

## Studies on Cynipidae Alloxystinae

4. *Alloxysta macrophadna* (Hartig, 1841) and *Alloxysta brassicae* (Ashmead, 1887)

by

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*Institute of Phytopathological Research (IPO), Wageningen**Alloxysta macrophadna* (Hartig)*Xystus macrophadnus* Hartig, 1841, *Z. Ent. Germ.* 3, p. 352, ♀.*Alloxysta scutellata* Kieffer, 1902, *Bull. Soc. Hist. nat. Metz*,

2 Sér., Tome 10, 22 cah. p. 9—10, ♂ ♀, new synonym.

In the Hartig collection there are five specimens indicated as *Xystus macrophadnus*, mounted on two pins. One pin bears one female specimen, glued on a small white triangular piece of paper; it is labelled with Hartig's handwriting "macrophadnus m". The other pin bears four specimens, each glued separately on a small white triangular piece of paper. From the top downwards there is a female, a male and two females. The third specimen resembles the separate one and I accept it as belonging to the same species. The other three no doubt belong to one or more different species.

Hartig's original description is short; he mentions: "...capite ...rufis". As the two specimens in question have a distinctly red head while this is more darkened in the three others, I consider the former two to be the syntypes, and I herein designate the female mounted singly as the lectotype of *Xystus macrophadnus* Hartig.

Kieffer (1902 b) and Dalla Torre & Kieffer (1910) give in their keys as a differentiating character for *Alloxysta macrophadna*, that the radial cell is not only open at the wing margin, but also at its proximal end. This character may refer to specimens of Marshall's collection that were seen by Kieffer, for in his table of 1902 he adds: "Collection du Rév. Marshall". The Hartig types do not however show this character, nor do any earlier authors mention it (Jansson, 1950).

As Kieffer's conception of *Alloxysta macrophadna* (Hartig) was wrong, it is not astonishing that he described the real *Alloxysta macrophadna* under the new name *Alloxysta scutellata* Kieffer, 1902 (Kieffer, 1902 a). Mr. F. Barbotin compared Kieffer's types, that are in the Museum of Amiens (Dessart, 1969), with his own specimens reared from *Acyrtosiphon pisum* (Harris) and found them conspecific.

I have a number of specimens from the Netherlands that agree with Hartig's types of *Xystus macrophadnus*. One of these was reared from a mummy of *Acyrtosiphon pisum* on *Trifolium pratense*. Furthermore I received a number of the same species sent to me by Mr. F. Barbotin, as already mentioned, who reared them in France from mummies of *Acyrtosiphon pisum* on *Medicago sativa* through the primary parasite *Aphidius ervi* Haliday. I also have quite a number of specimens from Dr. M. Boness, who reared them from the same hosts on cultivated *Medicago sativa* in West Germany. Starý (1962) mentions *Alloxysta scutellata* as a hyperparasite of *Acyrtosiphon onobrychidis* (Boy.) (= *A. pisum*) through *Aphidius ervi* on lucerne in Czechoslovakia.

It may thus be concluded that *Alloxysta macrophadna* is a common hyperparasite of *Acyrtosiphon pisum* through *Aphidius ervi* in Western and Central Europe. It seems especially to have been reared from that aphid on cultivated *Medicago sativa*.

## Morphological characters

Antennae in the male with segments 4 and 5 distinctly curved (Fig. 1). Pronotum covered with a rather dense pubescence along its front edge and less densely, with longer and thinner hairs, on the rest of its surface, except for a narrow median band which is bare and the posterolateral corners which are almost bare (Fig. 2). Fore-wing with radial cell open at its front margin; distal part of radial vein long, curved and ending bluntly before the front edge of the wing at a distance which is about equal to



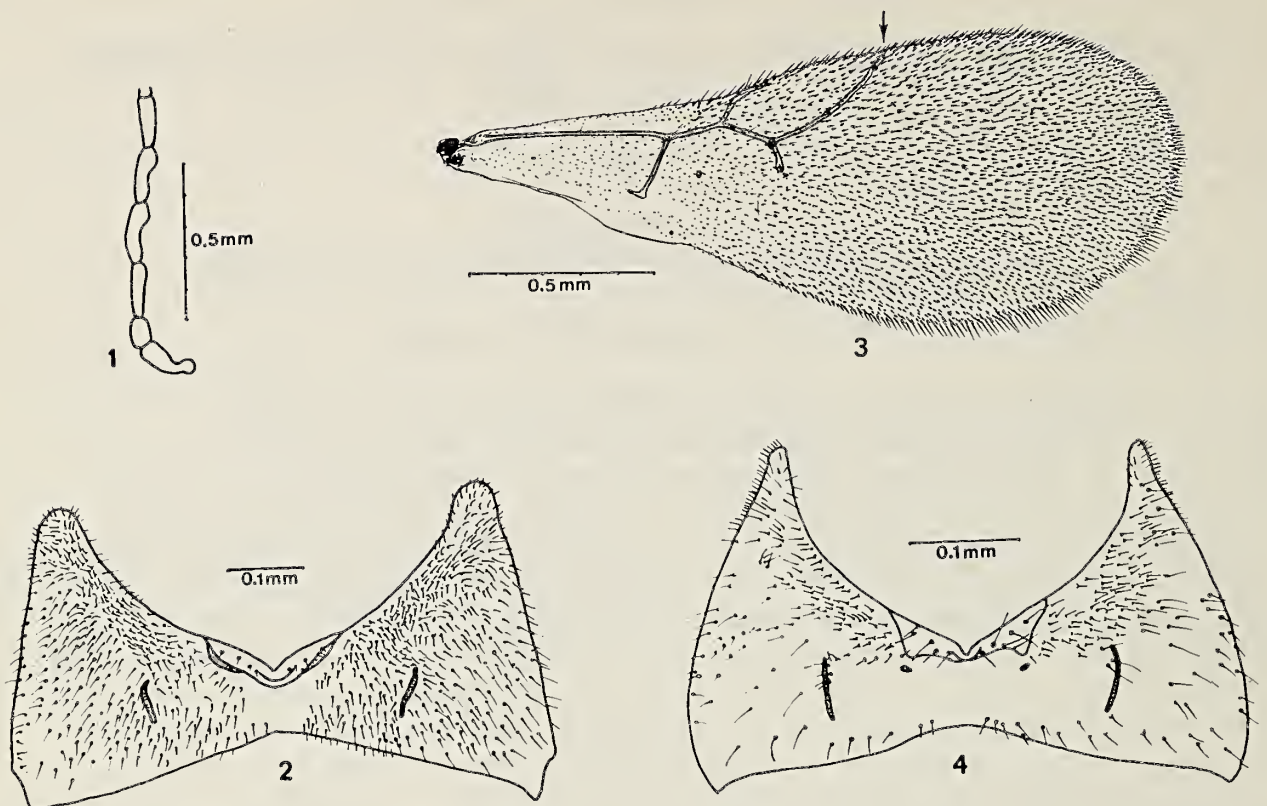


Fig. 1—3. *Alloxysta macrophadna* (Hartig): 1. Antenna (♂), first six segments, 2. Pronotum ((♂ ♀). The figure was prepared after a microscopical slide, so that the sides are more or less curved upwards. The shape of the anterolateral corners is rather characteristic, but only to be seen in a microscopical slide, 3. Fore-wing (♂ ♀).

Fig. 4. *Alloxysta brassicae* (Ashmead). Pronotum after a microscopical slide (♂ ♀).

the thickness of the vein (Fig. 3, arrow). Propodeum without keels, covered with long hairs all over its surface.

#### Colour pattern

Male and female: Head red, antennae reddish yellow, from the sixth segment darkened. Thorax black, tegulae reddish, legs reddish yellow, sometimes the last two or three tarsal segments darkened. Wings with dirty yellow veins. Abdomen black or blackish.

Length male and female: 1.2—1.6 mm.

This species may be easily recognized by its rather large size, its red head, its characteristically shaped radial cell and its almost wholly pubescent pronotum.

Förster (1869) indicated it as the type-species of his genus *Alloxysta*.

#### *Alloxysta brassicae* (Ashmead)

*Allotria brassicae* Ashmead, 1887, *U.S. Dep. Agric., Div. Ent.* 14, p. 14, ♂ ♀.

*Allotria victrix* var. *infuscata* Kieffer, 1902, *Bull. Soc. Hist. nat. Metz*, 2 Sér., Tome 10, 22 cah., p. 16, ♂ ♀, new synonym.

Since my paper in which I discussed *Alloxysta infuscata* (Kieffer) (Evenhuis, 1972) I have had the opportunity to study two types of *Allotria brassicae* Ashmead housed in the National Museum of Natural History at Washington, U.S.A. Ashmead (1887) mentions that they were reared from the cabbage aphid, *Aphis brassicae* L. (= *Brevicoryne brassicae* (L.)), in Florida. He reports that *Trionyx rapae* Curtis (= *Diaeretiella rapae* (M'Intosh)) was reared from the same aphid. Thus I accept that Ashmead's *Allotria brassicae* is a hyperparasite of *Brevicoryne brassicae* through the primary parasite *Diaeretiella rapae*.



Ashmead's description does not fit the two types very well. As I have pointed out (Evenhuis, 1972), the description suggests that the species is a *Phaenoglyphis*. I do not understand what Ashmead means with "parapsides distant", as I fail to see any indication of parapsidal furrows in the types. Neither do I see that the transverse groove at the base of the scutellum is deeper than in other *Alloxysta* species. It is evident that the species belongs to the genus *Alloxysta*.

Though Ashmead described the male and the female, the two specimens I have seen and which seem to be the only types of this species present in the Museum in Washington, are females. Both have been glued on the tip of a small white triangular piece of cardboard. The colours of head, thorax and abdomen have changed from black, mentioned in the original description, to red brown, but this is not surprising since the two specimens have been preserved for almost one century. They are a little smaller than the specimens, reared from the cabbage aphid, in my collection.

Mr. F. Barbotin has compared my specimens reared from *Brevicoryne brassicae* with Kieffer's types of *Allotria victrix* var. *infuscata* and found them to belong to the same species. Since the two Ashmead types resemble in other respects my specimens as to the shape of the radial cell, the antennae, the propodeum and especially the pubescence of the pronotum (Fig. 4), I consider them as conspecific with *Alloxysta infuscata* (Kieffer), which makes the latter name a junior synonym.

Both types bear a white label with "Jackson Fla" and another with "Collection Ashmead". Furthermore each bears a red label with "Type No. 2845 U.S.N.M." and "Type No. 2846 U.S.N.M.", respectively. I selected the latter specimen, which also bears a label with handwritten "Allotria brassicae Ashm", as the lectotype, because it is the best mounted and best preserved of the two. It is undamaged.

I have received a large number of *Alloxysta* specimens from Prof. Dr. H. Schmutterer, reared as hyperparasites from the cabbage aphid in Kenya, Africa. They belong no doubt to the same species. Dr. P. Starý informed me that *Diaeretiella rapae* was the primary parasite in this case. Furthermore Dr. Starý sent me two males and two females of *Alloxysta brassicae* which were reared from *Brevicoryne brassicae* on cabbage through *Diaeretiella rapae* at Llianga, Angola, Africa. These observations seem to confirm that *Alloxysta brassicae* has been spread, together with *Brevicoryne brassicae* and *Diaeretiella rapae*, throughout the world where cabbage is grown.

I am indebted to Mr. F. Barbotin, Poitiers, France, for informations on Kieffer's types, to Mr. E. Diller, Munich, West Germany, for loan of Hartig's types, to Dr. P. D. Hurd Jr., Washington, U.S.A., for loan of Ashmead's types, to Dr. J. Quinlan, London, England, and Prof. Dr. J. T. Wiebes, Leyden, for reading the manuscript critically, and to Mr. F. Barbotin, Dr. M. Boness, Leverkusen, West Germany, Prof. Dr. H. Schmutterer, Giessen, West Germany and Dr. P. Starý, Prague, Czechoslovakia, for furnishing specimens of Alloxystinae.

### Summary

The identity of two species is discussed, viz. *Alloxysta macrophadna* (Hartig), which is a hyperparasite of *Acyrtosiphon pisum* through *Aphidius ervi*, and *Alloxysta brassicae* (Ashmead) with a worldwide distribution just like its hosts *Brevicoryne brassicae* and *Diaeretiella rapae*.

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*Anoplius alpinobalticus* Wolf in Nederland (Hymenoptera, Pompilidae) - Tijdens onze laatste zomervergadering te Venlo (16.VI.1973) ving ik in de eerste zandgroeve een serie zwarte spinnendoders van het genus *Anoplius*. Een ♂ van die serie plaatste me voor een raadsel: duidelijk gesteelde derde cubitaalcel en borstelige beharing op de sternieten.

Na controle door Heinrich WOLF te Plettenberg (Westf.) bleek het hier om *alpinobalticus* te gaan. De auteur was zeer verheugd en verbaasd. Van de soort waren slechts zes ♀♀ en elf ♂♂ bekend van Finland, enkele bergen rondom de Povlakte, Straatsburg en Harbin (China).

Zie H. WOLF, 1972. Hymenoptera: Pompilidae, *Ins. Helv.* 5: 153 en 156.

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#### ESSEN, A. VAN, DE CHLOROCOCCALES, EEN BELANGRIJKE ORDE VAN GROENWIJEREN.

Wetenschappelijke mededelingen van de K.N.N.V. nr. 100, 88 pagina's, 116 figuren; februari 1974.

Het onderwerp van deze W.M. ligt buiten het terrein van de entomologie, maar ik vermeld toch de publikatie ervan, want het is de honderdste van deze unieke serie meest korte verhandelingen over natuurhistorische onderwerpen. Het is dit keer een echt feestelijke W.M. met maar liefst 116 prachtige figuren naar pentekeningen van de auteur. Fig. 14 is als titelvignet ook gekleurd afgebeeld en dezelfde fraaie groene kleur is gebruikt voor de titels van de hoofdstukken. De prijs voor dit nummer is f7,— (voor leden K.N.N.V. f 6,25).

Ik ben ervan overtuigd dat ik uit naam van de hele N.E.V. spreek, als ik de redacteur van deze serie, de heer G. Houtman, van harte geluk wens met het succes ervan. Compleet is zij al lang niet meer te koop en diverse nummers beleefden al twee of meer drukken.

Het mag nog wel eens vermeld worden, dat zowel redacteur als auteurs geen enkele vergoeding ontvangen. Al het geld dat uit de verkoop binnen komt, wordt onmiddellijk gebruikt voor nieuwe nummers. Hieronder volgt een lijstje van de nog verkrijgbare entomologische nummers (titels verkort) met de voor onze leden geldende voorkeursprijzen: 4 Oorwormen, 4de druk, f 2,65; 13 Nederl. Spinnen, 3de druk, f 2,50; 16 Luisvliegen, 2de druk, f 2,75; 18 Nederl. Bijen, 2de druk, f 3,50; 30 Mieren, 2de druk, f 3,50; 38 Dazen en Horzels, 2de druk, f 2,25; 41 Nederl. Wolfspinnen, 2de druk, f 3,—; 62 *Tenthredo* f 2,75; 64 Overzicht parasitaire Hymenoptera f 3,—; 66 Nederl. Lycaenidae f 3,50; 67 Nederl. Wespen f 3,50; 72 Vlooiën Benelux f 3,25; 77 Waterwantsen f 4,25; 89 Nederl. Mineervliegjes f 3,50; 91 Mijten 6,—; 92 Tabel orden en families Ned. ins. f 5,—; 94 Bladmineerders bomen en struiken f 4,50.

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