

# Collection-based research: **Discovering the neotropical Anthribidae**

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# About my research

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- Biologist, Entomologist
- Taxonomy and systematics
- Anthribidae (fungus weevils)
- Collection-based research





# Central American Anthribidae



30 years of weekly samples

## List of Species of Weevils Collected by Light Traps in Seven Localities in Panama

(BCI = Barro Colorado Island, LCC = Las Cumbres, MIR = Miramar, CGR = Corriente Grande, BOQ = Boquete, FOR = Fortuna, GUA = Guadalupe Arriba.)

Taxon	BCI	LCC	MIR	CGR	BOQ
<b>ANTHRIBIDAE</b>					
1980a Anthribidae	18	-	-	-	-
2071 Anthribidae	11	-	-	-	-
2688 Anthribidae	1	-	-	-	-
2881 Anthribidae	1	-	-	-	-
2883 Anthribidae	11	-	-	-	-
2896 Anthribidae	1	-	-	-	-
2941 Anthribidae	5	-	-	-	-
2943 Anthribidae	1	-	-	-	-
2956 Anthribidae	1	-	-	-	-
2961 Anthribidae	5	-	-	-	-
2962 Anthribidae	4	-	-	-	-
2972 Anthribidae	3	-	-	-	-
2987 Anthribidae	1	-	-	-	-
2994 Anthribidae	4	-	-	-	-
3021 Anthribidae	4	-	-	-	-
3022 Anthribidae	1	-	-	-	-
3044 Anthribidae	7	-	-	-	-



# ASU Collections

- >2 million specimens available
  - ~15,000 Anthribidae



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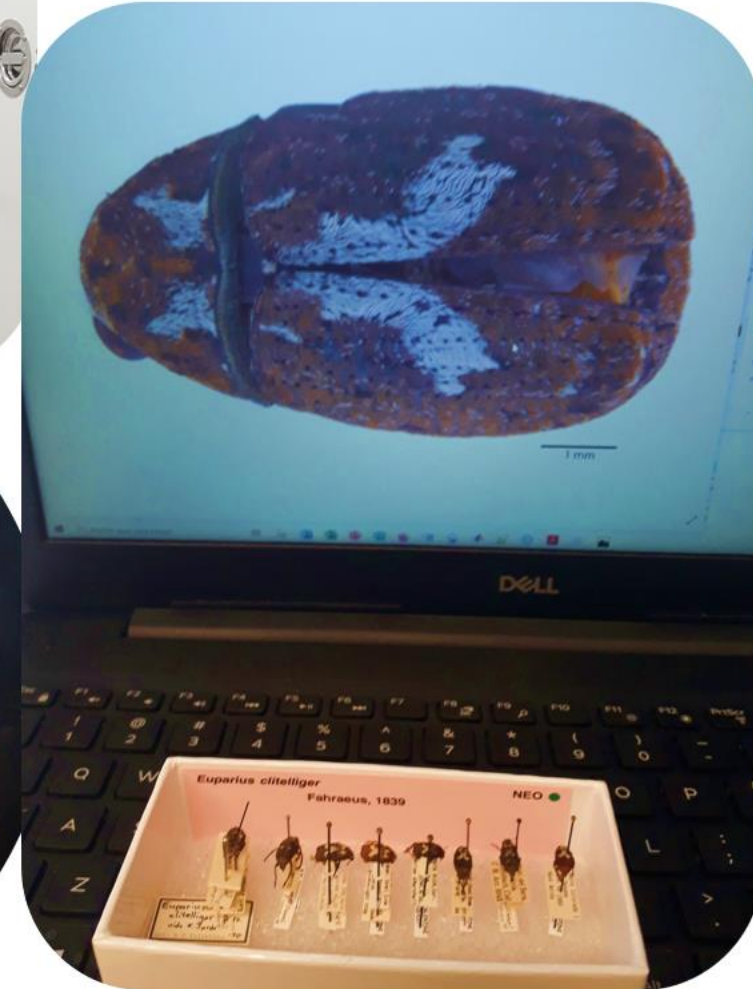
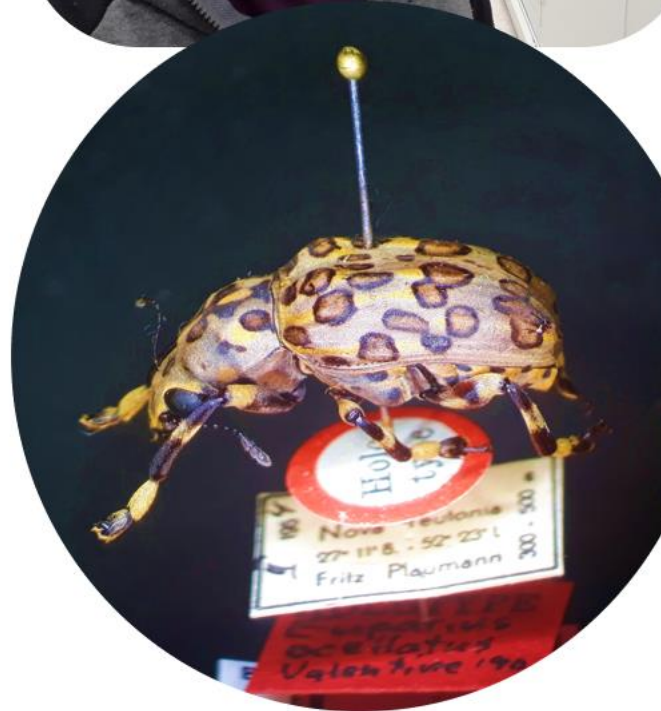


# Smithsonian NMNH Collection

- Largest collections in America
  - 36,000 Anthribidae
- Corroborate identifications



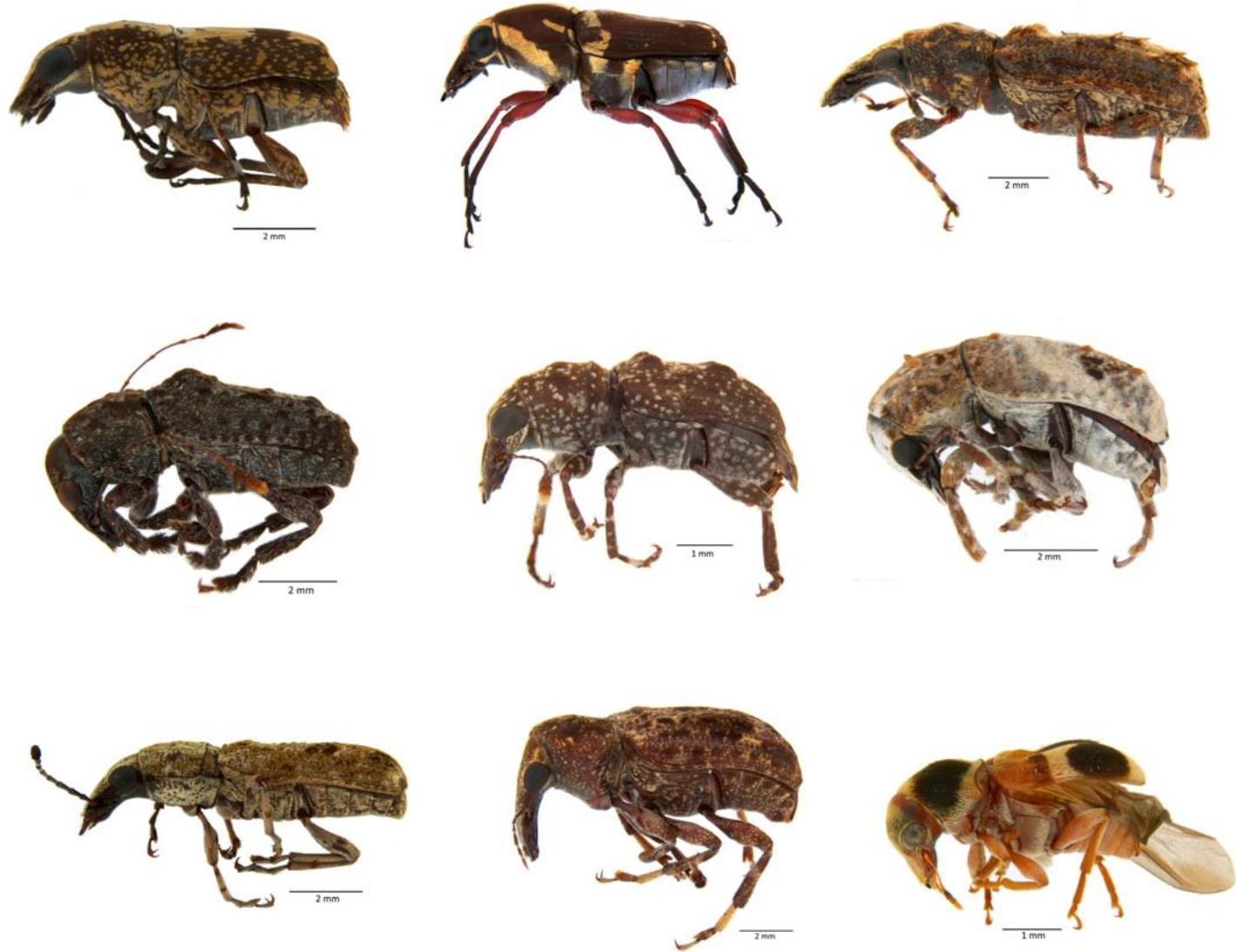
Smithsonian  
*National Museum of Natural History*





# Taxonomic work

- Identification (~1000 specimens)



# Catalogue (134 Species, 44 new country records)

## Zootaxa

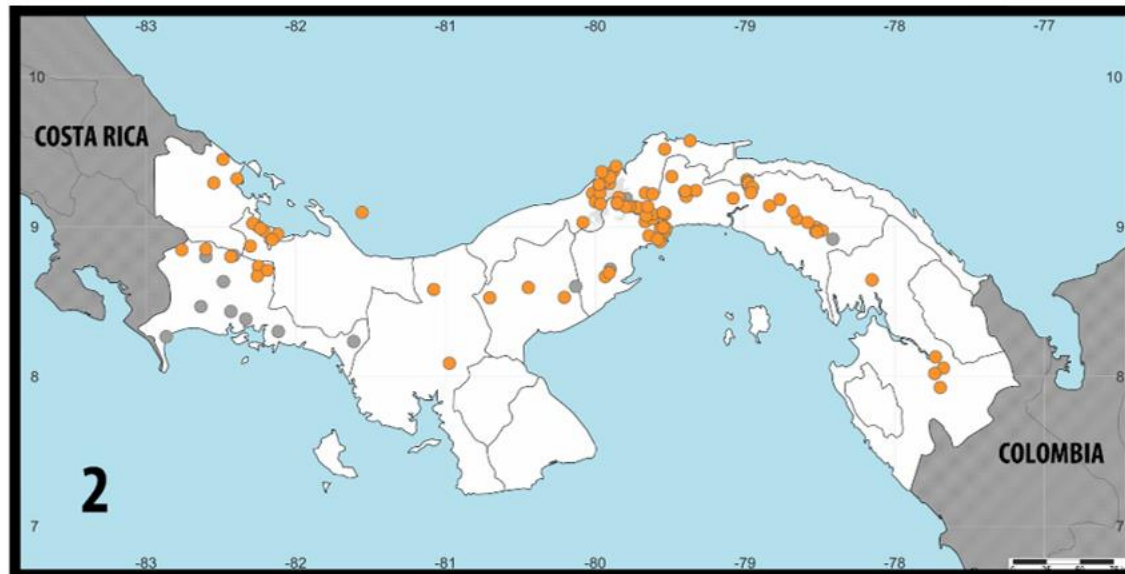
### Catalogue of the Anthribidae (Coleoptera: Curculionoidea) of Panama, including new country records and a key to genera

K. SAMANTA ORELLANA<sup>1,2</sup> & HÉCTOR BARRIOS<sup>1</sup>

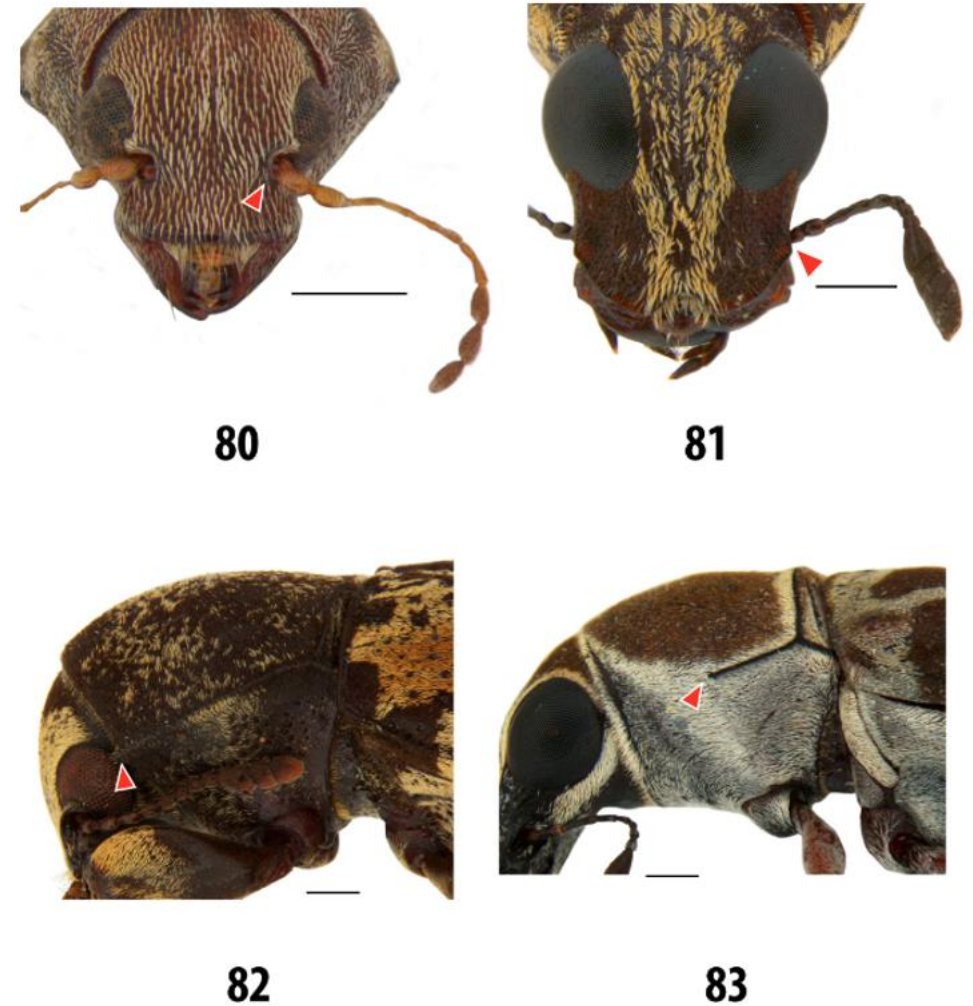
<sup>1</sup>Programa Centroamericano de Maestría en Entomología, Universidad de Panamá. Estafeta Universitaria, Apartado 3366, Ciudad de Panamá, Panamá. E-mail: hector.barriosv@up.ac.pa.

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<sup>1</sup>Corresponding author.



## Illustrated key to genera (30 in Panama)



FIGURES 80–83. Anthribidae recorded from Panama, distinctive characters. (Position of antennal insertions): 80, Dorsal (Choraginae). 81, Lateral (Anthribinae). (Lateral carina of prothorax): 82, Complete. 83, Incomplete. Scale bar: 0.5 mm.



# ASU Online Databases

- Instant access to the collections

<https://serv.biokic.asu.edu/ecdysis/>



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## ecdysis

A portal for live-data arthropod collections

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[Search Criteria](#) >> [Specimen Records](#)

[List](#) [Occurrence Records](#) [Maps](#)

ASU-ASUCOB  
Anthribidae  
Criteria: Panama; excluding cultivated/captive occurrences

Page 1, records 1-100 of 275

### Arizona State University Charles W. O'Brien Collection

	<i>Discotenes cylindrat</i> Jordan, 1906:310 ASUCOB0014209 R. Turnbow 1999-02-22 Panama, Bocas del Toro, 24 km. W Punta Peña, 9.021944 -82.2869 <a href="#">Full Record Details</a>	
	<i>Discotenes cylindrat</i> Jordan, 1906:310 ASUCOB0014210 J.E. Wappes 1999-02-21 Panama, Bocas del Toro, 24 km W Chiriquí Grande, 9.108888 -82.301111 <a href="#">Full Record Details</a>	
	<i>Homocloeus</i> Jordan, 1904 ASUCOB0014216 H. Wolda 1978-04-26 Panama, Panamá Oeste, Canal Zone, Barro Colorado Island, 9.155277 -79.755277 <a href="#">Full Record Details</a>	
	<i>Piezocorynus</i> Schönherr, 1839	

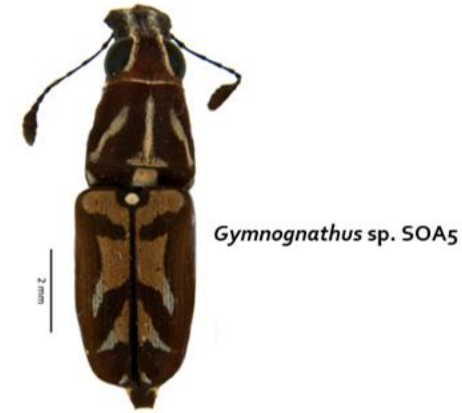
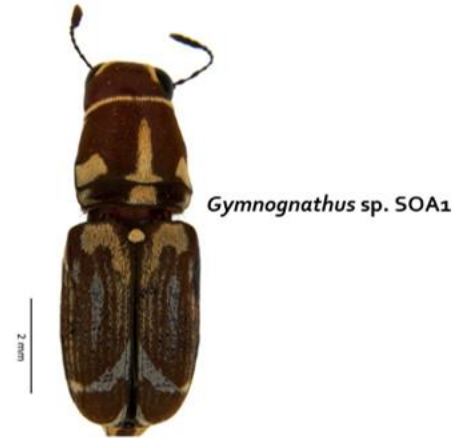




# Next steps

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- Describe new species
- Revision of genus *Gymnognathus*
  - This group might not be monophyletic
  - *In fact, that is the case of MOST groups*



# Next steps

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- Higher-level phylogeny of Anthribidae
  - 1 subfamily
  - 26 tribes (~100 genera)
  - Morphological data





# Questions?



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