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Original Paper

Cunoniaceae from Caparaó National Park, Mantiqueira Mountain Range, Brazil

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Abstract

A floristic treatment is presented for Cunoniaceae in the Caparaó National Park (PNC), located in the Mantiqueira Mountain Range, on the border of the Minas Gerais and Espírito Santo states. This conservation unit comprises the highest mountain peak in southeastern Brazil, Bandeira Peak, at 2,890 m of elevation. Its vegetation encompasses different phytophysiognomies, including Dense Ombrophilous Forests, Montane Semi-deciduous Seasonal Forests, and High-Altitude Grasslands. Cunoniaceae was represented in the PNC by four species: *Lamanonia ternata*, *L. ulei*, *Weinmannia humilis*, and *W. paulliniifolia.* To contribute to further taxonomic studies and species conservation in the Mantiqueira Mountain Range, morphological descriptions, identification keys, photographs *in vivo*, and comments on the taxonomy, geographic distribution of the recorded species are provided.

Key words: Atlantic Forest, biodiversity, flora, Oxalidales.

Resumo

Apresenta-se um tratamento florístico de Cunoniaceae no Parque Nacional do Caparaó (PNC), localizado na Serra da Mantiqueira, na divisa dos estados de Minas Gerais e Espírito Santo. Essa unidade de conservação compreende o pico mais alto da Região Sudeste do Brasil, o Pico da Bandeira, com 2.890 m de altitude. Sua vegetação abrange diferentes fitofisionomias, incluindo floresta ombrófila densa, floresta estacional semidecídua montana e campos de altitude. A família está representada no PNC por quatro espécies: *Lamanonia ternata*, *L. ulei*, *Weinmannia humilis*, e *W. paulliniifolia*. Visando subsidiar futuros estudos taxonômicos e a conservação das espécies na Serra da Mantiqueira, nós fornecemos descrições morfológicas, chave de identificação, fotografias das espécies *in vivo* e comentários sobre taxonomia, distribuição geográfica das espécies registradas.

Palavras-chave: Floresta Atlântica, biodiversidade, flora, Oxalidales.

Introduction

The Atlantic Forest is a biodiversity hotspot (Myers *et al.* 2000) that comprises some conservation-relevant mountain ranges. Mountainous habitats from this phytogeographic domain are important relicts of the original biodiversity, considering that most of the lowland vegetation has been degraded and a large portion of it has been completely lost due to human disturbance (Ribeiro *et al.* 2009; Guedes *et al.* 2020). One of these regions is the Mantiqueira Mountain Range which extends for ca. 1,000 km within four Brazilian states (Espírito Santo, Minas Gerais, Rio de Janeiro, and São Paulo). Usually, it is delimited in the meridional and septentrional portions (Machado-Filho *et al.* 1983). In addition to typical rainforest vegetation, this montane range also includes High-Altitude Grasslands and grass-dominated formations found mostly above elevations of 1,500 m (*i.e.*, *campos de altitude*, *sensu* Vasconcelos 2011).

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The largest vegetation remnants in the Mantiqueira Range are mostly found in small disjunct conservation units (CUs). According to Gonzaga & Menini (2017), there are five protected areas in the meridional portion (Itatiaia National Park, State Park (P.E, acronym in Portuguese) Campos do Jordão, P.E. da Serra do Papagaio, P.E. do Ibitipoca, and P.E. Serra Negra da Mantiqueira) and two protected areas in the septentrional portion (P. E. Serra do Brigadeiro and Caparaó National Park). Recent studies have indicated that most plant records are collected inside these CUs. However, it is notable that many areas of the Mantiqueira Mountain Range still lack botanical collections, and anthropogenic impacts on non-protected areas potentially threaten their poorly known plant diversity (Gonzaga & Menini 2017; Gonzaga *et al.* 2019; Santos-Silva *et al.* 2019; Moraes *et al.* 2020; Pereira *et al.* 2021).

The Caparaó National Park (PNC) is a protected area from the Septentrional Mantiqueira. Located between Minas Gerais and Espírito Santo state borders, it was created in 1961, encompassing the former Bandeira Peak Forest Reserve (Santos 2013; ICMBio 2015). Despite this important biological area being the reason for scientific expeditions since the end of the 1800s (Santos 2013), systematic studies of its flora are scarce. Since the beginning of the 2000s, some angiosperm families have been subjected to taxonomic treatment, including Plantaginaceae (Souza & Souza 2002), Ericaceae (Romão & Souza 2003), Eriocaulaceae (Trovó *et al.* 2006), Myrtaceae (Mazine & Souza 2008), Laeliinae-Orchidaceae (Forster & Souza 2013), Bromeliaceae (Mota *et al.* 2016), Verbenaceae (Cardoso *et al.* 2019), and Araceae (Camelo *et al.* 2020). Recently, after a collaborative effort by a group of taxonomists, a floristic catalogue of the PNC was published, with approximately 1,800 recorded species (Carrijo *et al.* 2020; Moreira *et al.* 2020).

Cunoniaceae (Oxalidales) is an angiosperm family commonly found in montane habitats in the Southern Hemisphere (Bradford & Barnes 2001; Bradford *et al.* 2004; Pillon *et al.* 2021). It currently comprises 27 genera and approximately 355 species of trees and shrubs that inhabit both tropical and extratropical environments (Bradford & Barnes 2001; Bradford *et al.* 2004; Pillon *et al.* 2021). Two genera occur in Brazil: *Lamanonia* and *Weinmannia*, with six species each. *Lamanonia* is widely distributed in this country, except in the Amazon, and has higher diversity in the southeastern mountains (Santos-Silva *et al.* 2020a). On the other hand, most *Weinmannia* species are restricted to the southern and southeastern regions and have been recently recorded for the Amazonian highlands (Barbosa-Silva *et al.* 2016; Santos-Silva *et al.* 2020a).

Cunoniaceae was subject to a few regional and local flora in Brazil (Bastos 1966; Cuatrecasas & Smith 1971; Mesquita *et al.* 2003; Pirani & Castro 2011; Santos-Silva *et al.* 2017; Oliveira *et al.* 2019), of which only one was focused on a Mantiqueira Range protected area (Santos-Silva *et al.* 2017). Therefore, the objective of this study was to present a taxonomic treatment of Cunoniaceae from the PNC, contributing to further taxonomic studies and species conservation in the Mantiqueira Mountain Range. Here, we provide descriptions, identification key, photographs *in vivo*, and comments regarding the taxonomy, and geographical distribution of these species.

Material and Methods

Caparaó National Park (PNC) is located in the east of Minas Gerais and southeast of Espírito Santo states (20º18'–20º37'S and 41º42'–41º52'W) (Fig. 1a). This conservation unit (CU) currently comprises an area of 31,853 hectares with altitudes ranging from 997 to 2,890 m. The highest altitude is the Bandeira Peak, the third highest Brazilian peak. The seasons in the PNC region are divided into rainy summers (from November through March) and wet winters (from April through October). The PNC vegetation comprises different phytophysiognomies, which include Dense Ombrophilous Forests (Montane and High montane) (Fig. 1b,d), Montane Semi-Deciduous Seasonal Forest (Fig. 1c), and High-Altitude Grasslands (Fig. 1e-f). Dense Ombrophilous Forest occurs only in the Espírito Santo portion of the park (ICMBio 2015).

The taxonomic treatment for Cunoniaceae was conducted based on the CESJ, ESA, MBM, MBML, NY, R, RB, SPF, UEC, US, and VIES herbaria (acronyms according to Thiers, continuously updated), including HUEMG (Herbarium of Universidade do Estado de Minas Gerais-Campus Carangola, Carangola-MG). The herbarium specimens were analyzed in loco or from images available in the JSTOR Global Plants database (<http://plants.jstor.org>), REFLORA (<floradobrasil.jbrj.gov.br>), and speciesLink (<https://specieslink.net/search/>). Species identification was performed based on specialized

bibliography (*e.g.*, Bernardi 1961; Zickel & Leitão-Filho 1993; Hopkins 2018; and species protologues) and comparisons with type specimens on JSTOR. Morphological terminology followed Radford *et al*. (1974), Harris & Harris (2003), and Gonçalves & Lorenzi (2007), in addition to the aforementioned literature. Phenology was based on data gathered from herbarium specimens.

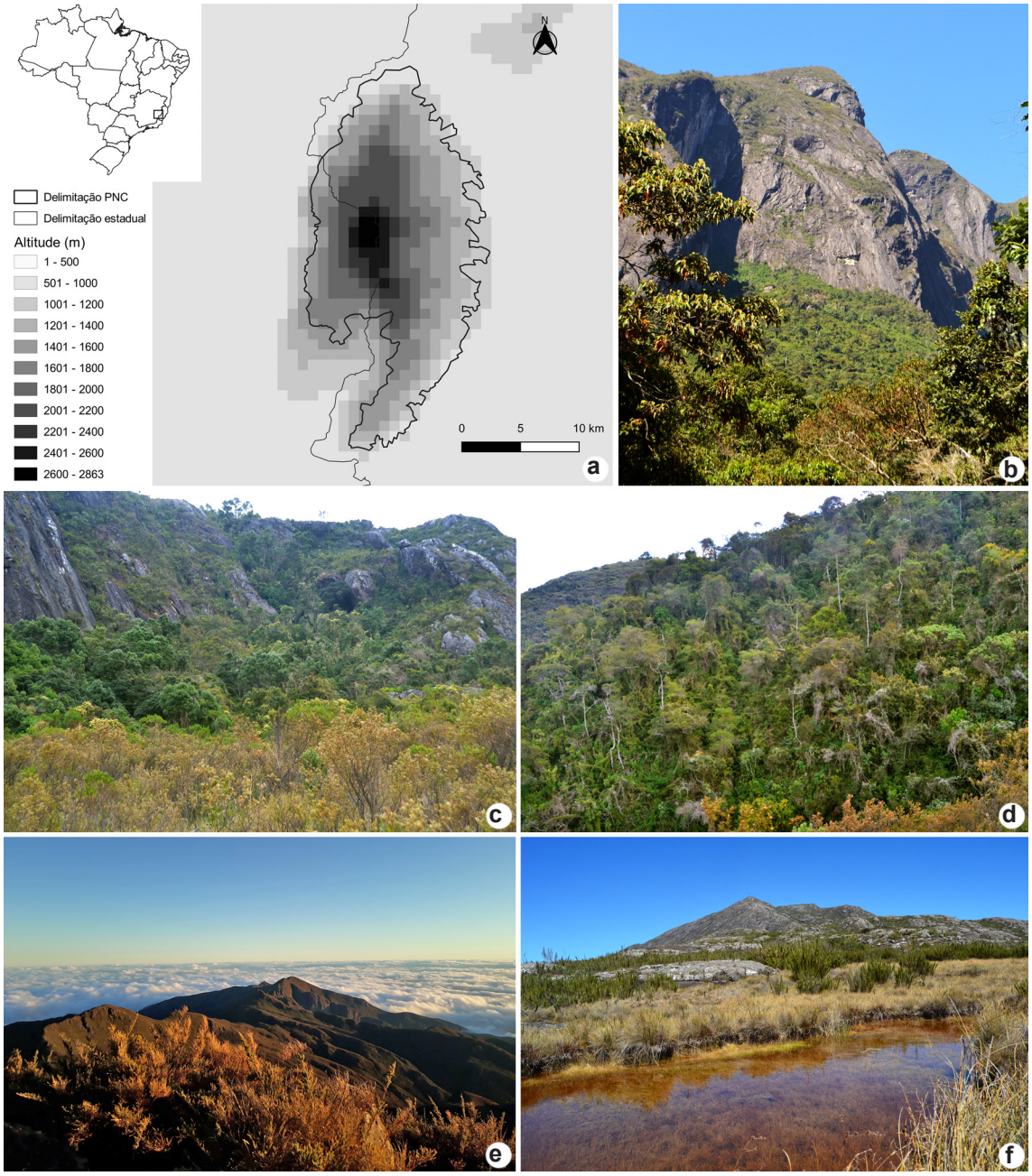

Figure 1 – a-f. Delimitation and phytophysiognomies present in Parque Nacional do Caparaó (PNC) – a. delimitation and altitudinal map of PNC; b. transition ombrophilous dense forest to high-altitude grasslands; c. semideciduous seasonal forest to high-altitude grasslands; d. ombrophilous dense forest (Photographs: Samyra Furtado); e. seasonal high-altitude grasslands; f. seasonal Lake in high altitude grasslands with predominance of *Chusquea* sp. (Poaceae) (Photographs: Camila Nardy).

The examined material is listed according to the alphabetical order of locations, followed by chronological order in the case of more than one material from the same locality.

Results and Discussion

In PNC, Cunoniaceae is represented by four species comprising two genera: *Lamanonia ternata* Vell., *L. ulei* (Engl.) L.B.Sm., *Weinmannia humilis* Engl. and *W. paulliniifolia* Pohl *ex* Ser, which corresponds to ca. 30% of the species richness in the Brazilian flora currently recorded (Santos-Silva *et al.* 2020a). In addition to these four species, *W. pinnata* L. was recorded in the list of terrestrial plants from the PNC, voucher (*L. Krieger* s.n. CESJ 22323), by Carrijo *et al.* (2020) and Moreira *et al*. (2020). However, the occurrence of *W. pinnata* is not confirmed here, given that none of the examined specimens (including the specimen cited above) presented suborbicular stipules and leaflets with toothed margins, the diagnostic characteristics of *W. pinnata* (Santos-Silva *et al.* 2020a). This specimen was identified in our study as *W. paulliniifolia.*

In PNC, the four Cunoniaceae species can be distinguished by vegetative characteristics such as leaf type, relative color between their surfaces, indumentum, number and dimension of leaflets, presence or absence of axis, and vein appearance on the adaxial surface. Some reproductive characteristics can complement the identification of taxa, such as the number of perianth whorls and stamens, indumentum on the ovary and seeds, and seed type.

Regarding the geographical distribution of Cunoniaceae species present in the PNC, *Lamanonia ternata* presents the widest geographical distribution in Brazil, and are the only non-endemic species from Brazil. On the other hand, *L. ulei* shows the most restricted distribution and is endemic to southeastern Brazil (Santos-Silva *et al.* 2020a). Both *Weinmannia* species are endemic to Brazil and are distributed along the northeastern (only Bahia state), southeastern, and southern regions (Santos-Silva *et al.* 2020a).

Previous taxonomic treatments of Cunoniaceae for different CUs located in Minas Gerais and Espírito Santo states recorded three species of Serra do Cipó National Park (Pirani & Castro 2011) and Ibitipoca State Park (Santos-Silva *et al.* 2017), two species of Grão-Mogol State Park (Mesquita *et al.* 2003), and one species of Mestre Álvaro Environmental Protection Area (Valadares *et al.* 2022) *Lamanonia ternata* is the only species that occurs in all four of these areas. *Weinmannia paulliniifolia* is also present in Ibitipoca State Park. The other two species (*L. ulei* and *W. humilis*) are not shared between the previously studied areas and the PNC.

Cunoniaceae.

Trees, small trees, shrubs, occasionally hemiepiphytic or strangling. Leaves often opposite, sometimes verticillate; imparipinnate, palmately compound, trifoliolate or unifoliolate, stipulate or not, pinnately veined, often coriaceous; leaf margin serrate, often glandular-serrate, sometimes entire; venation often craspedodromous and semicraspedodromous; stipules often interpetiolar. Inflorescences often axillary or terminal, sometimes cauliflorous, cymose, paniculate, pseudoracemes or thrysoid, rarely flowers solitary and axillary, actinomorphic, occasionally protandrous, commonly hermaphroditic; sepals (3–)4 or 5(–10), valvate or imbricate, separate or basally connate; petals (3–)4 or 5(–10), alternate with sepals, or absent; androecium usually diplostemonous, sometimes uniseriate or multiseriate, rarely polyandric; filaments slender, exceeding petals; anthers dithecal, opening longitudinally; ovary usually superior or partially to mostly inferior, usually 2- or 3–5-carpellate, syncarpous; ovules (1)2-many in each locule, placentation axillar to pendulous. Fruit dehiscent, follicular, or capsular; seeds usually exposed open carpel sutures. Seeds small, winged or not, glabrous, or hairy.

Identification key of Cunoniaceae species from Caparaó National Park

1. Leaves digitate, 3–5 leaflets, axis absent; flowers monochlamydeous, stamens 50–60, ovary velutinous or dense villous; seeds winged, glabrous.
   2. Leaflets concolorous or slightly discolorous, abaxial surface glabrous or puberulent with veins non-prominent ..... 1. *Lamanonia ternata*
   2'. Leaflets markedly discolorous, abaxial surface densely tomentose with veins prominent..... .....2. *Lamanonia ulei*

1'. Leaves pinnate with 7–17 leaflets, axis present; flowers dichlamydeous, stamens 8–10, ovary glabrous; seeds not winged, pilose.
   3. Lateral leaflets 0.3–0.5 cm width, median leaflets 0.6–1.5 × 0.3–0.5 cm, veins glabrous, rarely tomentose ..... 3. *Weinmannia humilis*
   3'. Lateral leaflets 0.6–1 cm width., median leaflets 2–3.1 × 0.8–1.6 cm, veins puberule .... 4. *Weinmannia paulliniifolia*

1. *Lamanonia ternata* Vell., Fl. Flumin. 228 (1825 (1829). Type: BRAZIL. RIO DE JANEIRO: habitat silvis Regii Praedii Sanctae Crucis. Lectotype selected by Hopkins (2018): original parchment plate of *Flora Fluminensis* in the manuscript section of Biblioteca Nacional, Rio de Janeiro [mss1198654_107, image!] in Vellozo, Fl. Flumin. Icones 5: tab. 104 (dated 1827 and published October 29, 1831). Fig. 2a-b

Trees 4–15 m height, young branches tomentose. Leaves opposite, petiolate, composite, digitate, 3–5-foliolate; lateral leaflets 2.6–7.8 × 1.3–4 cm, median leaflets 7.7–11.8 × 3.5–4.5 cm, petiolule, elliptic or obovate-oblong, concolorous or slightly discolorous, apex obtuse, acute or acuminate, base attenuate, margin serrate, adaxial surface glabrous, midvein puberule, abaxial surface glabrous or puberulent, secondary veins non-prominent in both surfaces; axis absent; stipules semifalcate to ovate, deciduous. Pseudoracemes lateral, axis 8–13 cm long, tomentose. Flowers actinomorphic, monochlamydeous, white; pedicel 3–5 mm long, tomentose; sepals 5–6 mm long, lanceolate, united at the base, apex acute, abaxial surface tomentose; stamens 50–60; ovary velutinous. Septicidal capsule, 1.4–1.6 × 0.4–0.5 cm, oblong, brownish. Seeds numerous, winged, glabrous.

Examined material: ESPIRITO SANTO: Ibitirama, Vale de Santa Marta, I.2013, fr., *I.F. Campanharo 16* (VIES). MINAS GERAIS: Alto Caparaó, 22.VIII.2002, fl., *L.S. Leoni 5122* (RB); 23.VII.2003, fl., *L.S. Leoni 5550* (RB); 22.I.2010, fl., *L.S. Leoni 7590* (RB).

Lamanonia ternata occurs in Argentina, Brazil, and Paraguay (Zickel & Leitão-Filho 1993; Pirani & Castro 2011). This species is widespread in the Brazilian *Cerrado* and Atlantic Forest domains (Santos-Silva *et al.* 2020a). *Lamanonia ternata* displays the highest morphological variation within the genus, even in relation to important characters for taxa delimitation (*e.g.*, the number of leaflets and indument) (Zickel & Leitão-Filho 1993). Among the species that occur in the PNC, *L. ternata* presents morphological similarities with *L. ulei* and can be differentiated from it by the presence of concolorous or slightly discolorous leaflets, glabrous or puberulent abaxially, with non-prominent veins (*vs.* markedly discolorous leaflets, densely tomentose abaxially, and prominent veins in *L. ulei*). It was collected with flowers in January, July, and August, and with fruits in January and April. This species has its IUCN conservation status assessed as LC (Least Concern) according to Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019b).

2. *Lamanonia ulei* (Engl.) L.B.Sm., J. Wash. Acad. Sci. 48: 283 (1958). Type: BRAZIL. RIO DE JANEIRO: Pedra do Cônico bei Nova Friburgo, *E. Ule 4551* (cited in the protologue as 4581), Lectotype selected by Hopkins (2018): B image! (barcode B109009682); isolectotype: HBG image! (barcode HBG506927). Fig. 2c-d

Trees 5–16 m height, young branches tomentose. Leaves opposite, petiolate, composite, digitate, 3-foliolate; lateral leaflets 2.8–4.8 × 1.3–1.7 cm, median leaflets 3.7–6.1 × 2.2–3 cm, petiolule, elliptic or ovate, markedly discolorous, apex acuminate, base cuneate or attenuate, margin serrate, adaxial surface glabrous, veins non-prominent, midvein puberulent, abaxial surface densely tomentose, veins prominent; axis absent; stipules ovate, frequently deciduous. Pseudoracemes lateral, axis 8.7–12.5 cm long, tomentose. Flowers actinomorphic, monochlamydeous, white; pedicel ca. 3 mm long, tomentose; sepals 3–5 mm long, narrow-lanceolate, united at the base, apex acute, abaxial surface tomentose; stamens 50–60; ovary densely villous. Septicidal capsule 1.2 × 0.4–0.6 cm, oblong, brownish. Seeds numerous, winged, glabrous.

Examined material: MINAS GERAIS: Alto Caparaó, próximo à Cachoeira Bonita, 14.VI.1991, fl., *G. Hatschbach & J.M. Silva 55459* (MBM, US); trilha Vale Verde, 2.III.2010, fl., *G. Heringer 210* (RB); caminho para Macieira, 30.IV.1989, fr., *L. Krieger et al.* (CESJ 24038).

Lamanonia ulei is endemic to the Brazilian Atlantic Forest and occurs in the high-altitude

grasslands of Espírito Santo, Minas Gerais, Rio de Janeiro, and São Paulo (Santos-Silva *et al*. 2020a). This species has been considered a synonym of *L. ternata* for over three decades and is currently being reestablished (Hopkins 2018). *Lamanonia ulei* displays morphological affinities with *L. ternata* (as mentioned above), which can be distinguished mainly by color, vein prominence on the abaxial

Figure 2 – a-f. Cunoniaceae species from Parque Nacional do Caparaó (PNC), Brazil – a-b. *Lamanonia ternata* – flowering branches (Photographs: Maria Ignez Calhau); c-d. *Lamanonia ulei* – c. branch with discolorous leaves and inflorescence; d. flowering branch in detail (Photographs: Patrícia da Rosa); e. *Weinmannia humilis* – plant habit (Photographs: João Paulo Maçanheiro); f. *Weinmannia paulliniifolia* – plant habit (Photographs: Marcio Verdi).

surface, indumentum-type in leaflets. This species has been collected with flowers in March and June and fruits in April. It is worth to mention that this species has its IUCN conservation status assessed as EN, "Endangered" (Fernandez *et al.* 2020)

3. *Weinmannia humilis* Engl., Linnaea 36: 620 (1870). Type: BRASIL. MINAS GERAIS: without further locality. *P. Clausen 328*, Type: G n.s, Possible isotype: K image! (barcode K000486179). Fig. 2e

Trees or shrubs 0.5–2.5 m height, young branches sparsely to densely incanous-tomentose. Leaves opposite, petiolate, composite, pinnate, 9–17-foliolate; lateral leaflets 0.5–1.3 × 0.3–0.5 cm, median leaflets 0.6–1.5 × 0.3–0.5 cm, sessile, obovate-elliptic or oblong-elliptic, discolorous, apex obtuse, acute in the median leaflet, base obtuse or rounded, entire margin until the median region, serrate towards the apex, adaxial and abaxial surfaces glabrous, veins glabrous, rarely tomentose, slightly prominent on the abaxial surface; axis present, winged; stipules circular. Pseudoracemes apical, 2 per apex of the branch, axis 2.6–7.3 cm long, densely tomentose. Flowers actinomorphic, dichlamydeous, white; pedicel 3–5 mm long, tomentose; sepals 5–6 mm long, ovate-lanceolate, united at the base, apex acute, abaxial surface puberulous, petals ca. 1 cm long, ovate to oblong, apex obtuse, abaxial surface glabrous, deciduous; stamens 10; ovary glabrous. Septicidal capsule 3.7–4 × 1–1.5 mm, oblong, castaneous to pinkish. Seeds numerous, not winged, pilose.
Examined material: ESPÍRITO SANTO: Dores do Rio Preto, 22.III.2012, fl., *J. Kuntz et al. 617* (ESA, HUEMG); 16.III.2014, fl., *M. Monge et al. 2615* (UEC). Pico da Bandeira, 3.III.1959, fr., *H.S. Irwin 2801* (NY, US). MINAS GERAIS: 12.II.1996, fl. and fr., *L.S. Leoni 3196* (RB). 30.IV.1989, fr., *L. Krieger* (CESJ 24016, SPF 72990); 30.IV.1989, fr., *L. Krieger* (CESJ 24063). Serra do Caparaó, X.1941, fr., *A.C.Brade 17062* (RB); trilha para o Pico da Bandeira, 2.I.1998, fr., *J.M.A. Braga et al. 4642* (RB). Espera Feliz, trilha da Macieira para a cachoeira do Aurélio, 5.III.2010, fr., *M.O. Bunger et al. 350* (RB). Alto Caparaó, arredores do terreirão, 17.II.2000, fl. and fr., *V.C. Souza et al. 23293* (ESA, RB); próximo ao terreirão, 19.III.2014, fr., *V.C. Souza et al. 38124* (ESA); subida para o Pico da Bandeira, 17.III.2014, fr., *M. Monge et al. 2654* (UEC).

Weinmannia humilis is endemic to the Brazilian Atlantic Forest, occurring in all states of the southeast and south regions, as well as in Bahia (Santos-Silva *et al*. 2020a). In PNC, *W. humilis* presents morphological similarities with *W. paulliniifolia* and can be distinguished mainly by its smaller leaflet dimensions, having lateral leaflets with 0.3 to 0.5 cm width, median leaflets 0.6 to 1.5 cm length and 0.3 to 0.5 cm width (*vs.* lateral leaflets 0.6 to 1 cm wide, median leaflets 2 to 3.1 cm length and 0.8 to 1.6 cm width in *W. paulliniifolia*). The species was collected with flowers in February and March, and from January through April and October. This species has its IUCN conservation status assessed as LC (Least Concern) according to Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019b).

4. *Weinmannia paulliniifolia* Pohl *ex* Ser., Prodr. [A. P. de Candolle] 4:11 (1830). Type: BRAZIL. with no further locality. *P Pohl s.n.*. Type: G image! (barcode G00357683), Isotype: W n.s.). Fig. 2f

Small trees 3–6 m height, young branches tomentose. Leaves opposite, petiolate, composite, pinnate, 7–15-foliolate; lateral leaflets 0.9–2.9 × 0.6–1 cm, median leaflet 2–3.1 × 0.8–1.6 cm, sessile, oblong or elliptic, discolorous, apex acute or rounded, base cuneate to attenuate, entire margin in the proximal region, serrate towards the apex, adaxial and abaxial surfaces glabrous, veins puberule, slightly prominent on the abaxial surface; axis present, winged; stipules ovate. Pseudoracemes apical, 2 per apex of the branch, axis 3–10.5 cm long, sparsely tomentose. Flowers actinomorphic, dichlamydeous, white; pedicel 2–4 mm long, sparsely tomentose; sepals 5–6 mm long, ovate, united at the base, apex acute, abaxial surface sparsely tomentose at base, petals 0.9–1 cm long, ovate, apex obtuse, abaxial surface glabrous, deciduous; stamens 10; ovary glabrous. Septicidal capsule 3.4–5 × 1.5–2 mm, oblong, castaneous to reddish. Seeds numerous, not winged, pilose.
Examined material: MINAS GERAIS: Serra do Caparaó, 9.IX.1941, fr., *A.C. Brade 16899* (RB); XI.1888, fr., *T. Moura 490* (US); 2.VIII.1888, fl. and fr., *H. Schwacke 6196* (R, RB); entre Vale Verde e Tronqueira, 29.IX.1995, fr., *L.S. Leoni et al. 3079* (RB); tronqueira, 1.V.1988, fl., *L. Krieger et al.* (CESJ 22323). Alto Caparaó, caminho para Macieiras, 12.V.2009, fl., *G.D. Colletta et al. 198* (ESA, SPF); trilha Vale Verde a Tronqueira, 20.X.1999, fl., *W. Forster et al. 130* (ESA); Macieira, 28.V.2015, fl., *R. Goldenberg et al. 2182* (MBML, NY, RB, VIES).

Weinmannia paulliniifolia is endemic to the Brazilian Atlantic Forest and *Cerrado* domains throughout the south region and in São Paulo, Minas Gerais, and Bahia (Santos-Silva *et al*.

2020a). Specimen *L. Krieger s.n.* (CESJ 22323) was identified as *W. pinnata* by Carrijo *et al.* (2020). However, the diagnostic characteristics of this species (suborbicular stipules and leaflets with toothed margins) were not observed in any of the analyzed specimens of *Weinmannia* from the PNC, as mentioned in the Results and Discussion section.

Among the Cunoniaceae species that occur in PNC, *Weinmannia paulliniifolia* presents morphological similarities with *W. humilis* and can be distinguished by its leaflet dimensions (as mentioned above). This species has been collected with flowers in May, August, and October, and with fruits in August, September, and November. This species does not have its conservation status assessed by IUCN.

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Data availability statement

In accordance with Open Science communication practices, the authors inform that all data are available within the manuscript.

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