



Entomofauna

ZEITSCHRIFT FÜR ENTOMOLOGIE

Band 36, Heft 20: 245-248

ISSN 0250-4413

Ansfelden, 2. Januar 2015

New records of *Alloxysta* FÖRSTER, 1869 (Hymenoptera: Cynipoidea: Figitidae: Charipinae) from Algeria

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Abstract

Nowadays 19 Charipinae species are known from Africa. In the current note material of this group collected from Algeria has been studied. Previously, only two species were cited in this country: *Alloxysta quedenfeldti* and *Phaenoglyphis villosa*. Now, five more *Alloxysta* species are cited for the first time from Algeria too: *A. arcuata*, *A. consobrina*, *A. fracticornis*, *A. pilipennis* and *A. victrix*. Information about how these species have been collected is also given.

Zusammenfassung

Aktuell sind 19 Arten Charipinae (Hymenoptera: Cynipoidea: Figitidae: Charipinae) aus Afrika bekannt. Studien an algerischem Material erbrachte den Nachweis 5 weiterer Spezies: *Alloxysta arcuata*, *A. consobrina*, *A. fracticornis*, *A. pilipennis* und *A. victrix*, nachdem für dieses Land bisher nur die Arten *Alloxysta quedenfeldti* und *Phaenoglyphis villosa* bekannt waren.

Introduction

Charipinae (Hymenoptera: Cynipoidea: Figitidae) are widely distributed all over the world. Members of this subfamily have been cited in all biogeographical regions. They are very small wasp with very few diagnostic features to identify at species level.

This subfamily is compound by 8 valid genera: *Alloxysta* FÖRSTER, 1869 (cosmopolitan), *Phaenoglyphis* FÖRSTER, 1869 (cosmopolitan), *Lytoxysta* KIEFFER, 1909 (North America), *Lobopterocharips* PARETAS-MARTÍNEZ & PUJADE-VILLAR, 2007 (Nepal), *Dilyta* FÖRSTER, 1869 (cosmopolitan except Australia), *Apocharips* FERGUSSON, 1986 (Eastern Palaearctic and Neotropics), *Dilapothor* PARETAS-MARTÍNEZ & PUJADE-VILLAR, 2006 (Australia) and *Thoreauana* GIRault, 1930 (Australia). *Alloxysta* and *Phaenoglyphis* species are mostly collected in front to the other genera. These genera are characterized being hyperparasitoids of aphids via primary parasitoids Aphidiinae (Hymenoptera: Ichneumonoidea: Braconidae) and Aphelininae (Hymenoptera: Chalcidoidea: Aphelinidae) (MENKE & EVENHUIS 1991). They affect effectiveness of the primary parasitoids of aphids by decreasing their abundance and modifying their behavior. As a result, increase of aphid populations can cause severe yield losses in some crops.

According to FERRER-SUAY et al. (2013), there are in total 19 Charipinae species known from Africa, which belong to 4 genera: *Alloxysta antananarivoi* FERRER-SUAY & PUJADE-VILLAR, 2012, *A. antsirananae* FERRER-SUAY & PUJADE-VILLAR, 2012, *A. arcuata* (KIEFFER, 1902), *A. brevis* (THOMSON, 1862), *A. castanea* (HARTIG, 1841), *A. citripes* (THOMSON, 1862), *A. consobrina* (ZETTERSTEDT, 1838), *A. hendrickxi* (BENOIT, 1956), *A. mullensis* (CAMERON, 1883), *A. pilipennis* (HARTIG, 1840), *A. postica* (HARTIG, 1841), *A. victrix* (WESTWOOD, 1833), *Apocharips trapezoidea* (HARTIG, 1841), *Dilyta africana* (BENOIT, 1956), *D. australafricana* PARETAS-MARTÍNEZ & PUJADE-VILLAR, 2009, *D. ghanana* PARETAS-MARTÍNEZ, PUJADE-VILLAR & MELIKA, 2009, *D. kenyana* PARETAS-MARTÍNEZ & PUJADE-VILLAR, 2009, *D. somaliana* PARETAS-MARTÍNEZ, PUJADE-VILLAR & EVENHUIS, 2009 and *Phaenoglyphis villosa* (HARTIG, 1841).

However, still few species have been recorded from the north of Africa. We are going to focus in this work on the Charipinae collected in Algeria. Until now, only 2 species have been cited in this country: *Alloxysta quedenfeldti* was described from Algeria by KIEFFER (1909: 482) and in the same work this author also cited *P. villosa* from Algeria.

To make an inventory of Hymenoptera parasitoids species, a weekly sampling was done on the culture of pepper from January to July. To do this, it was chosen randomly pepper plants 100, and each plant, three sheets were taken at three levels (high, medium and low), giving a total of 300 sheets to be separated by the result in bags labeled and transported to the laboratory to be examined under a binocular microscope. Mummified aphids were separated and placed in micro-tubes labeled. After emergence obtained, these are stored individually in adult's micro-tubes containing 90 % ethanol for later identification based on different taxonomic key.

In total, 5 *Alloxysta* species are here cited for the first time from Algeria: *A. arcuata*, *A. consobrina*, *A. fracticornis*, *A. pilipennis* and *A. victrix*. Most of these species are cosmopolitan, well represented in all biogeographical regions. Morphological features of these species and illustrations are shown in FERRER-SUAY et al. (2013).

Studied Material

Alloxysta arcuata (KIEFFER, 1902)

Material studied: (2♂♂ & 2♀♀): Beni Boublene, 12/05/2009, *Aphis fabae* on *Galictites tomentosa*, F. Boukreris col.: 2♂♂ & 1♀; Mostaganem, *Capsicum annuum*, *Myzus persicae*, M. Boualem col., 08/04/2012-28/04/2012: ♀.

Alloxysta consobrina (ZETTERSTEDT, 1838)

Material studied: (1♂ & 3♀♀): Mostaganem, *Capsicum annuum*, M. Boualem col., 07/04/2013-21/04/2013: ♀; 07/04/2013-17/04/2013: ♀; 07/04/2013-17/04/2013: ♀; Péc10: 13.06.11, Pêcher, Sablette: ♂ & ♀.

Alloxysta fracticornis (THOMSON, 1862)

Material studied: (1♀): Beni snouss, 01/06/2009, *Daucus carotta*, F. Boukreris col.": 1♀.

Alloxysta pilipennis (HARTIG, 1840)

Material studied: (2♀♀): Mostaganem, *Capsicum annuum*, *Myzus persicae*, M. Boualem col., 03/05/2012-22/05/2012: ♀; 08/04/2012-05/05/2012: ♀.

Alloxysta victrix (WESTWOOD, 1833)

Material studied: (15♂♂ & 7♀♀): Ain fezza, 17/05/2009, *Acyrthosiphon pisum* on *Vicia faba*, F. Boukreris col.: ♀; Mostaganem, *Capsicum annuum*, M. Boualem col., 14/04/2013-23/04/2013: ♂; 31/03/2013-08/04/2013: ♀; 28/04/2013-05/05/2013: ♂; 14/04/2013-21/04/2013: ♂; 07/04/2013-16/04/2013: ♂; 14/04/2013-20/04/2013: ♂; 07/04/2013-13/04/2013: ♂; 07/04/2013-20/04/2013: ♀; 23/03/2012-04/04/2012: ♀; 16/04/2012-20/04/2012: ♂; 16/04/2012-16/04/2012: ♀; 19/04/2012-03/05/2012: ♂; 16/04/2012-20/04/2012: ♂; 08/04/2012-24/04/2012: ♂; 08/04/2012-28/04/2012: ♂; 16/04/2012-25/04/2012: ♀; 29/04/2012-30/04/2012: ♀; Mazagran, *M. persicae* on pepper, Ghelamallah, 29/03/2012: ♀; 01/04/2012: ♀; 31/03/2012: ♀; Houssyen, *M. persicae* on pepper, Ghelamallah, 25/02/2012: ♀.

Phaenoglyphis villosa (HARTIG, 1841)

Material studied: (3♂♂ & 25♀♀): Beni Boublene, 12/05/2009, *Brachycaudus helichrysi* on *Prunus persica*, F. Boukreris col.: ♀; Saf saf, 17/05/2009, *Lactuca sativa*, F. Boukreris col.: 2♂♂ & ♀; Mostaganem, *Capsicum annuum*, M. Boualem col., 21/04/2013-27/04/2013: ♀; 14/04/2013-23/04/2013: ♀; 07/04/2013-23/04/2013: ♀; 07/04/2013-23/04/2013: ♀; 21/04/2013-25/04/2013: ♀; 21/04/2013-05/05/2013: ♀; 21/04/2013-26/04/2013: ♀; 14/04/2013-27/04/2013: ♀; 07/04/2013-23/04/2013: ♀; 14/04/2013-27/04/2013: ♀; 21/04/2013-09/05/2013: ♀; 14/04/2013-15/04/2013: ♀; 21/04/2013-06/05/2013: ♀; 14/04/2013-27/04/2013: ♀; 21/04/2013-27/04/2013: ♀; 14/04/2013-24/04/2013: ♀; 07/04/2013-27/04/2013: ♀; 28/04/2013-09/05/2013: ♀; 21/04/2013-05/05/2013: ♀; 14/04/2013-25/04/2013: ♀; 08/04/2012-10/04/2012: ♂; 21/04/2013-09/05/2012: ♀; sur *Myzus persicae*, host plant: pepper, Mostaganem: 2♀♀.

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Druck, Eigentümer, Herausgeber, Verleger und für den Inhalt verantwortlich:

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Zeitschrift/Journal: [Entomofauna](#)

Jahr/Year: 2015

Band/Volume: [0036](#)

Autor(en)/Author(s): Ferrer-Suay Mar, Ghelamallah Amine, Boualem Malika, Bouhraoua Rachid, Selfa Jesus, Pujade-Villar Juli

Artikel/Article: [New records of Alloxysta FÖRSTER, 1869 \(Hymenoptera: Cynipoidea: Encyrtidae: Charipinae\) from Algeria 245-248](#)