacaranda jasminoides (Thunb.) Sandwith, *Recueil des Travaux botaniques néerlandais* 34: 232 (Sandwith 1937). — *Bignonia jasminoides* Thunb., *Plantarum Brasiliensium* 3: 36 (Thunberg 1821). — Type: **Brazil** • in Mus. Westinian; s.d.; *Freyreiss 103*; holotype: UPS[V-125224 photo!]).

Original locality and distribution. — *Bignonia curialis* was described by Vellozo (1829) as '*Habitat silvis maritimis, et mediterraneis*', which is recognized as an ambiguous occurrence in Rio de Janeiro and São Paulo states (see comments under *Bignonia leucoxylla*). *Jacaranda jasminoides* is a native plant endemic to Brazil. Following Gentry (1992b) and Farias-Singer (2023), this species is found in the Brazilian Atlantic Forest, Caatinga, and Cerrado.

Nomenclatural notes

A copy of the illustration of *Bignonia curialis* stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0117 [photo!].

Taxonomic notes

Candolle (1845) treated *Bignonia curialis* and made the combination: *Jacaranda curialis*. Gentry (1975a) suggested that *J. curialis* (based on *B. curialis*) should be treated as a

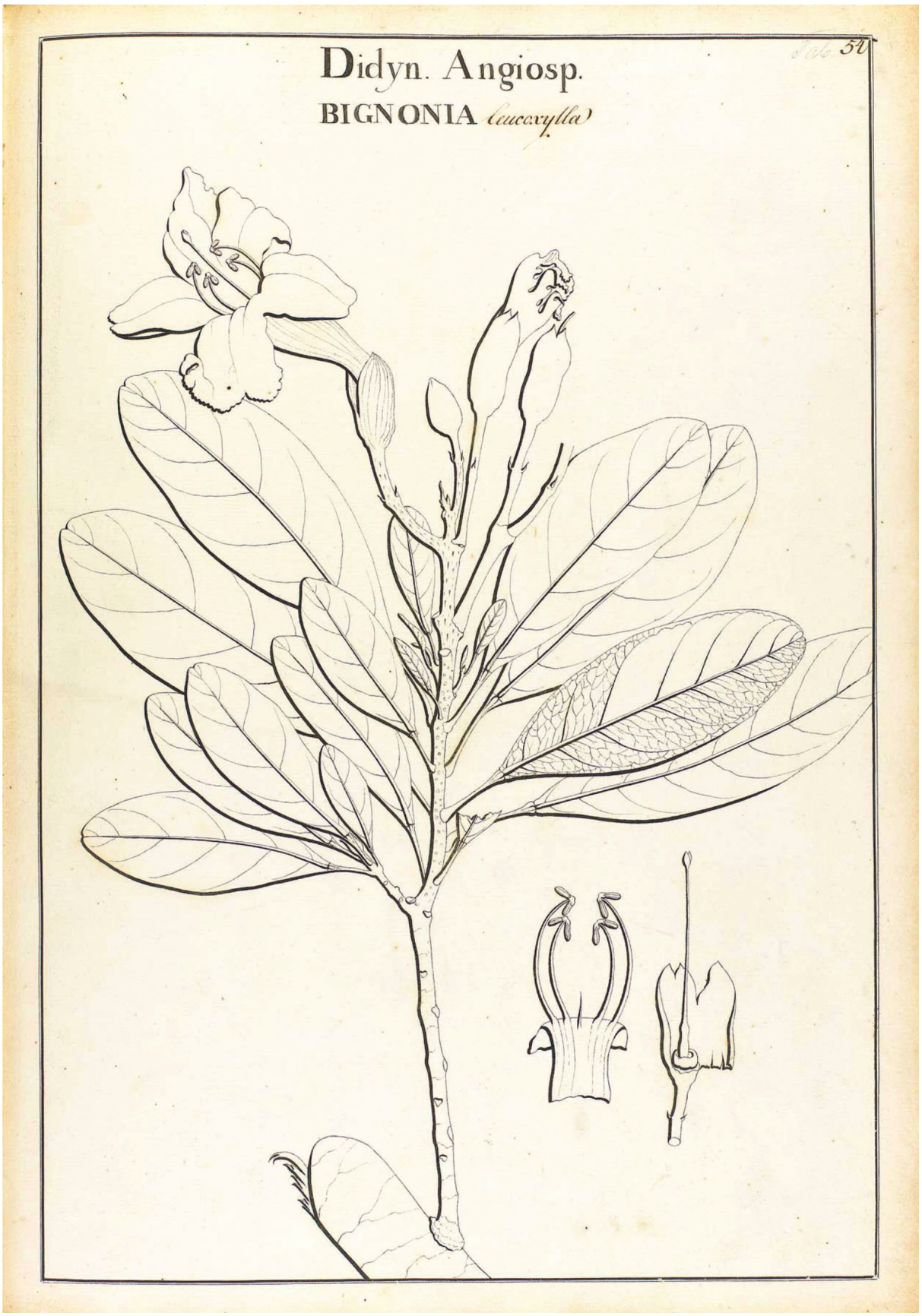

Fig. 12. — Lectotype of *Bignonia leucoxylla* Vell. Source: *Biblioteca Nacional do Rio de Janeiro*.

synonym of *Jacaranda jasminoides*. This position was also accepted in later treatments (Gentry 1992b; Zuntini 2014), and it is reinforced here.

Bignonia curialis well represents *Jacaranda jasminoides* and includes relevant diagnostic features, such as the bi-pinnate leaves, elliptic, acute apex, cuneate base, terminal panicle, tubular corolla, and cupular calyx. These characteristics agree with *Jacaranda jasminoides* (Gentry 1992b). Although the leaf's venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species.

In addition, Vellozo (1829) commented: '*Etiam vulgô dicitur Ipê roxo*' [Also widely known as 'Ipê roxo'], as a reference to the common name of the species; '*Duritiem, incorruptibibilitatem hujus ligni, cæterorumque, quæ ad hanc familiam pertinent, quis est, qui ignoret?*' [Who is ignorant of the hardness, incorruptibility of this wood, and of the others that pertain to this family?], as comments about the quality of the species wood.

Genus *Crescentia* L.

1. ***Crescentia cuyeté*** Vell.

Crescentia cujete L., *Species Plantarum* 2: 626 (Linnaeus 1753). — *Crescentia cuyeté* Vell., *Floræ Fluminensis*: 269 (Vellozo 1829, *orth. var.*). — Type: Plukenet's illustration, Icon. 3: t. 171, f. 2; 1692; lectotype: Illustration [photo!], designated by Wijnands (1983: 50).

Original locality and distribution. — *Crescentia cuyeté* Vell. was described by Vellozo (1829) as '*Habitat tum maritimis, tum mediterraneis*', which is recognized as an ambiguous occurrence in Rio de Janeiro and São Paulo states (see comments under *Bignonia leucoxylla*). *Crescentia cujete* L. is probably a native plant to at least Northern Central America and Mexico (Gentry, 1980). Following Gentry (1980) and Lohmann (2023a), this species occurs in the Amazon Forest and the Brazilian Atlantic Forest.

Nomenclatural notes

Crescentia cuyeté Vell. is here interpreted as a citation of *Crescentia cujete* L. (1753). Previous analyses also seem to reach the same conclusion, as Gentry (1975a) did not include *Crescentia cuyeté* Vell. in his study. Thus, in this case, there would be no need to designate a 'type material', but rather to mention the 'reference material' deposited in the BN (mss1198655_107 [photo!]). A copy of the illustration of *Crescentia cuyeté* Vell. stored in the Manuscript Section of Torre do Tombo can be accessed under the code PT-TT-MSLIV-2776_m0213 [photo!]. This decision follows the ICN, as we assume that *Crescentia cujete* L. and *Crescentia cuyeté* Vell. share the same type, allowing both names to be inserted as orthographic variants (Art. 61.2 of the ICN, Turland *et al.* 2025).

Gentry (1980) suggested a typification for this species, selecting the specimen LINN 779.1 in the 'Linnaean Herbarium'. Nevertheless, Wijnands (1983) noticed that this specimen was purchased by Linneaus in July 1758, so it must be rejected. In addition, Wijnands (1983) analyzed another specimen of Linnaean Herbarium (LINN 779.2) and also perceived that it could not be the type of *Crescentia cujete* L. Thus, Wijnands (1983) designated (with Gentry approval) a lectotype for *Crescentia cujete* L. based on Plukenet's illustration.

Taxonomic notes

Crescentia cuyeté Vell. well represents *Crescentia cujete* L. and includes relevant diagnostic features, such as the simple leaves, cauliflorous inflorescence, bilabiate calyx, tubular-campanulate corolla, and calabash spherical fruit. These characteristics agree with *Crescentia cujete* L. (Gentry 1980). Although the leaf venation was not represented in the illustration, the lack of this characteristic does not harm the recognition of the species.

Incertae sedis

Adenocalymma ternatum (Vell.) Mello ex Bureau & K.Schum.
Bignonia angrensis Vell.
Bignonia cymosa Vell.
Dolichandra coccinea (Vell.) M.Nascim., Zuntini & J.F.B.Pastore

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Declarations

Competing interests

The authors have no competing interests to declare that are relevant to the content of this article.

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Author's contributions

MN made the conceptualization, data curation, investigation, formal analysis, validation, visualization, writing – original draft, writing – review, and editing.

ARZ made the supervision, and writing – review.

JP made the supervision, and writing – review.

JFBP made the supervision, and writing – review.

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