

## **An Updated Check List of the Cochyliina (Tortricidae, Tortricinae, Euliini) of North America North of Mexico Including Greenland, with Comments on Classification and Identification**

Authors: Metzler, Eric H., and Brown, John W.

Source: The Journal of the Lepidopterists' Society, 68(4) : 274-282

Published By: The Lepidopterists' Society

URL: <https://doi.org/10.18473/lepi.v68i4.a5>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

*Journal of the Lepidopterists' Society*  
68(4), 2014, 274–282

AN UPDATED CHECK LIST OF THE COCHYLINA (TORTRICIDAE, TORTRICINAE, EULIINI) OF  
NORTH AMERICA NORTH OF MEXICO INCLUDING GREENLAND, WITH COMMENTS ON  
CLASSIFICATION AND IDENTIFICATION

ERIC H. METZLER

Michigan State University Adjunct Curator Of Lepidoptera, Research Collaborator U.S. National Museum Of Natural History, P.O. Box 45,  
Alamogordo, NM 88311-0045 U.S.A., e-Mail: Metzler@Msu.Edu

AND

JOHN W. BROWN

Systematic Entomology Laboratory, USDA, U.S. National Museum of Natural History, Washington, DC 20017-3012 U.S.A.,  
e-mail: tortricidae.jwb@gmail.com

**ABSTRACT.** We present an updated list of the members of the subtribe Cochyliina (Tortricidae) in North America north of Mexico. We summarize the proposed changes in the classification since the end of 1978. We propose revised status for two genera, *Rolandylis* Gibeaux, 1985 and *Thyraylia* Walsingham, 1897. We propose eleven revised combinations: *Saphenista parvimaculana* (Walsingham, 1879), unplaced Cochyliina *omphacitis* (Meyrick, 1912) [*Cochylis*], unplaced Cochyliina *voxcana* (Kearfott, 1907) [*Phalonia*], *Thyraylia bana* (Kearfott, 1907), *Thyraylia rhodites* (Meyrick, 1912), *Thyraylia bunteana* (Robinson, 1869), *Thyraylia discana* (Kearfott, 1907), *Thyraylia cricota* (Meyrick, 1912), *Thyraylia gunniana* (Busck, 1907), *Thyraylia hollandana* (Kearfott, 1907), and *Thyraylia nana* (Haworth, [1811]). We propose four revised combinations: *Rolandylis fusca* Pogue, 2001, *Rolandylis miana* (Kearfott, 1907), *Rolandylis catalonica* Gibeaux, 1985, *Rolandylis virilia* Pogue, 2001; and three new synonymies: *Aethes ziscana* Kearfott with *A. bomonana* (Kearfott), *Henricus edwardsiana* (Walsingham) with *H. contrastana* (Kearfott), and *Phtheochroa pecosana* (Kearfott, 1907) with *Phtheochroa cartwrightana* (Kearfott, 1907). The described fauna includes 20 genera and 137 species, yet it is likely that this region of North America includes two to three times that many species; at least six new genera are defined, but not yet formally described.

**Additional key words:** Cochyliidae, Cochylini, *Rolandylis*, *Saphenista*, *Thyraylia*, *Phtheochroa*, new synonymy, new combination

The most comprehensive, contemporary list of the North American members of the family “Cochylidae” was provided by Powell (1983) in his contribution to the Check list of the Lepidoptera of America North of Mexico (Hodges et al. 1983). In 1986, a PhD thesis completed by Michael Pogue at the University of Minnesota provided a thorough review of the classification of the North American fauna at the generic level, including manuscript descriptions of several new genera and many new combinations. The phylogenetic analysis portion of the thesis was published by Pogue and Mickevich (1990), but the descriptive and taxonomic portions were not. As a consequence, the nomenclatural changes and descriptions were not “formally” proposed, and the new names and actions remained unavailable. Brown (2005) compiled the first list of Cochylini worldwide, and his treatment of the North American fauna basically followed that developed by Pogue (1986). The new genera recognized by Pogue (1986) were identified as “Cochylini new genus 1,” “Cochylini new genus 2,” and so forth in order to provide a more meaningful taxonomic framework for the fauna, i.e., this action seemed a better alternative to leaving the associated species “unplaced.”

Taxonomic changes proposed by Razowski (2009, 2011), Metzler & Albu (2013), and others over the last decade resulted in the generic reassignments of many species. Many of the changes proposed by Pogue (1986) were formalized through various publications (e.g., Pogue 2001, Brown 2005), and new species were added to the faunal list through introduction (e.g., *Agapeta zoegana*) (Powell et al. 2000) or description of the native fauna (e.g., Metzler & Forbes 2012, Brown 2013, Metzler & Albu 2013). In a phylogenetic analysis of Tortricidae based entirely on molecular data, Regier et al. (2012) revealed that Cochylini are a monophyletic lineage embedded within the larger Euliini and should be treated as the subtribe Cochyliina until further evidence contradicts this proposed change in classification. Because so much information has accumulated since Powell (1983), we deem it advisable to recap the current list of species from North America and their generic assignments.

#### MATERIALS AND METHODS

Consistent with the Moths of North America (MONA) project, we treat the fauna of Canada, the United States, and Greenland. This geographical region

is ca. 99% congruent with the Nearctic ecozone. Notable differences are the southern tip of peninsular Florida, which is Neotropical, and most of central Mexico south to approximately 18° north latitude, which is considered Nearctic.

We examined the original descriptions and genital preparations of all species of Cochyliina that might be found within the study region. Whenever possible, we examined genitalia of types with the proviso that not all types are extant. If types are not available, we examined the genitalia of specimens overwhelmingly considered to be conspecific. In some cases, a judgment of generic assignment seemed to be a matter of convenience rather than based on scientific facts, thus a few species are considered unplaced pending more evidence. We know from experience that many species cannot be placed to genus without examination of the genitalia, thus our conservative approach is justified. While we recognize it is inconvenient to have species names without generic assignments, it would introduce imprecision to pretend we have information not available. Combinations without merit will not help settle the confusion in Cochyliina classification.

We examined the literature for species descriptions and revised generic assignments published subsequent to Brown (2005). We followed the most recently published combinations, although as more species are examined and described, the combinations are subject to change.

Most of the new genera recognized (but not formally described) by Pogue (1986) and subsequently used by Brown (2005) are retained for stability in the classification. We emphasize that the manuscript names in Pogue (1986) are not published, we do not publish them here, and they are not available. We use original orthography in the spelling of species names.

For ease of use, and because the phylogeny of Cochyliina is uncertain, the genera and synonyms are listed in alphabetical order, and the species and synonyms are listed in alphabetical order within each genus. We created an index to genus and species names. Detailed literature references to the original description, type locality, and disposition of type specimen(s) can be found in Brown (2005) and Gilligan et al. (2012). Not all misspellings from the literature are included here. Brown (2005) should be consulted for variations of species names found in much of the literature. We did not attempt to find all spellings previously used. Footnotes provide details for the placement of certain taxa subsequent to Pogue (1986) and indicate areas of ambiguity or disagreement that require further investigation.

## RESULTS

List of genera and associated species from North America north of Mexico and Greenland

Cochyliina Guenée, 1845 (sensu Regier et al. 2012)

**Aethes** Billberg, 1920

*Argyridia* Stephens, 1852

*Chlidonia* Hübner, [1825]

*Chrosis* Guenée, 1845

*Cirriaethes* Razowski, 1962, subgenus

*Coecaethes* Obraztsov, 1943, subgenus

*Dapsilia* Hübner, [1825]

*Loxopera* Walsingham, 1900 (emendation of *Lozopera*)

*Lozopera* Stephens, 1829

*Phalonia* Hübner, [1825]

*Phelonia*; Stephens, 1834 (misspelling of *Phalonia*)

**angulata** (Robinson, 1869)

**angustana** (Clemens, 1860)

*angustana*; (Powell, 1983) (misspelling of *angustana*)

*dorsimaculana* (Robinson, 1869) (unnecessary replacement name for *angustana*)

**argentilimitana** (Robinson, 1869)

*labeculana* (Robinson, 1869)<sup>1</sup>

**atomosana** (Busck, 1907)

**baloghi** Sabourin & Metzler, 2002

**biscana** (Kearfott, 1907)

*giscana* (Kearfott, 1907)

*ixeuta* (Meyrick, 1912)

(unnecessary replacement name for *biscana*)

**bomonana** (Kearfott, 1907)

*cyamitis* (Meyrick, 1912) (unnecessary replacement name for *bomonana*)

*cyanitis* Razowski, 2000 (misspelling of

*cyamitis*) *fabicola* (Meyrick, 1912) (unnecessary replacement name for *ziscana*)

*ziscana* (Kearfott, 1907), **new synonym**<sup>2</sup>

**deutschiana** (Zetterstedt, 1839)

*chalcana* (Packard, 1866)

*fuscotriana* Razowski, 1997 (misspelling of *fuscotrigana*)

*fuscotrigana* (Clemens, 1864)

*lutulentana* (Herrich-Schäffer, 1856)

*murciana* Caradja, 1916

**fernaldana** (Walsingham, 1879)

**floccosana** (Walker, 1863)

*confusana* (Robinson, 1869)

*flaccosana*; (Powell, 1983) (misspelling of *floccosana*)

**heleniana** Razowski, 1997

**intactana** (Walsingham, 1879)

**interruptofasciata** (Robinson, 1869)

- aureana* (Busck, 1907)  
*sublepidana* (Kearfott, 1907)  
**louisiana** (Busck, 1907)  
**matheri** Sabourin & Miller, 2002  
**matthewcruzi** Sabourin & Vargo, 2002  
**monera** Razowski, 1886 (nominal species is extra-limital)  
 ssp. *septentrionalis* Razowski, 1997 (described from Canada)  
**mymara** Razowski, 1997  
**obliquana** (Kearfott, 1907)  
*obliquana*; Razowski, 2000 (misspelling of *obliquana*)  
**patricia** Metzler, 2000  
**promptana** (Robinson, 1869)  
**rana** (Busck, 1907)  
*funesta* (Meyrick, 1912) (unnecessary replacement name for *rana*)  
**razowskii** Sabourin & Miller, 2002  
**rutilana** (Hübner, [1814]) (nominal species is extra-limital)  
 ssp. *canadiana* Razowski, 1997 (described from Canada)  
*interruptana* (Klemensiewicz, 1907)  
*purpurella* (Coquebert de Montbret, 1801) [nomen oblitum]  
*roridana* (Mann, 1867)  
 ssp. *tatricana* (Adamszewski, 1936) (extra-limital)  
**seriatana** (Zeller, 1875)  
**sexdentata** Sabourin & Miller, 2002  
**smeathmanniana** (Fabricius, 1781)  
*achromata* (Skala, 1936)  
*biviana* (Duponchel, 1842)  
*fabricana* Hübner, [1796]  
*obsoletella* (Dufrane, 1955)  
*scissana* (Walker, 1863)  
**sonorae** (Walsingham, 1884)  
**spartinana** (Barnes & McDunnough, 1916)  
**terriae** Sabourin & Miller, 2002  
**vachelliana** (Kearfott, 1907)  
**westratei** Sabourin & Miller, 2002
- Agapeta** Hübner, 1822  
*Aapeta* Anonymous, 1990 (misspelling of *Agapeta*)  
*Agapete* Hübner 1825 (misspelling of *Agapeta*)  
*Euxanthis* Hübner, [1825]  
*Apapeta* Razowski, 1977  
*Xanthosetia* Stephens, 1829  
*Xanthosetia* Stephens, 1829 (unnecessary redescription)  
**zoegana** (Linnaeus, 1767)  
*brunneocycla* Razowski, 1961  
*ferrugana* (Haworth, [1811])
- Cochylidia** Obratzsov, 1956  
**subroseana** (Haworth, [1811])  
*derosana* Razowski, 1960  
*flammeolana* (Tengström, 1848)  
*phaleratana* (Herrich-Schäffer, 1847) (uninominal)  
 ssp. *roseotineta* Razowski, 1960 (extra-limital)  
*rubroseana* (Stephens, 1829)
- Cochylis** Treitschke, 1829  
*Acornutia* Obratzsov, 1944  
*Brevicornutia* Razowski, 1960  
*Chochylis* Duponchel, 1836 (misspelling of *Cochylis*)  
*Cochylichroa* Obratzsov & Swatschek, 1958  
*Conchlis* Razowski, 2011 (misspelling of *Cochylis*)  
*Conchyli* Sodoffsky, 1837 (misspelling of *Cochylis*)  
*Longicornutia* Razowski, 1960  
*Neocochylis* Razowski, 1960 (described as a subgenus of *Cochylis*) (extra-limital)  
*Paracochylis* Razowski, 1960 (described as a subgenus of *Cochylis*) (extra-limital)  
*Pontoturania* Obratzsov, 1943  
**arthuri** Dang, 1984  
**aurorana** (Kearfott, 1907)<sup>3</sup>  
**avita** Razowski, 1997  
**bucera** Razowski, 1997  
**carmelana** (Kearfott, 1907)  
*obispoana* (Kearfott, 1907)  
**caulocatax** Razowski, 1984  
**dormitoria** Razowski, 1997  
**dubitana** (Hübner, 1796)  
*ambiguana* (Frölich, 1828)  
*baseirufana* (Bruand, 1850)  
**formonana** (Kearfott, 1907)<sup>4</sup>  
*myrinitis* (Meyrick, 1912) (unnecessary replacement name for *formonana*)  
**hoffmanana** (Kearfott, 1907)<sup>3</sup>  
*baryzela* (Meyrick, 1912) (unnecessary replacement name for *toxcana*)  
*hofmanana* Razowski, 1997 (misspelling of *hoffmanana*)  
*magnaedoeagana* Gibeaux, 1985<sup>5</sup>  
*marloffiana* (Busck, 1907)  
*nonlavana* (Kearfott, 1907)  
*telifera* (Meyrick, 1912) (unnecessary replacement name for *zoxcana*)  
*toxcana* (Kearfott, 1907)  
*zoxcana* (Kearfott, 1907)  
**hospes** (Walsingham, 1884)<sup>3</sup>  
**parallelana** (Walsingham, 1879)  
*paralellana* (Razowski, 1964) (misspelling of *parallelana*)  
**ringsi** Metzler, 2000<sup>7</sup>

**temerana** (Busck, 1907)<sup>3</sup>  
*cincinnatana* (Kearfott, 1907)  
**transversana** (Walsingham, 1879)<sup>8</sup>  
**viscana** (Kearfott, 1907)<sup>3</sup>  
*peganitis* (Meyrick, 1912) (unnecessary  
replacement name for *viscana*)  
**yinyangana** Metzler, 2012

**Eugnosta** Hübner, [1825]<sup>9</sup>

*Argyrolepis* Stephens, 1829  
*Carolella* Busck, 1939<sup>10</sup>  
*Pharmacis* Hübner, 1823  
*Safra* Walker, 1863  
**argyroplaca** (Meyrick, 1931)  
**beevorana** (Comstock, 1940)  
**bimaculana** (Robinson, 1869)<sup>11</sup>  
**brownana** Metzler & Forbes, 2012  
**busckana** (Comstock, 1939)  
**deceptana** (Busck, 1907)  
**erigeronana** (Riley, 1881)  
**mexicana** (Busck, 1907)  
**sartana** (Hübner, 1823)<sup>11</sup>  
**willetana** (Comstock, 1939)

**Eupinivora** Brown, 2013

**ponderosae** Brown, 2013

**Gynnidomorpha** Turner, 1916

*Pierca* Razowski, 1977 (misspelling of *Piercea*)  
*Piercea* Filipjev, 1940  
**romonana** (Kearfott, 1908)<sup>12</sup>  
*officiosa* (Meyrick, 1912) (unnecessary  
replacement name for *romonana*)

**Henricus** Busck, 1943

*Heinrichia* Busck, 1939  
*Irazona* Razowski, 1964<sup>13</sup>  
**cognata** (Walsingham, 1914)  
**comes** (Walsingham, 1884)  
**contrastana** (Kearfott, 1907)  
*edwardsiana* (Walsingham, 1884), **new  
synonym**<sup>4, 14</sup>  
**fuscodorsana** (Kearfott, 1904)  
**infernalis** (Heinrich, 1920)  
*brevipalpata* McDunnough, 1944  
**macrocarpana** (Walsingham, 1895)  
**umbrabasana** (Kearfott, 1908)

**Lorita** Busck, 1939

**baccharivora** Pogue, 1988  
**scarificata** (Meyrick, 1917)  
*abornana* Busck, 1939

**Phalonidia** Le Marchand, 1933

*Brevisociaria* Obraztsov, 1943  
*Platphalonidia* Razowski, 1985  
**basiochreana** (Kearfott, 1907)<sup>4</sup>  
**elderana** (Kearfott, 1907)<sup>4</sup>  
*helonoma* (Meyrick, 1912) (unnecessary  
replacement name for *elderana*)  
**felix** (Walsingham, 1895)<sup>15</sup>  
**latipunctana** (Walsingham, 1879)<sup>16</sup>  
**lepidana** (Clemens, 1860)<sup>16</sup>  
*plummeriana* (Busck, 1907)<sup>16</sup>  
*schwarziana* (Busck, 1907)<sup>16</sup>  
*zaracana* (Kearfott, 1907)<sup>16</sup>  
**memoranda** Razowski, 1997  
**ontariana** Razowski, 1997  
**straminoides** (Grote, 1873), **revised status**<sup>16, 17</sup>

**Phtheochroa** Stephens, 1829

*Arce* Joannis, 1919  
*Durrantia* Razowski, 1960 (described as a subgenus of  
*Hysterosia*) (extra-limital)  
*Hysterosia* Stephens, 1852  
*Idiographis* Lederer, 1859  
*Parahysterosia* Razowski, 1960 (described as a subgenus  
of *Hysterosia*) (extra-limital)  
*Phtheochroa* Caradja, 1926 (misspelling of *Phtheochroa*)  
*Phtheochroa* Razowski, 1964 (misspelling of *Phtheochroa*)  
*Propira* Durrant, 1914  
*Trachysmia* Guenée, 1845  
**aegrana** (Walsingham, 1879)  
**aureoalbida** (Walsingham, 1895)  
**baracana** (Busck, 1907)  
*tiscana* (Kearfott, 1907)  
*vigilans* (Meyrick, 1912)  
(unnecessary replacement name for *tiscana*)  
**birdana** (Busck, 1907)  
**canariana** (Barnes & Busck, 1920)  
**cartwrightana** (Kearfott, 1907)  
*pecosana* Kearfott, 1907, **new synonym**<sup>18</sup>  
**fulvuplicana** (Walsingham, 1879)  
*fermentana* (Meyrick, 1912) (unnecessary  
replacement name for *komonana*)  
*homanana* (Kearfott, 1907)  
*komonana* (Kearfott, 1907)  
*refuga* (Meyrick, 1912) (unnecessary  
replacement name for *homanana*)  
**huachucana** (Kearfott, 1907)  
**modestana** (Busck, 1907)  
**perspicuana** (Barnes & Busck, 1920)  
**riscana** (Kearfott, 1907)  
*vincta* (Meyrick, 1912) (unnecessary  
replacement name for *riscana*)

- terminana** (Busck, 1907)  
*merrickana* (Kearfott, 1907)  
**villana** (Busck, 1907)  
**vitellinana** (Zeller, 1875)  
**vulneratana** (Zetterstedt, 1839)  
*exsulana* (Lederer, 1855)  
*meinki* (Amsel, 1932)  
*niponica* (Kawabe, 1982) (misspelling of *nipponica*)  
 ssp. *nipponica* (Matsumura, 1931) (extra-limital)  
**waracana** (Kearfott, 1907)  
*dicax* (Meyrick, 1912) (unnecessary replacement name for *waracana*)
- Platphalonia** Razowski, 2011  
**albertae** (Razowski, 1997)<sup>19</sup>  
**campicolana** (Walsingham, 1879)<sup>16, 19</sup>  
**dangi** (Razowski, 1997)<sup>19</sup>  
**lavana** (Busck, 1907)<sup>16, 19</sup>  
**magdalenae** Metzler & Albu, 2013  
**plicana** (Walsingham 1884)<sup>16, 19</sup>
- Rolandylis** Gibeaux, 1985, **revised combination**<sup>20</sup>  
 “Clothoa” (unavailable name)<sup>21</sup>  
**fusca** Pogue, 2001, **revised combination**<sup>22</sup>  
**maiana** (Kearfott, 1907), **revised combination**<sup>22</sup>  
*catalonica* Gibeaux, 1985, **revised combination**<sup>5, 22</sup>  
**virilia** Pogue, 2001, **revised combination**<sup>22</sup>
- Rudenia** Razowski, 1985  
**leguminana** (Busck, 1907)
- Saphenista** Walsingham, 1914  
**nomonana** (Kearfott, 1907)  
*voluntaria* (Meyrick, 1912) (unnecessary replacement name for *nomonana*)  
**parvimaculana** (Walsingham, 1879),  
**new combination**<sup>23</sup>  
**saxicolana** (Walsingham, 1879)
- Spinipogon** Razowski, 1967  
**resthavenensis** Metzler & Sabourin, 2002  
**thes** Razowski & Becker, 1983
- Thyralia** Walsingham, 1897 **revised status**<sup>24</sup>  
*Thyralia* Walsingham 1914 (misspelling of *Thyralia*)  
**bana** (Kearfott, 1907), **new combination**  
*rhodites* (Meyrick, 1912) (unnecessary replacement name for *bana*)
- bunteana** (Robinson, 1869), **new combination**  
**discana** (Kearfott, 1907), **new combination**  
*cricata* (Meyrick, 1912) (unnecessary replacement name for *discana*)  
**gunniana** (Busck, 1907), **new combination**  
**hollandana** (Kearfott, 1907), **new combination**  
**nana** (Haworth, [1811]) **new combination**<sup>29</sup>  
*albidana* (Walker, 1866)<sup>6</sup>  
*altocorsicana* (Petty, 1904)  
*carneana* (Guenée, 1845)  
*cruentana* (Guenée, 1845)  
*ochreoalbana* (Walker, 1863)  
*pallidana* (Herrich-Schäffer, 1847) (uninomial) (nomen nudum)  
*pallidana* (Herrich-Schäffer, 1851)  
*pumillana* (Herrich-Schäffer, 1847) (uninomial) (nomen nudum)  
*winniana* (Kearfott, 1905)
- Cochylini new genus <sup>1</sup> - “Atroposia” (unavailable name)<sup>21</sup>  
**oenotherana** (Riley, 1881)
- Cochylini new genus <sup>2</sup> - “Cagiva” (unavailable name)<sup>21</sup>  
**cephalanthana** (Heinrich, 1921)
- Cochylini new genus <sup>3</sup> - “Cybilla” (unavailable name)<sup>21</sup>  
**hubbardana** (Busck, 1907)
- Cochylini new genus <sup>4</sup> - “Honca” (unavailable name)<sup>21</sup>  
**grandis** (Busck, 1907)
- Cochylini new genus <sup>5</sup> - “Nycthia” (unavailable name)<sup>21</sup>  
**pimana** (Busck, 1907)  
**yuccatana** (Busck, 1907)
- Cochylini new genus <sup>6</sup> - “Poterioparvus” (unavailable name)<sup>21</sup>  
**wiscana** (Kearfott, 1907)  
*acropeda* (Meyrick, 1912) (unnecessary replacement name for *wiscana*)
- Cochylina unplaced<sup>25</sup>  
**baboquivariana** Kearfott, 1907 [Tortrix]  
**dilutana** Walsingham, 1879 [Cochylis]  
**foxcana** Kearfott, 1907 [Phalonia]  
*liquida* Meyrick, 1912 [Phalonia] (unnecessary replacement name for *foxcana*)  
**fulvotinctana** Walsingham, 1884 [Conchylis]  
**glaucofuscana** Zeller, 1875 [Conchylis]  
**imitabilis** Razowski, 1997 [Platphalonidia]<sup>126</sup>  
**punctadiscana** Kearfott, 1908 [Phalonia]<sup>27</sup>  
**voxcana** Kearfott, 1907 [Phalonia]<sup>28</sup>

**Alphabetical list of species, their synonyms,  
and their associated genera from North America  
north of Mexico.**

- Aapeta* (misspelling of *Agapeta*)  
*abornana*, *Lorita*  
*achromata*, *Aethes*  
*Acornutia* (synonym of *Cochylis*)  
*acropeda*, *Cochylina* new genus <sup>6</sup> ("*Poterioparvus*")  
*aegrana*, *Phtheochroa*  
*Aethes*  
*Agapeta*  
*Agapete* (misspelling of *Agapeta*)  
*albertae*, *Platphalonia*  
*albidana*, *Cochylis*  
*altocorsicana*, *Cochylis*  
*ambiguana*, *Cochylis*  
*angulatana*, *Aethes*  
*angustana*, *Aethes*  
*Apapeta*  
*Arce* (synonym of *Phtheochroa*)  
*argentilimitana*, *Aethes*  
*Argyridia* (synonym of *Aethes*)  
*Argyrolepia* (synonym of *Eugnosta*)  
*argyroplaca*, *Eugnosta*  
*arthuri*, *Cochylis*  
*atomosana*, *Aethes*  
"*Atroposia*" (*Cochylina* new genus 1) (unavailable name)  
*augustana*, *Aethes*  
*aureana*, *Aethes*  
*aureoalbida*, *Phtheochroa*  
*aurorana*, *Cochylis*  
*avita*, *Cochylis*  
*baboquivariana*, *Cochylina* unplaced  
*baccharivora*, *Lorita*  
*baloghi*, *Aethes*  
*bana*, *Thyraylia*  
*baracana*, *Phtheochroa*  
*baryzela*, *Cochylis*  
*baseirufana*, *Cochylis*  
*basiochreana*, *Phalonia*  
*beevorana*, *Eugnosta*  
*bimaculana*, *Eugnosta*  
*birdana*, *Phtheochroa*  
*biscana*, *Aethes*  
*biviana*, *Aethes*  
*bomonana*, *Aethes*  
*Brevicornutia* (synonym of *Cochylis*)  
*brevipalpata*, *Henricus*  
*Brevisociaria* (synonym of *Phalonia*)  
*brownana*, *Eugnosta*  
*brunneocycla*, *Agapeta*  
*bucera*, *Cochylis*  
*bunteana*, *Thyraylia*  
*busckana*, *Eugnosta*  
"*Cagiva*" (*Cochylina* new genus 2) (unavailable name)  
*campicolana*, *Platphalonia*  
*canadiana*, *Aethes*  
*canariana*, *Phtheochroa*  
*carmelana*, *Cochylis*  
*carneana*, *Cochylis*  
*Carolella* (synonym of *Eugnosta*)  
*cartwrightana*, *Phtheochroa*  
*catalonica*, *Rolandylis*  
*caulocatax*, *Cochylis*  
*cephalanthana*, *Cochylina* new genus 2 ("*Cagiva*")  
*chalcana*, *Aethes*  
*Chlidonia* (synonym of *Aethes*)  
*Chochylis* (misspelling of *Cochylis*)  
*Chrosis* (synonym of *Aethes*)  
*cinnatana*, *Phalonia*  
*Cirriaethes* (synonym of *Aethes*)  
"*Clotho*" (synonym of *Rolandylis*)  
*Cochylchroa* (synonym of *Cochylis*)  
*Cochylidia*  
*Cochylina* unplaced  
*Cochylis*  
*Coecaethes* (synonym of *Aethes*)  
*cognata*, *Henricus*  
*comes*, *Henricus*  
*Conchlis* (misspelling of *Cochylis*)  
*Conchylis* (misspelling of *Cochylis*)  
*Conchylis* (misspelling of *Cochylis*)  
*confusana*, *Aethes*  
*contrastana*, *Henricus*  
*cricota*, *Thyraylia*  
*cruentana*, *Cochylis*  
*cyamitis*, *Aethes*  
*cyanitis*, *Aethes*  
"*Cybill*" (*Cochylina* new genus 3) (unavailable name)  
*dangi*, *Platphalonia*  
*Dapsilia* (synonym of *Aethes*)  
*deceptana*, *Eugnosta*  
*derosana*, *Cochylidia*  
*deutschiana*, *Aethes*  
*dicax*, *Phtheochroa*  
*dilutana*, *Cochylina* unplaced  
*discana*, *Thyraylia*  
*dormitoria*, *Cochylis*  
*dorsimaculana*, *Aethes*  
*dubitana*, *Cochylis*  
*Durrantia* (synonym of *Phtheochroa*)  
*edwardsiana*, *Henricus*  
*elderana*, *Phalonia*  
*erigeronana*, *Eugnosta*  
*Eugnosta*  
*Eupinivora*  
*Euxanthis* (synonym of *Agapeta*)  
*exsulana*, *Phtheochroa*  
*fabicola*, *Aethes*  
*fabricana*, *Aethes*  
*felix*, *Phalonia*  
*fermentata*, *Phtheochroa*  
*fernaldana*, *Aethes*  
*ferrugana*, *Agapeta*  
*flaccosana*, *Aethes*  
*flammeolana*, *Cochylidia*  
*floccosana*, *Aethes*  
*formonana*, *Cochylis*  
*foxcana*, *Cochylina* unplaced  
*fulviplicana*, *Phtheochroa*  
*fulvotinctana*, *Cochylina* unplaced  
*funesta*, *Aethes*  
*fusca*, *Rolandylis*  
*fuscodorsana*, *Henricus*  
*fuscostriana*, *Aethes*

- fuscostrigana*, *Aethes*  
*giscana*, *Aethes*  
*glaucofuscana*, *Cochylina* unplaced  
*grandis*, *Cochylina* new genus 4 ("Honca")  
*gunniana*, *Thyraylia*  
*Gynnidomorpha*  
*Heinrichia* (synonym of *Henricus*)  
*heleniana*, *Aethes*  
*helonoma*, *Phalonidia*  
*Henricus*  
*hoffmanana*, *Cochylis*  
*hofmanana*, *Cochylis*  
*hollandana*, *Thyraylia*  
*homanana*, *Phtheochroa*  
 "Honca" (*Cochylina* new genus 4) (unavailable name)  
*hospes*, *Cochylis*  
*huachucana*, *Phtheochroa*  
*hubbardana*, *Cochylina* new genus 3 ("Cybilla")  
*Hysterosia* (synonym of *Phtheochroa*)  
*Idiographis* (synonym of *Phtheochroa*)  
*imitabilis*, *Cochylina* unplaced  
*infernalis*, *Henricus*  
*intactana*, *Aethes*  
*interruptana*, *Aethes*  
*interruptofasciata*, *Aethes*  
*Irazona* (synonym of *Henricus*)  
*ixeuta*, *Aethes*  
*komonana*, *Phtheochroa*  
*labeculana*, *Aethes*  
*latipunctana*, *Phalonidia*  
*lavana*, *Platphalonia*  
*leguminana*, *Rudenia*  
*lepidana*, *Phalonidia*  
*liquida*, *Cochylina* unplaced  
*Longicornutia* (synonym of *Cochylis*)  
*Lorita*  
*louisiana*, *Aethes*  
*Loxopera* (synonym of *Aethes*)  
*Lozopera* (synonym of *Aethes*)  
*lutulentana*, *Aethes*  
*macrocarpana*, *Henricus*  
*magdalenae*, *Platphalonia*  
*magnaedoeagana*, *Cochylis*  
*maiana*, *Rolandylis*  
*marloffiana*, *Cochylis*  
*matheri*, *Aethes*  
*matthewcruzi*, *Aethes*  
*meincki*, *Phtheochroa*  
*memoranda*, *Phalonidia*  
*merrickana*, *Phtheochroa*  
*mexicana*, *Eugnosta*  
*modestana*, *Phtheochroa*  
*monera*, *Aethes*  
*murciana*, *Aethes*  
*mymara*, *Aethes*  
*myrinitis*, *Cochylis*  
*nana*, *Thyraylia*  
*Neocochylis* (synonym of *Cochylis*)  
*niponica*, *Phtheochroa*  
*nipponica*, *Phtheochroa*  
*nomonana*, *Saphenista*  
*nonlavana*, *Cochylis*  
 "Nycthia" (*Cochylina* new genus 5)
- obispoana*, *Cochylis*  
*obliquana*, *Aethes*  
*obliquana*, *Aethes*  
*obsoletella*, *Aethes*  
*ochreoalbana*, *Cochylis*  
*oenotherana*, *Cochylina* new genus 1 ("Atroposia")  
*officiosa*, *Gynnidomorpha*  
*omphacitis*, *Cochylina* unplaced  
*ontariana*, *Phalonidia*  
*pallidana*, *Cochylis*  
*Paracochylis* (synonym of *Cochylis*)  
*Parahysterosia* (synonym of *Phtheochroa*)  
*parallellana*, *Cochylis*  
*parallelana*, *Cochylis*  
*parvimaculana*, *Saphenista*  
*patricia*, *Aethes*  
*pecosana*, *Phtheochroa*  
*peganitis*, *Cochylis*  
*perspicuana*, *Phtheochroa*  
*phaleratana*, *Cochylidia*  
*Phalonia* (synonym of *Aethes*)  
*Phalonidia*  
*Pharmacis* (synonym of *Eugnosta*)  
*Phelonia* (synonym of *Aethes*)  
*Phtheochroa* (misspelling of *Phtheochroa*)  
*Phtheochroa*  
*Pierca* (synonym of *Gynnidomorpha*)  
*Pierca* (synonym of *Gynnidomorpha*)  
*pimana*, *Cochylina* new genus 5 ("Nycthia")  
*Platphalonia*  
*Platphalonidia* (synonym of *Phalonidia*)  
*plicana*, *Platphalonia*  
*plummeriana*, *Phalonidia*  
*ponderosae*, *Eupinivora*  
*Pontoturamia* (synonym of *Cochylis*)  
 "Poterioparvus" (*Cochylina* new genus 6) (unavailable name)  
*promptana*, *Aethes*  
*Propira* (synonym of *Phtheochroa*)  
*Ptheochroa* (misspelling of *Phtheochroa*)  
*pumillana*, *Cochylis*  
*punctadiscana*, *Cochylina* unplaced  
*purpurella*, *Aethes*  
*rana*, *Aethes*  
*razowskii*, *Aethes*  
*refuga*, *Phtheochroa*  
*resthavenensis*, *Spinipogon*  
*rhodites*, *Thyraylia*  
*ringsi*, *Cochylis*  
*riscana*, *Phtheochroa*  
*Rolandylis*  
*romonana*, *Gynnidomorpha*  
*roridana*, *Aethes*  
*roseotincta*, *Cochylidia*  
*rubroseana*, *Cochylidia*  
*Rudenia*  
*rutilana*, *Aethes*  
*Safra* (synonym of *Eugnosta*)  
*Saphenista*  
*sartana*, *Eugnosta*  
*saxicolana*, *Saphenista*  
*scarificata*, *Lorita*  
*schwarziana*, *Phalonidia*



*scissana*, *Aethes*  
*septentrionalis*, *Aethes*  
*seriatana*, *Aethes*  
*sexdentata*, *Aethes*  
*smeathmanniana*, *Aethes*  
*sonorae*, *Aethes*  
*spartinana*, *Aethes*  
*Spinipogon*  
*straminoides*, *Phalonidia*  
*sublepidana*, *Aethes*  
*subroseana*, *Cochylidia*  
*tatricana*, *Aethes*  
*telifera*, *Cochylis*  
*temerana*, *Cochylis*  
*terminana*, *Phtheochroa*  
*terriae*, *Aethes*  
*thes*, *Spinipogon*  
*Thyralia* (misspelling of *Thyralia*)  
*Thyralia*  
*tiscana*, *Phtheochroa*  
*toxcana*, *Cochylis*  
*Trachybyris* (synonym of *Eugnosta*)  
*Trachybyris* (synonym of *Eugnosta*)  
*Trachysmia* (synonym of *Phtheochroa*)  
*transversana*, *Cochylis*  
*umbrabasana*, *Henricus*  
*vachelliana*, *Aethes*  
*vigilans*, *Phtheochroa*  
*villana*, *Phtheochroa*  
*vincta*, *Phtheochroa*  
*virilia*, *Rolandylis*  
*viscana*, *Cochylis*  
*vitellinana*, *Phtheochroa*  
*voluntaria*, *Saphenista*  
*voxcana*, *Cochylina* unplaced  
*vulneratana*, *Phtheochroa*  
*waracana*, *Phtheochroa*  
*westratei*, *Aethes*  
*willettana*, *Eugnosta*  
*winniana*, *Cochylis*  
*wiscana*, *Cochylina* new genus 6 ("Poterioparvus")  
*Xanthosetia* (synonym of *Agapeta*)  
*yuccatana*, *Cochylina* new genus 5 ("Nycthia")  
*zaracana*, *Phalonidia*  
*ziscana*, *Aethes*  
*zoegana*, *Agapeta*  
*zoxcana*, *Cochylis*

#### DISCUSSION

The taxonomy of the subtribe *Cochylina* is poorly known. Although the number of described species worldwide increases every year, mostly as a result of the efforts of Józef Razowski, Polish Academy of Sciences, Krakow and his co-authors, the number of described species from North America has not increased dramatically since Powell (1983).

Michael G. Pogue (pers. comm.) repeated anecdotal information provided by J. F. G. Clarke that approximately 2/3 of the species from North America are undescribed, suggesting that the North American

fauna may include more than 300 species. Identifying specimens of *Cochylina* is problematic because of the number of undescribed species, lack of diagnostic illustrations, and a list of current names.

The frustration of not knowing the identity of an individual specimen of a "Cochylina" in the sea of named and unnamed species is an unresolved issue. Jason Dombroskie (pers. comm.), who is a consultant for Bug Guide (2013), finds that users are not satisfied if they do not receive a specific identification based on photographs of specimens that are neither spread nor dissected. Many species of *Cochylina* cannot be placed to genus without examination of the genitalia (Brown 2006). Identification is no less complicated because many species of *Cochylina*, even within a single genus, e.g., *Aethes* Billberg, 1820, often have forewing patterns that are incongruous. Many species' descriptions do not include illustrations of adults.

Photographs on Moth Photographers Group (2013) are useful for guidance on the habitus of many species. Genitalic illustrations of the types for many species are lacking. Information about descriptions, with references to literature, subsequent to Brown (2005), along with illustrations of type specimens is available at Gilligan et al. (2013). We caution that without examination aided by microscopy, many species simply cannot be identified.

#### ACKNOWLEDGMENTS

We thank Jerry Powell for offering insights into preparation of the *Cochylidae* section of the Hodges (1983) Check List. We especially appreciate the tolerance of our spouses and colleagues during our emotional outbreaks while attempting to identify the bewildering number of undescribed and cryptic species in this group of moths. We thank the following for useful comments on the manuscript; Michael Sabourin, Joaquin Baixeras, and one anonymous reviewer.

#### LITERATURE CITED

- AARVIK, L. 2010. Review of East African *Cochylini* (Lepidoptera, Tortricidae) with description of new species. *Norweg. J. Entomol.* 57: 81–108.
- BROWN, J. W. 2005. *World Catalogue of Insects, Volume 5: Tortricidae* (Lepidoptera). Apollo Books, Stenstrup, Denmark. 741 pp.
- . 2006. A new species of *Cochylis* (Lepidoptera: Tortricidae: *Cochylini*) from Argentina: a potential biocontrol agent against pompom weed (Asteraceae). *Proc. Entomol. Soc. Wash.* 108: 899–904.
- . 2013. A new genus of pine-feeding *Cochylina* from the western United States and northern Mexico (Lepidoptera: Tortricidae: Euliini). *Zootaxa* 3640: 270–283.
- BUG GUIDE. 2013. Bug Guide, Identification, Images, & Information for Insects, Spiders & their Kin for the United States & Canada. Available at <http://bugguide.net/node/view/15740> (Accessed 7 May 2013).
- GILLIGAN, T. M., J. BAIXERAS, J. W. BROWN & K. R. TUCK. 2012. T@RTS: Online World Catalogue of the Tortricidae (Ver. 2.0). <http://www.tortricid.net/catalogue.asp> (accessed 2 Sept 2014).
- HODGES, R. W., T. DOMINICK, D. R. DAVIS, D. C. FERGUSON, J. G. FRANCMONT, E. MUNROE & J. A. POWELL. 1983. Check List of

- the Lepidoptera of American North of Mexico. E. W. Classey Ltd. and the Wedge Entomological Research Foundation. London, England. 284 pp.
- METZLER, E. H. & V. ALBU. 2013. The description of *Platphalonia magdalenae* (Tortricidae, Tortricinae, Euliini, Cochyliina) found nectaring diurnally on *Centromadia pungens* (Asteraceae) in the Central Valley of California along with a list of species of *Platphalonia*. J. Lepid. Soc. 67: 156-160.
- METZLER, E. H. & G. S. FORBES. 2012. The Lepidoptera of White Sands National Monument 5: Two new species of Cochyliini (Lepidoptera, Tortricidae, Tortricinae). Zootaxa 3444: 51-60.
- MOTH PHOTOGRAPHERS' GROUP. 2013. North American Moth Photographers' Group. Available at <http://mothphotographersgroup.msstate.edu/MainMenu.shtml> (Accessed 2 Sept. 2014)
- POGUE, M. G. 1986. A generic revision of the Cochyliidae (Lepidoptera) of North America. Ph.D. thesis, University of Minnesota, St. Paul, Minnesota, 280 pp.
- . 2001. Revised status of *Rolandylis* Gibeaux (Lepidoptera: Tortricidae: Cochyliini), with descriptions of two new species from North America. Proc. Entomol. Soc. Wash. 103: 788-796.
- POGUE, M. G. & M. F. MICEVITCH. 1990. Character definitions and character state delineation: the bete noire of phylogenetic inference. Cladistics 6: 319-361.
- POWELL, G. W., B. M. WIKKEEM & A. STURKO. 2000. Biology of *Agapeta zoeana* (Lepidoptera: Cochyliidae), propagated for the biological control of knapweeds (Asteraceae). Can. Entomol. 132: 223-230.
- POWELL, J. A. 1983. Tortricoidea, pp. 31-42. In R. W. Hodges et al., ed., Check list of the Lepidoptera of America north of Mexico. E. W. Classey, Ltd., and Wedge Entomological Research Foundation, London, England.
- RAZOWSKI, J. 1985. On the generic groups *Saphenista* and *Cochylis*. Nota Lepid. 8: 55-60.
- . 1997. Cochyliini (Lepidoptera: Tortricidae) of Canada. Acta Zoologica Cracoviensia 40: 107-163.
- . 2002. Tortricidae of Europe Volume 1 Tortricinae and Chlidanotinae. Frantisek Slamka, Bratislava, Slovakia. 247 pp.
- . 2009. Tortricidae of the Palearctic Region, Volume 2. Cochyliini. Frantisek Slamka, Bratislava, Slovakia. 195 pp.
- . 2011. Diagnoses and remarks on genera of Tortricidae, 2: Cochyliini (Lepidoptera: Tortricidae). SHILAP Revista de Lepidopterologia. 39: 397-414.
- REGIER, J. C., J. W. BROWN, C. MITTER, J. BAIXERAS, S. CHO, M. P. CUMMINGS, & A. ZWICK. 2012. A molecular phylogeny for the leaf-roller noths (Lepidoptera: Tortricidae) and its implications for classification and life history evolution. PLoS ONE 7: e35574.
- SABOURIN, M., W. E. MILLER, E. H. METZLER, & J. T. VARGO. 2002. Revised identities and new species of *Aethes* from Midwestern North America (Tortricidae). J. Lepid. Soc. 56: 216-233.
- <sup>11</sup> This species was placed in *Carolella* by Pogue (1986) and Brown (2005). The combination listed here was created by Razowski (2009).
- <sup>12</sup> *Gynnidomorpha romonana* was listed in *Saphenista* by Pogue (1986).
- <sup>13</sup> *Irazona* was treated as a separate genus by Pogue (1986) and synonymized with *Henricus* by Razowski (1997).
- <sup>14</sup> *Henricus edwardsiana* is synonymized with *H. contrastana* based on examination of the types of both species.
- <sup>15</sup> *Phalonia felix* was placed in *Saphenista* by Pogue (1986), it was placed in *Platphalonia* by Razowski (1985) and Brown (2005), and it was placed in *Phalonia* by Razowski (2011).
- <sup>16</sup> These species were listed in *Saphenista* by Pogue (1986).
- <sup>17</sup> The relationship between *lepidana*, *plummeriana*, *schwarziana*, *straminoides*, and *zaracana* was variously presented (Pogue 1986, Razowski 1997, Brown 2005). We examined photographs of the types of *lepidana*, *plummeriana*, *schwarziana*, *straminoides*, and *zaracana*. We propose that *straminoides* is not conspecific with the others.
- <sup>18</sup> Pogue (1986) listed *Phtheochroa pecosana* as a synonym of *P. cartwrightana*. Razowski (1997) did not include *pecosana* in the synonymy of *cartwrightana*. Brown (2005) listed *cartwrightana* and *pecosana* as separate species. We validate the synonymy proposed by Pogue (1986).
- <sup>19</sup> These species were listed in *Platphalonia* by Brown (2005). When Razowski (2011) transferred *P. felix*, the type species of *Platphalonia*, to *Phalonia* the action resulted in the synonymy of *Platphalonia* with *Phalonia*. However, all other species of *Platphalonia* were left without a generic assignment. Metzler & Albu (2013) transferred some of the unplaced species to *Platphalonia*. More analysis is needed.
- <sup>20</sup> *Rolandylis* was synonymized with *Cochylis* by Razowski (2009), and restated (2011). We consider *Rolandylis* to be a separate genus.
- <sup>21</sup> These genera were proposed by Pogue (1986) in his unpublished Ph.D. thesis and used without descriptions or designation of type species in a phylogenetic analysis by Pogue & Micevitch (1990). We retain the names here for the sake of continuity and clarity, but we do not publish the names here.
- <sup>22</sup> These species were listed in *Rolandylis* by Brown (2005).
- <sup>23</sup> *Saphenista parvimaculana* was listed in *Platphalonia* by Brown (2005). When Razowski (2011) transferred *P. felix*, the type species of *Platphalonia*, to *Phalonia* the action resulted in the synonymy of *Platphalonia* with *Phalonia*. However, all other species of *Platphalonia* were left without a generic assignment. We follow Pogue (1986), and we place *P. parvimaculana* in *Saphenista*. More analysis is needed.
- <sup>24</sup> *Thyralia* was listed as a synonym of *Cochylis* by Razowski (1997, 2009, 2011). However, Pogue (1986) and Brown (2005) both listed *Thyralia* as a separate genus. We follow the latter concept.
- <sup>25</sup> *Clepsia listerana*, listed as "*incertae sedis*" in Pogue (1986), is in the tribe Archipini (Tortricidae).
- <sup>26</sup> *Platphalonia imitabilis* was listed in *Platphalonia* by Brown (2005). When Razowski (2011) transferred *felix*, the type species of *Platphalonia*, to *Phalonia* the action resulted in the synonymy of *Platphalonia* with *Phalonia*. However, all other species of *Platphalonia* were left without a generic assignment. We propose that more study is needed before *P. imitabilis* can be placed in a genus.
- <sup>27</sup> *Phalonia punctadiscana* was listed in "Recavícula" (unavailable name) in Pogue (1986). It was listed in "Cochyliini Unplaced Species" by Brown (2005).
- <sup>28</sup> *Phalonia voxcana* was listed as a synonym of *Thyralia hollandana* by Pogue (1986), placed in *Cochylis* in Razowski (1997) and Brown (2005). The genitalia illustrated by Razowski (1997) are congeneric with *Thyralia*. Our examination of the wings of the types of *hollandana* and *voxcana* indicate they are not conspecific.
- <sup>29</sup> This species was listed in *Thyralia* by Pogue (1986), and it was listed in *Cochylis* by Razowski (1997) and Brown (2005). Our examination of the male genitalia shows that it should be listed in *Thyralia*.

## END NOTES

<sup>1</sup> *Aethes labeculana* was listed as a separate species by Pogue (1986); it was synonymized with *A. argentilimitana* by Sabourin et al. (2002).

<sup>2</sup> The synonymy of *Aethes ziscana* with *A. bomonana* is based on examination of photographs of the types and male genitalia of both species.

<sup>3</sup> These species were placed in "Recavícula" by Pogue (1986).

<sup>4</sup> These species were listed as "incertae sedis" by Pogue (1986).

<sup>5</sup> This name is supposedly based on a mislabeled specimen (Razowski, 2002).

<sup>6</sup> *Cochylis albidana* was listed as a synonym of *Cochylis dubitana* by Pogue (1986).

<sup>7</sup> The date was incorrectly listed as 1999 by Brown (2005).

<sup>8</sup> *Cochylis transversana* was placed in *Saphenista* by Pogue (1986).

<sup>9</sup> *Trachybyrsis* Meyrick, 1927 was listed as a separate genus by Brown (2005) and Aarvik (2010). It was listed as a synonym of *Eugnosta* by Razowski (2011). Because species of *Trachybyrsis* occur in Africa rather than in our faunal region, we make no further comments.

<sup>10</sup> *Carolella* was synonymized with *Eugnosta* by Razowski (2009).

Submitted for publication 29 August 2013; revised and accepted 2 September 2014.