

The Staphylinidae of Alaska: An overview



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Alaska Entomological Society
Meeting
Saturday, February 03, 2018
Anchorage, Alaska




Outline

1. **Documenting Alaska's nonmarine arthropods**
 - UAM Insect Collection
2. **Alaska's Staphylinidae**
 - Literature & collection efforts
 - DNA barcoding
 - Highlights

UAM Insect Collection Mission

To create a resource that makes publicly available information concerning the non-marine arthropods of Alaska.

Using specimens + literature + 'grey' literature + photo-observations

- Which species occur in Alaska?
- Where do these species occur?
- Are they changing?

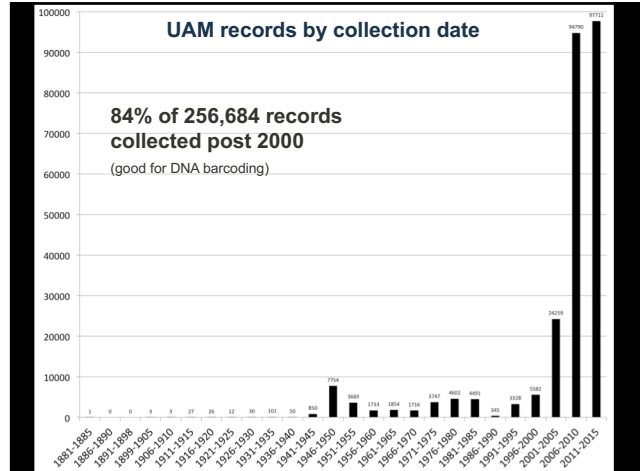
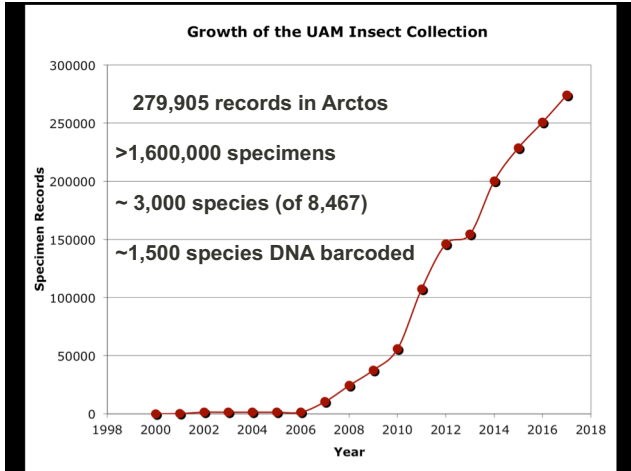
Share biodiversity data online with GBIF.org

DNA Barcode all species










CHECKLIST OF BEETLES (COLEOPTERA) OF CANADA AND ALASKA

SECOND EDITION


YVES BOUSQUET, PATRICE BOUCHARD,
ANTHONY E. DAVIES, DEREK S. SIKES

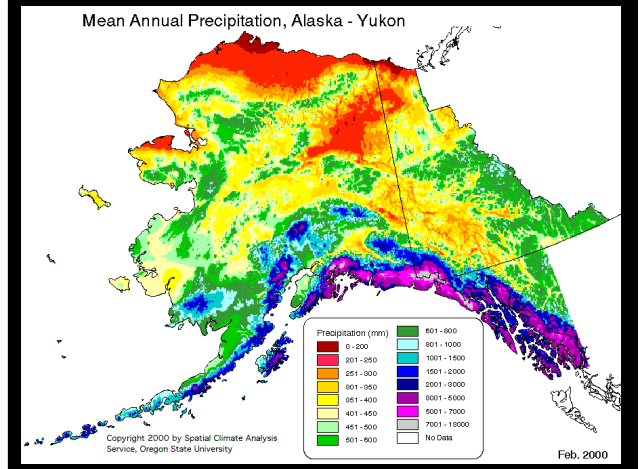
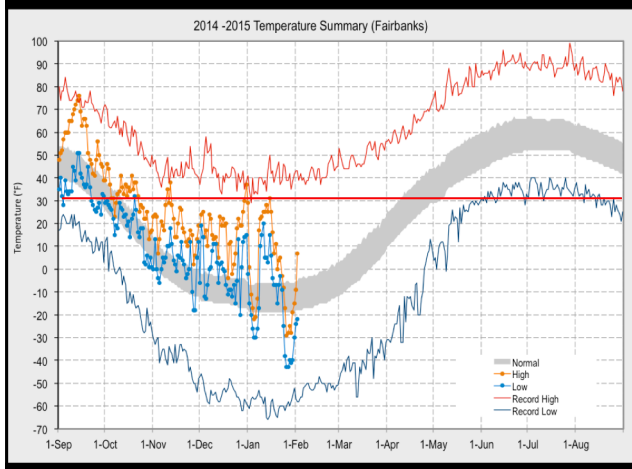


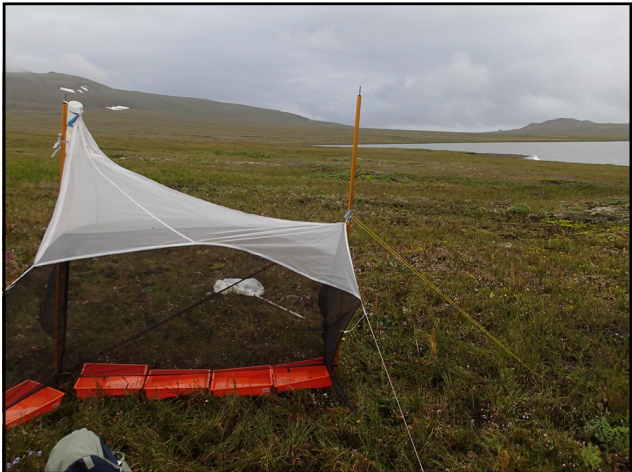
70,615 of these specimen records have been cited or otherwise used in 61 peer-reviewed publications.

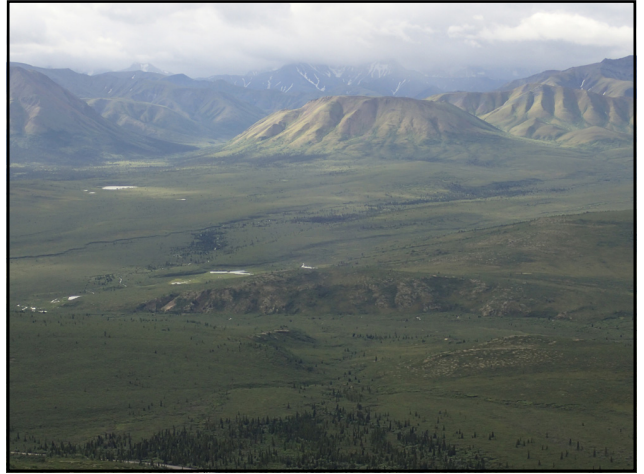
3,237 have BOLD and/or GenBank #s

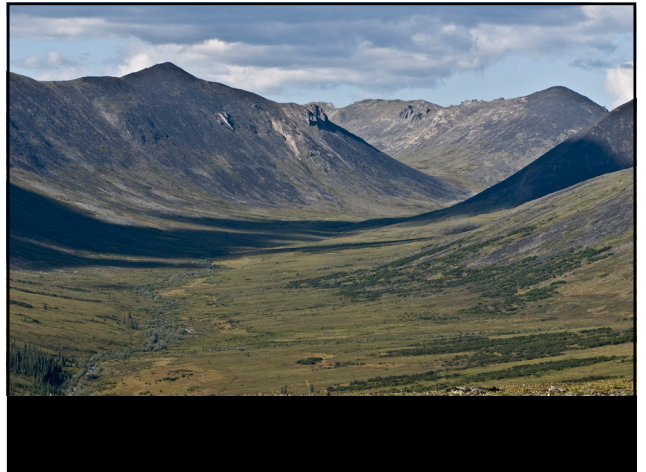
Alaska - 1/5th size of contiguous 48 states
Largest state
Greatest evidence of climate change
Significant biogeographic complexity (Beringia)





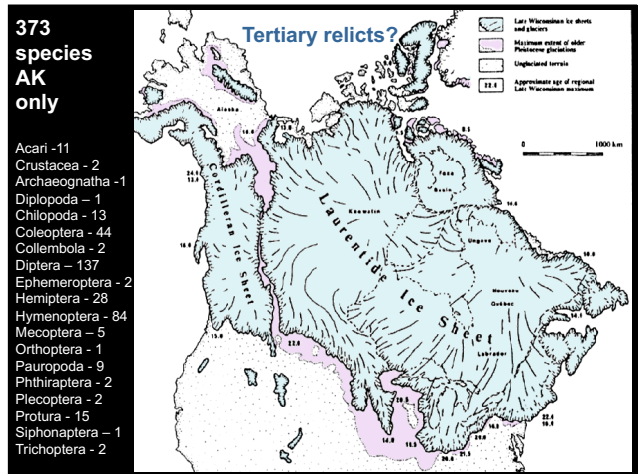








Shannon Sweet at Toolik, AK, photo by Jesse Krause 2013



Staphylinidae potentially endemic to Alaska, n= 19 species

Aleocharinae	Athetini	<i>Clusiota antennalis</i>
Aleocharinae	Athetini	<i>Phillygra n. sp. h</i>
Aleocharinae	Athetini	<i>Phillygra n. sp. s</i>
Aleocharinae	Homalotini	<i>Gyrophaena geniculata</i>
Aleocharinae	Liparocephalini	<i>Diaulota alaskana</i>
Aleocharinae	Oxypodini	<i>Oxyroda madgei</i>
Aleocharinae	Oxypodini	<i>Oxyroda nelsoni</i>
Aleocharinae	Oxypodini	<i>Oxyroda subpolaris</i>
Leptotyphlinae	Neotyphlini	<i>Chionotyphlus alaskensis</i>
Omalinae	Anthophagini	<i>Geodromicus rufipennis</i>
Omalinae	Coryphiini	<i>Haida callosa</i>
Omalinae	Eusphalerini	<i>Eusphalerum rugulosum</i>
Omalinae	Omalini	<i>Acrullopsis tumidula</i>
Omalinae	Omalini	<i>Phloeonomus flavipennis</i>
Omalinae	Omalini	<i>Xylodromus segmentarius</i>
Oxytelinae	Oxytelini	<i>Thinobius angusticeps</i>
Paederinae	Paederini	<i>Lobrathium sewardi</i>
Scydmaeninae	Cyrtoscydmini	<i>Brachycephus adjutor</i>
Tachyporinae	Mycetoporini	<i>Mycetoporus americanus</i>

**Staphylinidae in
Alaska
not Canada
n = 36 species**

97 Holarctic spp

18 adventive

***Chionotyphlus alaskensis* n.g., n.sp.,
a Tertiary relict
from unglaciated interior Alaska
(Coleoptera, Staphylinidae) (*)**

A. SMETANA
Biosystematics Research Institute, Agriculture Canada, Ottawa K1A 0C6, Canada.

Résumé. — L'auteur décrit *Chionotyphlus alaskensis* n.g., n.sp., staphylinide leptotyphline avéglé dont les adultes ont été récoltés aux environs de Fairbanks, dans la zone intérieure de l'Alaska non touchée lors des dernières glaciations. Ce nouveau taxon est placé dans la tribu des *Neotyphlus*, surtout représentée dans le Nouveau Monde, il est comparé à tous les autres genres connus de cette tribu et ses relations phylogénétiques possibles à l'intérieur de la tribu sont brièvement discutées.

Il semble que cette espèce soit une relique de Tertiaire. L'auteur étend des hypothèses sur son histoire en se basant sur les changements climatiques et floristiques survenus en Alaska. On présente une carte espèce en relation avec les habitats actuels. On discute aussi des habitats passés probables et des habitats actuels. Cette espèce est visiblement plus largement répartie dans la zone intérieure de l'Alaska non touchée lors des dernières glaciations et dans les Territoires du Yukon.

L'auteur mentionne aussi diverses implications liées à la découverte de ce staphylinide avéglé dans la zone intérieure de l'Alaska, en particulier la possibilité que d'autres populations semblables de *Leptotyphlus* survivent aussi dans le nord-est de la Sibirie, dont le passé géologique est similaire.

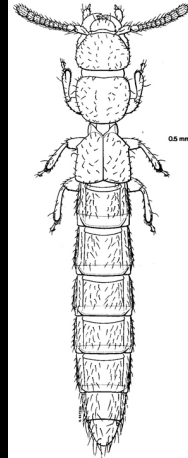
Summary. — *Chionotyphlus alaskensis* n.g., n.sp., a blind leptotyphline staphylinid, is described from adults taken in the unglaciated interior Alaska in the vicinity of Fairbanks. It is assigned to the predominantly New World tribe *Neotyphlus*, compared to all known genera of the tribe and its possible phylogenetic relationships within the tribe are briefly discussed.

The species is considered a Tertiary relict, its past history, based on climatic and vegetational changes in Alaska, is postulated. It is presumed to be adapted to boreal soils. The possible past habitats and the present habitats are discussed. The species is likely more widely distributed in unglaciated interior Alaska and Yukon Territory.

Several implications resulting from the discovery of this blind staphylinid in interior Alaska are mentioned, particularly the possibility that similar leptotyphline populations may also exist today in northeastern Siberia, which had, in general, a similar past history.

Meta-clés. — Coleoptera, Staphylinidae, Leptotyphlinae, *Chionotyphlus*, nouveau genre, nouvelle espèce, Alaska.

(*) 316 contribution to the knowledge of Staphylinidae



3 sites
Chena
Ridge
Chatanika
Nenana

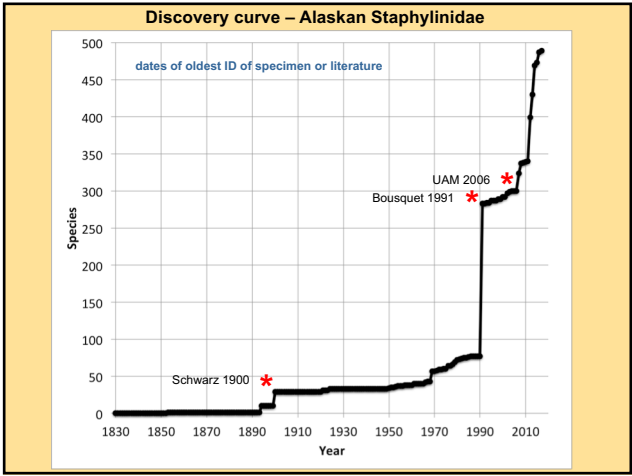
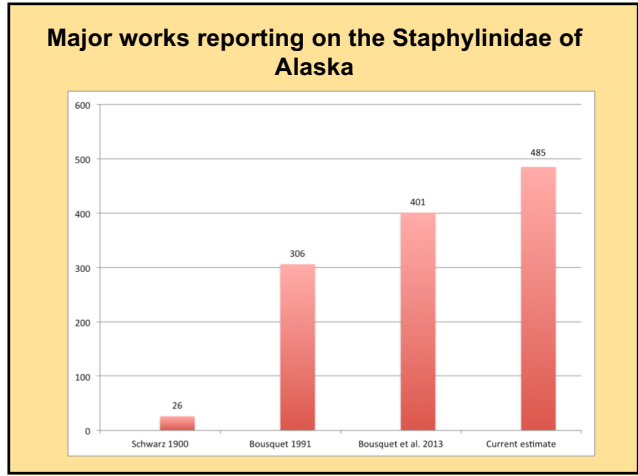
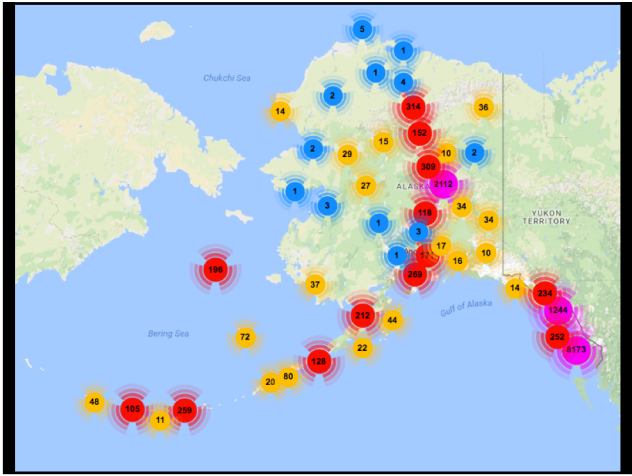
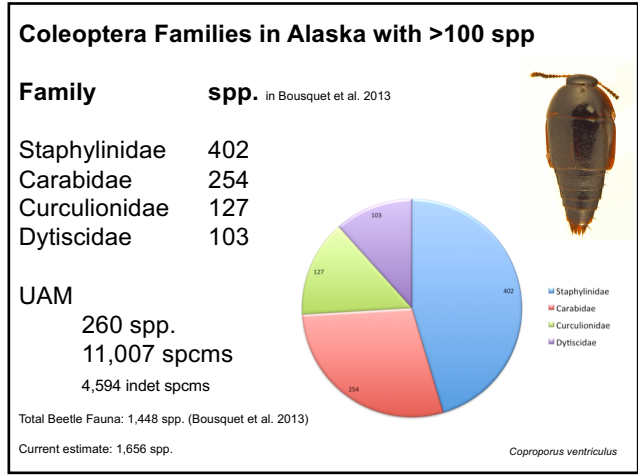


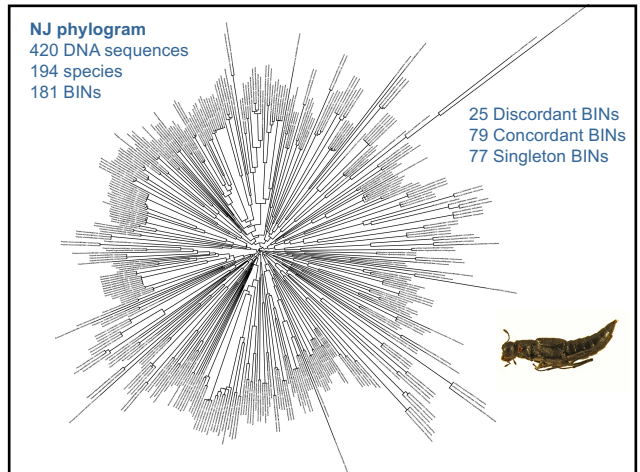
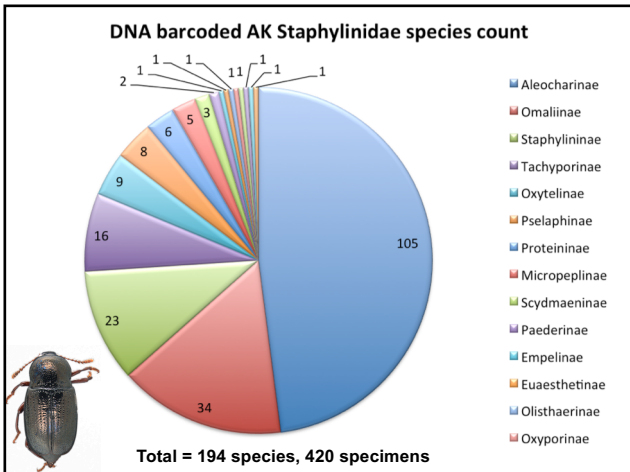
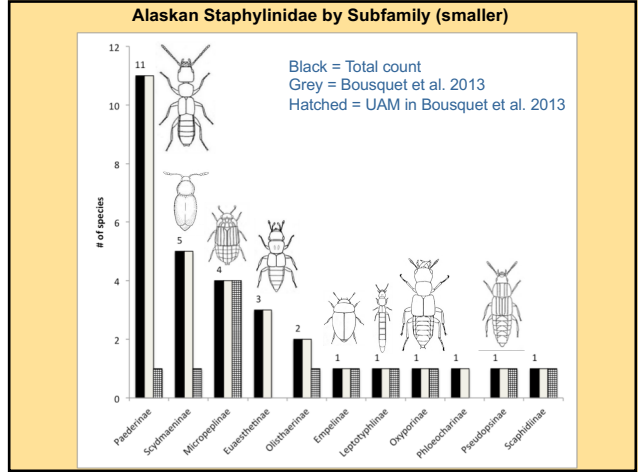
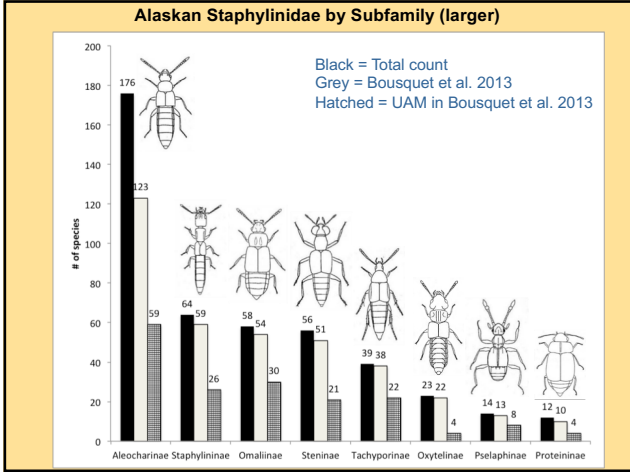
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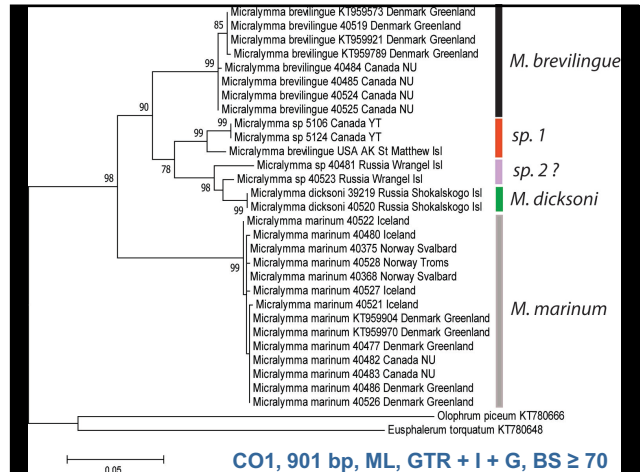
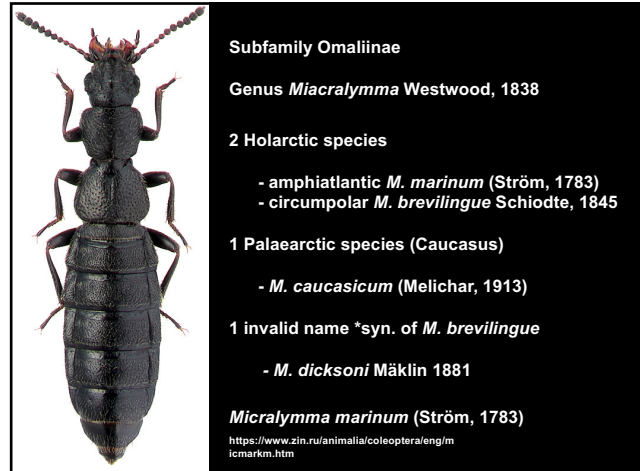
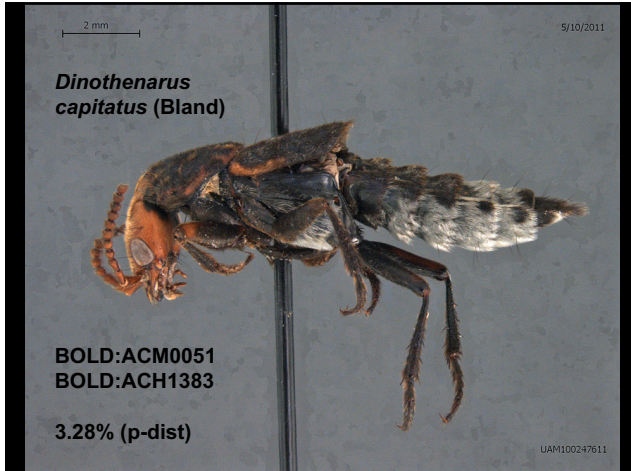


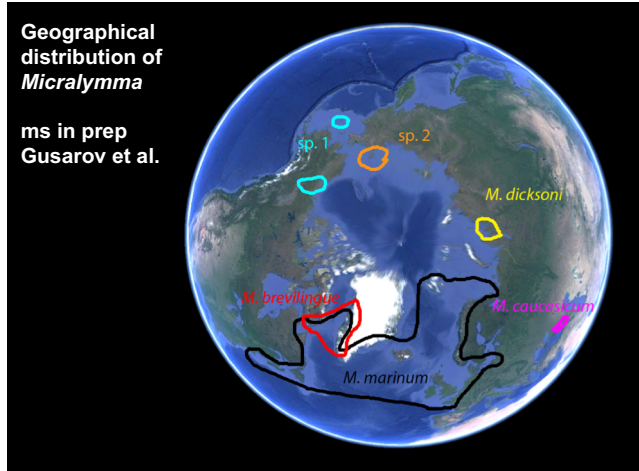
Omalinae; Anthophagini;
Tanyrhinus singularis Mannerheim 1852

UAM100319483









Forthcoming in 2018

Logan, M., Campbell, M., Sikes, D., Taxonomic revision of the rove beetle genus *Phlaeopterus* Motschulsky, 1853 (Coleoptera: Staphylinidae: Omaliinae: Anthophagini)

Logan, M., Campbell, M., Sikes, D. Morphological and molecular phylogeny of the rove beetle genus *Phlaeopterus* Motschulsky, 1853 (Coleoptera: Staphylinidae: Omaliinae: Anthophagini)



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Link Olson
Krystal Osborn
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Questions?

See me after if interested in helping to ID our indet!