48-3 - Kühne, S.[1]; Pohl, D.[2]; Karaca, I.[2]; Wyss, U.[3]; Moll, E.[1]

[1] Julius Kühn-Institut, Bundesforschungsinstitut für Kulturpflanzen
[2] Süleyman Demirel University, Faculty of Agriculture, Isparta, Turkey,
[3] Christian-Albrechts-Universität Kiel

Review of *Coenosia attenuata* STEIN and its first record in Turkish greenhouses as natural predator of important greenhouse pests

Review der räuberischen Fliege Coenosia attenuata Stein (Diptera: Muscidae) und ihr Erstnachweis in türkischen Gewächshäusern als Prädator wichtiger Gewächshausschädlinge

The important role of *Coenosia attenuata* Stein, 1903 (Muscidae: Coenosia Meigen, 1826) as a player in a biological pest control system has been increasingly realized during recent years. There are new recordings of this predatory fly worldwide and several teams of researchers are working on its life cycle, behavior and enhancement.

For the first time, the appearance of *Coenosia* flies in greenhouses in the region of Antalya (Turkey) was investigated. Greenhouses in Turkey where an integrated mode of husbandry is practised can be colonised by high number predatory flies of the species *C. attenuata*. The evaluation of sticky traps has shown that from the predatory genus *Coenosia*, exclusively *C. attenuate,* populated the investigated greenhouses in high numbers. The flies were found in tomato and herbs. In the greenhouse with herb production in pots, *C. attenuata* seems to have been established for a long period of time (our unpublished data from 2009 prove the presence of *C. attenuata* between March and May) and occurs in rather high numbers. As their main prey, *C. attenuata* feed on *Bradysia difformis* but also on whiteflies and other small flying insects. The remains of the prey can be observed on the surface of the herb leaves. During the monitoring period, four insecticide treatments were carried out against whiteflies (Pymetrozin and Azadirachtin) and thrips (Spinosad and Pyrethrum). Four fungicide applications were also conducted. We assumed that Pymetrozin, Spinosad and Pyrethrum, all with contact action, would reduce the number of the adult *Coenosia* flies, whereas Azadirachtin, a stomach insecticide, should have a low effect. No influence of fungicide treatments on *Coenosia* is expected. Between November and December 2010 insecticide use was limited to a single Spinosad application in the greenhouse. Therefore, *Coenosia* flies appeared in large numbers with a maximum of 122 flies per yellow sticky card on 10 December 2010. The regression of *Coenosia* flies in the second half of December might be a result of intraspecific competition and/or food shortage for the adults and larvae.

Studies on the activity have shown that *Coenosia* predators do not simply colonise greenhouses from the outside for short periods but that they can complete their developmental cycle in the greenhouse soil and can become established there for a long period of time. The species of *Coenosia* can build up effective populations under greenhouse conditions, and as non-specific predators can feed on a variety of pest groups and on innocuous species. Their natural occurrence in greenhouses is to understand as a bioindicator for IPM with reduced pesticide applications.

Literatur

POHL, D., KÜHNE, S., KARACA, I., MOLL, E., 2011: Review of *Coenosia attenuata* Stein and its first record as a predator of important greenhouse pests in Turkey. Phytoparasitica, 1 - 6.

48-4 - Schubert, R.[1]; Volkmar, C.[1]; Zimmermann, O.[2]

[1] Martin-Luther-Universität Halle-Wittenberg
[2] AMW Nützlinge GmbH, Pfungstadt

Versuche zur Wirksamkeit von *Bracon brevicornis* gegen den Maiszünsler *Ostrinia nubilalis* im Gewächshaus

The efficiency of parasitisation of Bracon brevicornis in opposite to Ostrinia nubilalis in greenhouse

Die Bedeutung des Maisanbaus nimmt weltweit immer weiter zu. Gründe sind zum einen die wachsende Weltbevölkerung und zum anderen der Bedarf an Mais als Energiepflanze. Ein Problem, das schon lange beobachtet wird, ist die Tatsache, dass Mais als Monokultur angebaut wird, um die immer größer werdende Nachfrage zu decken. Es sind durch dieses Anbauverhalten und sich verändernde klimatische Prozesse tierische Schädlinge nach Deutschland eingewandert, beziehungsweise haben ihr Schadgebiet vergrößert, so dass große wirtschaftliche Schäden prognostiziert werden. Als Schädlinge sind zum einen der Westliche Maiswurzelbohrer (*Diabrotica virgifera virgifera*) zu nennen und zum anderen der Maiszünsler (*Ostrinia nubilalis*).

Dadurch, dass der Maiszünsler einen Großteil seines Lebens im Stängel der Pflanze verbringt, ist es schwierig, ihn zu bekämpfen. Eine natürliche Art der Bekämpfung ist der Einsatz der Erzwespe, *Trichogramma brassicae*. Um die Palette der biologischen Bekämpfungsmöglichkeiten noch zu erweitern, wurde im Rahmen einer Masterarbeit