TORTS Newsletter of the Troop of Reputed Tortricid Systematists ISSN 1945-807X (print) ISSN 1945-8088 (online)

Volume 15

20 June 2014

Issue 2

FORCEPS DELIVERY

On the 10th of July this year I shall be passing on my entomological forceps to my successor and bidding you all a fond farewell, as I shall be retiring from the Natural History Museum after more than 40 years as Microlepidoptera Curator there. Needless to say, there has been a huge amount of change in the Museum during these past four decades, so a few reminiscences may be in order.

I joined the Entomology Department of the British Museum (Natural History), as it was then called, in October 1973. The Department was housed in a six-storey building on the site now occupied by the Darwin Centre 2 building. It had been intended by the architect to be in art deco style but had never been finished off properly, as it had been started in the 1930s, interrupted by World War II, and completed considerably later in much more strained financial circumstances.

At that time, the Lepidoptera collections were divided into three sections: Butterflies, Macrolepidoptera and Microlepidoptera. There was also a separate Indexing Section, whose sole task was to apply the names of the new insect taxa and other taxonomic changes in each new volume of the *Zoological Record* to the all-important card indexes in the Department. Although the division into three sections meant there was less day-to-day interaction amongst staff than nowadays, there was no formal division between "curators" and "researchers" as it was recog-



Kevin Tuck with a drawer of Tortricidae at The Natural History Museum, London.

nised that the one activity led naturally to the other.

The Microlepidoptera Section was in the Basement and was headed up by Paul Whalley. The Section historically had been divided into two subsections: "Pyrales" and "Micros". Paul Whalley worked on "Pyrales" with the assistance of Michael Shaffer. Klaus Sattler worked on Gelechioidea with the assistance of Brian Ridout. Shortly after I joined, Gaden Robinson took up his position to work on Tineoidea, and I was assistant to him, though much of my time was taken up with the Tortricoidea.

In the early 1970s the financial deprivations that had dogged the Museum since World War II were beginning to be shrugged off, with the result that many conditions that we would now consider to be anachronistic were at last beginning to be dealt with, though initially this was only partial in scope. New cabinets replaced a number of the old traditional cabinets of inferior quality, though the Department still tended to use the infamous cork slats that could all too easily lead to damage of specimens in non-deft hands.

Some readers may be surprised to read that in my first few years of employment we were still using a John Bull handprinting press to prepare specimen labels. I still vividly remember the painstaking business of inserting each letter of type in position in a clamp and then printing the labels one by one. When it came, the advent of personal computers and printers was a very welcome boon and the Museum embraced their use quickly.

The acquisition of new cabinets facilitated long-desired expansion of the collections, and Gaden Robinson's existing interests in Malaysia and Fiji prompted new collecting efforts in these areas. I was privileged to participate in a number of collecting expeditions to Malaysia, Brunei, Thailand, Indonesia and Nepal, up to altitudes of about 4000m. Although we were opportunistic in our collecting, we made special efforts to collect Microlepidoptera and in the best condition possible. This new wealth of specimens with good scientific data greatly augmented the existing collections and helped puzzle out the identities of a number of enigmatic old type specimens. Needless to say, we also found many new taxa, too!

Hence, back at the Museum, much of my work on the collections has concentrated on curating the Tortricoidea, a lifetime's "labour of love". The main reference collection now totals well over 300 drawers, all databased, and including very many series of specimens from these expeditions. In addition there are very substantial numbers of "accessions" – unidentified material probably containing many new taxa. In recent years Jozef Razowski in particular has been working on some of these.

When not curating Tortricidae, much of my time has of course been devoted to helping Microlepidopterists from other institutions, either through email or in person when they have visited the Museum. It has been a great privilege to be able to get to know so many fascinating people over the years - I have felt like a member of an exclusive international club! Thanks to all those who have given such strong support to my efforts and those of my colleagues: you know who you are.

As many of you will know, my successor will be Jurate De Prins. I am delighted that she has accepted the position and I am sure she will make an excellent job of looking after it. May I commend her and her husband Willy, with whom she will continue to work on collaborative projects, to you all. Jurate and Willy will start in early July.

In retirement, I do not plan to continue working on the taxonomy of Tortricidae. It is not practical, as I live in a beautiful but distinctly rural area, and after nearly half a century of commuting to the Museum I am keen not to have to go anywhere by train. However, as photography of the natural world is a passion of mine, you might well hear of me in some related context.

Best wishes for the future.

Adieu,

Kevin Tuck

WEDGE ENTOMOLOGICAL RESEARCH FOUNDATION ADDS TWO NEW BOARD MEMBERS

The Wedge Entomological Foundation is the publisher of the series popularly known as The Moths of North America or MONA. Ron Hodges, President of the Foundation, recently announced the addition of two new members of the Foundation's Board of Directors. Dr. Sangmi Lee and Dr. Todd Gilligan both accepted appointments to the board. The term of each member is 5 years with the option of renewal.

Ron, a founding member, tracks his involvement in the Foundation back to the late 1960s. Ron said "What began as a larval organization eclosed into a mature force in the study of moths of the World. Todd and Sangmi will provide continuity for many years to come."

Sangmi Lee was born and raised in South Korea. She started learning about insects when she was a young girl who chased grasshoppers so she could eat their fried legs. Her fascination with moths led her to concentrate on microlepidoptera during her undergraduate program at Kangwon Nat'l University. As a graduate student of Dr. Kyu-Tek Park, she received her M.Sc. degree with her thesis entitled "Systematics of Subfamily Gelechiinae in Korea." Sangmi received her



Dr. Sangmi Lee, Collection Manager of the Hasbrouck Insect Collection at the Arizona State University, Tempe, Arizona.

Ph.D. under Dr. Richard L. Brown at Mississippi State University with her dissertation entitled "Systematics of Holarctic genera of Teleiodini (Lepidoptera: Gelechiidae)." Sangmi has specialized on Gelechiidae for the past 15 years, and has published 25 scientific papers and 6 nonrefereed identification aids on Gelechiidae and other microlepidoptera. She also made many presentations at regional, national, and international meetings. Since 2002 she has curated and identified gelechiids in many collections in North America, becoming one of the foremost experts in this difficult group.

Sangmi developed the most comprehensive website on Gelechiidae which includes a global framework for phylogenetics and classification of Gelechioidea. She contributed educational videos on collecting and dissecting microlepidoptera that are available on YouTube. Sangmi is the Collection Manager of the Hasbrouck Insect Collection at Arizona State University, since 2012, and she serves as a referee to the Moth Photographers Group (MPG) site for identifications of gelechiids.

Todd Gilligan was born and raised in a small town in northern Ohio. He became interested in Lepidoptera at an early age, thanks to his father, who was a high school chemistry teacher. Summers would involve rearing saturniid moths and traveling the state collecting butterflies, moths, and other insects. Todd joined the Ohio Lepidopterists at around age 10, and was very active in that organization for the next 20 years. He began collecting micro moths in the early 1990's during the height of the Ohio Survey of Lepidoptera, and eventually became interested in moths of the family Tortricidae, which remain his specialty. His undergraduate education began at Ohio Northern University and continued at Ohio State University (OSU) where he earned a bachelor's degree in entomology. His original plans to attend graduate school were postponed when his wife moved from Sydney, Australia to Ohio,

and he spent the next eight years in the field of computer systems administration. Deciding that studying moths was better than being employed, he left the computer world and returned to OSU to obtain a M.Sc. in entomology. In 2007 he moved with his wife and two dogs to Colorado to pursue a Ph.D. His dissertation at Colorado State University (CSU) focused primarily on the systematics and identification of economically important tortricids.

Todd currently works as a Research Scientist in the Department of Bioagricultural Sciences and Pest Management at CSU. The



Dr. Todd Gilligan, Research Scientist in the Department of Bioagricultural Sciences and Pest Management at Colorado State University, Fort Collins, Colorado.

majority of his research involves producing morphological and molecular identification resources for invasive Lepidoptera in conjunction with the USDA-APHIS-PPQ-S&T Identification Technology Program (ITP) located in Fort Collins. Todd has authored or coauthored more than 20 peerreviewed publications, including a book on olethreutine moths. He maintains a website dedicated to tortricids and has performed extensive field work across North America. Europe, Australia, and Africa. He received numerous awards for his entomological work, the most notable including CSU's inaugural University Distinguished Professors Scholarship (2012), the Entomological Society of

America's John Henry Comstock Award (2011), and the USDA-APHIS-PPQ Deputy Administrator's Safeguarding Award (2011). Todd currently serves as President of the Lepidopterists' Society, and he is webmaster for the Wedge Foundation's website.

Everyone is invited to visit the Wedge Enomological Research Foundation's website (http://www.wedge foundation. org). Other board members include: John Brown, Oliver Dominick, Larry Gall, Don Lafontaine, Ron Hodges, Eric Metzler, Jackie Miller, Paul Opler, Kelly Richers, and David Wagner. The Board welcomes communication from all who are interested in the Foundation's activities.

PAPERS ON TORTRICDAE PUBLISHED IN 2013

- Al Bitar, L., Gorb, S. N., Zebitz, C. P. W., Voigt, D. 2013. Egg adhesion of the codling moth *Cydia pomonella* L. (Lepidoptera, Tortricidae) to various substrates: II. Fruit surfaces of different apple cultivars. Arthropod-Plant Interactions 7: 1–21.
- Barros-Parada, W., Knight, A. L., Basoalto, E., Fuentes-Contreras, E. 2013. An evaluation of orange and clear traps with pear ester to monitor codling moth (Lepidoptera: Tortricidae) in apple orchards. Cien. Inv. Agr. 40(2): 307–315.
- Boe, A., Owens, V., Gonzalez-Hernandez, J., Lee, D. K. 2013. Seed set in prairie cordgrass. Crop Science 53: 403–410.
- Brown, J. W. 2013. A new genus of pinefeeding Cochylina from the western United States and northern Mexico (Lepidoptera: Tortricidae: Euliini). Zootaxa 3640: 270–283.
- Brown, J. W. 2013. Two new Neotropical species of *Platynota* with comments on *Platynota stultana* Walsingham and *P. xylophaea* (Meyrick) (Lepidoptera: Tortri-

cidae). Proceedings of the Entomological Society of Washington 115: 128–139.

- Brown, J. W., Janzen, D., Hallwachs, W. 2013. A food plant specialist in Sparganothini: A new genus and species from Costa Rica (Lepidoptera: Tortricidae). ZooKeys 303: 53–63.
- Brunet, B. M. T., Doucet, D., Sturtevant, B. R., Sperling, F. A. H. 2013. Characterization of EST-based SSR loci in the spruce budworm *Choristoneura fumiferana* (Lepidoptera: Tortricidae). Conservation Genetics Resources 5(2): 541– 544.
- Byun, B.-K. 2013. Discovery of three species of the genus *Olethreutes* (Lepidoptera: Tortricidae) from North Korea. Journal of Asia-Pacific Entomology 16: 161–164.
- Cabrera-Asencio, I., Velez, A. L., Henriquez, S. A., Santiago-Blay, J. 2013. *Melicoccus bijugatus* Jacquin (Sapindaceae), quenepa: a new host plant record for the citrus fruit borer, *Gymnandrosoma aurantianum* Lima, 1927 (Lepidoptera: Tortricidae) and the genus *Gymnandrosoma* in Puerto Rico. Life: The Excitement of Biology 1: 3–16.
- Carpenter, J. E., Blomefield, T., Hight, S. D. 2013. Comparison of laboratory and field bioassays of laboratory-reared *Cydia pomonella* (Lepidoptera: Tortricidae) quality and field performance. Journal of Applied Entomology 137: 631–640.
- Castañeda-Vildózola, Á., Franco-Mora, O., Valdez-Carrasco, J., Aguilar-Medel, S., Ortiz-Curiel, S., Ruiz-Montiel, C. 2013. New records of cherimola fruit borer *Talponia batesi* Heinrich (Lepidoptera: Tortricidae) in Mexico. Southwestern Entomologist 38: 535–540.
- Combs, J. K., Lambert, A. M., Reichard, S. H. 2013. Predispersal seed predation is higher in a rare species than in its widespread sympatric congeners (*Astragalus*, Fabaceae). American Journal of Botany 100: 1–9.

- Dombroskie, J. J., Sperling, F. A. H. 2013. Phylogeny of the tribe Archipini (Lepidoptera: Tortricidae: Tortricinae) and evolutionary correlates of novel secondary sexual structures. Zootaxa 3729: 1–62.
- Garczynski, S. F., Coates, B. S., Unruh, T. R., Schaeffer, S., Jiwan, D., Koepke, T., Dhingra, A. 2013. Application of *Cydia pomonella* expressed sequence tags: Identification and expression of three general odorant binding proteins in codling moth. Insect Science 20: 559–574.
- Gilligan, T. M., Wright, D. J. 2013. The type species of *Eucosma* Hübner (Lepidoptera: Tortricidae: Eucosmini). Zootaxa 3630: 489–504.
- Gilligan, T. M. & Wright, D. J. 2013. Revised world catalogue of *Eucopina*, *Eucosma*, *Pelochrista*, and *Phaneta* (Lepidoptera: Tortricidae: Eucosmini). Zootaxa 3746: 301–337.
- Gilligan, T. M., Wright, D. J., Munz, J., Yakobson, K., Simmons, M. P. 2013. Molecular phylogeny and revised classification of *Eucosma* Hübner and related genera (Lepidoptera: Tortricidae: Eucosmini). Systematic Entomology 39: 49-67.
- Groenen, F., Baixeras, J. 2013. The "Omnivorous Leafroller", *Platynota stultana* Walsingham, 1884 (Tortricidae: Sparganothini), a new moth for Europe. Nota Lepidopterologica 36: 53–55.
- Groenen, F., Huisman, K. J., Doorenweerd, C. 2013. *Phalonidia manniana*, een complex van twee soorten: *Ph. manniana* en *Ph. udana* (Lepidoptera: Tortricidae). Entomologische Berichten 73(5): 191–196.
- Heppner, J. B. 2013. Florida Lepidoptera notes, 15. Tropical garden leafroller, *Amorbia concavana*, in Florida and the United States (Lepidoptera: Tortricidae: Tortricinae: Sparganothini). Lepidoptera Novae 6: 25–29.
- Heppner, J. B. 2013. Notes on *Cydia eucyanea* and its species complex in Central America (Lepidoptera: Tortrici-

dae: Olethreutinae: Grapholitini). Lepidoptera Novae 6: 55–62.

- Heppner, J. B. 2013. *Andinarampha*, new genus, with four new species from Guatemala to Peru (Lepidoptera: Tortricidae: Olethreutinae: Grapholitini). Lepidoptera Novae 6: 47–54.
- Heppner, J. B., Vergara-Cobian, C. E. 2013. *Argyrotaenia sphaleropa* in Peru (Lepidoptera: Tortricidae: Tortricinae: Archipini). Lepidoptera Novae 6: 41–43.
- Jaeger, C. M., Dombroskie, J. J., Sperling, F.
 A. H. 2013. Delimitation of *Phaneta* tarandana (Möschler 1874) and *P.* montanana (Walsingham 1884) (Tortricidae: Olethreutinae) in western Canada using morphology and DNA. Journal of the Lepidopterists' Society 67: 253–262.
- Jaikla, S., Pinkaew, N., Vitheepradit, A., Klangsap, N. 2013. Two new species of *Fibuloides* (Lepidoptera: Tortricidae) from eastern Thailand. Zootaxa 3664: 85– 91.
- Jones, V. P., Hilton, R., Brunner, J. F., Bentley, W. J., Alston, D. G., Barrett, B., van Steenwyk, R. A., Hull, L. A., Walhenbach, J. F., Coates, W. W., Smith, T. J. 2013. Predicting the emergence of the codling moth, *Cydia pomonella* (Lepidoptera: Tortricidae), on a degreeday scale in North America. Pest Management Science 69: 1393–1398.
- Kirk, H., Dorn, S., Mazzi, D. 2013. Worldwide population genetic structure of the oriental fruit moth (*Grapholita molesta*), a globally invasive pest. BMC Ecology 25;13:12. doi: 10.1186/1472-6785-13-12.
- Le, X., Qi, M. J., Park, K.-T., Bae, Y.-S. 2013. A survey of the genus *Sorolopha* Lower, 1901 in the northern part of Vietnam (Lepidoptera: Tortricidae, Olethreutinae). Zootaxa 3652: 519–532.
- Lincango, P., Fernández, G., Baixeras, J. 2013. Microstructure and diversity of the bursa copulatrix wall in Tortricidae

(Lepidoptera). Arthropod Structure and Development 42: 247–256.

- Lo, P. L., Walker, J. T. S., Horner, R. M., Hedderley, D. I. 2013. Development of multiple species mating disruption to control codling moth and leafrollers (Lepidoptera: Tortricidae). New Zealand Plant Protection 66: 264–269.
- Maharramova, S. 2013. The green oak leafroller of south-eastly Azerbaijan (bioecological peculiarity, trophical connection and parasitoids). Lambert Academic Publishing, Germany, 144 pp.
- Metzler, E. H., Albu, V. 2013. The description of *Platphalonia magdalenae* (Tortricidae, Tortricinae, Euliini, Cochylina) found nectaring diurnally on *Centromadia pungens* (Asteraceae) in the Central Valley of California along with a list of species of *Platphalonia*. Journal of the Lepidopterists' Society 67: 156–160.
- Monteiro, L. B., Souza, A., Argenton, J. 2013. Mating disruption with low density diffusers for the management of oriental fruit moths (Lepidoptera: Tortricidae) in apple orchards under subtropical climate in southern Brazil. Revista Brasileira Fruticultura 35 (4): 1007–1016.
- Morey, A. C., Venette, R. C., Hutchison, W.D. 2013. Could natural selection change the geographic range limits of light brown apple moth (Lepidoptera, Tortricidae) in North America? NeoBiota 18: 151–156.
- Najar-Rodriguez, A., Bellutti, N., Dorn, S. 2013. Larval performance of the Oriental fruit moth across fruits from primary and secondary hosts. Physiological Entomology 38: 63–70.
- Nealis, V.G., Régnière, J. 2013. An individual-based phenology model for western spruce budworm (Lepidoptera: Tortricidae). Canadian Entomologist 146: 306–320.
- Nguyena, P., Sýkorováa, M., Syíchováa, J., Kuta, V., Dalíkováa, M., Capková Frydrychováa, R., Neven, L. G., Saharad, K., Marec, F. 2013. Neo-sex chromo-

somes and adaptive potential in tortricid pests. PNAS 110 (17): 6931–6936.

- Pavan, F., Floreani, C., Barro, P., Zandigiacomo, P., Dalla Montà, L. 2013. Occurrence of two different development patterns in *Lobesia botrana* (Lepidoptera: Tortricidae) larvae during the second generation. Agricultural and Forest Entomology 15: 398–406.
- Razowski, J. 2013. Leaf-rollers from New Caledonia (Lepidoptera: Tortricidae). SHILAP Revista de Lepidopterologia 41 (161): 69–93.
- Razowski, J. 2013. Accessions to the Afrotropical fauna of Tortricidae (Lepidoptera), 2. Polskie Pismo Entomologiczne 82: 159–174.
- Razowski, J. 2013. An assessment of the tortricid (Lepidoptera: Tortricidae) fauna of Seram Island, Indonesia. Acta Zoologica Cracoviensia 56(2): 29-89.
- Razowski, J., Becker, V. O. 2013.
 Systematics and faunistics of Neotropical Grapholitini, 5. *Phloerampha*, *Goditha*, *Ranapoaca* (Lepidoptrera: Tortricidae).
 Polskie Pismo Entomologiczne 82: 175– 186.
- Razowski, J., Becker, V. O. 2013.
 Systematics and faunistics of Grapholitini,
 6: *Grapholita* Treitschke, *Eriosocia*Razowski & Brown, and *Coniostola*Diakonoff. Polskie Pismo Entomologiczne 82: 187–199.
- Razowski, J., Krüger, M. 2013. An illustrated catalogue of the specimens of Tortricidae in the Iziko South African Museum, Cape Town (Lepidoptera: Tortricidae). SHILAP Revista de Lepidopterologia 41 (162): 213–240.
- Razowski, J., Tarcz, S., Wojtusiak, J., Pelz, V. 2013. Reassessment of the systematic position of *Orthocomotis* Dognin (Lepidoptera: Tortricidae) based on molecular data with the description of new species of Euliini. Folia Biologica (Krakow) 61: 125–134.

- Razowski, J., Wojtusiak, J. 2013. Accessions to the fauna of Neotropical Tortricidae (Lepidoptera), 2. Acta Zoological Cracoviensia 56: 9–40.
- Rocca, M., Brown, J. W. 2013. New host records for four species of tortricid moths (Lepidoptera: Tortricidae) on cultivated blueberries, *Vaccinium corymbosum* (Ericaceae), in Argentina. Proceedings of the Entomological Society of Washington 115: 167–172.
- Roubos, C. R., Mason, K. S., Teixeira, L. A. F., Isaacs, R. 2013. Yield-based economic thresholds for grape berry moth (Lepidoptera: Tortricidae) in juice grapes. Journal of Economic Entomology 106: 905–911.
- Safonkin, A. S. 2013. Reproductive polymorphism of leafrollers (Lepidoptera: Tortricidae) (Genetics-Research and Issues). Nova Science Publishers, Inc., 64 pp.
- Seehausen, M. L., Régnièrea, J., Baucea, E. 2013. Does spruce budworm (Lepidoptera: Tortricidae) rearing diet influence larval parasitism? Canadian Entomologist 145: 539–542.
- Sichova, J., Nguyen, P., Marec, F. 2013. Chromosomal evolution in tortricid moths: Conserved karyotypes with diverged features. PLoS One 8(5): e64520.
- Sun, Y.-H., Li, H.-H. 2013. Cochylis Treitschke in China: one new species and five new records (Lepidoptera, Tortricidae, Cochylini). ZooKeys 258: 85–96.
- Sun, Y.-H., Li, H.-H. 2013. Taxonomic review of Chinese *Phalonidia* Le Marchand, 1933 (Lepidoptera: Tortricidae: Cochylini). Zootaxa 3641: 533–553.
- Sun, Y.-H., Li, H.-H. 2013. Review of the Chinese species of *Gynnidomorpha* Turner, 1916 (Lepidoptera: Tortricidae: Cochylini). Zootaxa 3646: 545–560.
- Sun, Y.-H., Li, H.-H. 2013. Three new species of *Aethes* Billberg, 1820 (Lepid-optera: Tortricidae: Cochylini), with a list

of the species from China. Zootaxa 3669: 456–468.

- Sun, Y.-H., Li, H.-H. 2013. *Cochylimorpha* Razowski (Lepidoptera: Tortricidae: Cochylini) in China: one new species, three newly recorded species and description of the female of three species. Entomologica Fennica 24: 193–203.
- Sun, Y.-H., Li, H.-H. 2013. A brief suimmary of the tribe Cochylini from China (Lepidoptera: Tortricidae: Tortricinae). HKEB (Hong Kong Entomological Society) 5(1): 13–18.
- Tremattera, P. 2013. *Isotrias penedana* sp. n., a new species of Lepidoptera (Tortricidae: Chlidanotinae: Polyorthini) from Portugal. Journal of Entomological and Acarological Research 45: 1–3.
- Trematerra, P. 2013. *Acleris sagamathae* sp. n., a new species (Lepidoptera: Tortricidae) from Nepal. Journal of Entomological and Acarological Research 45: 93–95.
- Vacas, S., Miñarro, M., Bosch, M. D., Primo, J., Navarro-Llopis, V. 2013. Studies on the codling moth (Lepidoptera: Tortricidae) response to different coddlemone release rates. Environmental Entomology 42: 1383–1389.
- Vargas, H. A. 2013. Strepsicrates smithiana Walsingham (Lepidoptera, Tortricidae): First record from Chile and a newly documented host plant. Revista Brasileira de Entomologia 56: 381–382.
- Velcheva, N., Atanassov, A., Karadjova, O., Hubenov, Z. 2013. Parasitoid assemblages isolated from externally feeding lipidopterans and codling moth (*Cydia pomonella* L., Lepiodptera) in a young apple orchard in west Bulgaria. Bulgarian Journal of Agricultural Science 18: 675–681.
- Wang, X.-G., Levy, K., Daane, K. M. 2013.
 Evaluation of an indigenous parasitoid *Habrobracon gelechiae* (Hymenoptera: Braconidae) for biological control of light brown apple moth *Epiphyas postvittana* (Lepidoptera: Tortricidae) in California.

Biocontrol Science and Technology 23: 433–447.

- Wright, D. J. 2013. Two new species of *Phaneta* (Tortricidae) from southern Califronia, with reviews of ten similar species. Journal of the Lepidopterists' Society 67: 175–186.
- Yu, H., Li, B. 2013. First record of the genus *Megalota* Diakonoff from China, with the descriptions of two new species (Lepidoptera: Tortricidae: Olethreutinae). Zootaxa 3641: 476–480.
- Zlatkov, B. 2013. Remarks on Tortricidae species with unknown and little known females. Nota Lepidopterologia 36: 191– 197.

The TORTS Newsletter is distributed twice per year: January-February and July-August. Membership or subscription is free. For information contact: John W. Brown, Systematic Entomology Laboratory, USDA, Smithsonian Institution, P.O. Box 37012, National Museum of Natural History, Washington, DC 20013-7012, USA. E-mail: tortricidae.jwb@gmail.com