

Two New Records of Oak Gall Wasps (Hymenoptera: Cynipidae) from Türkiye

Musa TATAROĞLU^{1*}

Yusuf KATILMIŞ²

¹ Pamukkale University, Acıpayam Vocational School of Higher Education, Department of Veterinary, Laborant & Veterinary Health Program, Acıpayam, Denizli, TÜRKİYE

² Pamukkale University, Faculty of Science, Department of Biology, Denizli, TÜRKİYE

e-mails: ¹*mtataroglu@pau.edu.tr, ²ykatilmis@pau.edu.tr

ORCID IDs: ¹0000-0002-9621-9909, ²0000-0003-0880-1489

*Corresponding author

ABSTRACT

Two new records for the Turkish oak gall wasp fauna (Cynipidae: Cynipini) were recorded during a field study conducted in Burdur province, located in southwestern Türkiye. *Andricus cryptobius* Wachtl, 1880, and *Dryocosmus destefanii* Cerasa & Melika, 2018, were found for the first time on *Quercus trojana* Webb, a native oak species that is prevalent in this region. These new records expand the known diversity of cynipid species in Türkiye, enhancing knowledge of the oak gall wasp fauna and extending the known global distribution of these species. Data regarding the occurrence of the recorded species in Türkiye, their global distribution, and host plants are provided.

Key words: Cynipini, cynipid, fauna, *Andricus*, *Dryocosmus*, *Quercus*.

INTRODUCTION

The family Cynipidae (Hymenoptera: Cynipoidea) is one of the largest groups of gall-inducing insects, with over 1,500 described species distributed primarily across the Holarctic region, as well as subtropical and tropical regions (Ronquist et al., 2015; Buffington, Forshage, Liljeblad, Tang, & van Noort, 2020; Cuesta-Porta, Arnedo, Cibrián-Tovar, Barrera-Ruiz, & Pujade-Villar, 2020; Lobato-Vila et al., 2022). Members of this family induce galls, highly specialized plant structures that provide protection and nourishment to the developing larvae, primarily on plants of the Fagaceae family, especially oaks (*Quercus*) and related genera, although some species also target herbaceous plants (Melika & Abrahamson, 2002; Ronquist et al., 2015). The vast majority of cynipids are gall inducers, predominantly attacking plants (Ronquist et al., 2015). Moreover, about 250 cynipid species are known as inquilines, which do not induce galls but instead develop inside the galls created by other species (Melika, 2006; Buffington et al., 2020). These inquilines feed on specialized nutritive tissues inside the galls and may alter their structure, although they do not induce gall formation independently (Lobato-Vila et al., 2022).

The family Cynipidae is taxonomically divided into ten tribes, with the Cynipini tribe being the most species-rich, comprising approximately 1,200 species distributed across about 58 genera worldwide (Zimmerman, 2018; Buffington et al., 2020; Fang et al., 2020; Medianero, Nicholls, Stone, & Nieves-Aldrey, 2021; Melika & Nicholls, 2021; Melika et al., 2021; Cuesta-Porta, Melika, Nicholls, Stone, & Pujade-Villar, 2022, 2023; García-Martiñón et al., 2024; Pujade-Villar et al., 2024; Cuesta-Porta, Melika, Ferrer-Suay, Vera-Ortiz, & Pujade-Villar, 2025). This family exhibits remarkable biodiversity and a high degree of host plant specificity. Recent studies have emphasized the need for further research into its phylogenetic relationships, especially since some tribes, such as Dipolepididae, have recently been elevated to family status (Hearn et al., 2024). The exceptional diversity and ecological significance of Cynipidae continue to drive investigations into their evolutionary history, species interactions, and ecological roles across various ecosystems (Buffington et al., 2020).

Often referred to as the “oak gall wasp” tribe, Cynipini species predominantly use plants from the Fagaceae family, particularly oaks (*Quercus* L.), as their hosts (Ronquist et al., 2015; Melika et al., 2021). Most species in this tribe alternate between sexual and asexual generations (Stone et al., 2008; Cerasa et al., 2020; Nicholls, Melika, Digweed, & Stone, 2022). In many cases, however, only one form generation is known, as the alternative generation remains either undescribed or has been identified under different names (Nicholls et al. 2022; Sottile, Nicholls, & Cerasa, 2024).

Quercus trojana Webb was first described in 1839, based on specimens collected from the Biga Peninsula, specifically south of Alexandria Troas (Ezine, Dalyan Village). The species name refers to the ancient region of Troy, where the oak was originally found (Körüklü, Demirtaş, & Gökmen, 2023). The Macedonian oak (*Q. trojana*) has a discontinuous distribution ranging from Southern Italy through the Balkans to the western and southern regions of Türkiye (Jalas & Suominen, 1976; Browicz, 1982; Körüklü et al., 2023).

A careful and thorough review of previous studies (Melika, 2006; Azmaz & Katılmış, 2017; Demirel, Tataroğlu, & Katılmış, 2023; Tataroğlu & Katılmış, 2024) reveals that

Two New Records of Oak Gall Wasps (Hymenoptera: Cynipidae) from Türkiye

18 cynipid species are associated with the host oak, *Q. trojana*, in the *Cerris* section. These species are:

Tribe Ceropresini: *Ceroptres cerri* Mayr, 1872 (inquiline associated with cynipid galls on *Q. trojana*).

Tribe Cynipini: *Andricus cecconii* Kieffer, 1901 (sexual generation); *A. grossulariae* Giraud, 1859 (sexual gen.); *A. istvani* Melika, 2008 (sexual gen.); *A. lucidus* (Hartig, 1843) (sexual gen.); *A. melikai* Pujade-Villar & Kwast, 2002 (sexual gen.); *A. miriami* Shachar, 2015 (sexual gen.); *A. musaazmazi* Tataroğlu & Katılmış, 2024 (sexual gen.); *A. schroeckingeri* Wachtl, 1876 (sexual gen.); *A. vindobonensis* Müllner, 1901 (sexual gen.); *Aphelonyx cerricola* (Giraud, 1859) (asexual gen.); *Ap. persica* Melika, Stone, Sadeghi & Pujade-Villar, 2004 (asexual gen.); *Cerroneuroterus lanuginosus* (Giraud, 1859) (asexual gen.); *C. minutulus* (Giraud, 1859) (asexual gen.); *Chilaspis nitida* (Giraud, 1859) (asexual gen.); *Pseudoneuroterus macropterus* (Hartig, 1843) (asexual gen.); *P. saliens* (Kollar, 1857) (sexual gen.).

Tribe Synergini: *Synophrus politus* Hartig, 1843 (inquiline associated with cynipid galls on *Q. trojana*).

Here, we report two oak gall wasp species new to the cynipid fauna of Türkiye. Additionally, we provide a new host oak record (*Q. trojana*) for these species in Türkiye.

MATERIAL AND METHODS

To expand and enrich the diversity of the gall wasp fauna in Türkiye, a field study was conducted in Burdur province during April-May 2024. During this study, gall samples were meticulously collected from the buds of young shoots of *Quercus trojana* Webb, a species of oak known for hosting various cynipid gall wasps. These gall samples were carefully photographed in situ to document their conditions. Subsequently, the galls were transferred to glass jars to be transported to the Entomology Research Laboratory (ERL-PAU), where they were kept under controlled conditions to allow for the emergence of adult wasps. The galls were regularly monitored and checked on a weekly basis to observe any emerging adult wasps. After recording the emergence dates of the reared adults, they were stored in 75% ethanol. Species identification was carried out using available scientific literature (Melika, 2006; Cerasa et al., 2018, 2020). Specimens are preserved in the ERL-PAU, Pamukkale University.

RESULTS

Andricus Hartig, 1840

Andricus cryptobius Wachtl, 1880

Material examined (Fig. 1a): Türkiye, Burdur, Yeşilova, Niyazlar, 37°28'N, 29°43'E, 1305 m a.s.l., collection date: 27.04.2024, emergence date: 10.05.2024.

Distribution: Austria (Dalla Torre & Kieffer, 1910), Hungary (Ambrus, 1974), Romania (Ionescu, 1973), and Ukraine (Melika, 2006).

Host plant: *Quercus trojana* Webb.

Remark: The genus *Andricus* Hartig, 1840 is the largest within the tribe Cynipini, encompassing over 400 known species distributed throughout the Holarctic region (Melika, 2006; Wachi, Ide, & Abe, 2011; Sottile, Nicholls, Stone, & Cerasa, 2025). Species diversity is highest in the Nearctic and Western Palearctic regions (Wang, Guo, & Chen, 2013). To date, 84 species of *Andricus* were recorded in Türkiye (Azmaz & Katılmış, 2017), including 12 species originally described from the country: *Andricus ahmeti* Melika, Mutun & Dinç, 2014; *A. anatolicus* Melika, Mutun & Dinç, 2014; *A. arslani* Azmaz & Katılmış, 2022; *A. askewi* Melika & Stone, 2001; *A. bakrachus* Melika, Mutun & Dinç, 2014; *A. cecconii* Kieffer, 1901 (formerly *A. megalucidus* Melika, Stone, Sadeghi & Pujade-Villar, 2004; now recognized as its junior synonym); *A. ismaili* Tataroğlu & Katılmış, 2024; *A. katilmissi* Tataroğlu, 2025; *A. mammadovi* Azmaz & Katılmış, 2021; *A. musaazmazi* Tataroğlu & Katılmış, 2024; *A. shuhuti* Melika, Mutun & Dinç, 2014; *A. turcicus* Melika, Mutun & Dinç, 2014 (Melika & Stone, 2001; Melika, Stone, Sadeghi, & Pujade-Villar, 2004; Dinç, Mutun, & Melika, 2014; Mutun, Dinç, Bozsó, & Melika, 2014; Shachar, Melika, Inbar, & Dorchin, 2018; Azmaz & Katılmış, 2021; Demirel, Azmaz, & Katılmış, 2022; Tataroğlu & Katılmış, 2024; Tataroğlu, 2025).

Note: The exceptionally high diversity of *Andricus* species may result from the currently unresolved taxonomic boundaries of the genus (Pang et al., 2022). Melika (2006) characterized the genus *Andricus* as a “trash can” taxon within Cynipini, highlighting the need for a comprehensive taxonomic revision to establish clearer definitions and classifications.

***Dryocosmus* Giraud, 1859**

***Dryocosmus destefanii* Cerasa & Melika, 2018**

Material examined (Fig. 1b): Türkiye, Burdur, Yeşilova, Niyazlar, 37°28'N, 29°43'E, 1305 m a.s.l., collection date: 20.05.2024.

Distribution: Italy (Cerasa et al., 2018, 2020).

Host plant: *Quercus trojana* Webb.

Remark: The genus *Dryocosmus* Giraud, 1859 comprises 50 species of gall wasps distributed across the Holarctic and Oriental regions (Buffington et al., 2020). In Türkiye, three species from this genus have been recorded: *Dryocosmus cerriphilus* Giraud, 1859; *D. kuriphilus* Yasumatsu, 1951; and *D. mayri* Müllner, 1901 (Azmaz & Katılmış, 2017).

Note: Most *Dryocosmus* species have a life cycle that alternates between sexual and asexual generations. Seven Western Palaearctic species induce galls exclusively on oaks of the *Cerris* section, whereas nearly all Nearctic species form galls on red oaks (section *Lobatae*) (Melika et al., 2000). One notable exception is *D. kuriphilus*, which forms galls on *Castanea sativa* Miller trees. Its life strategy causes damage to chestnut trees, leading to a decrease in yield (Azmaz & Katılmış, 2020).

A summary of *Dryocosmus destefanii* Cerasa & Melika, 2018 was presented as an oral presentation and published as an abstract at the 7th Symposium on EuroAsian Biodiversity (SEAB), held at Erzurum Technical University on August 22-24, 2024.



Figure 1. a) Sexual galls of *Andricus cryptobius* Wachtl, 1880 on *Q. trojana*; b) Sexual galls of *Dryocosmus destefanii* Cerasa & Melika, 2018 on *Q. trojana*.

CONCLUSIONS AND DISCUSSION

This study, based on Cynipid gall wasps collected in Burdur province, has resulted in the recording of species newly identified for the Turkish fauna and contributed to ecological knowledge by associating previously known Palaearctic species with a new host oak, *Q. trojana*. The sexual generations of *A. cryptobius* and *D. destefanii*, newly recorded for Türkiye in this study (Fig. 1), were previously reported from *Q. cerris* and *Q. suber*, respectively (Melika, 2006; Cerasa et al., 2018, 2020); however, they had not been observed on *Q. trojana* until now.

In recent years, faunistic and taxonomic research has not only led to the description of new species, but also revealed new synonymies, particularly through the clarification of sexual and asexual life cycle phases of certain taxa (Shachar et al., 2018; Sottile, Cerasa, Massa, & Lo Verde, 2022, 2023; Sottile et al., 2024, 2025). The increasing number of regionally and locally focused faunistic studies suggests that the diversity of Cynipidae species in Türkiye is likely to continue growing. This study not only contributes to a more thorough understanding of the oak gall wasp fauna in Türkiye but also helps expand knowledge about the species' distribution and ecological interactions in this region.

ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to Prof. Dr. Mehmet ÇİÇEK for his invaluable assistance in the identification of the host oak species. We also extend our heartfelt thanks to the corresponding author's beloved wife, Gamze GÜREL TATAROĞLU, for her participation and support during fieldwork, as well as to the graduate students who provided occasional assistance in both field and laboratory studies.

REFERENCES

- Ambrus, B. (1974). Cynipida-Gubacsok-Cecidia Cynipidarum. *Fauna Hungaricae*, 116, XII, Hymenoptera II. fuz.1/a: 1-120. [in Hungarian]

- Azmaz, M. & Katilmiş, Y. (2017). Updated species list of Cynipidae (Hymenoptera) from Turkey. *Zootaxa*, 4303(3), 361-378.
- Azmaz, M. & Katilmiş, Y. (2020). New infestation of Asian chestnut gall wasp in eastern Black Sea Region, Turkey: a potential threat to natural regional chestnut population. *Acta Biologica Turcica*, 33(4), 205-210.
- Azmaz, M. & Katilmiş, Y. (2021). Two new oak gall wasp species (Hymenoptera: Cynipidae, Cynipini) from *Quercus pontica* (Fagaceae) in Turkey. *Zootaxa*, 5016(3), 382-394.
- Browicz, K. (1982). *Chorology of trees and shrubs in south-west Asia and adjacent regions*. In P.H., Davis (Ed.). Volume 1. Warszawa & Poznao.
- Buffington, M.L., Forshage, M., Liljeblad, J., Tang, C-T. & van Noort, S. (2020). World Cynipoidea (Hymenoptera): A Key to Higher-Level Groups. *Insect Systematics and Diversity*, 4(4), 1, 1-69.
- Cerasa, G., Lo Verde, G., Caleca, V., Massa, B., Nicholls, J.A. & Melika, G. (2020). Description of the sexual generation of *Dryocosmus destefanii* (Hymenoptera: Cynipidae: Cynipini) and disclosure of its life cycle. *Zootaxa*, 4742(2), 359-374.
- Cerasa, G., Lo Verde, G., Caleca, V., Massa, B., Nicholls, J.A. & Melika, G. (2018). Description of *Dryocosmus destefanii* new species (Hymenoptera: Cynipidae: Cynipini) from *Quercus suber* L. in Italy. *Zootaxa*, 4370(5), 535-548.
- Cuesta-Porta, V., Arnedo, M.A., Cibrián-Tovar, D., Barrera-Ruiz, U.M. & Pujade-Villar, J. (2020). A New Genus of Oak Gall Wasp, *Striatoandricus* Pujade-Villar (Hymenoptera: Cynipidae: Cynipini) from America with Descriptions of Two New Mexican Species. *Zoological Studies*, 59(8), 1-21.
- Cuesta-Porta, V., Melika, G., Ferrer-Suay, M., Vera-Ortiz, A. & Pujade-Villar, J. (2025). Review of the Nearctic and Neotropical genus *Atrusca* Kinsey, 1930 (Hymenoptera: Cynipidae, Cynipini). *Zootaxa*, 5617(1), 001-195.
- Cuesta-Porta, V., Melika, G., Nicholls, J.A., Stone, G.N. & Pujade-Villar, J. (2022). Re-establishment of the Nearctic oak cynipid gall wasp genus *Druon* Kinsey, 1937 (Hymenoptera: Cynipidae: Cynipini), with description of five new species. *Zootaxa*, 5132(1), 1-92.
- Cuesta-Porta, V., Melika, G., Nicholls, J.A., Stone, G.N. & Pujade-Villar, J. (2023). Re-establishment of the Nearctic oak cynipid gall wasp genus *Feron* Kinsey, 1937 (Hymenoptera: Cynipidae: Cynipini), including the description of six new species. *Zootaxa*, 5366(1), 1-174.
- Dalla-Torre, K.W. & Kieffer, J.J. (1910). *Cynipidae*. Verlag von R. Friedländer und Sohn, Berlin, 891 pp. [in German]
- Demirel, M., Azmaz, M. & Katilmiş, Y. (2022). A new species of oak gall wasp (Hymenoptera: Cynipidae, Cynipini) from Turkey. *Zootaxa*, 5087(4), 583-590.
- Demirel, M., Tataroğlu, M. & Katilmiş, Y. (2023). Cynipidae (Hymenoptera, Cynipoidea) fauna of Burdur province (Türkiye). *Zootaxa*, 5296(3), 362-380.
- Diñç, S., Mutun, S. & Melika, G. (2014). A new species of *Andricus* Hartig oak gall wasp from Turkey (Hymenoptera: Cynipidae, Cynipini). *North-Western Journal of Zoology*, 10(1), 122-127.
- Fang, Z., Tang, C.-T., Nicholls, J.A., Zhu, Y., Xiong, T., Hearn, J., Sinclair, F., Melika, G., Nieves-Aldrey, J.L., Csóka, G., Mikolajczak, K.M., Stone, G.N. & Fang, S. (2020). A New Genus of Oak Gallwasp, *Heocynips* Fang, Nieves-Aldrey, and Melika (Hymenoptera: Cynipidae: Cynipini), from China. *Proceedings of the Entomological Society of Washington*, 122(4), 787-804.
- García-Martiñón, R.D., Equihua-Martínez, A., Estrada-Venegas, E.G., Melika, G., Romero-Rangel, S., Cuesta-Porta, V. & Pujade-Villar, J. (2024). *Reticulodermis lithogalla* gen. nov. and sp. nov. of oak gall wasp from Mexico (Hymenoptera, Cynipidae). *Zootaxa*, 5486(1), 109-120.
- Giraud, J.E. (1859). Signalements de quelques espèces nouvelles de Cynipides et de leurs Galles. *Verhandlungen des Zoologisch-Botanischen Vereins in Wien*, 9, 337-374.
- Hartig, T. (1840). Über die Familie der Gallwespen. *Zeitschrift für Entomologie (Germar)*, 2, 176-209.
- Hartig, T. (1843). Zweiter nachtrag zur naturgeschichte der Gallwespen. *Zeitschrift für Entomologie, Germar*, 4, 395-422.
- Hearn, J., Gobbo, E., Nieves-Aldrey, J.L., Branca, A., Nicholls, J.A., Koutsovoulos, G., Lartillot, N., Stone, G.N. & Ronquist, F. (2024). Phylogenomic Analysis of Protein-Coding Genes Resolves Complex Gall Wasp Relationships. *Systematic Entomology*, 49(1), 110-137.

Two New Records of Oak Gall Wasps (Hymenoptera: Cynipidae) from Türkiye

- Ionescu, A.M. (1973). *Biologia Galelor. Monografie Cecidologica*. [Biology of Gall inducers. Monography on Cecidology] Academiei Republicii Socialiste Romania Press, Bucuresti, 178 pp. [in Romanian]
- Jalas, J. & Suominen, J. (Ed.). (1976). *Atlas Florae Europaeae* 3. Helsinki.
- Kieffer, J.J. (1901). Synopsis des Zoocecides d'Europe. *Annales de la Société Entomologique de France*, 1901, 233-579.
- Kollar, V. (1857). Über springende Cynips-Gallen auf Quercus Cerris. *Verhandlungen der k.k. zoologisch-botanischen Gesellschaft in Wien*, 7, 513-516.
- Körüklü, S.T., Demirtaş, A. & Gökmen, M. (2023). Makedonya meşesinin (*Quercus trojana* Webb) Ankara'dan ilk kaydı. *Herbarium Turcicum*, 1, 1-9.
- Lobato-Vila, I., Sala-Nishikawa, A., Melika, G., Stone, G.N., Tang, C.T., Yang, M.M., Fang, Z.Q., Zhu, Y., Wang, Y.P., Jung, S., Nicholls, J.A. & Pujade-Villar, J. (2022). A catalogue, revision, and regional perspective of Eastern Palaearctic and Oriental oak gall wasps and their inquilines (Hymenoptera: Cynipidae: Cynipini, Synergini, Ceropresini). *Zootaxa*, 5161(1), 1-71.
- Mayr, G. (1872). Die Einmiethler der mitteleuropäischen Eichengallen. *Verhandlungen des Zoologisch-Botanischen Vereins in Wien*, 22, 669-726.
- Medianero, E., Nicholls, J.A., Stone, G.N. & Nieves-Aldrey, J.L. (2021). A new genus of neotropical oak gall wasp, *Prokius* Nieves-Aldrey, Medianero & Nicholls, gen. nov. (Hymenoptera: Cynipidae: Cynipini), with description of two new species from Panama. *Zootaxa*, 5081(2), 203-222.
- Melika, G. & Nicholls, J.A. (2021). A new genus of Nearctic oak gall wasp, *Grahamstoneia* Melika & Nicholls, gen. nov. (Hymenoptera: Cynipidae, Cynipini). *Zootaxa*, 4999(5), 456-468.
- Melika, G. & Stone, G.N. (2001). A new species of cynipid gall wasp from Turkey (Hymenoptera: Cynipidae). *Folia Entomologica Hungarica*, 62, 127-131.
- Melika, G. (2006). Gall Wasps of Ukraine. Cynipidae. *Vestnik Zoologii*, Supplement 21 (1-2), 1-300 & 301-644.
- Melika, G., Pujade-Villar, J., Abe, Y., Tang, C.-T., Nicholls, J., Wachi, N., Ide, T., Yang, M.M., Péntzes, Z., Csóka, G. & Stone, G.N. (2010). Palaearctic oak gallwasps galling oaks (*Quercus*) in the section Cerris: re-appraisal of generic limits, with descriptions of new genera and species (Hymenoptera: Cynipidae: Cynipini). *Zootaxa*, 2470, 1-79.
- Melika, G., Pujade-Villar, J., Nicholls, J.A., Cuesta-Porta, V., Cooke-McEwen, C. & Stone, G.N. (2021). Three new Nearctic genera of oak cynipid gall wasps (Hymenoptera: Cynipidae: Cynipini): *Burnettweldia* Pujade-Villar, Melika & Nicholls, *Nichollsiella* Melika, Pujade-Villar & Stone, *Disholandricus* Melika, Pujade-Villar & Nicholls; and re-establishment of the genus *Paracraspis* Weld. *Zootaxa*, 4993(1), 1-81.
- Melika, G., Stone, G.N., Sadeghi, S.E. & Pujade-Villar, J. (2004). New species of cynipid gallwasps from Iran and Turkey (Hymenoptera: Cynipidae: Cynipini). *Acta Zoologica Academiae Scientiarum Hungaricae*, 50(2), 139-151.
- Mutun, S., Dinç, S., Bozsó, M. & Melika, G. (2014). Four new species of *Andricus* Hartig oak gallwasp from Turkey (Hymenoptera: Cynipidae, Cynipini). *Zootaxa*, 3760(2), 241-259.
- Müllner, M.F. (1901). Neue Zerr-Eichen-Cynipiden und deren Gallen. *Verhandlungen der zoologisch-botanischen Gesellschaft Wien*, 51, 525-530.
- Nicholls, J.A., Melika, G., Digweed, S.C. & Stone, G.N. (2022). Pairing of sexual and asexual generations of Nearctic oak gallwasps, with new synonyms and new species names (Hymenoptera: Cynipidae, Cynipini). *Zootaxa*, 5145(1), 1-79.
- Pang, Y., Su, C.-Y., Zhu, J.-Q., Yang, X.-H., Zhong, J.-L., Zhu, D.-H. & Liu, Z. (2022). A new species of *Andricus* Hartig, 1840 (Hymenoptera, Cynipidae) from China, with references to DNA taxonomy and *Wolbachia* infection. *ZooKeys*, 1134, 52-73.
- Pujade-Villar, J., Kwast, E., Thuroczy, C. & Bellido, D. (2002). Gall wasps and their associated fauna collected in Greece, with some taxonomic changes and description of a new species (Hymenoptera: Cynipidae, Chalcidoidea). *Acta zoologica cracoviensis*, 45(4), 351-364.
- Pujade-Villar, J., Savall-Roig, G., Equihua-Martínez, A., Estrada-Venegas, E.G., Barrera-Ruiz, U.M., Cibrián-Tovar, D., Vera-Ortiz, A., Romero-Rangel, S., Cuesta-Porta, V., Cazorla-Vila, J. & Melika, G.

- (2024). Description of *Neuroandricus* a new genus of gall wasp (Hym.: Cynipidae) and a new species of associated *Sycophila* (Hym.: Eurytomidae). *Zootaxa*, 5538(2), 177-193.
- Ronquist, F., Nieves-Aldrey, J.L., Buffington, M.L., Liu, Zh., Liljeblad, J. & Nylander, J.A.A. (2015). Phylogeny, Evolution and Classification of Gall Wasps: The Plot Thickens. *PLoS ONE*, 10(5), 1-40.
- Shachar, E., Melika, G. & Dorchin, N. (2015). Taxonomy and biology of *Andricus miriami* - a remarkable bud-galling cynipid from the Middle East (Hymenoptera: Cynipidae: Cynipini). *Annals of the Entomological Society of America*, 108, 827-833.
- Shachar, E., Melika, G., Inbar, M. & Dorchin, N. (2018). The oak gall wasps of Israel (Hymenoptera, Cynipidae, Cynipini)-diversity, distribution and life history. *Zootaxa*, 4521(4), 451-498.
- Sottile, S., Cerasa, G., Massa, B. & Lo Verde, G. (2022). *Andricus cydoniae* Giraud, 1859 Junior Synonym of *Cynips conifica* Hartig, 1843, as Experimentally Demonstrated (Hymenoptera: Cynipidae: Cynipini). *Insects*, 13(2), 200.
- Sottile, S., Cerasa, G., Massa, B. & Lo Verde, G. (2023). The experimental life cycle closure of *Andricus truncicolus* (Giraud, 1859) (Hymenoptera: Cynipidae: Cynipini) and taxonomic description of its sexual generation. *Zootaxa*, 5296(2), 210-232.
- Sottile, S., Nicholls, J.A. & Cerasa, G. (2024). Life cycle closure of *Cerroneuroterus minutulus* (Giraud, 1859) with *C. aggregatus* (Wachtl, 1880) (Hymenoptera: Cynipidae: Cynipini): experimental, taxonomic and molecular approaches. *Zootaxa*, 5418(2), 140-158.
- Sottile, S., Nicholls, J.A., Stone, G. & Cerasa, G. (2025). An integrative taxonomic approach to describe *Andricus pseudomultiplicatus* sp. nov. and establish new synonymies in *Andricus* Hartig, 1840 (Hymenoptera: Cynipidae: Cynipini). *Zootaxa*, 5609(4), 451-478.
- Stone, G.N., Atkinson, R.J., Rokas, A., Nieves-Aldrey, J.-L., Melika, G., Ács, Z., Csóka, G., Hayward, A., Bailey, R., Buckee, C. & McVean, G.A.T. (2008). Evidence for widespread cryptic sexual generations in apparently purely asexual *Andricus* gallwasps. *Molecular Ecology*, 17, 652-665.
- Tataroğlu, M. & Katılmış, Y. (2024). Two New Species of Oak Gall Wasp (Hymenoptera: Cynipidae, Cynipini) from Türkiye. *Zootaxa*, 5433(4), 559-572.
- Tataroğlu, M. (2025). Another brushstroke on the cynipoid painting: a new species of *Andricus* (Hymenoptera: Cynipidae: Cynipini) from Türkiye. *Zootaxa*, 5646(1), 131-143.
- Tavakoli, M., Melika, G., Sadeghi, S., Péntzes, Z., Assareh, M., Atkinson, R., Bechtold, M., Mikó, I., Zargaran, M. & Aligolizade, D. (2008). New species of oak gallwasps from Iran (Hymenoptera: Cynipidae: Cynipini). *Zootaxa*, 1699(1), 1-64.
- Wachi, N., Ide, T. & Abe, Y. (2011). Taxonomic status of two species of *Andricus* (Hymenoptera: Cynipidae) described by Shinji (1940, 1941) as gall inducers on *Cyclobalanopsis*. *Annals of the Entomological Society of America*, 104(4), 620-626.
- Wachtl, F. (1876). Zweineue europäische Cynipiden und ihre Gallen. *Verhandlungen zoologisch-botanischen Gesellschaft in Wien*, 26, 713.
- Wachtl, F. (1880). Beiträge zur Kenntniss der Gallen erzeugenden Insecten Europas. *Verhandlungen der k.k. zoologisch-botanischen Gesellschaft in Wien*, 30, 531-546.
- Wang, Y.P., Guo, R. & Chen, X.X. (2013). A new species of *Andricus* oak gallwasp from China (Hymenoptera: Cynipidae: Cynipini). *Biologia*, 68(5), 974-978.
- Yasumatsu, K. (1951). A new *Dryocosmus* injurious to chestnut trees in Japan (Hym., Cynipidae). *Mushi*, 22(15), 89-92.
- Zimmerman, J.R. (2018). A synopsis of oak gall wasps (Hymenoptera: Cynipidae) of the Southwestern United States with a key and comments on each of the genera. *Journal of the Kansas Entomological Society*, 91(1), 58-70.