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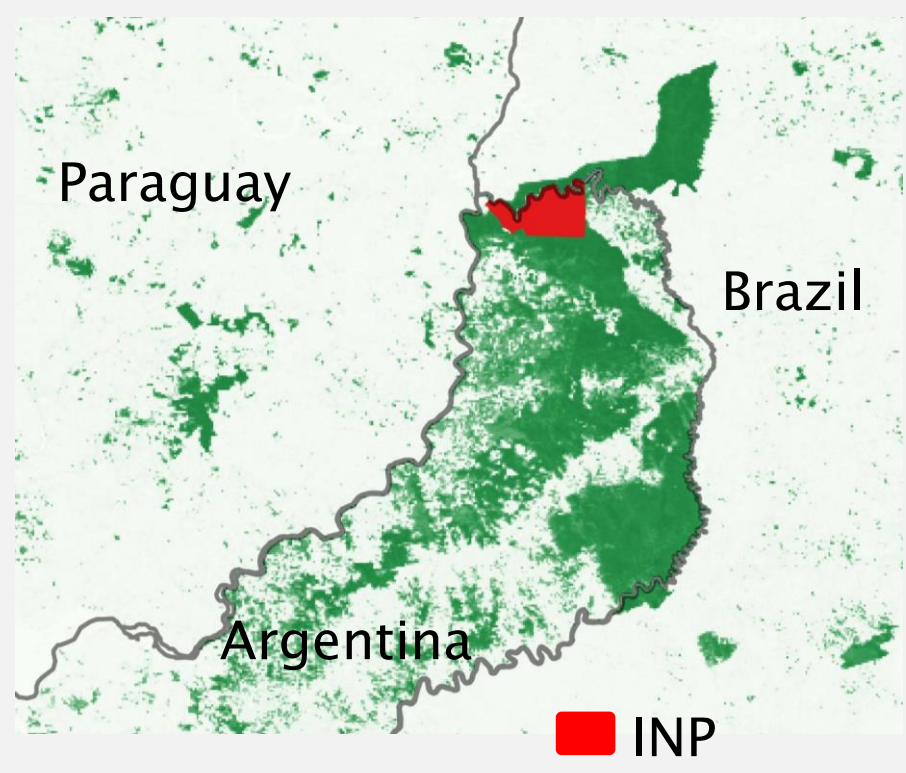
We knew that:

- Ants are an important component of terrestrial ecosystems.
- Iguazú National Park is a 67,000 ha protected area at the southern extent of the Atlantic Forest where ants have been understudied.

We wanted to know:

- How many species live in Iguazú National Park?
- Is the ant community structured according to the different soil microhabitats of the area?
- Which are the dominant ant species in INP?

Methodology:



Surface - Pitfall traps (78) and surface baits (228)



Leaf-litter - Litter samples (118)



12 cm underground - Subterranean baits (57)

+ Hand-collecting events (348)

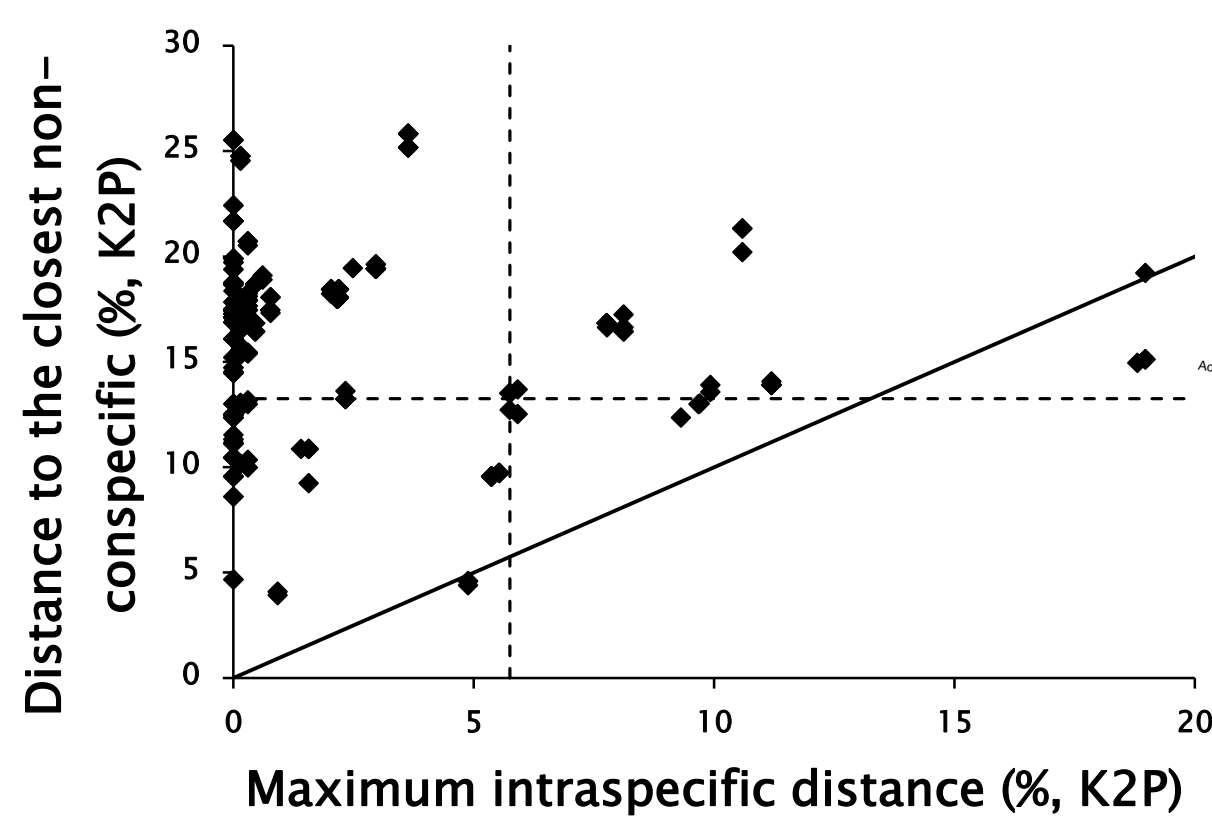


Ants were identified to species or morphospecies.

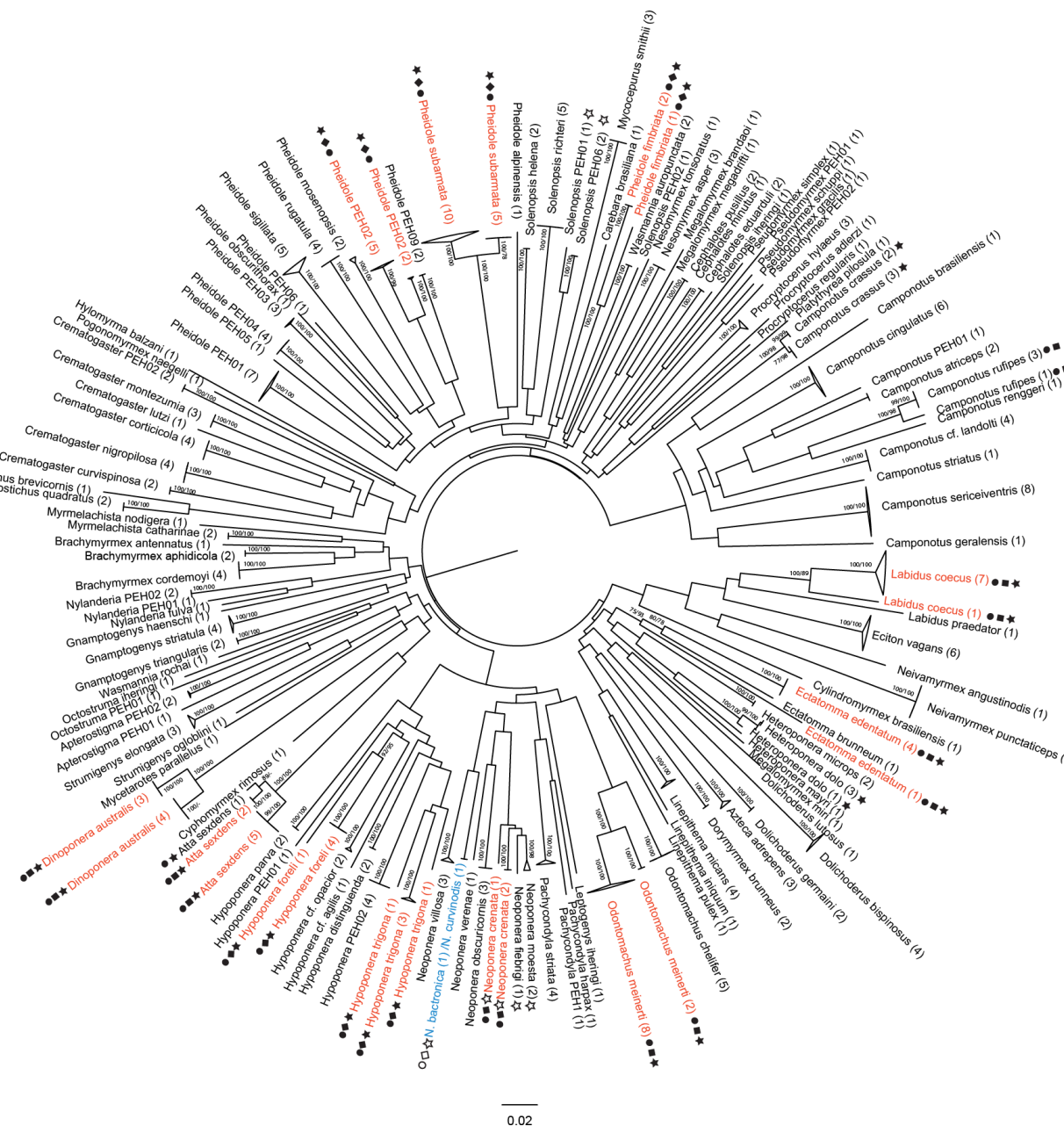
623 specimens from 182 species were processed for DNA barcoding.

We used three different clustering algorithms (ABGD, TCS and RESL) to estimate the number of putative species.

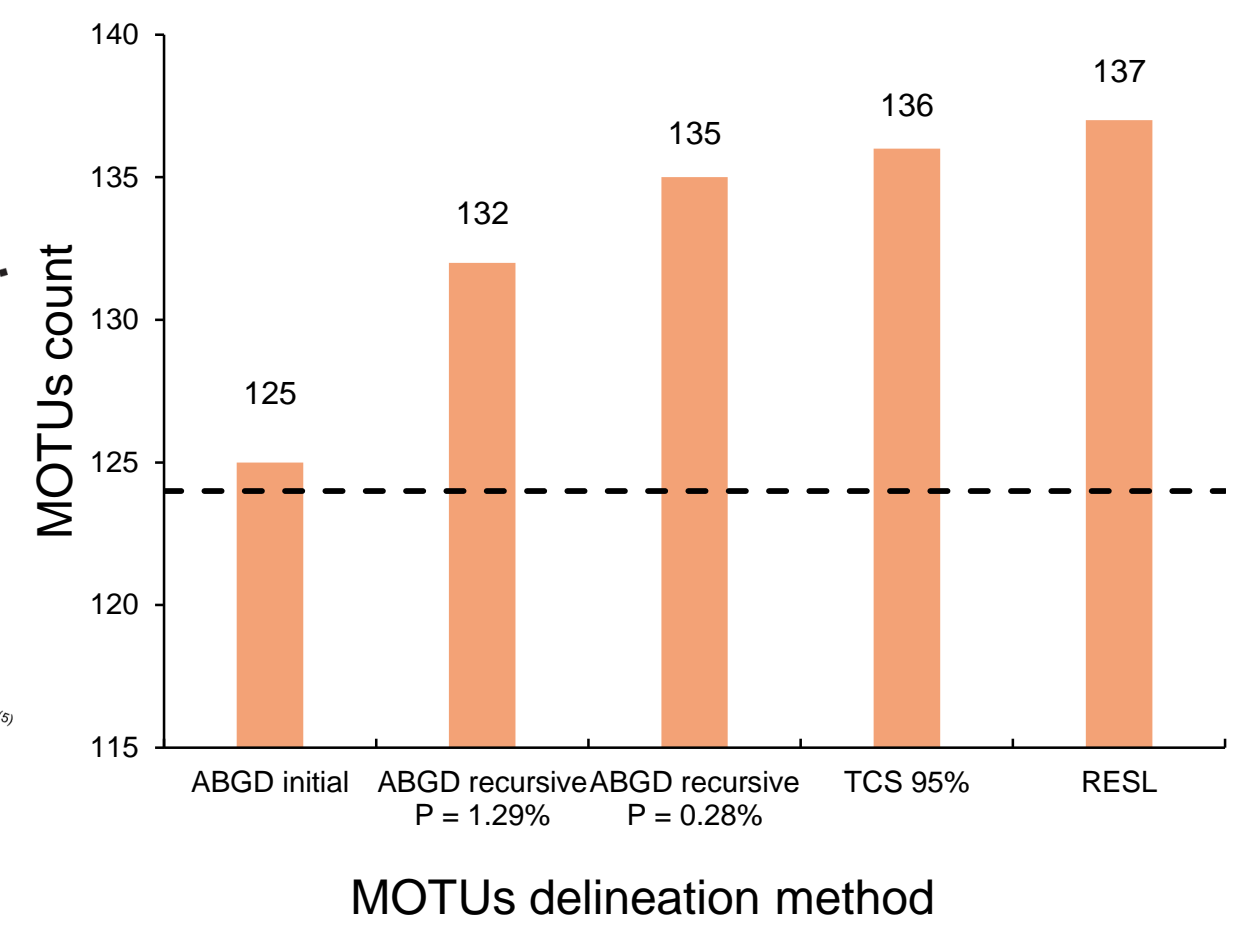
Results:



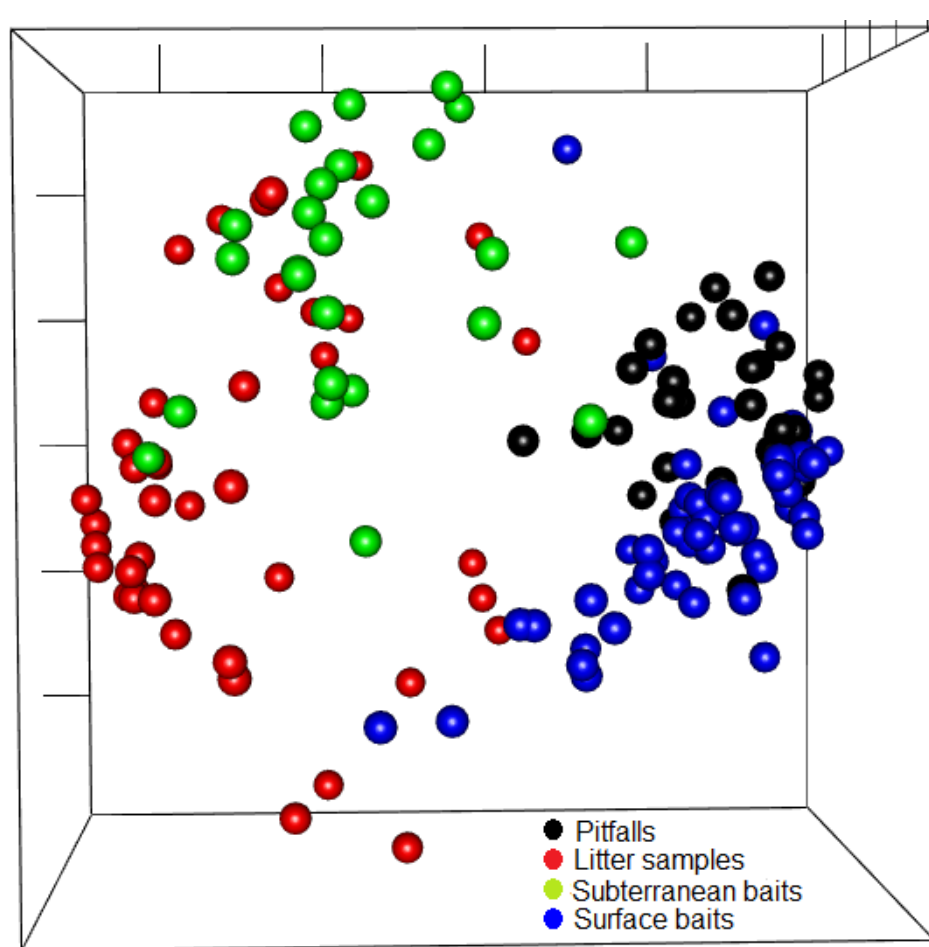
Barcode gap analysis for 65 species with more than 2 sequences. Vertical and horizontal dashed lines correspond to the 95% percentile of all intraspecific distances (5.75%) and the lower 5% of congeneric distances respectively. Points below the diagonal correspond to *Ectatomma edentatum* and *Neoponera crenata*.



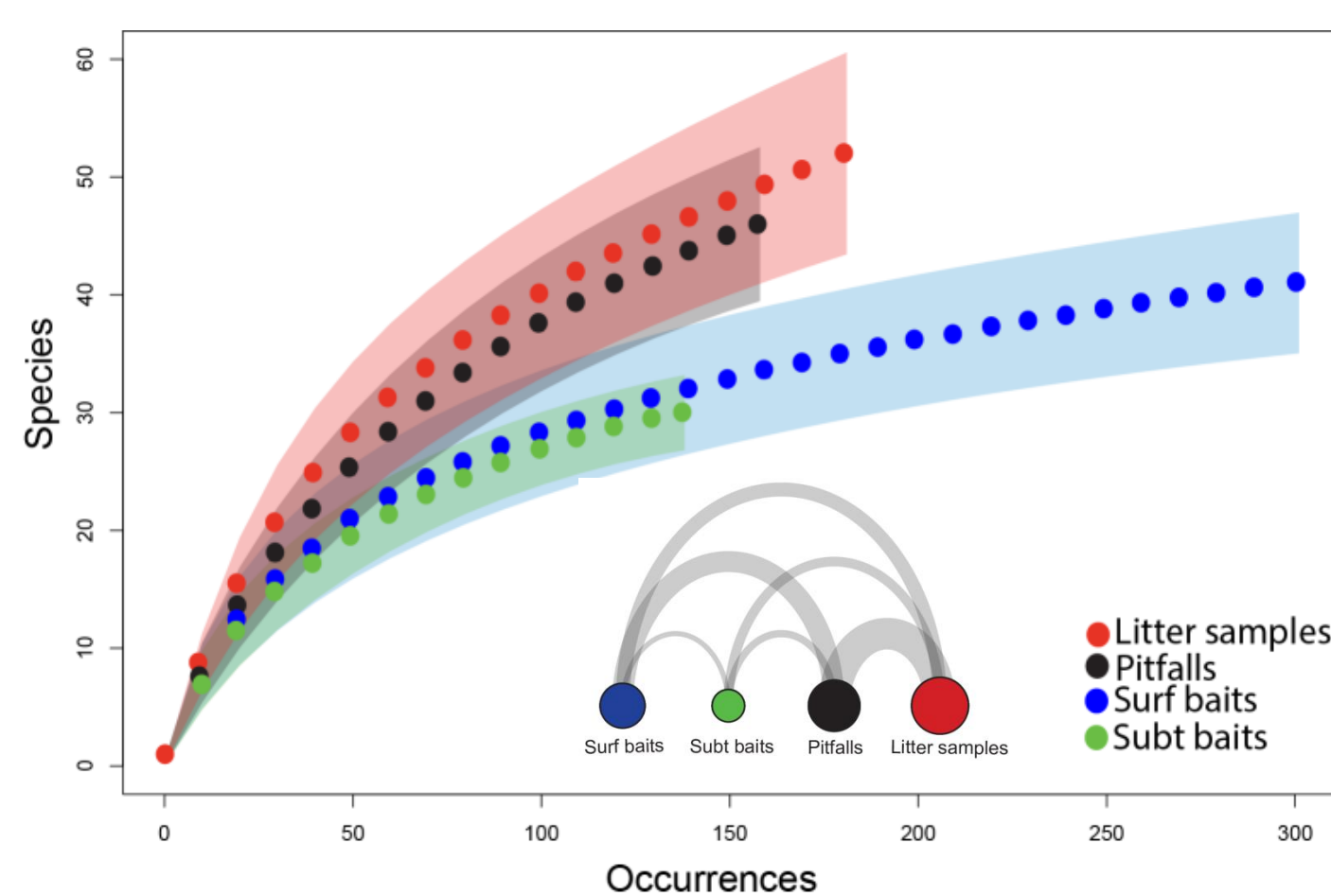
NJ tree for 312 obtained sequences. Eleven species were split into 2 or more genetic clusters and two species were merged into a single hypothetical species by the 3 methodologies: RESL (circles), TCS (squares) and ABGD (stars).



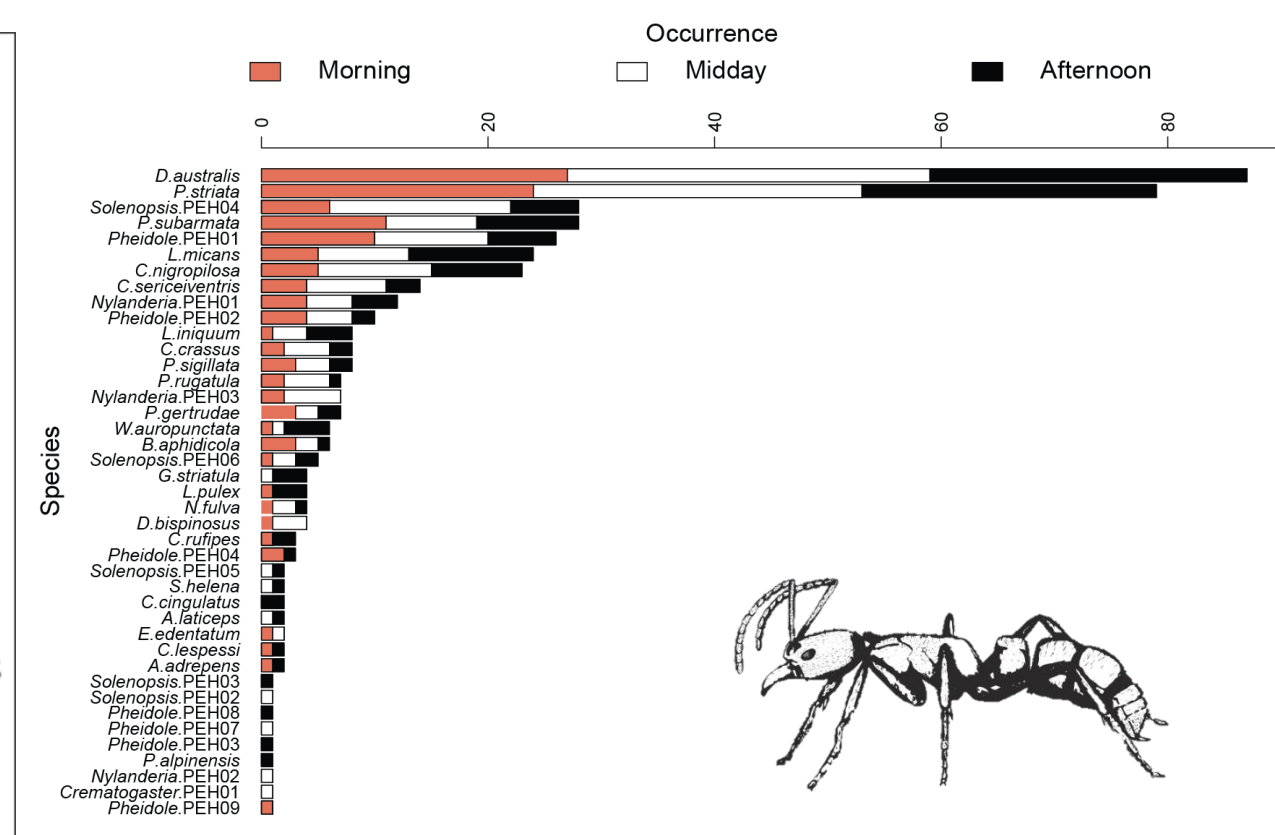
Number of putative species obtained for each clustering delimitation methodology. The dashed line represents the number of recognized species based on morphology (124).



NMDS ordination of the ants collected by 29 Pitfall traps, 27 Litter samples, 60 surface baits and 56 subterranean baits. Stress= 0.20. (ANOSIM, R = 0.40, p = 0.0001).



Occurrence-based rarefaction of species richness with 95% confidence intervals. Inner figure shows the richness (size of the circles) and shared species across methodologies (width of the arches).



Occurrence of ant species at three different moments of the day in 60 surface baits. The number and composition of species did not vary among day times (LMMs; F = 2.49, P = 0.09; NMDS, followed by ANOSIM; R = m -0.0006, P = 0.49)

Currently, 257 ant species can be found in Iguazú, but according to our estimations, this diversity could be between 6% and 10% higher. You can find an updated checklist on BOLD (CL-INPA).

Half of the species were captured with only one of the methodologies, suggesting a microhabitat specialization of ant species. Surprisingly, the two largest species (*Dinoponera australis* and *Pachycondyla striata*) were the most common ants (both at surface baits and pitfalls).

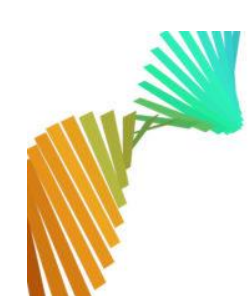


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Our article is out!

Acknowledgments:



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