A Revision of Chilicola (Heteroediscelis), a Subgenus of Xeromelissine Bees (Hymenoptera, Colletidae) Endemic to Chile: Taxonomy, Phylogeny, and Biogeography, with Descriptions of Eight New Species

Description: Chilicola Spinola, 1851 (Hymenoptera, Colletidae, Xeromelissinae) is a diverse genus of small, stem-nesting bees found throughout Central and South America; its 98 species are grouped into 15 subgenera, one of which is here revised. The subgenus Chilicola (Heteroediscelis) Toro & Moldenke, 1979 is endemic to Chile, spanning a remarkable diversity of habitats: from the arid Atacama Desert in the north, to temperate rainforests in the south, and at elevations ranging 0-3210m a.s.l.

In this new paper, eight new species are described, and one of the ten existing species is synonymized, bringing the total within C. (Heteroediscelis) to seventeen. In addition to an integrative taxonomic revision, this work includes identification keys for males and females, a phylogenetic analysis using morphology and molecular data, a summary of diagnostic base pair substitutions (CO1), and a biogeographic analysis of species distributions. In all, this work is intended as a comprehensive and thorough reference on the topic of these interesting little bees.

Contents:
- Introduction
- Methods
- Taxonomy
- Phylogenetic analysis
- Biogeography
- Results
- Taxonomy
- Chilicola (Heteroediscelis) Toro & Moldenke, 1979
  - Keys to the species of Heteroediscelis
  - Species descriptions
- Chilicola (Heteroediscelis) mantagua Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) charizard Monckton, sp. n
- Chilicola (Heteroediscelis) curvapeligrosa Monckton, sp. n
- Chilicola (Heteroediscelis) deserticola Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) diaguita Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) erithropoda Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) guanicoe Monckton, sp. n
- Chilicola (Heteroediscelis) katherinae Monckton, sp. n
- Chilicola (Heteroediscelis) lickana Monckton, sp. n
- Chilicola (Heteroediscelis) mavidai Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) mayu Monckton, sp. n
- Chilicola (Heteroediscelis) neffi Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) packeri Monckton, sp. n
- Chilicola (Heteroediscelis) randolphi Monckton, sp. n
- Chilicola (Heteroediscelis) travesia Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) vicugna Toro & Moldenke, 1979
- Chilicola (Heteroediscelis) vina Toro & Moldenke, 1979
- Phylogenetic analysis
- Biogeography
- Discussion
- Taxonomy
- DNA Barcodes
- Phylogeny and biogeography
- Acknowledgements
- References
- Appendix 1
- List of characters
- Appendix 2
- Data matrix
- Appendix 3
- Non-redundant linear coding
- Supplementary material 1
- Supplementary material 2
- Supplementary material 3

Ordering:

Order Online - [http://www.researchandmarkets.com/reports/3800298/](http://www.researchandmarkets.com/reports/3800298/)

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit
http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

| Product Name: | A Revision of Chilicola (Heteroediscelis), a Subgenus of Xeromelissine Bees (Hymenoptera, Colletidae) Endemic to Chile: Taxonomy, Phylogeny, and Biogeography, with Descriptions of Eight New Species |
| Web Address: | http://www.researchandmarkets.com/reports/3800298/ |
| Office Code: | SCBRB6GC |

Product Format
Please select the product format and quantity you require:

- **Quantity**
  - Hard Copy (Paper Back) - Enterprisewise: USD 65 + USD 29 Shipping/Handling

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in **BLOCK CAPITALS**

| Title: | Mr ☐ Mrs ☐ Dr ☐ Miss ☐ Ms ☐ Prof ☐ |
| First Name: | __________________________ |
| Last Name: | __________________________ |
| Email Address: * | __________________________ |
| Job Title: | __________________________ |
| Organisation: | __________________________ |
| Address: | __________________________ |
| City: | __________________________ |
| Postal / Zip Code: | __________________________ |
| Country: | __________________________ |
| Phone Number: | __________________________ |
| Fax Number: | __________________________ |

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ____________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World