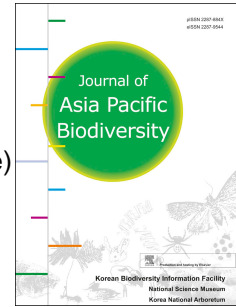


Accepted Manuscript

Taxonomic review of the subfamily Rhyssinae Morley (Hymenoptera: Ichneumonidae) with seven newly recorded species from South Korea

Ki-Beom Kim, Gyu-Won Kang, Jong-Wook Lee



PII: S2287-884X(17)30170-X

DOI: [10.1016/j.japb.2017.11.005](https://doi.org/10.1016/j.japb.2017.11.005)

Reference: JAPB 271

To appear in: *Journal of Asia-Pacific Biodiversity*

Received Date: 8 June 2017

Revised Date: 8 November 2017

Accepted Date: 22 November 2017

Please cite this article as: Kim K-B, Kang G-W, Lee J-W, Taxonomic review of the subfamily Rhyssinae Morley (Hymenoptera: Ichneumonidae) with seven newly recorded species from South Korea, *Journal of Asia-Pacific Biodiversity* (2018), doi: 10.1016/j.japb.2017.11.005.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Taxonomic review of the subfamily Rhyssinae Morley (Hymenoptera: Ichneumonidae) with seven newly recorded species from South Korea

Ki-Beom Kim, Gyu-Won Kang & Jong-Wook Lee*

Department of Life Sciences, Yeungnam University, Gyeongsan, 38541, South Korea.

*Corresponding author. Email: jwlee1@ynu.ac.kr

Abstract: We report seven ichneumonids species new to South Korea. These species belong to the subfamily Rhyssinae. Among them, three genera are newly recorded for the first time from South Korean fauna. Keys to South Korean species and genera, diagnoses of nine newly recorded species and digital images are provided.

Key words: new record, taxonomy, *Epirhyssa*, *Rhyssella*, *Triancyra*.

Introduction

Rhyssinae Morley, 1913 are relatively small subfamily belonging to the family Ichneumonidae and comprises 259 species across eight genera worldwide. Members of this subfamily include 40 species in the Eastern Palaearctic region, 57 species in China (38 from Oriental region and 27 from Eastern Palaearctic region), and 20 species in Japan and 19 species in Far East Russia (Yu et al 2016; Watanabe 2016). Most rhyssines are idiobiont ectoparasitoid of wood boring Symphyta and Coleoptera hosts (Yu et al 2016).

South Korean Rhyssinae remains poorly studied until now. In a recent study on Rhyssinae in South Korea, only four species belonging to the genera *Megarhyssa* and *Rhyssa* were reported: *M. gloriosa* (Matsumura), *M. jezoensis* (Matsumura), *M. praecellens* (Tosquinet) and *R. persuasoria* (Linnaeus) (Uchida 1928, 1942, 1955; Kim 1955; Townes et al 1965; Shin and Yoon 1994).

At this time, five genera of Rhyssinae (*Epirhyssa*, *Megarhyssa*, *Rhyssa*, *Rhyssella* and *Triancyra*) are recognized in South Korea. Three genera, *Epirhyssa*, *Rhyssella* and *Triancyra* are recorded from South Korea for the first time. We also provide keys to 11 South Korean species and five genera, diagnoses and digital images.

Materials and methods

Materials used in this study were collected by sweep net and Malaise traps, after which they were deposited in the Animal Systematic Laboratory of Yeungnam University (YNU, Gyeongsan, South Korea). Specimens were examined using an AxioCam MRc5 camera attached to a stereo microscope (Zeiss SteREO Discovery. V20; Carl Zeiss, Göttingen, Germany), processed using AxioVision SE64 software (Carl Zeiss), and optimized with a Delta imaging system (i-solution, IMT i-Solution Inc. Vancouver, Canada). The terminology for morphological features mostly follows that of Townes (1969). Distributional data mainly follow that of Yu et al (2016).

Abbreviations are used as follows: **ASIZ**, Academia Sinica, Institute of Zoology, Beijing, China; **TMA**, Termesztudományi Múzeum Allattara, Budapest, Hungary; **HU**, Hokkaido University, Sapporo, Japan; **IRSN**, Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium; **LS**, Linnaean Society, London, United Kingdom; **MF**, Ministry of Forestry, General Station of Forest Pest Management, China; **MNHN**, Muséum National d'Histoire Naturelle, Paris, France; **NHM**, The Natural History Museum, Department of Entomology, London, United Kingdom; **USNM**, U.S. National Museum of Natural History, Smithsonian Institute, Washington, U.S.A; **UZM**, Universitets Zoologiske Museum, Copenhagen, Denmark; **ZI**, Zoologiska Institutionen, Sweden; **ZMHU**, Zoologisches Museum, Berlin, Germany; **GW**, Gangwon-do; **CB**,

Download English Version:

<https://daneshyari.com/en/article/8848683>

Download Persian Version:

<https://daneshyari.com/article/8848683>

[Daneshyari.com](https://daneshyari.com)