


Research Article / Artículo de Investigación

***Eurhopalothrix oxente* sp. nov. (Hymenoptera: Formicidae), a new riparian species of São Francisco River, northeastern Brazil**

Eurhopalothrix oxente sp. nov. (Hymenoptera: Formicidae), una nueva especie ribereña del río São Francisco, nordeste de Brasil

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ZooBank: urn:lsid:zoobank.org:pub: CAB54E31-01C1-4523-A5A0-317696AA6438
<https://doi.org/10.35249/rche.50.2.24.11>

Abstract. We report a new ant species of the genus *Eurhopalothrix* Brown & Kempf, 1961 (Hymenoptera: Formicidae: Myrmicinae: Attini), attributed to the bruchi group, which we named *Eurhopalothrix oxente* sp. nov. We found the new species in the leaf litter of a riparian forest fragment in the hydrographic Sub-middle region of the São Francisco River in Petrolina, State of Pernambuco, northeastern Brazil. This region is included in the Caatinga Domain, a region with poorly known biodiversity, especially of ants. In addition to the description of the new species, we provide an identification key for the two groups present in South America and for the species of the bruchi group. New data on the taxonomy of the bruchi group are also presented.

Key words: Basicerotine ants; Caatinga; leaf litter; Myrmicinae.

Resumen. Se reporta una nueva especie de hormiga del género *Eurhopalothrix* Brown y Kempf, 1961 (Hymenoptera: Formicidae: Myrmicinae: Attini), atribuida al grupo bruchi, denominada *Eurhopalothrix oxente* sp. nov. La nueva especie se encontró en la hojarasca de un fragmento de bosque ribereño en la región hidrográfica del Submedio São Francisco, en Petrolina, Estado de Pernambuco, nordeste de Brasil. Esta región está incluida en el Dominio de la Caatinga, una región con una biodiversidad poco conocida, especialmente de hormigas. Además de la descripción de la nueva especie, se proporciona una clave de identificación para los dos grupos presentes en Sudamérica y para las especies del grupo bruchi. También se presentan nuevos datos sobre la taxonomía del grupo bruchi.

Palabras clave: Caatinga; hojarasca; hormigas basicerotinas; Myrmicinae.

Introduction

The ant genus *Eurhopalothrix* (Insecta: Hymenoptera: Formicidae) was proposed by Brown & Kempf (1960) to name species of Myrmicinae Lepeletier de Saint-Fargeau, 1835

Received 29 February 2024 / Accepted 8 May 2024 / Published online 31 May 2024
Responsible Editor: José Mondaca E.

belonging to the former tribe Basicerotini Brown, 1949, characterized by seven antennal segments and triangular mandibles with serial teeth. However, the authors did not designate a type species, and the name only became available with the correction of Brown & Kempf (1961). A phylogeny proposed by Urbani & de Andrade (2007) suggested that all Basicerotini genera (*Basiceros* Schulz, 1906, *Eurhopalothrix* Brown & Kempf, 1961, *Octostruma* Forel, 1912, *Protalaridris* Brown, 1980, *Rhopalothrix* Mayr, 1870, *Talaridris* Weber, 1941) be synonymized under a single genus, *Basiceros*, based upon the argument that there were no autapomorphies to sustain a separation. The authors also proposed that the tribe Basicerotini become a junior synonym of the tribe Dacetini Forel, 1892. However, this classification has been challenged since its proposal and some studies have continued to recognize these six genera as valid (see AntCat 2024). In reviews conducted for the genera *Eurhopalothrix* (Longino 2013a), *Octostruma* (Longino 2013b), and *Rhopalothrix* (Longino & Boudinot 2013), the authors acknowledged problems in the definition of these genera but chose to maintain them separated in order to ensure long-term nomenclatural stability, following the classification proposed by Brown & Kempf (1960) and Bolton (2003). A molecular phylogeny published by Ward *et al.* (2015) reinforced the closer relationship between species of basicerotine ants, which form a monophyletic group, although synonymizing the tribe Basicerotini under Attini Smith, 1858.

The genus *Eurhopalothrix* occurs in the Neotropical, Oriental, and Australian regions and is currently represented by 54 valid species (AntCat 2024), with *Eurhopalothrix reichenspergeri* (Santschi, 1923) recently resurrected from synonymy with *Eurhopalothrix gravis* (Mann, 1922) (Chaul 2022). During the review of the Basicerotini species, Brown & Kempf (1960) proposed five groups of species for *Eurhopalothrix* (biroi, bolau, brevicornis, bruchi, and procera groups), based on the number and arrangement of specialized hairs found along the body. Twenty-nine species belonging to three of these groups occur in the Neotropical region (AntWeb 2023): bolau group, occurring from the State of Florida (USA) to the east coast of South America; procera group, represented by a single winged queen collected in 1994 in Costa Rica (see Longino 2013a); and bruchi group, formed by a single species, *Eurhopalothrix bruchi* (Santschi, 1922), described based on specimens collected in the region of Córdoba, Argentina, and with records in tropical and subtropical forests and in the savannas of South America, from the central-west region of Argentina to northeastern Brazil (Santoandré *et al.* 2016; Arcusa & Cicchino 2018). However, the existence of a single species in the bruchi group has been recently challenged based on queens found in a full colony collected in the province of Buenos Aires, Argentina, compared to a queen found in Viçosa, Minas Gerais, Brazil (see Arcusa & Cicchino 2018). We ourselves have found a new species of basicerotine ants (*sensu* Ward *et al.* 2015), attributed to the genus *Eurhopalothrix* and to the bruchi group, found in the Caatinga Domain, in a riparian forest fragment in the Sub-middle region of the São Francisco River in the municipality of Petrolina, Pernambuco, Brazil. We describe herein the new species and provide an identification key for the two groups present in South America and for the species of the bruchi group. New data on the taxonomy of the bruchi group are also presented.

Material and Methods

Thirteen workers were collected in a leaf litter sample taken during the rainy season between December 19 and 20, 2020, on the left bank of the São Francisco River (Lat. -9.368035°; Long. -40.379047°), in a location known as 'Serrote do Urubu', municipality of Petrolina, Pernambuco, Brazil. The leaf litter sample was sieved in a 50 cm wide bowl

through a 3 mm mesh. The ants were collected manually and stored in an Eppendorf tube containing ethyl alcohol. Eight specimens were individually mounted on a paper triangle pierced by entomological pin no. 2 with water-based glue to visualize the body features under a stereomicroscope, and five specimens were kept in alcohol. The specimens were observed and measured directly in the stereomicroscope or indirectly through high resolution. Ant collection was authorized by license no. 72721, provided by the Ministry of Environment of Brazil (MMA), the Chico Mendes Institute for the Conservation of Biodiversity (ICMbio), and the Biodiversity Authorization and Information System (SISBIO). The registration of access activity was realized in the National System for Management of Genetic Heritage and Associated Traditional Knowledge (SisGen protocol: AF72986).

Repository institutions:

CPDC	Centro de Pesquisas do Cacau, Itabuna, Bahia, Brazil.
DZUP	Museu de Entomologia Pe. Jesus Santiago Moure, Universidade Federal do Paraná, Curitiba, Paraná, Brazil.
INPA	Instituto Nacional de Pesquisas da Amazônia, Manaus, Amazonas, Brazil.
MFCE-LMS	Laboratório de Mirmecologia do Sertão, Coleção Entomológica do Museu de Fauna da Caatinga, Universidade Federal do Vale do São Francisco, Petrolina, Pernambuco, Brazil.
MZSP	Museu de Zoologia da Universidade de São Paulo, São Paulo, São Paulo, Brazil.

The micrographs of the new species were produced by stacking images on different focal planes using the HELICON Focus (8.2.0) software. Each image was obtained with a Nikon D5600 camera coupled to a microscope equipped with a 10x objective lens and a Speedlites Yongnuo yn560iv flash pair.

Subsequently, the images obtained were incorporated into a database, along with images of other species of the genus.

We analyzed the syntype of *E. bruchi* present in the Hymenoptera Collection of the MZSP. While the other syntypes of *E. bruchi* and other species of *Eurhopalothrix* have been indirectly analyzed by the images from www.antweb.org. The images of the syntype of *E. bruchi* (FOCOL2180) that illustrate the definition of the species and the other one in the discussion are by Christiana Klingenberg. In the identification key, the image of *E. bolau* (CASENT0914894) is by Michele Esposito, and the image of another syntype of *E. bruchi* (CASENT0912536) is by Will Ericson. In the discussion, the image of *Eurhopalothrix aff. bruchi* (CASENT0173970) is by April Nobile.

The terminology proposed by Bolton (1994) was used for the external morphology of adult workers, whereas the terminology proposed by Harris (1979) was used for cuticle sculpture. The shape of the hairs was determined based on botanical terms used to characterize leaf shape (Lima *et al.* 2016).

Some of the measurements proposed by Brown & Kempf (1960) and Ketterl *et al.* (2004) were used, and new measures and indices were also proposed. All measurements are given in millimeters. The list of measurements and indices used is shown below:

- HL Head length: in full-face view, maximum length of head, from a line tangent to the anterior clypeal margin at midline to a line tangent to the posterior most projections of the vertex.
- HW Head width: in full-face view, maximum width of head.
- ML Mandibular length: in full-face view, measured from the apex of the mandibles to a line tangent to anterior clypeal margin.

- PW Pronotal width: in dorsal view, maximum width of the pronotum.
PmL Promesonotum length: in dorsal view, distance between the anterior region of the pronotum, excluding the cervical shield, and the metanotal suture.
SL Scape length: maximum length of scape, including anterior lobe.
SLL Scape lobe length: measured along same axis as SL, distance from anterior border of anterior lobe to perpendicular line crossing approximate midpoint of scape base, where it goes under frontal carinae.
WL Weber's length: the diagonal length of the mesosoma in profile from the point at which the pronotum meets the cervical shield to the posteriormost margin of the propodeal lobes.
CI Cephalic index: $100HW/HL$.
PI Promesonotum index: $100PW/PmL$.
TL Total length: $ML + HL + WL + \text{petiole} + \text{postpetiole} + \text{gaster}$.

Results

New definition of the *Eurhopalothrix bruchi* species group modified from Brown & Kempf (1960): Body with evenly-distributed pilosity consisting of squamate, uniform, obovate, and subappressed hairs covering the dorsal surface of the body, scape, and legs (other species usually have different types of hair, including specialized hairs); eyes minute; a fan-shaped, open bouquet of white, branched bristles emerging from the cove formed on the anteroventral margin of the mesopleuron (similar to that of *Pilotrochus besmerus* Brown, 1978 (Attini)); petiole sessile (pedunculate in most other species).

Eurhopalothrix oxente Celante and Celante, **new species**
(Fig. 1)

<http://zoobank.org/urn:lsid:zoobank.org:act:FC2E821D-0351-49D9-92AD-1D912B5640BC>

Type material. Holotype: Worker; Brasil – PE, Petrolina, Serrote do Urubu, 19 – 20/12/2020, Lat. -9.368035, Long. -40.379047, LMSAAI61, LMS60AA, collector: G. L. Celante [MFCE014368]. Deposited at MFCE-LMS. **Paratypes:** seven workers collected in the same location as the holotype. Two specimens will be deposited at CPDC (MFCE014367, MFCE014369), two at DZUP (MFCE014370, MFCE014371), two at INPA (MFCE014376, MFCE014377), and one at MZSP (MFCE014372). Furthermore, five specimens were kept in wet storage (ethyl alcohol), deposited at MFCE/LMS (MFCE014378, MFCE014379, MFCE014380, MFCE014381, and MFCE014382).

Diagnosis. Hairs squamate, uniform, obovate, and subappressed covering the dorsal surface of the body, scape, and legs; head wider than longer; mandibles triangular, with nine teeth of varied sizes, the fourth tooth notably longer than the others, and the proximal teeth curved towards the clypeus; clypeus with anterior margin relatively straight; eyes extremely reduced.

Definition. See Tab. 1. Data for the holotype are informed within brackets []; minimum and maximum measures for five paratypes (MFCE014367, MFCE014369, MFCE014370, MFCE014371, MFCE014372) and the holotype are informed within parentheses (). Measures: HL [0.49] (0.48 - 0.52). HW [0.55] (0.55 - 0.59). ML [0.14] (0.14 - 0.16). PW [0.39] (0.34 - 0.41). PmL [0.35] (0.32 - 0.39). SL [0.26] (0.24 - 0.27). SLL [0.08] (0.07 - 0.08). WL [0.61] (0.61 - 0.64). CI [112] (112 - 118). PI [110] (103 - 110). TL [2.23] (2.22 - 2.32).

Table 1. Definition of *Eurhopalothrix oxente* **sp. nov.** based on workers compared to *E. bruchi*. / **Tabla 1.** Definición de *Eurhopalothrix oxente* **sp. nov.** basado en obreras en comparación con *E. bruchi*.

Taxon	<i>Eurhopalothrix oxente</i> sp. nov. (Fig. 1)	<i>Eurhopalothrix bruchi</i> (Fig. 2)
Total length	2.22 - 2.32 mm	1.8 - 2.0 mm ^{1,2}
Head	Wider than longer in full face view (CI 112 - 118); posterior margin concave	In full face view, slightly longer than wider (CI 92 - 96) ^{1,2} ; posterior margin slightly concave ¹
Eyes	Extremely reduced	Small ² and depigmented ¹
Clypeus	Convex posteriorly and anterior margin relatively straight, slightly concave; lateral margins clearly surpass the width of the frontal lobes	Convex posteriorly and anterior margin concave; lateral margins approximately of the same width as the frontal lobes
Surface of the mandibles	Punctate and opaque	Smooth and shiny ²
Mandibles	Nine teeth of irregular size and shape, the fourth tooth much longer and tapered, posterior teeth curved towards the clypeus	masticatory margin concave, with about 10 spiniform, very thin teeth ¹
Promesonotum	Dorsal region flat in lateral view; slightly wider than longer in dorsal view	Almost flat ² ; in dorsal view, slightly longer than wider ¹
Propodeum	Short; concave postero-anteriorly; in lateral view, margins of the propodeum slope show well-defined lamellae forming an angle in the region close to the dorsum	Short; concave postero-anteriorly; in lateral view, uniformly rounded with a thin carina that tapers from the base towards the back ^{1,2}
Cuticle	Head, mesosoma, petiole, postpetiole, gaster, and legs densely punctate	Body densely and finely granulose-punctulate, opaque, except for the smooth and shiny mandibles ²
Pilosity	Dorsal and ventral surface of the head, legs, gaster, and dorsal surface of the scape, mesosoma, petiole, and post-petiole covered by curved, obovate hairs over the body	Dorsal surfaces of the body, legs, and scapes covered with numerous short, inverted spoon-shaped hairs that appear as small, widely spaced, semitransparent scales ²

¹Santschi (1922); ²Brown & Kempf (1960)

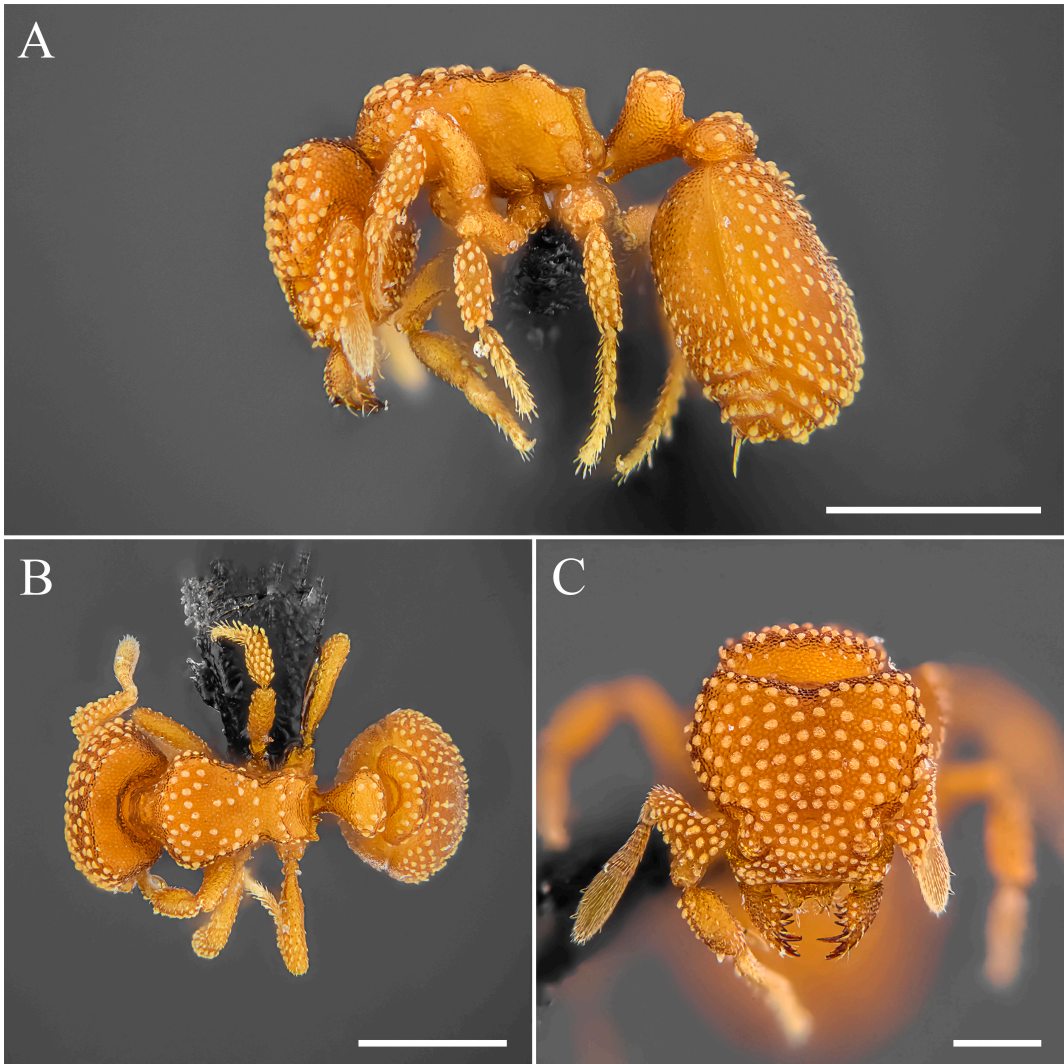


Figure 1. Holotype of *Eurhopalothrix oxente* sp. nov. **A.** Lateral view. **B.** Dorsal view. **C.** Head in frontal view. Scale bar: A = 0.5 mm; B and C = 0.2 mm. / **Figura 1.** Holotipo de *Eurhopalothrix oxente* sp. nov. **A.** Vista lateral. **B.** Vista dorsal. **C.** Cabeza en vista frontal. Barra de escala: A = 0,5 mm; B y C = 0,2 mm.

Biology and distribution. The new species was found in a small fragment (70 m x 70 m) of riparian forest dominated by *Inga vera* Willd. subsp. *affinis* (DC.) T.D. Penn (Fabales: Fabaceae: Mimosoideae). Relatively thick layers of litter accumulate below the canopy of these trees, with some points exceeding 30 cm in thickness (Fig. 3). The specimens were collected in sifted litter and rotten wood samples from the forest floor. The riparian forest fragment is located on the left bank of the São Francisco River, in the Sub-middle São Francisco hydrographic region, northeastern Brazil, in the 'Depressão Sertaneja Meridional' ecoregion of the Caatinga Domain (Velloso *et al.* 2002). The climate of the region is classified as hot semi-arid ('BSh' type in the Köppen climate classification), with a maximum temperature of 33 °C and a minimum of 20 °C; average compensated temperature between 24.8 °C and 28.1 °C; the highest rainfall rates are found in the months of January, February, and March; average annual rainfall between 354.0 mm and 559.2 mm during 'usual years', but with the possibility of ranging from 150 mm to above 800 mm (Pimentel & Assis 2022);

and average monthly evapotranspiration ranging from 172.83 mm (June) to 288.69 mm (October) (Silva *et al.* 2015). Up until now, *Eurhopalothrix oxente* **sp. nov.** has not yet been found in collections carried out in the same municipality outside this riparian forest and in neighboring regions, on both sides of the river, in either shrub or arboreal Caatinga areas, and is only known in its type locality (Fig. 4).

Etymology. The name is a reference to the interjection ‘oxente’, a typical expression of northeastern Brazil used to mean surprise or oddness.

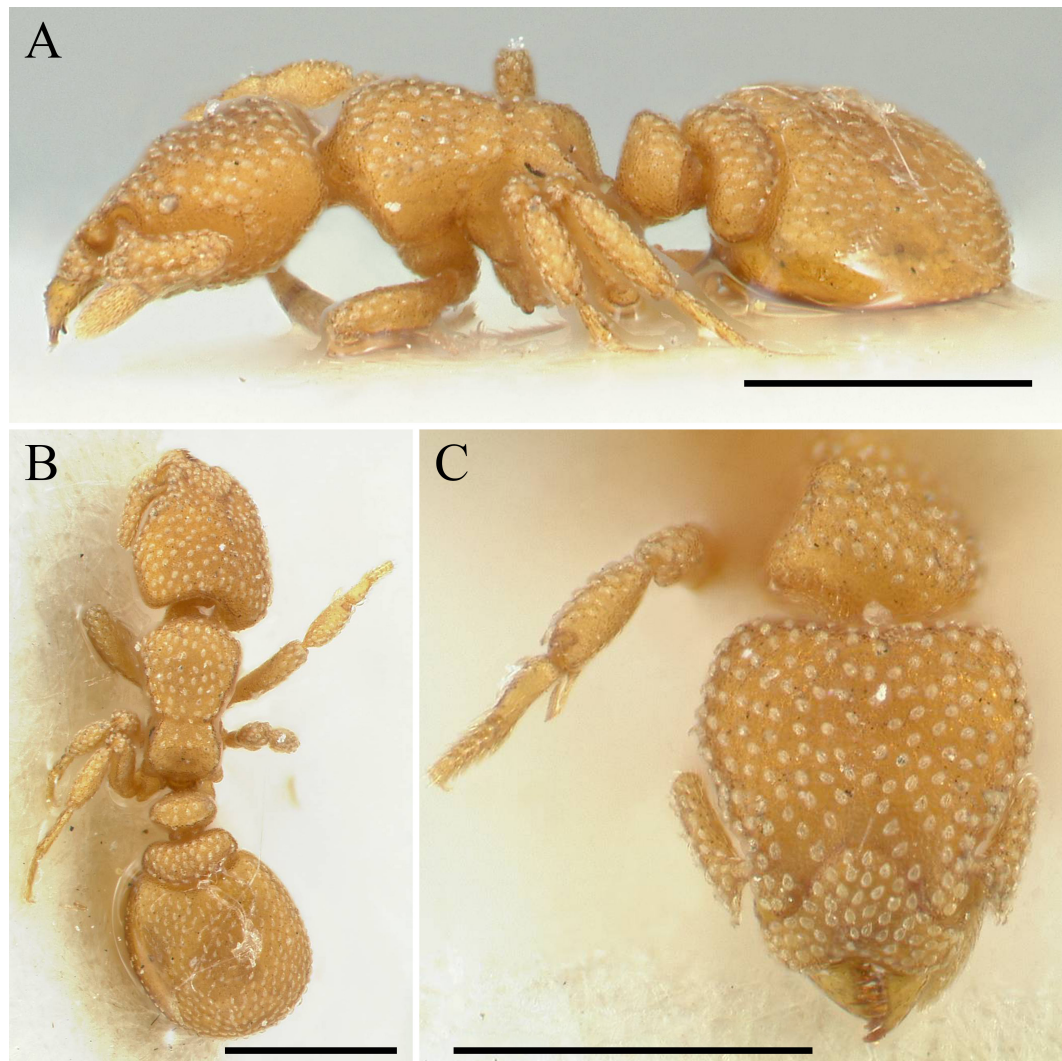


Figure 2. Syntype of *Eurhopalothrix bruchi*. **A.** Lateral view. **B.** Dorsal view. **C.** Head in frontal view. Scale bar: 0.5 mm. / **Figura 2.** Sintipo de *Eurhopalothrix bruchi*. **A.** Vista lateral. **B.** Vista dorsal. **C.** Cabeza en vista frontal. Barra de escala: 0,5 mm.



Figure 3. Photo in the riparian forest where *Eurhopalothrix oxente* sp. nov. was collected, on the left bank of the São Francisco River in Petrolina, Pernambuco, Brazil. / **Figura 3.** Foto en el bosque ribereño donde *Eurhopalothrix oxente* sp. nov. fue recolectada, en la margen izquierda del río São Francisco en Petrolina, Pernambuco, Brasil.

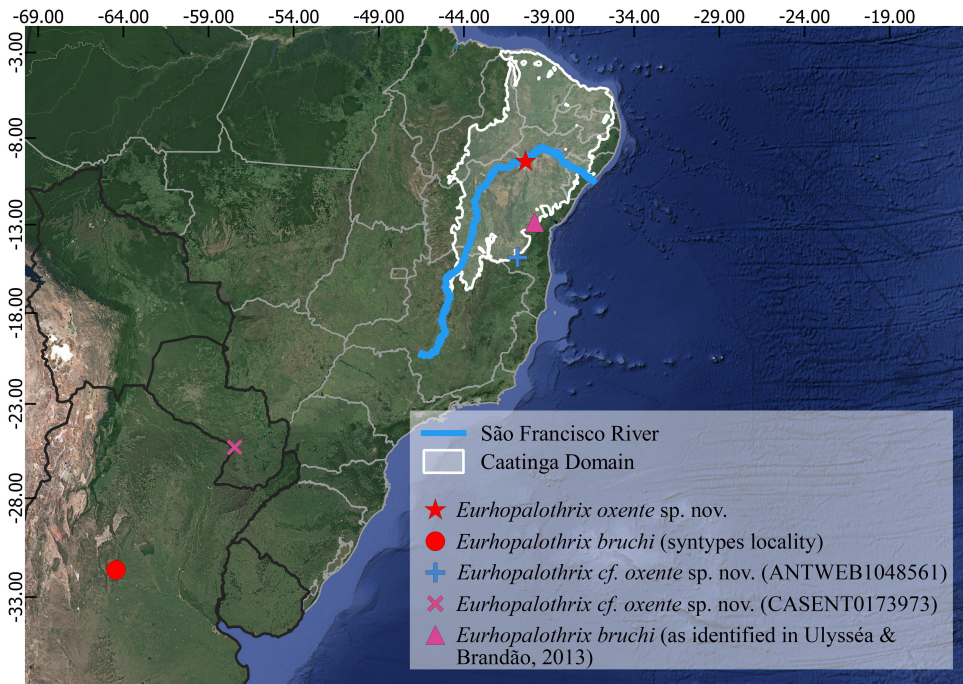


Figure 4. Map of part of South America with the distribution of *Eurhopalothrix oxente* sp. nov., and of some other specimens of the bruchi group (Caatinga limits modified from Lima 2021). / **Figura 4.** Mapa de parte de Sudamérica con la distribución de *Eurhopalothrix oxente* sp. nov., y de algunos otros especímenes del grupo bruchi (límites de Caatinga de Lima 2021).

Key to the South American group of *Eurhopalothrix* species, with a key to the bruchi group species (first step modified from Brown & Kempf 1960: key to the species of *Eurhopalothrix* in the New World (workers and females))

1. Pilosity uniform and evenly distributed, consisting of numerous small, oval, subappressed squamiform hairs over dorsal surfaces of body, legs and scapes; no specialized erect hairs (Fig. 5A) bruchi group 2
- Pilosity differentiated into smaller appressed and subappressed ground hairs and larger specialized (erect clavate or pompon-like) hairs arranged in a symmetrical pattern (Fig. 5B) bolaii group

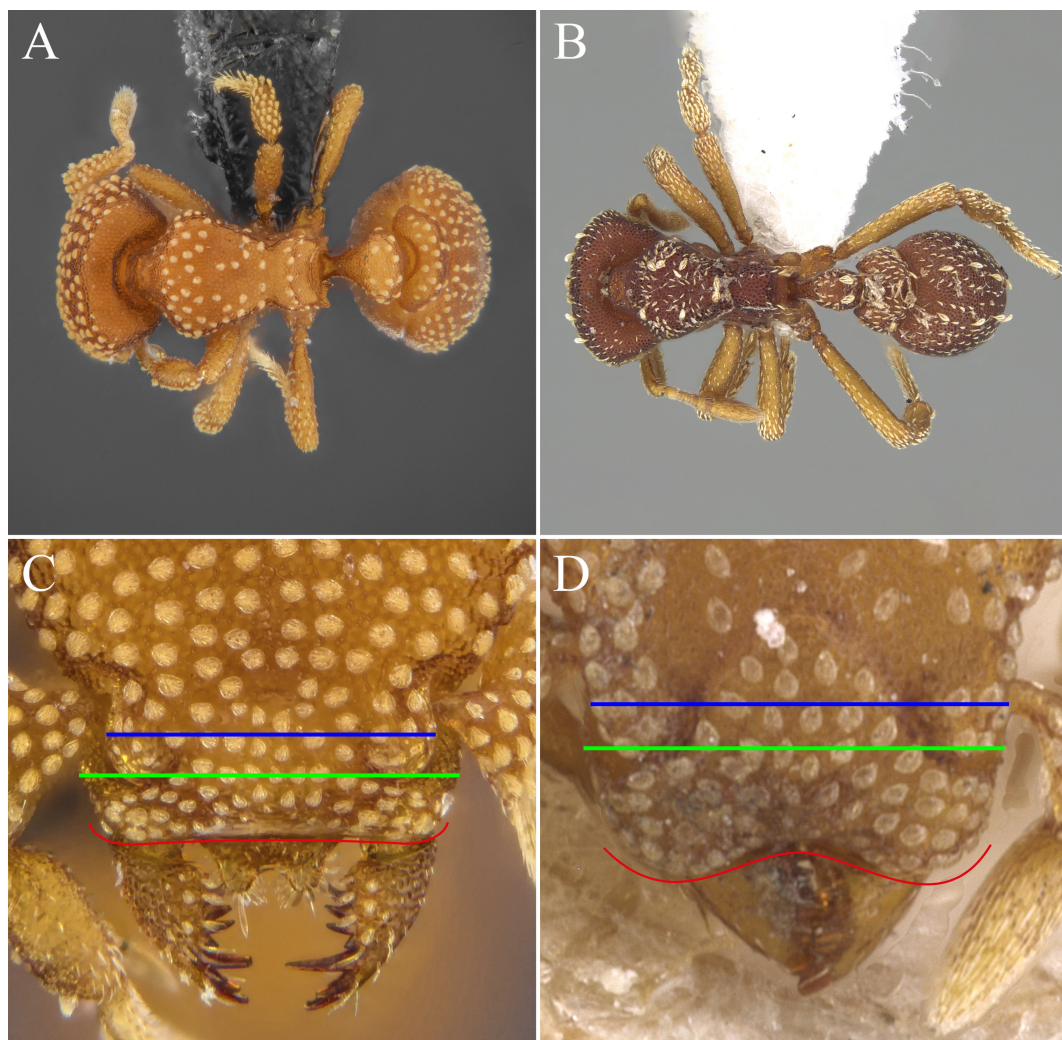


Figure 5. Images of some species of *Eurhopalothrix*. **A-C.** *Eurhopalothrix oxente* **sp. nov.** (holotype). **B.** *Eurhopalothrix bolaii*. **D.** *Eurhopalothrix bruchi* (syntype). **A-B.** Dorsal view. **C-D.** Details of the posterior of the head in frontal view. The blue line represents the width of the frontal lobes, and the green line represents the width of the clypeus. The outline of the anterior margin of the clypeus is represented in red. / **Figura 5.** Imágenes de algunas especies de *Eurhopalothrix*. **A-C.** *Eurhopalothrix oxente* **sp. nov.** (holotipo). **B.** *Eurhopalothrix bolaii*. **D.** *Eurhopalothrix bruchi* (sintipo). **A-B.** Vista dorsal. **C-D.** Detalles de la parte posterior de la cabeza en vista frontal. La línea azul representa el ancho de los lóbulos frontales, y la línea verde representa el ancho del clípeo. El contorno del margen anterior del clípeo está representado en rojo.

- 2 Clypeus convex posteriorly and anterior margin relatively straight, with the lateral margins clearly surpassing the width of the frontal lobes; mandibles with a long and tapered fourth tooth, proximal teeth curved towards the clypeus (Fig. 5C) *Eurhopalothrix oxente* **sp. nov.**
- Clypeus posteriorly convex and anteriorly concave, lateral margins with approximately the same width as the frontal lobes; mastigatory margin with about 10 very fine and relatively uniform spiniform teeth (Fig. 5D) *Eurhopalothrix bruchi*

Discussion

Even with some uncertainty regarding the classification at the genus level, *Eurhopalothrix oxente* **sp. nov.** can be easily differentiated from species attributed to the genera *Basiceros*, *Octostruma*, and *Protalaridris* for having only seven antennal segments (12, 8, and 9 in the cited genera, respectively), and from the genera *Rhopalothrix* and *Talaridris*, which also have only seven antennal segments, for having relatively short, triangular and serially dentate mandibles that close tightly against the clypeal margin and against each other. Within the genus *Eurhopalothrix*, the representatives of the bruchi group, to which the new species was attributed, can be differentiated from the other groups of species for having the dorsal surface of the body virtually fully covered by squamate setae and the absence of differentiated setae. *Eurhopalothrix oxente* **sp. nov.** stands out within the bruchi group by the fourth tooth being much longer and tapered than the other ones in the mandible, whereas *E. bruchi* has undifferentiated teeth.

In the last review of the Central American and Caribbean species of the genus *Eurhopalothrix*, although not having examined the syntypes, Longino (2013a) stressed that *E. bruchi* shows sub-rectangular lamellae on the posterior surface of the propodeum. Recently, Fiorentino *et al.* (2022) once more signaled the presence of these lamellae in the propodeum of *E. bruchi* based on the same specimen (CASENT0173970 – from Paraguay, Itapúa, San Benito) used by Longino (2013a; Fig. 6A). However, this trait is not visible in the syntype deposited in the MZSP and in the images of the two other syntypes present in www.antweb.org (FOCOL2180, CASENT0912536), besides not featuring in the original description or the re-description presented in the review of Brown & Kempf (1960), who examined the same three syntypes (Fig. 6B). (i) This difference observed between the workers (syntypes) of *E. bruchi* and the specimen CASENT0173970; (ii) the differences between the queens collected in Balcarce District (Buenos Aires, Argentina), and the queen collected in Viçosa (Mina Gerais, Brazil) presented by Arcusa and Cicchino (2018); (iii) the wide distribution of the species *E. bruchi*, with records in the Chaco, Pampa, Cerrado, Atlantic forest and Caatinga; (iv) along with the description of *Eurhopalothrix oxente* **sp. nov.**; may indicate the presence of a series of species not yet described for the bruchi group.

Eurhopalothrix oxente **sp. nov.** is only known in its type locality. However, two specimens found on www.antweb.org are very similar to this new species and may form a group of related species: the specimen ANTWEB1048561 collected in Vitória da Conquista, Bahia, Brazil (Fig. 4) and the specimen CASENT0173973 collected in San Lorenzo, Central, Paraguay (Fig. 4). On the other hand, specimens identified as *E. bruchi* were collected in areas covered by arboreal Caatinga vegetation in Milagres, Bahia, Brazil (Ulysséa & Brandão 2013 - Fig. 4), the nearest record to Petrolina. However, the identification of these specimens has yet to be verified. The two Brazilian localities are located at 600 km and 400 km to south from Petrolina, respectively (Fig. 4), but both are encompassed within the Caatinga Domain. These are the only records of this genus in the entire Caatinga Domain. *Eurhopalothrix oxente* **sp. nov.** may have its distribution restricted to the Caatinga Domain, with a group of related species having evolved in the Chacoan Domain (*sensu* Morrone *et al.* 2022), whereas the group of related species with sub-rectangular lamellae on the posterior surface of the propodeum would have evolved in the Atlantic Rainforest.

Therefore, it would be interesting to check the identity of specimens so far identified as *E. bruchi*, especially those found in the Cerrado, in order to understand better the evolution of the bruchi group.

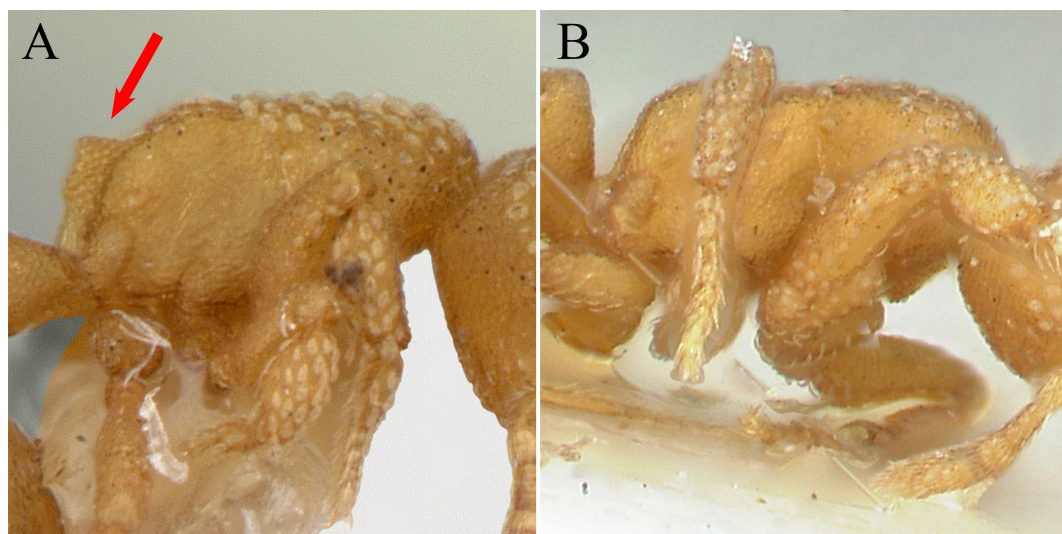


Figure 6. Comparison of the mesosoma of some *Eurhopalothrix*. **A.** *Eurhopalothrix* aff. *bruchi*. **B.** *Eurhopalothrix bruchi* (syntype). The red arrow indicates the sub-rectangular lamella on the posterior surface of the propodeum. / **Figura 6.** Comparación del mesosoma de algunos *Eurhopalothrix*. **A.** *Eurhopalothrix* aff. *bruchi*. **B.** *Eurhopalothrix bruchi* (sintipo). La flecha roja indica la lamela subrectangular en la superficie posterior del propodio.

We have followed the revision of Brown & Kempf (1960) to assign the new species to the genus *Eurhopalothrix* and to the bruchi group. There are more undescribed specimens on www.antweb.org whose visible features make them assignable to the bruchi group too. Although the genera of basicerotine ants need a complete revision with a phylogeny, as suggested by Longino (2013a), it would be most useful to start describing more species of these genera to provide more data for the systematics of these ants. Based on the description of a new species, this is how we have redefined the bruchi group, which may represent a clade, perhaps even a new genus or subgenus, in the future phylogenetic analysis. Description of even more delimited new species is essential if we want to solve the taxonomic problem of basicerotine ants.

Conclusions

This paper proposes a new species of *Eurhopalotrrix* found in the sub-middle São Francisco region, a poorly sampled region from the perspective of myrmecofauna (Divieso *et al.* 2020). However, this region, on both sides of the São Francisco River, is currently being inventoried by members of the LMS laboratory at the Center for the Conservation and Management of the Fauna of the Caatinga (CEMAFAUNA-Caatinga) of the Federal University of Vale do São Francisco (UNIVASF). We want to fill in the sampling gaps in this region and contribute to a better understanding of its biodiversity.

Acknowledgments

We thank the Center for the Conservation and Management of the Fauna of the Caatinga (CEMAFAUNA-Caatinga) and the Nucleus of Ecology and Environmental Monitoring (NEMA) of the Federal University of Vale do São Francisco (UNIVASF) for the logistical support provided during the field expeditions carried out by the 'Laboratório de Mirmecologia do Sertão'. We thank Carlos Roberto Ferreira Brandão for the access to the syntype of *Eurhopalothrix bruchi* in the Hymenoptera collection of the MZSP. We thank the National Council for Scientific and Technological Development - CNPq for the scholarship granted to Gabriel Celante (no. 130692/2023-9) under CNPq/MCTI/CONFAP-FAPS - PROTAX no. 22/2020 (no. 442712/2020-0), and the State Foundation for the Support of Science and Technology of Pernambuco (FACEPE) for the co-financing (FACEPE_APQ-0388-2.04-21).

Author Contributions

GLCdS: Conceptualization, methodology, investigation, resources, data curation, writing-original draft, writing-review & editing, visualization. **JMGBC:** Conceptualization, methodology, investigation, data curation, writing - original draft, writing - review & editing, visualization. **VdSN:** Writing - original draft, writing - review & editing. **BJBJ:** Validation, investigation, resources, writing - original draft, writing - review & editing, supervision, project administration, funding acquisition.

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