



RESEARCH ARTICLE - ANTS

Surveying Ant Fauna in Northern Espírito Santo, Brazil: New Distribution Records From the Coleção Zoológica Norte Capixaba

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Abstract

In Brazil, the Atlantic Forest biome faces significant threats due to urban expansion and deforestation, resulting in a loss of species diversity. Biological collections represent a valuable tool and the best way to preserve population data on species in a specific region. The Coleção Zoológica Norte Capixaba (CZNC) is located in the North of Espírito Santo, serving as a reference zoological collection for the region, and has significant potential to enhance the knowledge of local fauna, particularly ant fauna. The present study aims to survey ant species in the northern region of Espírito Santo deposited in the CZNC. The identification and morphospeciation of ants were carried out using specialized taxonomic literature, identification keys, morphological character analysis, and online databases, such as AntWeb and AntCat, following established protocols for species delimitation. A list of CZNC species is presented, and new records for the state are highlighted, photographed, and added to AntWeb (an electronic database for ants). A total of 135 ant species recorded in Espírito Santo were deposited in CZNC, with the Myrmicinae subfamily being the most representative. Conceição da Barra had the most records among the sampled cities. Although Espírito Santo has 78 municipalities, records were available for only seven of them, indicating possible undersampling with the potential to exceed the current number of 227 recorded species. Twelve species were new records for Espírito Santo. The study findings show how the CZNC represents a valuable source of knowledge about myrmecofauna, enriching the repertoire of records from this poorly studied state for the group and highlighting the diversity of species the region is home to.

Introduction

The Atlantic Forest has lost nearly 90% of its original area due to deforestation, severely impacting its biodiversity (Lobo et al., 2011; Ferreira & Shimabukuro, 2015; Solórzano et al., 2021; SOS Mata Atlântica, 2023). Around 72% of Brazil's population lives within this biome, which is recognized as a global biodiversity hotspot (Rolim et al., 2016; SOS Mata Atlântica, 2023). Urban expansion and deforestation have drastically reduced the diversity of fauna, thereby threatening species survival (Bacha & Barros, 2004; Rolim et al., 2005;

Rocha et al., 2007; Wagner, 2020). Ecosystem preservation is crucial, especially for underrepresented groups in conservation efforts (Castilho et al., 2015; Morante-Filho et al., 2015; Feitosa et al., 2021).

Insects are the most diverse animal group and provide key ecosystem services, but have seen a 33% decline in biodiversity (Samways, 2007; Dirzo et al., 2014; Noriega et al., 2018; Wagner, 2020; Lewinsohn et al., 2022). Despite their importance, they have received limited attention for conservation (Cardoso et al., 2020). Among insects, ants, with over 14,000 described species (Bolton, 2025), play vital



ecological roles, including seed dispersal (Bieber et al., 2014), herbivory defense (Calixto et al., 2020), and soil nutrient cycling (Del-Toro et al., 2015).

Studies on ant inventories and species lists are essential to knowledge of ant diversity (Camacho & Vasconcelos, 2015; Franco & Feitosa, 2018; Albuquerque et al., 2021; Vicente et al., 2023). In Brazil, states such as Paraíba, Rio Grande do Norte, Tocantins, and Espírito Santo remain less studied and consequently undersampled compared to their neighboring regions (Janicki et al., 2016; Guénard et al., 2017). Espírito Santo has 215 recorded species, while Rio de Janeiro, a smaller state, has 486 (Janicki et al., 2016; Guénard et al., 2017). With recent additions, Vicente et al. (2023) reported 12 new records for Espírito Santo, bringing 227 species, although this still needs to be updated in databases such as AntMaps.

Biological collections are crucial for preserving historical records and population data of species, particularly those less discussed in conservation, such as ants (Wheeler, 1997; Rocha et al., 2014; Booher et al., 2023). Studies based on these collections can help assess extinction risks and manage species data (Hope et al., 2018; Jacken et al., 2020). The Sistema de Informação sobre a Biodiversidade Brasileira (SiBBr, 2023) lists 450 registered collections, with potential for smaller collections that can enhance local fauna knowledge at a low cost (Rocha et al., 2014; Pimenta et al., 2017).

In 2012, it was created by researchers from Universidade Federal do Espírito Santo, the Coleção Zoológica Norte Capixaba (CZNC). The collection hosts specimens from different animal groups, including vertebrates and invertebrates, primarily preserved in wet conditions, but also contains insect specimens stored under dry conditions. Since 2015, with the creation of the Laboratório de Sistemática e Ecologia de Insetos (LabSEI), activities related to the systematics and ecology of Formicidae have begun. By collecting and depositing several ant species, mainly sampled in habitats North of Espírito Santo, the CZNC myrmecological collection has increased the number of recorded species.

Papers of species checklists, endangered species, and new records are vital for knowledge of local fauna (Chanda & Dubois, 2000; Roselaar & Prins, 2000; ICMBio/MMA, 2018; Percequillo et al., 2022). Strengthening regional research in degraded biomes, such as the Atlantic Forest, is crucial for developing effective conservation plans (Tabarelli et al., 2005; Rolim et al., 2016; ICMBio/MMA, 2018). As the CZNC collection grows, sharing these data will enhance the knowledge of the state's species diversity. This study aims to survey ant species in northern Espírito Santo, producing a species list from the CZNC collection to increase state records.

Materials and Methods

This study was conducted in collaboration with the Coleção Zoológica Norte Capixaba (CZNC), located at the

Laboratório de Sistemática e Ecologia de Insetos (LabSEI), Universidade Federal do Espírito Santo, São Mateus, Espírito Santo, Brazil. The specimens were stored in entomological boxes separated by subfamilies and in an entomological cabinet. Specimens not identified at the species level were standardized as morphospecies (cznc followed by a number). The collection has species donated from various locations in Brazil and some other countries, and the morphospeciations were carried out considering all these species to maintain standardization for the collection.

Most of the specimens come from samplings carried out mainly north of the “Rio Doce” (River that runs through the state) (Fig 1), with some exceptions, including ants donated from the Anchieta (-20.804056, -40.649139), Guarapari (-20.673944, -40.500056), and Santa Teresa (-19.932083, -40.599917) municipalities. The municipalities north of the Rio Doce that have species in the collection are Conceição da Barra (-18.583278, -39.734000), Nova Venécia (-18.708417, -40.395472), São Mateus (-18.716639, -39.855944), and Sooretama (-19.188889, -40.102194). Sampling sites include Protected Areas in the state, such as the Estação Biológica Santa Lúcia (Santa Teresa), Parque Estadual de Itaúnas (Conceição da Barra), Reserva Biológica Augusto Ruschi (Santa Teresa), Reserva Natural Vale (Linhares and Sooretama), Área de Proteção Ambiental de Conceição da Barra, and Área de Proteção Ambiental A Pedra do Elefante (Nova Venécia) (Fig 1).

Specialized bibliography were used for identification, morphospeciation, morphological study, and delimitation of ant species (Gonçalves, 1942; Gonçalves, 1961; Brown, 1978; Bolton, 1994; Latke, 1997; De Andrade & Baroni Urbani, 1999; Bolton, 2000; Mayhé-Nunes & Brandão, 2002; Wilson, 2003; Mayhé-Nunes & Brandão, 2005; Wild, 2005; Longino & Fernández, 2007; Mayhé-Nunes & Brandão, 2007; Klingenberg & Brandão, 2009; Longino, 2009; Keller, 2011; Blaimer, 2012; Pacheco et al., 2013; Fernandes et al., 2014; Baccaro et al., 2015; Ješovnik & Schultz, 2017; Ward, 2017; Mackay, 2019; Ortiz-Sepulveda et al., 2019; Dias & Latke, 2021; Dos Santos et al., 2025). The online database AntWeb (<http://www.antweb.org>) was also used, but only to support and confirm already made identifications.

For morphospeciation, at least two relevant morphological characters were always observed to identify species in each genus. The new records for the state of Espírito Santo were verified using online tools such as AntMaps (Janicki et al., 2016; Guénard et al., 2017), AntWeb, SiBBr (SiBBr, 2023), and species lists available in scientific papers (Azevedo et al., 2015; Silva et al., 2022; Vicente et al., 2023). Classification checks of the species deposited in the collection were also done using the AntCat.org – An Online Catalog of the Ants of the World (Bolton, 2025).

A ZEISS Stemi 2000-C stereomicroscopic was used to observe and study the specimens. All the studied specimens were cataloged in AntWeb.org with unique collection codes

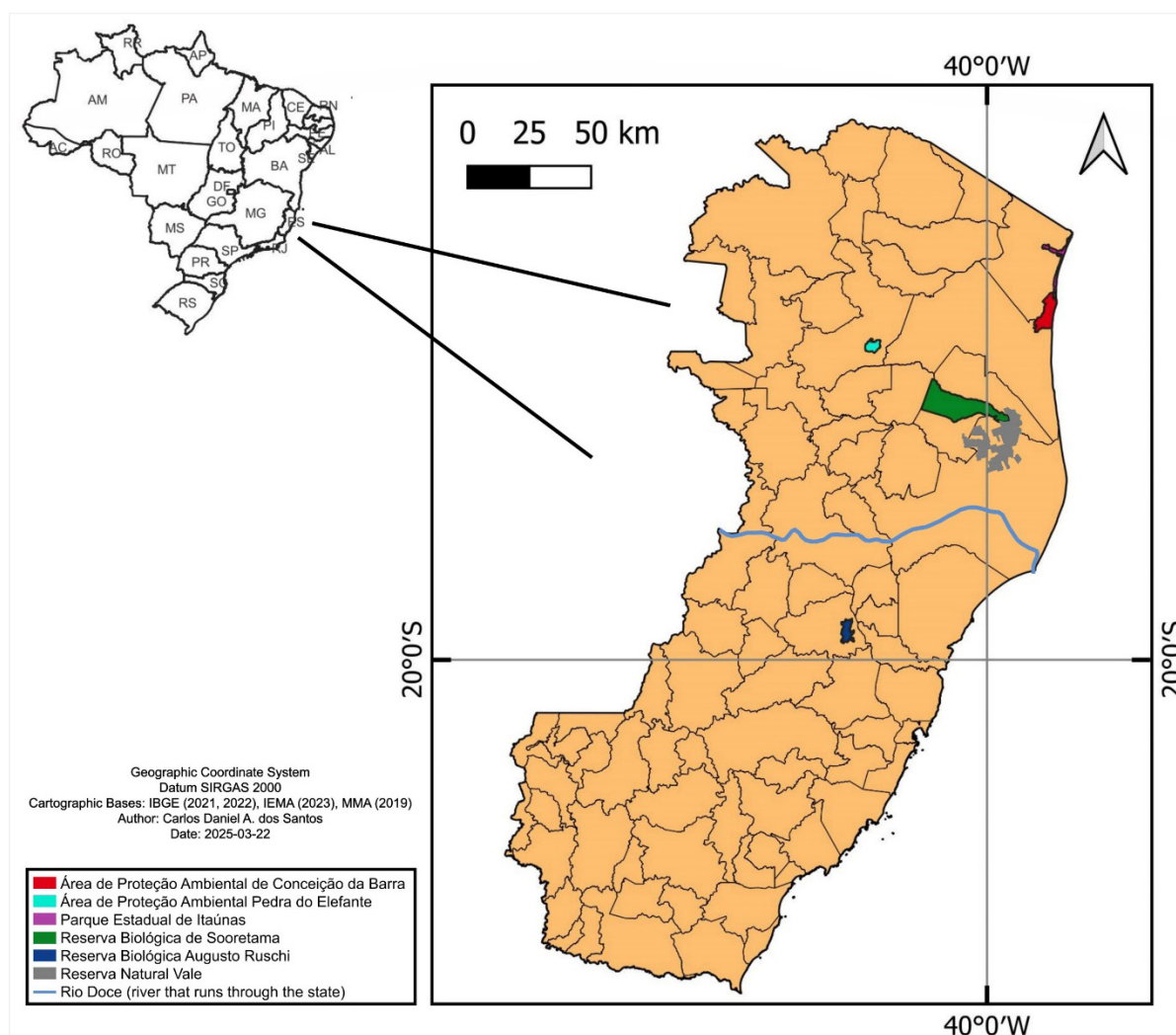


Fig 1. Map indicating the Rio Doce that crosses the state and Protected Areas in Espírito Santo. The cartographic base layers used to generate this map were obtained from IBGE (2021, 2022), MMA (2019), and IEMA (2023).

(available in the species list). The species list is organized by subfamily, and within each subfamily, alphabetically by genus and species (or morphospecies). Each record includes the collection date (YYYY-MM-DD), country, state, municipality, and locality. The sampling method is also provided. The final element of each entry corresponds to the collector's name, followed by the unique specimen code registered in AntWeb (e.g., [LABSEI_000XXX]). Current identifications, including morphospecies, may be revised over time. Such updates can be verified in AntWeb.org by consulting the respective specimen codes. An Axiocam ERc 5s ZEISS camera, coupled with a ZEISS Stemi 2000-C, and a Leica MC170 HD camera, coupled with a Leica M205-A, were used for species photography. Using CombineZP (version 1.0) and the Zerene Stacker software, the photo sequences were combined. Subsequently, detailed edits were made using Gimp software (Kimball & Mattis, 1996) and ImageJ (Schneider et al., 2012).

Results

A total of 135 ant species collected in the state were recorded, 70 identified at the species level, and 65 at the morphospecies level. In total, there are 48 genera distributed in seven subfamilies, namely Dolichoderinae (5), Dorylinae (2), Ectatomminae (2), Formicinae (4), Myrmicinae (26), Ponerinae (8), and Pseudomyrmecinae (1).

Of all the recorded species, 12 ant species from the CZNC represented new records for the state of Espírito Santo (Table 1). These species have been documented and included in AntWeb, which is widely recognized for its extensive global collaboration among researchers. Data from records of all species mentioned can be accessed through AntWeb, searching for the species unique code (LABSEI_000XXX). Only *Xenomyrmex* (ANTWEB1032694) has a different code pattern than the others because it was deposited on Antweb before the systematization of the collection codes. AntWeb allows the inclusion of the species photos in addition to providing

Table 1. New records of ant species for Espírito Santo with their respective deposit codes on AntWeb (antweb.org).

Species	Author	AntWeb Code
<i>Camponotus ager</i>	(Smith, 1858)	LABSEI_000215
<i>Camponotus blandus aequinotus</i>	Forel, 1902	LABSEI_000199
<i>Camponotus cingulatus</i>	Mayr, 1862	LABSEI_000223
<i>Camponotus coloratus</i>	Forel, 1904	LABSEI_000306
<i>Camponotus rectangularis</i>	Emery, 1890	LABSEI_000202
<i>Crematogaster nigropilosa</i>	Mayr, 1870	LABSEI_000286
<i>Mycetomoellerius relictus</i>	(Borgmeier, 1934)	LABSEI_000718
<i>Nesomyrmex pleuriticus</i>	(Kempf, 1959)	LABSEI_000372
<i>Nylanderia docilis</i>	(Forel, 1908)	LABSEI_000386
<i>Paratrachymyrmex bugnioni</i>	(Forel, 1912)	LABSEI_000226
<i>Thaumatomyrmex mutilatus</i>	Mayr, 1887	LABSEI_000185
<i>Xenomyrmex</i> ufv-02		ANTWEB1032694

collection location data (Fig 2). The list of species below contains all ant species collected in the state of Espírito Santo, which were deposited in the Coleção Zoológica Norte Capixaba.

List of species

Dolichoderinae Forel, 1878 [5 genera, 13 species]

***Azteca* Forel, 1878: 3 species**

Azteca cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000207]

Azteca cznc02, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000289]

Azteca cznc03, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000206]

***Dolichoderus* Lund, 1831: 2 species**

Dolichoderus lutosus (Smith, 1858), 2006-08, Brazil, Espírito Santo, Anchieta, Robson [LABSEI_000106]

Dolichoderus lutosus (Smith, 1858), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. e col. [LABSEI_000368]

Dolichoderus lutosus (Smith, 1858), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000272]

Dolichoderus lutosus (Smith, 1858), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000208]

Dolichoderus imitator Emery, 1894, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000224]

Dolichoderus imitator Emery, 1894, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000239]

Dolichoderus imitator Emery, 1894, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. e col. [LABSEI_000345]

Dolichoderus imitator Emery, 1894, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. e col. [LABSEI_000367]

Dolichoderus imitator Emery, 1894, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. e col. [LABSEI_000392]

***Dorymyrmex* Mayr, 1866: 3 species**

Dorymyrmex cznc01, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000167]

Dorymyrmex cznc01, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000170]

Dorymyrmex cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000146]

Dorymyrmex cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000158]

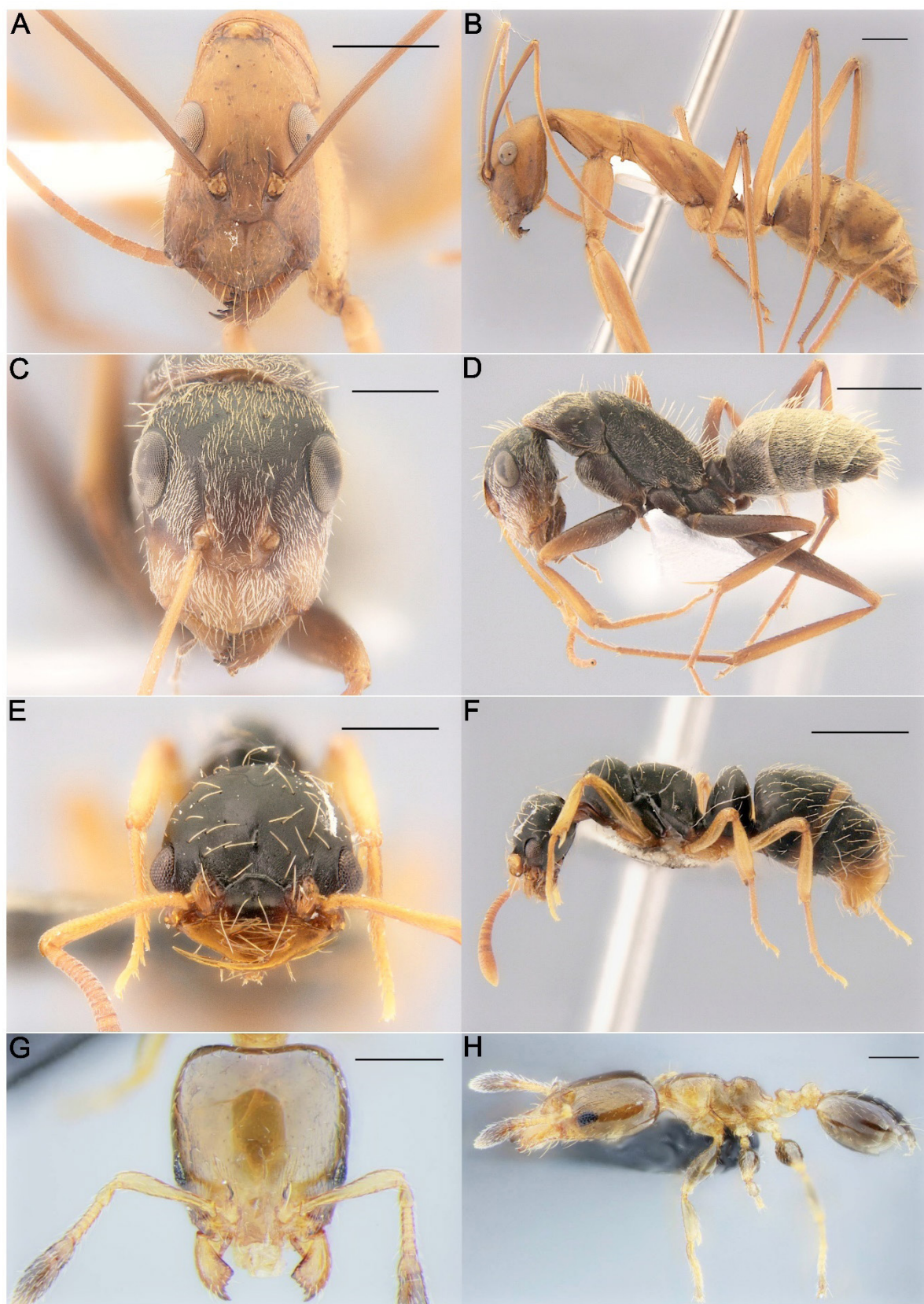


Fig 2. Four new records of ant species in Espírito Santo. The first column shows the full-face view (A, C, E, G), and the second column shows the profile view (B, D, F, H). *Camponotus ager* (Smith, 1858) [LABSEI_000215] – A, B; *Camponotus blandus aequinotus* Forel, 1902 [LABSEI_000199] – C, D; *Thaumatomyrmex mutilatus* Mayr, 1887 [LABSEI_000185] – E, F; *Xenomyrmex ufv-02* [ANTWEB1032694] – G, H. Scale bars: 1.0 mm (A, B, D, F), 0.5 mm (C, E), 0.2 mm (G, H).

Dorymyrmex cznc02, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000266]

Dorymyrmex cznc02, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. e col. [LABSEI_000348]

Dorymyrmex cznc02, 2012-05-06, Brazil, Espírito Santo, Guarapari, Parque Estadual Paulo César Vinha, Chaul, J. [LABSEI_000124]

Dorymyrmex cznc03, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000153]

Dorymyrmex cznc03, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000327]

Dorymyrmex cznc03, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. e col. [LABSEI_000346]

Dorymyrmex cznc03, 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. e col. [LABSEI_000408]

***Forelius* Emery, 1888: 3 species**

Forelius albiventris Forel, 1912, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000317]

Forelius cznc01, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000347]

Forelius cznc01, 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. et al. [LABSEI_000402]

Forelius cznc01, 2006-04-22-24, Brazil, Espírito Santo, Guriri, Endringer, F. B. et al. [LABSEI_000094]

Forelius cznc01, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000166]

Forelius cznc01, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000156]

Forelius cznc01, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000302]

Forelius cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000148]

Forelius cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000155]

Forelius cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000050]

Forelius cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000057]

***Tapinoma* Foerster, 1850: 2 species**

Tapinoma atriceps Emery, 1888, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000800]

Tapinoma cznc01, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000268]

Tapinoma cznc01, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000294]

Dorylinae Leach, 1815 [2 genera, 2 species]

***Eciton* Latreille, 1804: 1 species**

Eciton burchellii (Westwood, 1842), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Tessarolo, D. et al. [LABSEI_000151]

***Labidus* Jurine, 1807: 1 species**

Labidus praedator (Smith, 1858), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000350]

Ectatomminae Emery, 1895 [2 genera, 5 species]

***Ectatomma* Smith, 1858: 4 species**

Ectatomma edentatum Roger, 1863, 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. et al. [LABSEI_000389]

Ectatomma edentatum Roger, 1863, 2006-04-22-24, Brazil, Espírito Santo, São Mateus Guriri, Endringer, F. B. & Teixeira, M. T. [LABSEI_000133]

Ectatomma edentatum Roger, 1863, 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000476]

Ectatomma edentatum Roger, 1863, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000165]

Ectatomma edentatum Roger, 1863, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000141]

Ectatomma edentatum Roger, 1863, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000229]

Ectatomma edentatum Roger, 1863, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000328]

Ectatomma edentatum Roger, 1863, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000349]

Ectatomma permagnum Forel, 1908, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000145]

Ectatomma permagnum Forel, 1908, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000231]

Ectatomma permagnum Forel, 1908, 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES - UFES, Sobrinho, T. G. et al. [LABSEI_000065]

Ectatomma permagnum Forel, 1908, 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000477]

Ectatomma planidens Borgmeier, 1939, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000315]

Ectatomma planidens Borgmeier, 1939, 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES - UFES, Sobrinho, T. G. et al. [LABSEI_000063]

Ectatomma planidens Borgmeier, 1939s, 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000478]

Ectatomma tuberculatum (Olivier, 1792), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000194]

Ectatomma tuberculatum (Olivier, 1792), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000218]

Ectatomma tuberculatum (Olivier, 1792), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000238]

Ectatomma tuberculatum (Olivier, 1792), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000275]

Ectatomma tuberculatum (Olivier, 1792), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000316]

Ectatomma tuberculatum (Olivier, 1792), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000369]

Ectatomma tuberculatum (Olivier, 1792), 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000390]

Ectatomma tuberculatum (Olivier, 1792), 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES - UFES, manual sampling, Sobrinho, T. G. et al. [LABSEI_000060]

Ectatomma tuberculatum (Olivier, 1792), 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES - UFES, Sobrinho, T. G. et al. [LABSEI_000064]

Ectatomma tuberculatum (Olivier, 1792), 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000117]

Ectatomma tuberculatum (Olivier, 1792), 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000479]

Gnamptogenys Roger, 1863: 1 species

Gnamptogenys cznc02, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000394]

Formicinae Latreille, 1809 [4 genera, 26 species]

Brachymyrmex Mayr, 1868: 4 species

Brachymyrmex cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000195]

Brachymyrmex cznc02, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000196]

Brachymyrmex cznc02, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000282]

Brachymyrmex cznc02, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000322]

Brachymyrmex cznc03, 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000464]

Brachymyrmex cznc04, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000283]

Camponotus Mayr, 1861: 19 species

Camponotus *ager* (Smith, 1858), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000215]

Camponotus arboreus (Smith, 1858), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000271]

Camponotus arboreus (Smith, 1858), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000305]

Camponotus arboreus (Smith, 1858), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000323]

Camponotus arboreus (Smith, 1858), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000343]

Camponotus arboreus (Smith, 1858), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000144]

Camponotus arboreus (Smith, 1858), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000198]

Camponotus atriceps (Smith, 1858), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000380]

Camponotus atriceps (Smith, 1858), 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000135]

Camponotus blandus (Smith, 1858), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000342]

Camponotus blandus (Smith, 1858), 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES - UFES, Sobrinho, T. G. et al. [LABSEI_000061]

Camponotus blandus aequinotus Forel, 1902, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000199]

Camponotus cingulatus Mayr, 1862, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000223]

Camponotus cingulatus Mayr, 1862, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000227]

Camponotus coloratus Forel, 1904, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000306]

Camponotus crassus Mayr, 1862, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000201]

Camponotus crassus Mayr, 1862, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000307]

Camponotus leydigii Forel, 1886, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000217]

Camponotus rectangularis Emery, 1890, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000202]

Camponotus rectangularis Emery, 1890, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000308]

Camponotus renggeri Emery, 1894, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000385]

Camponotus rufipes (Fabricius, 1775), 2016-01, Brazil, Espírito Santo, São Mateus, CEUNES – UFES, manual sampling, Sobrinho, T. G. et al. [LABSEI_000058]

Camponotus rufipes (Fabricius, 1775), 2020, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Santos, C. D. A. [LABSEI_000140]

Camponotus sanctaefidei Dalla Torre, 1892, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000200]

Camponotus sanctaefidei Dalla Torre, 1892, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000274]

Camponotus sericeiventris (Guérin-Méneville, 1838), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000381]

Camponotus cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000203]

Camponotus cznc01, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000299]

Camponotus cznc01, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000309]

Camponotus cznc02, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000378]

Camponotus cznc02, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000379]

Camponotus cznc02, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000298]

Camponotus cznc03, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000205]

Camponotus cznc04, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000204]

Camponotus cznc13, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000147]

***Nylanderia* Emery, 1906: 2 species**

Nylanderia docilis (Forel, 1908), 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000386]

Nylanderia cznc02, 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale, Vargas, T. [LABSEI_000091]

***Paratrechina* Motschoulsky, 1863: 1 species**

Paratrechina longicornis (Latreille, 1802), 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000164]

Paratrechina longicornis (Latreille, 1802), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000157]

Paratrechina longicornis (Latreille, 1802), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000197]

Myrmicinae Lepeletier de Saint-Fargeau, 1835 [26 genera, 61 species]

***Acromyrmex* Mayr, 1865: 1 species**

Acromyrmex subterraneus Latreille, 1809, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000219]

Acromyrmex subterraneus Latreille, 1809, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000242]

***Apterostigma* Mayr, 1865: 1 species**

Apterostigma auriculatum Wheeler, 1925, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000320]

***Atta* Fabricius, 1804: 2 species**

Atta robusta Borgmeier, 1939, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000321]

Atta robusta Borgmeier, 1939, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000354]

Atta robusta Borgmeier, 1939, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000410]

Atta robusta Borgmeier, 1939, 1998-10, Brazil, Espírito Santo, São Mateus, Guriri, Cunha, M. [LABSEI_000008]

Atta robusta Borgmeier, 1939, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000138]

Atta robusta Borgmeier, 1939, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000172]

Atta robusta Borgmeier, 1939, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000262]

Atta robusta Borgmeier, 1939, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000279]

Atta cznc01, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000243]

Atta cznc01, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000244]

***Carebara* Westwood, 1840: 1 species**

Carebara cznc01, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000249]

***Cephalotes* Latreille, 1802: 7 species**

Cephalotes atratus (Linnaeus, 1758), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000270]

Cephalotes atratus (Linnaeus, 1758), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000310]

Cephalotes atratus (Linnaeus, 1758), 2006-04-22, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Endringer, F. B. et al. [LABSEI_000040]

Cephalotes maculatus (Smith, 1876), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000278]

Cephalotes minutus (Fabricius, 1804), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000142]

Cephalotes minutus (Fabricius, 1804), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000174]

Cephalotes minutus (Fabricius, 1804), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000281]

Cephalotes pusillus (Klug, 1824), 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000071]

Cephalotes pusillus (Klug, 1824), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000173]

Cephalotes pusillus (Klug, 1824), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000273]

Cephalotes pusillus (Klug, 1824), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000297]

Cephalotes pusillus (Klug, 1824), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000311]

Cephalotes pusillus (Klug, 1824), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000312]

Cephalotes pusillus (Klug, 1824), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000375]

Cephalotes pusillus (Klug, 1824), 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000382]

Cephalotes pusillus (Klug, 1824), 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000470]

Cephalotes umbraculatus (Fabricius, 1804), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000175]

Cephalotes cznc01, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000287]

Cephalotes cznc02, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000291]

***Crematogaster* Lund, 1831: 6 species**

Crematogaster nigropilosa Mayr, 1870, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000286]

Crematogaster nigropilosa Mayr, 1870, 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000126]

Crematogaster cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000178]

Crematogaster cznc01, 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000313]

Crematogaster cznc02, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000179]

Crematogaster cznc03, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000247]

Crematogaster cznc04, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000285]

Crematogaster cznc04, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000357]

Crematogaster cznc05, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000373]

Crematogaster cznc05, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000376]

***Cyphomyrmex* Mayr, 1862: 1 species**

Cyphomyrmex transversus Emery, 1894, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000396]

***Hylomyrma* Forel, 1912: 1 species**

Hylomyrma balzani (Emery, 1894), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000235]

***Kalathomyrmex* Klingenberg & Brandão, 2009: 1 species**

Kalathomyrmex emeryi (Forel, 1907), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000154]

***Megalomyrmex* Forel, 1885: 2 species**

Megalomyrmex cznc01, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000248]

Megalomyrmex cznc02, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000393]

***Monomorium* Mayr, 1855: 1 species**

Monomorium cznc01, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000137]

***Mycetomoellerius* Solomon et al. 2019: 3 species**

Mycetomoellerius atlanticus (Mayhé-Nunes & Brandão, 2007), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000330]

Mycetomoellerius atlanticus (Mayhé-Nunes & Brandão, 2007), 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. et al. [LABSEI_000405]

Mycetomoellerius atlanticus (Mayhé-Nunes & Brandão, 2007), 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000483]

Mycetomoellerius relictus (Borgmeier, 1934), 2024-12-03, Brazil, Espírito Santo, São Mateus, Fazenda Ceunes, Arboreal pitfall trap, Correia, M. E. S. [LABSEI_000718]

Mycetomoellerius urichii (Forel, 1893), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000331]

Mycetomoellerius urichii (Forel, 1893), 2005-01-31, Brazil, Espírito Santo, São Mateus, Guriri, Teixeira, M. C. [LABSEI_000119]

Mycetomoellerius urichii (Forel, 1893), 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000484]

***Mycetophylax* Emery, 1913: 4 species**

Mycetophylax olitor (Forel, 1893), 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000069]

Mycetophylax olitor (Forel, 1893), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000246]

Mycetophylax conformis (Mayr, 1884), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000332]

Mycetophylax simplex (Emery, 1888), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000160]

Mycetophylax simplex (Emery, 1888), 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000260]

Mycetophylax cznc02, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000325]

***Mycocepurus* Forel, 1893: 1 species**

Mycocepurus smithii (Forel, 1893), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000355]

***Myrmicocrypta* Smith, 1860: 2 species**

Myrmicocrypta jsc-049, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000333]

Myrmicocrypta jsc-049, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000360]

Myrmicocrypta cznc02, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000245]

Myrmicocrypta cznc02, 2006-04-22-24, Brazil, Espírito Santo, São Mateus, Guriri, Endringer, F. B. et al. [LABSEI_000095]

***Nesomyrmex* Wheeler, 1910: 3 species**

Nesomyrmex echinatinodis (Forel, 1886), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000180]

Nesomyrmex pleuriticus (Kempf, 1959), 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000372]

Nesomyrmex cznc01, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000296]

***Octostruma* Forel, 1912: 1 species**

Octostruma cznc02, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000334]

***Paratrachymyrmex* Solomon et al. 2019: 1 species**

Paratrachymyrmex bugnioni (Forel, 1912), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000226]

***Pheidole* Westwood, 1839: 6 species**

Pheidole cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000176]

Pheidole cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000161]

Pheidole cznc02, 2012-05-06, Brazil, Espírito Santo, Guarapari, Parque Estadual César Vinha, Chaul, J. [LABSEI_000109]

Pheidole cznc02, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000159]

Pheidole cznc02, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000264]

Pheidole cznc02, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000397]

Pheidole cznc02, 2005-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000081]

Pheidole cznc03, 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000098]

Pheidole cznc03, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000169]

Pheidole cznc03, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000171]

Pheidole cznc03, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Marcelino, D. et al. [LABSEI_000301]

Pheidole cznc03, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000335]

Pheidole cznc03, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000362]

Pheidole cznc04, 2020, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Santos, C. D. A. [LABSEI_000108]

Pheidole cznc07, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000252]

Pheidole cznc08, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000253]

***Procryptocerus* Emery, 1887: 1 species**

Procryptocerus cznc01, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000284]

***Sericomyrmex* Mayr, 1865: 2 species**

Sericomyrmex bondari Borgmeier, 1937, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000384]

Sericomyrmex bondari Borgmeier, 1937, 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000499]

Sericomyrmex bondari Borgmeier, 1937, 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000152]

Sericomyrmex bondari Borgmeier, 1937, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000300]

Sericomyrmex parvulus Forel, 1912, 2005-01-31, Brazil, Espírito Santo, São Mateus, Guriri, Teixeira, M. C. [LABSEI_000101]

***Solenopsis* Westwood, 1840: 9 species**

Solenopsis geminata (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000254]

Solenopsis geminata (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000255]

Solenopsis cznc01, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000338]

Solenopsis cznc01, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000263]

Solenopsis cznc04, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000182]

Solenopsis cznc05, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000183]

Solenopsis cznc05, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000256]

Solenopsis cznc05, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000374]

Solenopsis cznc05, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000404]

Solenopsis cznc06, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000377]

Solenopsis cznc06, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000339]

Solenopsis cznc06, 2016-02, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000139]

Solenopsis cznc07, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000257]

Solenopsis cznc08, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000358]

Solenopsis cznc08, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000265]

Solenopsis cznc09, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000361]

Solenopsis cznc10, 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000352]

***Strumigenys* Smith, 1860: 1 species**

Strumigenys denticulata Mayr, 1887, 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000383]

***Tetramorium* Mayr, 1855: 1 species**

Tetramorium simillimum (Smith, 1851), 2005-01-31, Brazil, Espírito Santo, São Mateus, Guriri, Teixeira, M. C. [LABSEI_000078]

***Wasmannia* Forel, 1893: 1 species**

Wasmannia auropunctata (Roger, 1863), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000177]

Wasmannia auropunctata (Roger, 1863), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000228]

Wasmannia auropunctata (Roger, 1863), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000234]

Wasmannia auropunctata (Roger, 1863), 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000261]

Wasmannia auropunctata (Roger, 1863), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000280]

Wasmannia auropunctata (Roger, 1863), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000340]

Wasmannia auropunctata (Roger, 1863), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000356]

Wasmannia auropunctata (Roger, 1863), 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Vargas, T. [LABSEI_000111]

***Xenomyrmex* Forel, 1885: 1 species**

Xenomyrmex ufv-02, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000181]

Ponerinae Lepeletier de Saint-Fargeau, 1835 [8 genera, 14 species]

***Anochetus* Mayr, 1861: 2 species**

Anochetus neglectus Emery, 1894, 2018-01-09, Brazil, Espírito Santo, São Mateus, BR-301, Rod. Miguel Curry Carneiro, Km 35, Coleta Manual, Gutler, L. et al. [LABSEI_000211]

Anochetus oriens Kempf, 1964, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000237]

***Dinoponera* Roger, 1861: 1 species**

Dinoponera lucida Emery, 1901, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Coleta Manual, Marcelino, D. et al. [LABSEI_000210]

Dinoponera lucida Emery, 1901, 2015-01-30, Brazil, Espírito Santo, Santa Teresa, Estação Biológica Santa Lúcia, Vargas, T. [LABSEI_000037]

Dinoponera lucida Emery, 1901, 2017-04, Brazil, Espírito Santo, Santa Teresa, Reserva Biológica Augusto Ruschi [LABSEI_000304]

***Hypoconerina* Santschi, 1938: 1 species**

Hypoconerina cznc02, 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000329]

***Mayaponera* Schmidt & Shattuck, 2014: 2 species**

Mayaponera arhuaca (Forel, 1901), 2016-07, Brazil, Espírito Santo, São Mateus, Apa de Conceição da Barra, Pitfall trap, Sobrinho, T. G. et al. [LABSEI_000143]

Mayaponera arhuaca (Forel, 1901), 2006-04-22, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Endringer, F. B. et al. [LABSEI_000038]

Mayaponera constricta (Mayr, 1884), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000220]

Mayaponera constricta (Mayr, 1884), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000236]

Mayaponera constricta (Mayr, 1884), 2020-03, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Tessarolo, D. et al. [LABSEI_000351]

Mayaponera constricta (Mayr, 1884), 2020-03, Brazil, Espírito Santo, São Mateus, Liberdade, Pitfall trap, Castro, C. et al. [LABSEI_000388]

Mayaponera constricta (Mayr, 1884), 2010-07-24, Brazil, Espírito Santo, Guarapari, Parque Estadual Paulo César Vinha, Chaul, J. [LABSEI_000012]

Mayaponera constricta (Mayr, 1884), 2024-03-18, Brazil, Espírito Santo, São Mateus, Pitfall trap, Vargas, F. P. et al. [LABSEI_000481]

***Neoponera* Emery, 1901: 2 species**

Neoponera venusta Forel, 1912, 2015-02, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Vargas, T. [LABSEI_000020]

Neoponera villosa (Fabricius, 1804), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000184]

Neoponera villosa (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000233]

Neoponera villosa (Fabricius, 1804), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000269]

Neoponera villosa (Fabricius, 1804), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000277]

Neoponera villosa (Fabricius, 1804), 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. et al. [LABSEI_000387]

***Odontomachus* Latreille, 1804: 4 species**

Odontomachus haematodus (Linnaeus, 1758), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000222]

Odontomachus haematodus (Linnaeus, 1758), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000240]

Odontomachus meinerti Forel, 1905, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000225]

Odontomachus meinerti Forel, 1905, 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000232]

Odontomachus cznc01, 2017-04, Brazil, Espírito Santo, Santa Teresa, Reserva Biológica Augusto Ruschi, Coleta Manual [LABSEI_000212]

Odontomachus cznc02, 2017-04, Brazil, Espírito Santo, Santa Teresa, Reserva Biológica Augusto Ruschi, Coleta Manual [LABSEI_000213]

***Pachycondyla* Smith, 1858:** 1 species

Pachycondyla harpax (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000230]

Pachycondyla harpax (Fabricius, 1804), 2015-01-30, Brazil, Espírito Santo, Santa Teresa, Estação Biológica Santa Lúcia, Vargas, T. [LABSEI_000004]

***Thaumatomyrmex* Mayr, 1887:** 1 species

Thaumatomyrmex mutilatus Mayr, 1887, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000185]

Pseudomyrmecinae Smith, 1952 [1 genus, 14 species]

***Pseudomyrmex* Lund, 1831:** 14 species

Pseudomyrmex filiformis (Fabricius, 1804), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000187]

Pseudomyrmex gracilis (Fabricius, 1804), 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000276]

Pseudomyrmex gracilis (Fabricius, 1804), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000318]

Pseudomyrmex gracilis (Fabricius, 1804), 2019-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Arboreal pitfall trap, Sanders, P. et al. [LABSEI_000319]

Pseudomyrmex oculatus (Smith, 1855), 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000186]

Pseudomyrmex tenuis (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000221]

Pseudomyrmex tenuis (Fabricius, 1804), 2018-07, Brazil, Espírito Santo, Sooretama, Reserva Natural Vale (RNV), Pitfall trap, Marcelino, D. et al. [LABSEI_000241]

Pseudomyrmex tenuis (Fabricius, 1804), 2020-02, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Santos, C. D. A. et al. [LABSEI_000337]

Pseudomyrmex tenuis (Fabricius, 1804), 2020-03, Brazil, Espírito Santo, São Mateus, Guriri, Pitfall trap, Castro, C. et al. [LABSEI_000391]

Pseudomyrmex tenuis (Fabricius, 1804), 2016-01, Brazil, Espírito Santo, São Mateus, Campus CEUNES, manual sampling, Sobrinho, T. G. et al. [LABSEI_000041]

Pseudomyrmex termitarius (Smith, 1855), 2012-05-06, Brazil, Espírito Santo, Guarapari, Parque Estadual César Vinha, Chaul, J. [LABSEI_000128]

Pseudomyrmex cznc01, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000188]

Pseudomyrmex cznc02, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000189]

Pseudomyrmex cznc02, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000295]

Pseudomyrmex cznc03, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000190]

Pseudomyrmex cznc04, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000191]

Pseudomyrmex cznc05, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000192]

Pseudomyrmex cznc05, 2017-03-20-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual do Itaúnas, Arboreal pitfall trap, Gutler, L. et al. [LABSEI_000193]

Pseudomyrmex cznc10, 2018-01, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Guimarães, P.H. et al. [LABSEI_000267]

Pseudomyrmex cznc11, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000292]

Pseudomyrmex cznc11, 2018-03-18-25, Brazil, Espírito Santo, Conceição da Barra, Parque Estadual de Itaúnas, Pitfall trap, Sena, I. et al. [LABSEI_000293]

Pseudomyrmex cznc12, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000371]

Pseudomyrmex cznc13, 2020-03, Brazil, Espírito Santo, Nova Venécia, Área de Proteção Ambiental Pedra do Elefante, Tessarolo, D. et al. [LABSEI_000370]

Discussion

The CZNC collection has a notable representation of species, with a total of 135 cataloged species. However, this number is the result of sampling conducted in only seven of the 78 municipalities in the state of Espírito Santo. This richness represents a little more than half of the total number of species registered in the state, which currently has a record of 227 species (Janicki et al., 2016; Guénard et al., 2017; Vicente et al., 2023). It is possible that the knowledge of ant species in the state may be underestimated due to low sampling efforts over time, indicating the potential to surpass that of the state of Rio de Janeiro, which has a record of 486 species (Janicki et al., 2016; Guénard et al., 2017).

Many ant species may be present in small collections in the state, but have not yet been properly recorded. For example, Vicente et al. (2023) presented 63 species of ants, 12 of which were recorded for the first time in Espírito Santo. The study involved the Coleção Entomológica da Reserva Natural Vale (CERNV), with specimens collected exclusively in the reserve between 1984 and 2013. The present study contributes an even greater number of (135 species), and the dissemination of this data becomes a crucial point so that other researchers and institutions can access this information. Suppose in just seven municipalities, the number of species exceeds a little more than half of the currently known species, in Espírito Santo. In that case, it can double the number of species with the inclusion of data that covers the entire state.

Among the recorded species, 65 were still classified as morphospecies because of the complexity of identifying some genera at the species level. In the future, with the assistance of experts and the contribution of new studies that improve the taxonomy of complex groups, these morphospecies can be appropriately identified. Not all genera have identification keys, and species-level identification in many genera requires hard work by specialists (Ross et al., 2010; Blaimer & Fisher, 2013). However, based on the morphological reviews carried out in the present study, some morphospecies probably represent new species within each genus, which still need to be described.

The subfamily Myrmicinae had the most significant number of genera (26), and species (61) recorded, making it the most representative in the CZNC myrmecological collection. This subfamily is the most diverse among Formicidae, presenting ants with a wide variety of habits and morphologies (Borowiec et al., 2021). Espírito Santo is fully included in the Atlantic Forest biome, and Myrmicinae ants are highly adapted to this environment (Rizzotto et al., 2019). Species of this subfamily are highly diverse in tropical environments, with tribes very well distributed and associated with large angiosperm forests (Wilson & Hölldobler, 2005).

Among the 46 recorded genera, two stood out, with the largest number of species recorded in the collection: *Camponotus* Mayr, 1861 (19) and *Pseudomyrmex* Lund, 1831 (14). *Camponotus* is one of the most diverse genera within Formicidae, featuring ants that occupy the most varied

environments, nesting both in the soil and on plants, and being dominant where they are found (Ward et al., 2016; Fernández et al., 2021; Bolton, 2025). *Pseudomyrmex* ants are well distributed throughout the Neotropical region, which usually develops a series of interactions with different plant species (Ward, 1990). Both occur frequently in vegetation, and considering that a large part of the sampling carried out by LabSEI researchers was on plants, this may be one of the possible explanations for the greater number of *Camponotus* and *Pseudomyrmex* species in the collection compared to the other genera.

The municipality that presented the highest number of species records is Conceição da Barra, with 93 species, followed by: São Mateus (45), Sooretama (19), Nova Venécia (13), and other cities located in Espírito Santo (9). The largest number of species recorded for Conceição da Barra is due to the concentration of studies developed by LabSEI in Parque Estadual de Itaúnas. The Parque Estadual de Itaúnas is an Integral Protection Unit that covers a large area of restinga vegetation in Espírito Santo and presents one of the most diverse flora in the coastal region of the state (Souza et al., 2016). The diversity of ants generally responds to the diversity of vegetation (Leal, 2003; Madureira et al., 2018; Ribas et al., 2003), as many ant species maintain associations with plants resulting from complex evolutionary processes (Lengyel et al., 2010; Weber & Keeler, 2013; Nelsen et al., 2018).

Within the species included in the study, some are threatened with extinction, including representatives of the subfamilies Ponerinae and Myrmicinae, many of which are listed as threatened in Espírito Santo (ES) and Brazil (BR) (ICMBio/MMA, 2018; Fraga et al., 2019). Within the Ponerinae subfamily, species include *Anochetus oriens* (Vulnerable, VU in Brazil) and *Dinoponera lucida* (Vulnerable, VU in Espírito Santo and Endangered, EN in Brazil), the latter being endemic to the Atlantic Forest and highly sensitive to environmental changes (ICMBio/MMA, 2018). Its presence in preserved areas makes it an important bioindicator; however, its restriction to specific habitats renders it vulnerable to habitat fragmentation and loss (Simon et al., 2020). In the Myrmicinae subfamily, there are species of fungus-growing ants, such as *Atta robusta* (Endangered – EN in Espírito Santo and Vulnerable – VU in Brazil), *Mycetomoellerius atlanticus* (Vulnerable – VU in Brazil), *Mycetophylax conformis* (Vulnerable – VU in Espírito Santo), and *Mycetophylax simplex* (Vulnerable – VU in Brazil). These ants play a crucial ecological role, contributing to nutrient cycling and soil health, especially *Atta robusta*, which is dominant and plays a key role in dispersing the seeds of important restinga plants. (Teixeira et al. 2003; Teixeira et al. 2004; Mehdiabadi et al. 2010). However, habitat degradation in environments such as restingas and the Atlantic Forest directly threatens their survival (Fraga et al., 2019; Lima et al., 2020), particularly *Atta robusta*, which is endemic to restingas and depends on this ecosystem (Teixeira et al., 2003; Teixeira et al., 2004).

Among the new records, the genus *Xenomyrmex* Forel, 1885 was recorded for the first time not only in Espírito Santo but also in the Southeast region. According to data from Brazil stored in AntWeb and AntMaps (Janicki et al., 2016; Guénard et al., 2017), records of *Xenomyrmex* were restricted to Manaus and Mato Grosso, in addition to recent findings in Espírito Santo. *Xenomyrmex*, due to its small size, often defies identification, which occasionally confuses it with other smaller ant genera, such as *Solenopsis* Westwood, 1840, and *Carebara* Westwood, 1840 (Creighton, 1957). It is worth mentioning that *Xenomyrmex* was only collected in Parque Estadual de Itaúnas, and even with subsequent sampling carried out by LabSEI, other individuals of this genus were not collected again. Species in this genus are poorly sampled, and information regarding their biology is vague.

Some ant species, such as *Camponotus blandus aequinotus* Forel, 1902, have been recorded for the first time in Brazil in the online databases AntMaps (Janicki et al., 2016; Guénard et al., 2017) and Antweb. Other species have records in a few states in Brazil, such as *Camponotus coloratus* Forel, 1904 (Amapá and Mato Grosso do Sul) and *Nylanderia docilis* (Forel, 1908) (Minas Gerais, São Paulo, and Santa Catarina). These online databases play a fundamental role in disseminating information about ant species, contributing to different types of studies (Báthori et al., 2017; Boer & Vos, 2018; Csósz et al., 2023). These platforms offer easy access to a wealth of essential data, including images of species and detailed information about their range.

New species and genera can still be registered in the state, highlighting the need for comprehensive research and inventories of ant diversity in Espírito Santo. The discovery of new species and their inclusion in global databases such as AntWeb not only enhances our understanding of local biodiversity but also enriches scientific knowledge on a global scale (Ball-Damerow et al., 2019). As we advance our understanding of the distribution of ants, the importance of collaboration and sharing of information deposited in biological collections becomes even more evident (Ulysséa et al., 2011; Meineke et al., 2019; Prado et al., 2019). The continuous expansion and improvement of these collections, combined with collaboration among researchers, will ensure that our knowledge of ants in Espírito Santo and worldwide continues to grow, thereby contributing to the preservation of these important insects and their ecosystems.

This study highlights the potential for Espírito Santo state to significantly increase its number of registered ant species, emphasizing the need for further collections across the state. The Coleção Zoológica Norte Capixaba has proven valuable in documenting ant diversity and enriching the state's species records. Expanding biological collections and fostering collaboration between researchers, along with sharing data in global databases, are key to advancing biodiversity conservation. As we deepen our understanding of ants in Espírito Santo and globally, we reinforce our commitment to preserving these essential insects and their ecosystems.

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Authors' Contributions

C.D.A.S.: Conceptualization, methodology, investigation, data curation, formal analysis, writing-original draft, Visualization. T.G.S: Supervision, writing, review & editing.

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