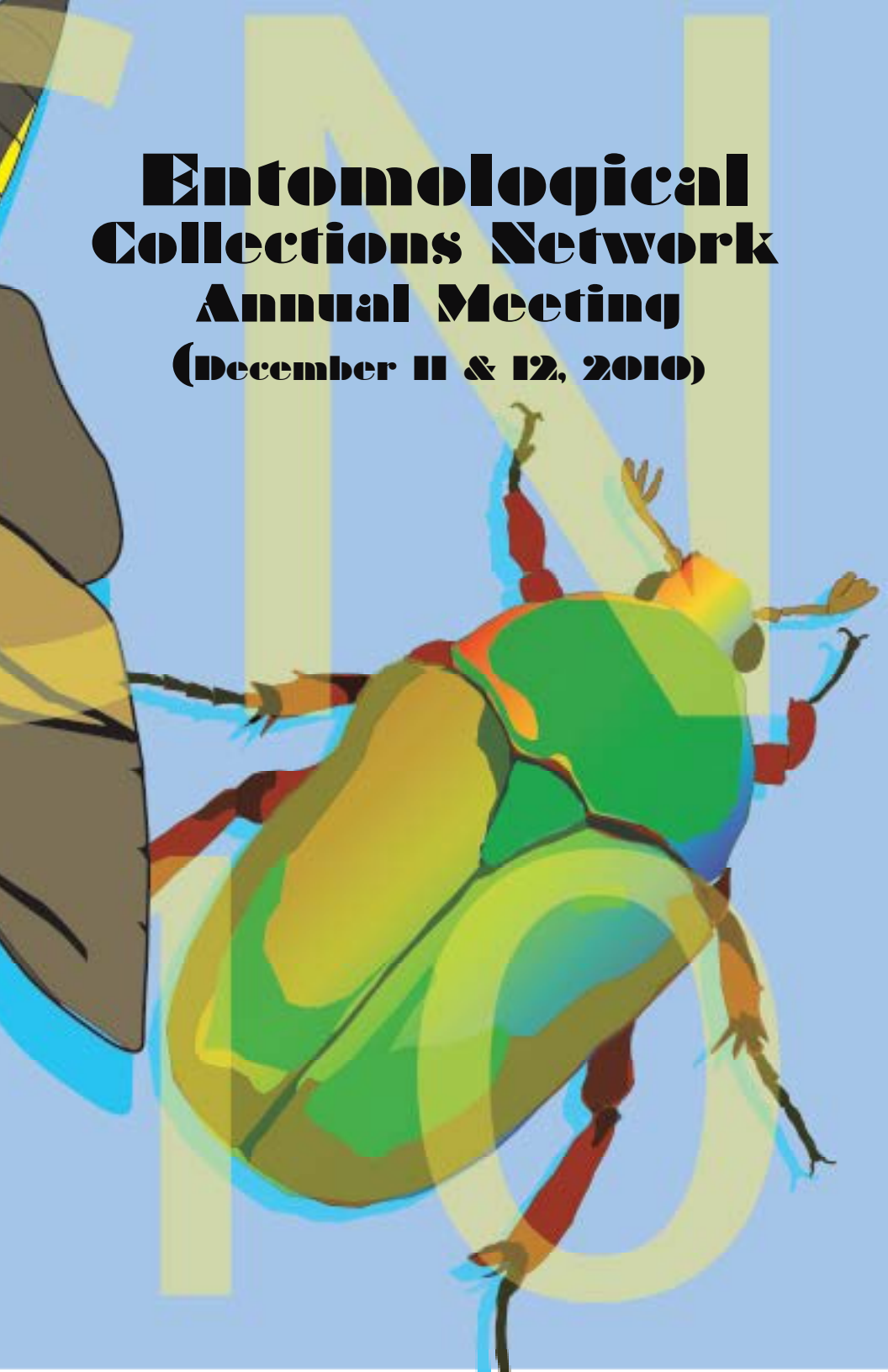
Entomological Collections Network Annual Meeting

(December 11 & 12, 2010)



Entomological Collections Network - Annual Meeting
December 11 & 12, 2010
Town and Country Resort and Conference Center, San Diego, CA

PROGRAM OF EVENTS

Saturday, December 11, 2010

7:30 am Registration and Coffee

8:30 am Welcome and Introduction

8:45 am **Barbara Sharanowski**
University of Manitoba

Introducing the Wallis-Roughley Museum of Entomology (University of Manitoba): the largest insect museum in Western Canada

The J.B. Wallis – R.E. Roughley museum of entomology is the third largest research collection of insects in Canada, and the largest collection west of Toronto. The development of the museum over the last 100 years is discussed, particularly the efforts of J.B. Wallis and R.E. Roughley, for which the museum is named. Databasing efforts of the nearly 2 million specimens will be described along with a new Canadian database for biodiversity information of academic institutions. There are significant holdings of adephagan beetles and araneid spiders, largely due to the expertise and collecting efforts of R.E. Roughley. The role of amateur entomologists will also be discussed, many of which have made considerable contributions to the museum.

9:05 am **Andrew Austin[1] & Mark Harvey[2]**
[1]The University of Adelaide, [2]Western Australian Museum

Universities, Museums and Private Industry: a unique partnership in collection-based taxonomic research

In the mid-1990's a unique assemblage of stygofauna was discovered in the Western Australian arid zone. What has followed is the documentation of an unprecedented diversity of aquatic and terrestrial subterranean invertebrates, including numerous higher level taxa recorded from Australia for the first time. Much of the discovery of this fauna has been made by private environmental consulting companies contracted by mining resource companies. This has been driven by the fact that the Western Australian State Government's Environmen-

including numerous higher level taxa recorded from Australia for the first time. Much of the discovery of this fauna has been made by private environmental consulting companies contracted by mining resource companies. This has been driven by the fact that the Western Australian State Government's Environmental Protection Agency regulations require the inclusion of subterranean fauna during the environmental review process for any major resource projects in the State. To operate at the required level the major consulting companies have employed highly trained ecologists and systematists, some of whom are working closely with research staff at the Western Australian Museum, South Australian Museum and the University of Adelaide, undertaking phylogeographic and systematics research on this unique fauna. Although there are still issues surrounding the intellectual property of new faunas in resource rich locations, much of the research that has occurred in the last decade has only been made possible by the intensive field sampling undertaken by environmental consulting companies.

9:25 am **Peter DeVries**

University of Wisconsin - Madison

Biodiversity Informatics on the Semantic Web

The tools and techniques developed for the semantic web allow data from many diverse sources to be integrated into useful knowledge bases. The talk will introduce the main ideas behind the Semantic Web and demonstrate how various data sets can be linked together and queried.
Topics include:

What is the Semantic Web and how does it work?
What is Linked Open Data
How do I mark up my data
How do I tell the Semantic Web about my data
How can I find other potentially useful data sets
How can I set up my own knowledge base
How can I query a knowledge base
What does the future hold for the Semantic Web and Linked Open Data

9:45 am **Robert S. Anderson[1] & John T. Longino[2]**

[1]Canadian Museum of Nature, [2]The Ever green State College

From field data to data fields: How Project LLAMA does it

The Leaf Litter Arthropods of MesoAmerica (LLAMA) project is sampling litter arthropod biodiversity from Mexico (Chiapas) to Nicaragua. It relies on international student field crews to carry out a program of quantitative sampling at multiple field sites of varying elevation. So far over 12,000 collection events (Winkler, baiting, Malaise, and beating samples) from 27 field sites have resulted in thousands of ant and weevil species occurrence records in over 500 species of ant and weevil species each. All ant species records are all available on AntWeb, and through AntWeb to GBIF and Encyclopedia of Life. No such similar system exists for management of weevil data. Here we describe project methods and workflow from the time of data capture in the field to the posting of specimen data on AntWeb (for ants).

10:05 – 10:20am *Coffee Break*

10:20 am **Lynn Kimsey**

University of California Davis

The Trials and Travails of Curating Alcohol Collections

Alcohol preserved collections have many special problems and there are good ways and bad ways to manage them. The Bohart Museum has done them all. This is our story…

10:40 am **Jenna Castle**

University of California Santa Barbara / San Diego Natural History Museum

All Dried Up: A case study of rehydration techniques and the Clipperton Island collection at the SDNHM

The San Diego Natural History Museum possesses a 1958 collection from Clipperton Island that has been neglected and specimens intended to be stored in alcohol have dried out. It is a common problem encountered in collections that specimens dry out åand thus lose their research value. A handful of publications regarding rehydration techniques exist, although a comprehensive experimental review has never been published. Often following the protocols of these publications, we experimentally reviewed the effect of potassium hydroxide, acetic acid, Contrad 70/Decon 90, commercial trisodium phosphate, propylene glycol, various concentrations of ethanol and ethanol vapor, as well as a standard humidifier. Ants, beetles, and flies were used in each trial to approach the issue of variable efficacy per taxonomic order. We measured rehydration success by three criteria: change in weight, malleability, and buoyancy in 70% ethanol. Results and issues encountered will be discussed.

11:00 am **Eugenio H. Nearns, Nathan P. Lord & Kelly B. Miller**

Museum of Southwestern Biology, University of New Mexico

Systematics in the 21st Century - Developing Lucid Keys to Enhance Taxonomy

An overview of Lucid interactive key development is presented, as well as a discussion on its contributions to and impact on contemporary systematics

and taxonomy. A synopsis of the Lucid3 Builder software, specimen imaging techniques, character illustration, and website design is provided. In addition, we review Lucid keys for two wood boring beetle groups recently developed for the USDA: a key to adult twig girdlers (Cerambycidae: Lamiinae: Onciderini) as well as the ironclad and cylindrical bark beetles (Zopheridae). Both Lucid keys are now in peer review and will be published in early 2011. Keys will be published by the USDA on CD-ROM as well as freely available on the internet.

11:40 – 1:00 pm *Lunch*

1:00 pm **Introduction – Andy Deans**

1:05 pm **Derek Sikes**
University of Alaska Museum

Digitization of the University of Alaska Museum Insect Collection

1:25 pm **Randall T. Schuh**
American Museum of Natural History

Web-based data capture: an update from the AMNH

NSF-Planetary Biodiversity Inventories funding brought the American Museum of Natural History into the collection-databasing century. Can that experience provide guidance for the current NSF-ADBC initiative?

1:45 pm **Lawrence Gall & Leonard Munstermann**
Yale University, Peabody Museum

Digitizing the Yale collections: it takes a village

Although the Peabody Museum has been computerizing its holdings for more than two decades, the Entomology department is a relative newcomer to that fray. This talk explores how Entomology is handling digitizing its material, with a focus on workflows and tools for speeding up data capture, unplugging curatorial bottlenecks, automating dissemination, and integrating with broader campus-wide digital opportunities.

2:05 pm **Patricia Gentili-Poole**
Smithsonian Institution

Lepidoptera Types Digitization at the NMNH-Smithsonian Institution

The digitization of the Lepidoptera type specimens started in 2002 with an estimate of 10,000 specimens. Today, 17,200 type specimens are segregated into the Type Collection, data-based and delivered for parsing before online distribution through EMu; an estimated 2,000 specimens are in the general collection still to be processed; and close to 16,000 images are captured (e.g. Pyraloidea, Tortricidae and Geometridae-in part). This presentation is an overview of problems faced and lessons learned while Institutional guidelines were followed, 'executive' decisions were made, and some backtracking was incurred.

2:25 pm **Morris, Paul J[1], Eastwood, Rod[2], Ford, Linda S.[2], Haley, Brendan[2], Pierce, Naomi E.[2]**

[1]Harvard University Herbaria, 22 Divinity Ave, Cambridge MA 02138
[2]The Museum of Comparative Zoology, Harvard University, 26 Oxford St, Cambridge, MA 02138 USA

Innovative workflows for efficient data capture in an entomological collection: The MCZ Lepidoptera Rapid Data Capture Project

The Rhopalocera collection at the Museum of Comparative Zoology has some 200,000 specimens, and like many natural history collections, data are not readily accessible. We have designed a rapid data capture protocol that gains efficiency by separating specimen handling from data capture, through imaging both labels and specimens, and then capturing label data from the images. We include machine readable barcodes encoding current determination, higher taxonomy, drawer placement, and specimen number, with failover to OCR. Encoded fields are machine parsed, and then images are presented to data entry personnel and entomologists for the remaining data capture and enhancement.

2:45 – 3:00 pm *Coffee Break*

3:00 pm **Michael Wall**
San Diego Natural History Museum

Not another fricking database!?!

As entomology collections managers, we often repeat the mantra of "increased accessibility" to collections. The 2000s approach to this has been data capture and sometimes web-accessibility to data. Many collections, however, have lots of data capture but little accessibility outside of direct inquiry with curators who fire up local installations of Specify, Access, or FileMaker. As we graduate from data capture to data accessibility, it is probably worthwhile to explore to who we are making data accessible and how they want to use it. This talk will highlight two projects that I am working on for increasing accessibility of collection data.

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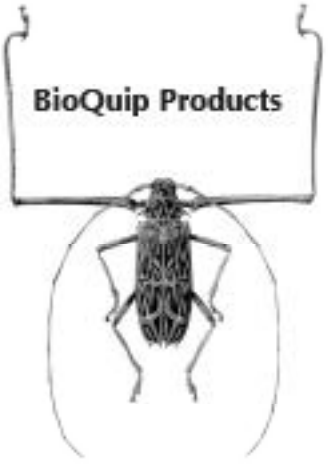

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BioQuip Products New Division With an Old Tradition

BioQuip Products has a new divison, BioQuipBugs.com The new division opened in May 2010 and catalogs 9,000+ insect and arthropod species. Please note that this new division is in development and that the web site will be improved in the future with the addition of pictures, specimens wanted lists, etc. Please come by booth 406 in the exhibit hall at ESA to register and receive a $20.00 off certificate good towards your first purchase of $100.00 or more. Look for monthly specials that will be forthcoming in the new year. BioQuipBugs.com is currently obtaining permits for the import and export of specimens so we are only able to make shipments to domestic addresses at this time.

Visit us at www.BioQuipBugs.com

3:20 pm **Piotr Naskrecki**
Museum of Comparative Zoology – Harvard Univer sity

Digital type specimens – where are we 15 years later?

Digital technologies have revolutionized virtually all aspects of biological sciences, and morphology-based taxonomy is no exception. Online access to high-quality images of insect type specimens allows for streamlined identification, reduces the cost of revisionary work, and helps protect the fragile specimens. Within the last 15 years a number of botanical and zoological institutions have created excellent examples of online type collections, and their impact on taxonomists' work has been profound. Regrettably, for a variety of reasons, few major entomological repositories have embraced the idea of networked type image databases at the institutional level, and online insect type collections remain an unfulfilled promise of the digital age.

3:40 pm **Colin Favret[1] & Gary L. Miller[2]**
[1]AphidNet, LLC, [2]Systematic Entomology Labora tory, USDA

Digitizing Insect Specimens on Microscope Slides

The capture of slide-mounted insect specimen data is well-suited for high throughput workflow. Flat museum objects can be digitally scanned relatively quickly, labels can be read relatively easily, and high resolution specimen image capture can be relatively automated. Several novel methodologies facilitate the acquisition, processing, and storage of slide-mounted insect specimen data.

4:00 pm **Norm Johnson & Luciana Musetti**
Ohio State University

Applications of digitized specimen records

Insect collections may easily hold more than a million specimens. With full costs of digitization in the range of USD 1/specimen, the total investment in the process may be enormous. Use cases are needed to justify this expense. Examples of such use cases, both for collection management and research are reviewed.

4:20 pm **Matthew A. Bertone & Andrew R. Deans**
North Carolina State University Insect Museum

Utility (and shortcomings) of high resolution drawer imaging for remote curation and outreach

We present a new way to image insect museum drawers using GigaPan robotic and software technology. This system offers remote viewing of specimen holdings through high-quality, zoomable, panoramic images. We discuss advantages of the system and highlight possible shortcomings.

4:40 – 5:00 pm **Symposium Discussion & Concluding Re marks**

6:00 – 9:00 pm *ECN Dinner & Mixer*

Sunday, December 12, 2010

8:30 am *Coffee*

9:00 am **Introduction**

9:10 am **Gail E. Kampmeier**
Illinois Natural History Survey

Echoes from TDWG 2010

The Biodiversity Information Standards (TDWG) meetings attract a mixture of people from techies to systematists to entrepreneurs to hybrids of one or more of these, and this year the group met in Woods Hole, MA. Selected highlights from this meeting and implications for ECNers will be presented.

9:30 am **Frank Krell**
Denver Museum of Nature & Science

ZooBank Progress Report

About five years ago, the Secretariat of the International Commission on Zoological Nomenclature, Commissioners and an international group of zoologists proposed ZooBank, a central, web-based registry of zoological names and nomenclatural acts. With nomenclaturally relevant information being scattered across thousands of often hardly available journals, a central, freely accessible registry has been seen as a valuable service to the taxonomic community. Less than three years after the presentation of the idea, a prototype of ZooBank was released on the web, and a ZooBank Committee appointed to further develop and implement ZooBank. The ZooBank Committee is currently composed of 30 scientists from 14 countries, including 20 Commissioners, 9 external members and the ICZN Executive Secretary. Working groups of the Committee have been working on ZooBank Policies, guidelines on ZooBank structure and procedures. Several of these guidelines will be presented soon for public discussion. ZooBank development has got a boost from a recently released NSF grant for the development of the Global Names Architecture (GNA; Patterson et al. 2010). ZooBank as the official ICZN registry will form a core component of the usage

bank of the GNA, assuring that scientific names are represented correctly and incorrectly rendered scientific names identified (Pyle & Michel 2009). With the help of the GNA grant, the architecture of ZooBank will be refined, Policies integrated and a new user-friendly user interface developed which is likely to be released in summer 2011 (Krell & Pyle 2010).

References

Krell, F.-T. & Pyle, R.L. 2010. ZooBank progress report. Bulletin of Zoological Nomenclature 67 (4), in press.

Patterson, D.J., Cooper, J., Kirk, P.M., Pyle, R. & Remsen, D.P. 2010. Names are key to the big new biology. Trends in Ecology and Evolution, in press.

Pyle, R. & Michel, E. 2009. Unifying nomenclature: ZooBank and Global Names Usage Bank. Bulletin of Zoological Nomenclature 66 (4): 298.

9:50 am

Mary Liz Jameson[1], Federico Ocampo[2], Steven Scott[3], Leenkiat Soh[3], Ian Cottingham[3]

[1]Wichita State University, Department of Biological Sciences, Wichita, Kansas
[2]Instituto Argentino de Investigaciones de Zonas Aridas, Mendoza, Argentina
[3]University of Nebraska - Lincoln, Department Com puter Science and Engineering, Lincoln, Nebraska

Transforming Biodiversity Science with The Biofinity Project

The Biofinity Project (http://biofinity.unl.edu/) is a free, web-based software framework that supports biodiversity and genomics research by relating data of participating labs with those of larger, public databases such as GBIF (Global Biodiversity Information Facility) and GenBank. Tools for analysis and data discovery are also fully integrated with the interface. This project aims to empower investigation and discovery across the sciences and to transform the way that we access and analyze biodiversity data.

Tools provided by The Biofinity Project, such as mobile iPhone data-integration, My Labs collaborations, social networking applications, intel-ligent wiki, and occurrence mapping have the capability of greatly advancing biodiversity science. The iPhone mobile application allows instant upload of in-field specimen-level data, associated image vouchers, and notations. Data are uploaded to The Biofinity Project's external database, allowing for on-the-fly specimen-level mapping in Google Maps. Data access and mapping capabilities in The Biofinity Project afford new ways of collecting, sharing, and analyzing biodiversity data.

THE COLEOPTERISTS SOCIETY

10:10 -10:30 am *Coffee Break*

10:30 am

Doug Yanega[1] & John Ascher[2]

[1]University of California Riverside, [2]American Mu seum of Natural History

DBCNet ("Digital Bee Collection Network")

11:10 am

Max Barclay

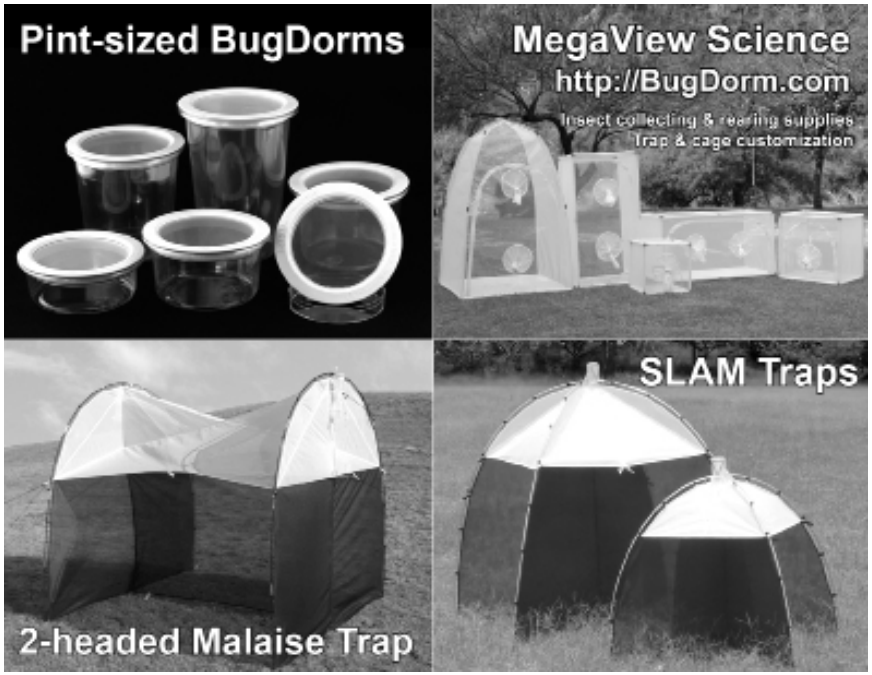
Natural History Museum, London

Beetles and Bugs at the BMNH

In 2005 I talked to the ECN about plans to develop the Beetle/ Bug collections at the Natural History Museum, London. Five years on, we've opened a 21st century building and a few 19th century packages, blown the dust off decades of backlog, kept up with the logistics of 25,000 drawers, 100,000 types, loans listings running to six figures, and still found time to dip our toes into social networking. I'll discuss what we've got, what we're doing with it, and how you can be part of the action.

11:30 am **Meeting Conclusion and Discussion**

11:45 am **Business Meeting**



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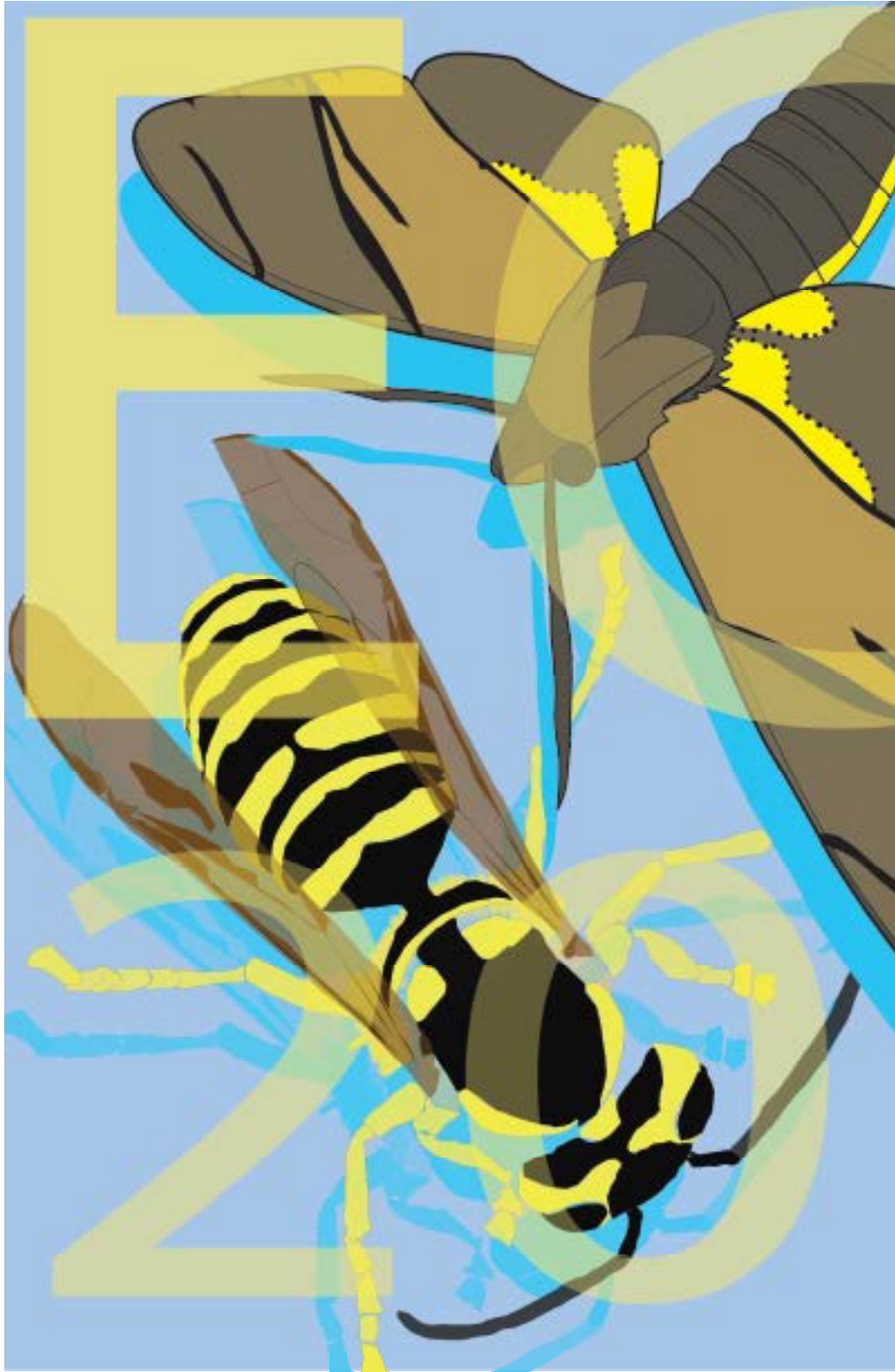

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