

## INTRODUCTION

Collecting data for research on insects can be a tedious process. To gather data from a specimen, one must contact people who might have access to the desired species, and if they do, it must be picked up or shipped under careful conditions. Creating an online database of useful information from specimens would significantly improve the data collecting procedure of new research. Insects are classified by Kingdom, Phylum, Class, Order, Family, Genus, and Species. Ichneumonidae is one of the most species-rich families of insects, so it is a good family to start the database with because having this data easily accessible could be useful for many projects. Researchers, individuals interested in entomology, companies and organizations could benefit from this. This database could be used for research on conservation, ecology, pest control, the ecological history of a location, and many other topics. We hope to find that our specimens are diverse and have a lot of information so that the database can be useful to many research projects.

## OBJECTIVE

Create an online database of the Ichneumonidae specimens available at the University of Michigan Museum of Zoology

## METHODS

- Carefully remove specimen from unit tray
- Use tweezers to take off labels
- Pin specimen into foam perpendicular to table
- Arrange labels next to specimen so they fit in the frame of the picture
- Add QR code label
- Adjust exposure setting on camera if needed
- Put all labels back onto pin including the new QR label

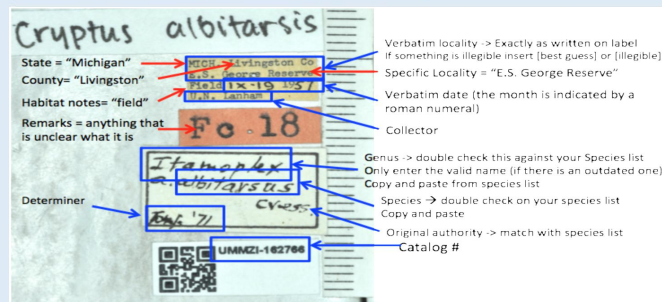


Figure 1. Labeled diagram of what information is present on the labels of the specimens

## RESULTS

Family	Genus	Species	Subspecies	Authority/year	Notes	Family2	Genus2	Species2	Subspecies2	Authority/year
Ichneumonidae	Ctenochira	dilatata		(Provancher, 1875)	unit tray mispelled					
Ichneumonidae	Ctenochira	gilleti		(Davis, 1897)						
Ichneumonidae	Ctenichneumon	exultus		(Cresson, 1867)						
Ichneumonidae	Ctenichneumon	ocellatus		(Cresson, 1867)						
Ichneumonidae	Ctenichneumon	semicarinatus		(Cresson, 1867)						
Ichneumonidae	Ctenichneumon	sythax		(Cresson, 1864)						
Ichneumonidae	Ctenichneumon	spp								
Ichneumonidae	Ctenopelma	nigricomis		(Provancher, 1886)						
Ichneumonidae	Ctenochira	rufa		(Ashmead, 1902)						
Ichneumonidae	Ctenopelma	sanguineum		(Provancher, 1875)						
Ichneumonidae	Cuboccephalus	atricinctus		Tommes & Gupta, 1962						
Ichneumonidae	Cuboccephalus	alaticus	canadensis	(Provancher, 1875)						
Ichneumonidae	Cuboccephalus	alaticus	eythrogrus	(Provancher, 1886)						
Ichneumonidae	Cuboccephalus	balduafi		(Dalla Torre, 1902)	unit tray mispelled					
Ichneumonidae	Cuboccephalus	dreibachi		Tommes, 1962						
Ichneumonidae	Cuboccephalus	impressus		(Provancher, 1875)	PARATYPE					
Ichneumonidae	Cuboccephalus	inhabilis		(Provancher, 1877)						
Ichneumonidae	Cuboccephalus	incisus		Tommes & Gupta, 1962						
Ichneumonidae	Cuboccephalus	laticaps		(Cresson, 1872)						
Ichneumonidae	Cuboccephalus	longicauda		(Provancher, 1886)	Cuboccephalus schmucki (Dalla Torre, 1902)					
Ichneumonidae	Cuboccephalus	maurus		(Cresson, 1875)						
Ichneumonidae	Cuboccephalus	micans		Tommes, 1962	PARATYPE					
Ichneumonidae	Cuboccephalus	nigritarsis		(Thomson, 1874)	Cuboccephalus erareolatus (Habermehl, 1917)					
Ichneumonidae	Cuboccephalus	niticus			could not find info					
Ichneumonidae	Cuboccephalus	pellidus	spisocornis		could not find info					
Ichneumonidae	Cuboccephalus	rectus		(Provancher, 1886)						
Ichneumonidae	Cylloceria	serixinata		(Say, 1829)	species on unit tray in Ichneumonidae	Cylloceria	occidentalis		(Gravenhorst, 1820)	
Ichneumonidae	Cuboccephalus	spp		(Ratzeburg, 1848)						
Ichneumonidae	Cymodusa	distincta		(Cresson, 1864)						
Ichneumonidae	Diadegma	obscurem		(Cresson, 1864)	species spelled wrong on unit tray					
Ichneumonidae	Diadegma	1969		Forster, 1969						
Ichneumonidae	Diaplegmorpha	acada		Cushman, 1929						
Ichneumonidae	Diaplegmorpha	alabama		Cushman, 1929						
Ichneumonidae	Cryptus	albitalis		(Cresson, 1864)						
Ichneumonidae	Cryptus	arilus		Pratt, 1945						
Ichneumonidae	Cryptus	criticifolius		Spinola, 1851						
Ichneumonidae	Cryptus	cyanipennis		Bulle, 1846						
Ichneumonidae	Cryptus	dianae		Gravenhorst, 1829						

Figure 2. Spreadsheet of the species and their authority

- 602 total specimens transcribed
- 16 genera transcribed
- Transcribed specimens span 10 countries
  - US, Germany, Honduras, Mexico, Japan, Argentina, Myanmar/Burma, Brazil, Chile

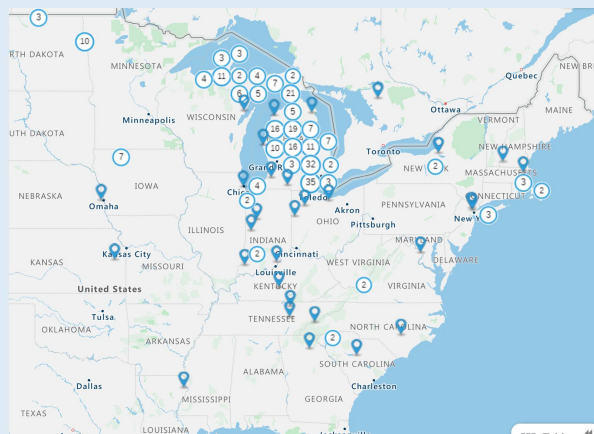


Figure 4. Distribution of specimens found in the north-east of the US



Figure 5. Worldwide distribution of specimens

## CONCLUSION

Our data represent a wide variety of specimens. Most of the specimens transcribed were from the US, however our data also includes specimens from 9 other countries, spanning 4 continents. We have many specimens from certain genera such as Cryptus and Cratichneumon allowing for research in specific genera. However our database includes 16 genera in total, also allowing for research comparing genera. The diversity of specimens that we were able to become universally available enables researchers all around the world to easily collect essential data for all kinds of research. This database is a small portion of the specimens available at the museum. In the future, we will continue transcribing and uploading data from the specimen until the database is complete. The data will be available on the following websites:

- <https://quod.lib.umich.edu/i/insect2ic>
- [https://www.gbif.org/occurrence/search?dataset\\_key=13e7869e-0c76-473a-a227-53d6e3d6bf2](https://www.gbif.org/occurrence/search?dataset_key=13e7869e-0c76-473a-a227-53d6e3d6bf2)
- <https://scan-bugs.org/portal/collections/harvestparams.php>
- <https://www.idigbio.org/portal/search>

Having this database online allows it to be used for research on important issues such as climate change, biodiversity, and much more.

Figure 3. Spreadsheet of each specimen and the information on their labels