**Radvilės Markevičiūtės daktaro disertacija**

**Autorius:** Radvilė Markevičiūtė

**Disertacijos pavadinimas:** Genties *Antocha* Osten Sacken, 1860 taksonomija ir filogenija **Mokslo sritis:** Gamtos mokslai, Zoologija (N014)

**Mokslinis vadovas:** prof. habil. dr. Sigitas Podėnas

**Doktorantūros studijų laikotarpis:** 2017-2023.

**Gynimo data:** 2023 m. rugsėjo mėn. 14 d.

**SANTRAUKA**

*Antocha* Osten Sacken 1860 – tai viena iš ilgakojų uodų genčių, kuri priklauso Limoniidae šeimai, Limoniinae pošeimiui. Šiuo metu pasaulyje yra žinoma 162 *Antocha* rūšys ir keturi porūšiai. Šios disertacijos tikslas buvo atlikti genties *Antocha* taksonominę apžvalgą, filogenetinę analizę ir įgyti naujų žinių apie šią nepakankamai ištirtą vabzdžių grupę.

Tyrimų metu buvo ištirti ir iliustruoti tipiniai, ir netipiniai egzemplioriai, taip pat pirmą kartą atlikta genties *Antocha* Osten Sacken, 1860 filogenetinė analizė, kurios dėka išskirtos 25 rūšių grupės, iš kurių 22 minimos pirmą kartą. Remiantis morfologinių požymių ir filogenetine analizėmis, buvo nustatyta, kad *Antocha* (*Antocha*) *brevistyla* Alexander, 1924 priklauso pogentei *Proantocha* Alexander, 1919. Atliekant tyrimą buvo aprašytos dvi naujos mokslui rūšys: *Antocha* (*Antocha*) *bella* Markevičiūtė & Podenas, 2019 ir *Antocha* (*Antocha*) *pulchra* Markevičiūtė & Podenas, 2021, atrasta ir nauja Kinijos faunai rūšis *Antocha* (*Antocha*) *quadrifurca* Alexander, 1971. Tyrimo metu pirmą kartą į GenBank duomenų bazę buvo pateikta 17 genties *Antocha* rūšių mtDNR citochromo c oksidazės I subvieneto sekų, o po atliktų rūšies ribų nustatymo analizių išsiaiškinta, kad *Antocha* (*Antocha*) *fulvescens* Lackschewitz, 1940 ir *Antocha* (*Antocha*) *vitripennis* (Meigen, 1830) yra skirtingos rūšys. Šio darbo rezultatai prisidės, kuriant pagrindą būsimiems *Antocha* genties faunos tyrimams pasaulyje.

# **PUBLIKACIJŲ DISERTACIJOS TEMA SĄRAŠAS**

1. Markevičiūtė, R., Podenas, S., Saldaitis, A., Bernotienė, R., 2019. A new species of *Antocha* Osten Sacken, 1860 (Diptera: Limoniidae) from Sichuan, China. *Zootaxa* 4661: 118-132. ISSN 1175-5326 (print edition), ISSN 1175-5334 (online edition). DOI: 10.11646/zootaxa.4661.1.5.
2. Markevičiūtė, R., Podenas, S. & Saldaitis, A., 2021. New *Antocha* Osten Sacken (Diptera: Limoniidae) from Sichuan, China. *Zootaxa* 4969 (2): 280–292, ISSN 1175-5326 (print edition), ISSN 1175-5334 (online edition). DOI: 10.11646/zootaxa.4969.2.3.

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**Dissertation title:** Taxonomy and phylogeny of the genus *Antocha* Osten Sacken, 1860

**Subject area:** Natural Sciences, Zoology (N014)

**Scientofoc Supervisor:** Prof. Dr. Sigitas Podėnas

**Study duration:** 2017-2023.

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**SUMMARY**

*Antocha* Osten Sacken, 1860 is the genus of crane fly, which belongs to the family Limoniidae, subfamily Limoniinae. There are known 162 species and four subspecies of these insects. This research aimed to accomplish a taxonomic and phylogenetic review of the genus *Antocha*,and to gain new knowledge about this insufficiently investigated group of insects.

During this research, type and non-type specimens were examined and illustrated. Also, phylogenetic analysis of this genus species was conducted for the first time. Twenty-five species groups were found after phylogenetic analysis, of which twenty-two are mentioned for the first time. According to morphological characters and phylogenetic analysis, it was figured out that *Antocha* (*Antocha*) *brevistyla* Alexander, 1924 belongs to the subgenus *Proantocha* Alexander, 1919. Two new species of *Antocha* were described and characterized molecularly: *Antocha* (*Antocha*) *bella* Markevičiūtė & Podenas, 2019 and *Antocha* (*Antocha*) *pulchra* Markevičiūtė & Podenas, 2021, and a new species for the Chinese fauna *Antocha* (*Antocha*) *quadrifurca* Alexander, 1971 was discovered. Moreover, sequences of 17 species of this genus mtDNA cytochrome c oxidase subunit I were supplied to the GenBank for the first time, and after species delimitation analysis was found that *Antocha* (*Antocha*) *fulvescens* Lackschewitz, 1940 and *Antocha* (*Antocha*) *vitripennis* (Meigen, 1830) are different species. These results provide the basis for future research of the genus *Antocha* fauna in the world.

**LIST OF PUBLICATIONS OF THE DISSERTATION TOPIC**

1. Markevičiūtė, R., Podenas, S., Saldaitis, A., Bernotienė, R., 2019. A new species of *Antocha* Osten Sacken, 1860 (Diptera: Limoniidae) from Sichuan, China. *Zootaxa* 4661: 118-132. ISSN 1175-5326 (print edition), ISSN 1175-5334 (online edition). DOI: 10.11646/zootaxa.4661.1.5.
2. Markevičiūtė, R., Podenas, S. & Saldaitis, A., 2021. New *Antocha* Osten Sacken (Diptera: Limoniidae) from Sichuan, China. *Zootaxa* 4969 (2): 280–292, ISSN 1175-5326 (print edition), ISSN 1175-5334 (online edition). DOI: 10.11646/zootaxa.4969.2.3.