

# Introducing the CSALOMON<sup>®</sup> [CHRegg] lacewing egg concentrator\*

## From research to application



Foto: Koczor S.

\* Patent pending: P0800131 (OTH)



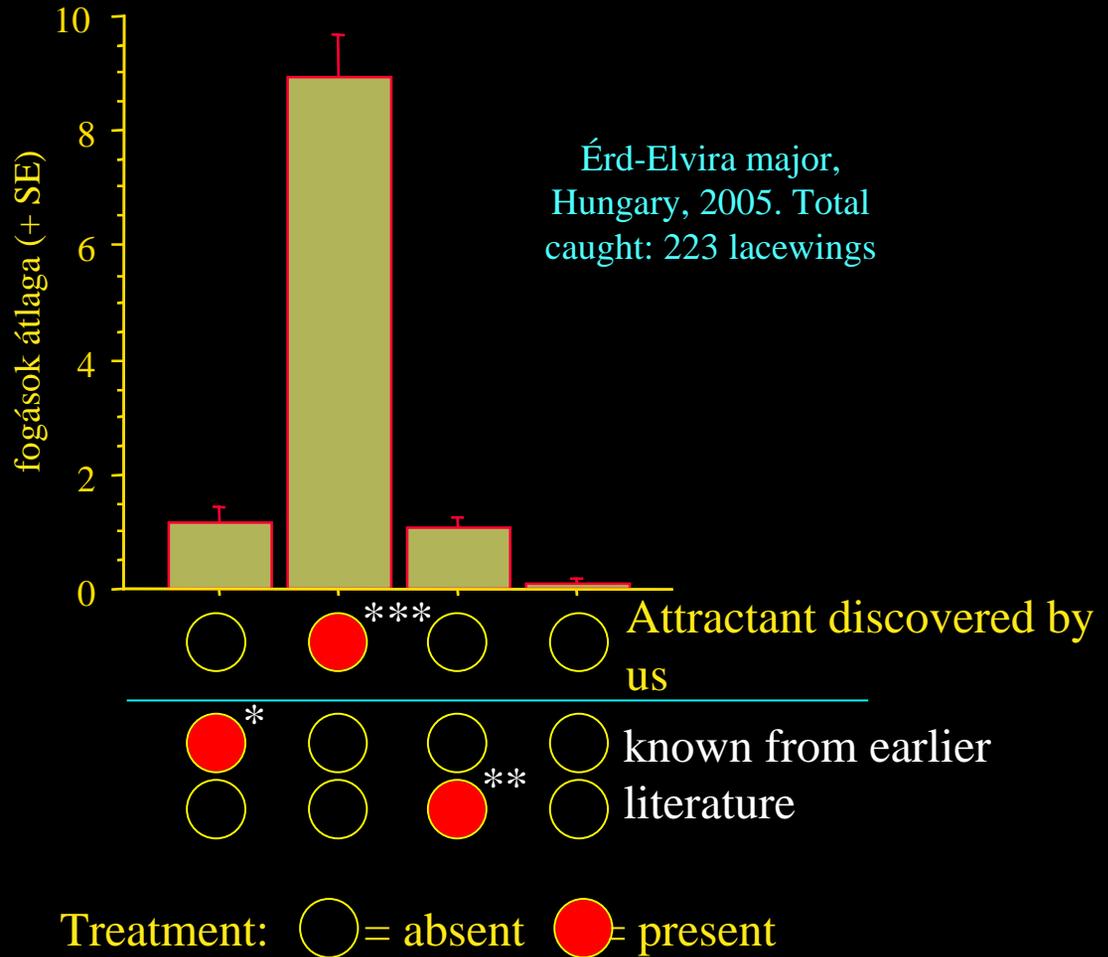
**Plant Protection Institute**

Centre for Agricultural Research  
Hungarian Academy of Sciences



# The discovery

Resulting from our basic research efforts we were lucky to recently discover a multi-component synthetic attractant which proved to be more potent for *Chrysoperla* lacewings than attractants described in earlier literature.

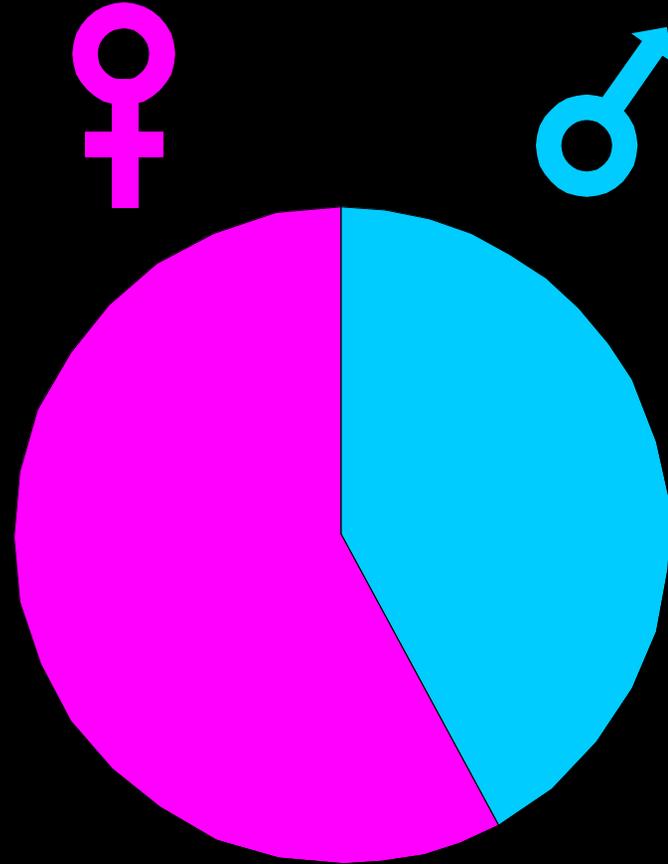


- \*Zhu; J.W. és mtsai., J. Chem. Ecol.. 25:1163, 1999;
- \*\* Umeya, K és mtsai., Appl. Ent. Zool. 10:60, 1975;
- \*\*\* Tóth M. és mtsai., J. Chem. Ecol.35:449, 2009.

# Our lure attracts also females

*Chrysoperla* lacewings have a wide occurrence worldwide and their artificially reared larvae are commercially available and are widely used in biological control.

Our newly discovered multicomponent attractant is also unique among lacewing attractants as it lures great numbers of females (to our knowledge no other effective female-attracting artificial lure is known from literature)

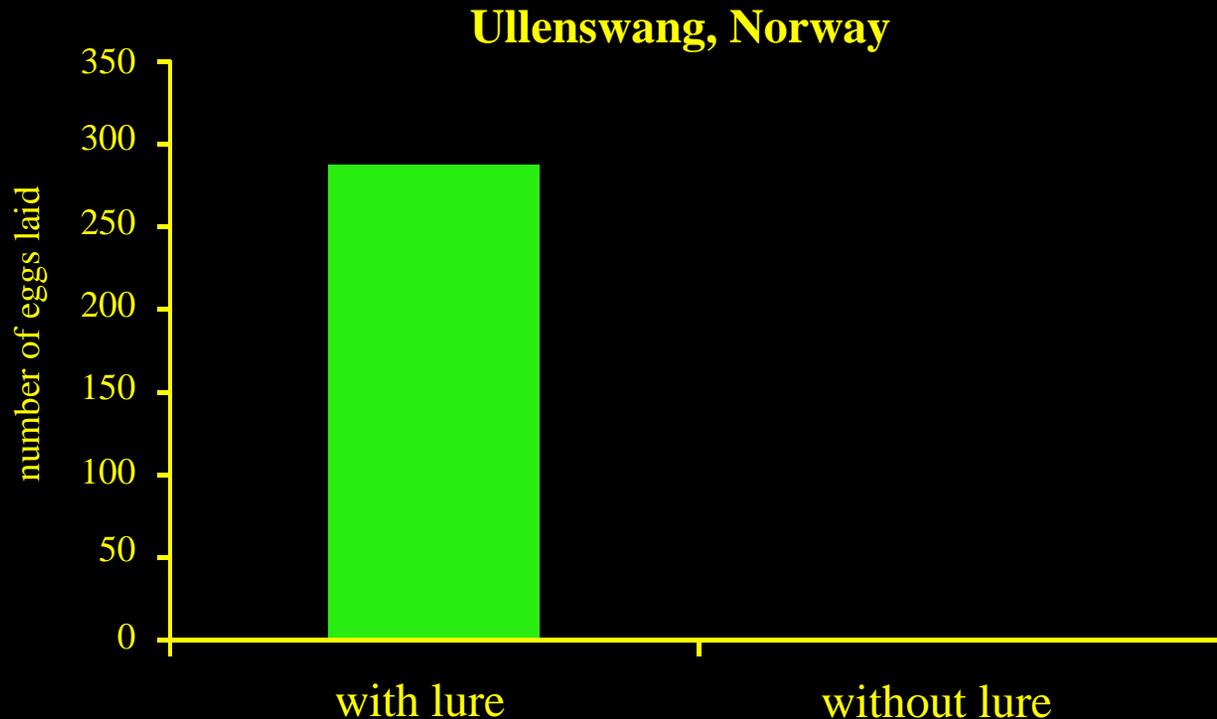


**A large percentage of lacewings attracted are females!**

Data from: Tóth és mtsai., J. Chem. Ecol. 35:449, 2009.

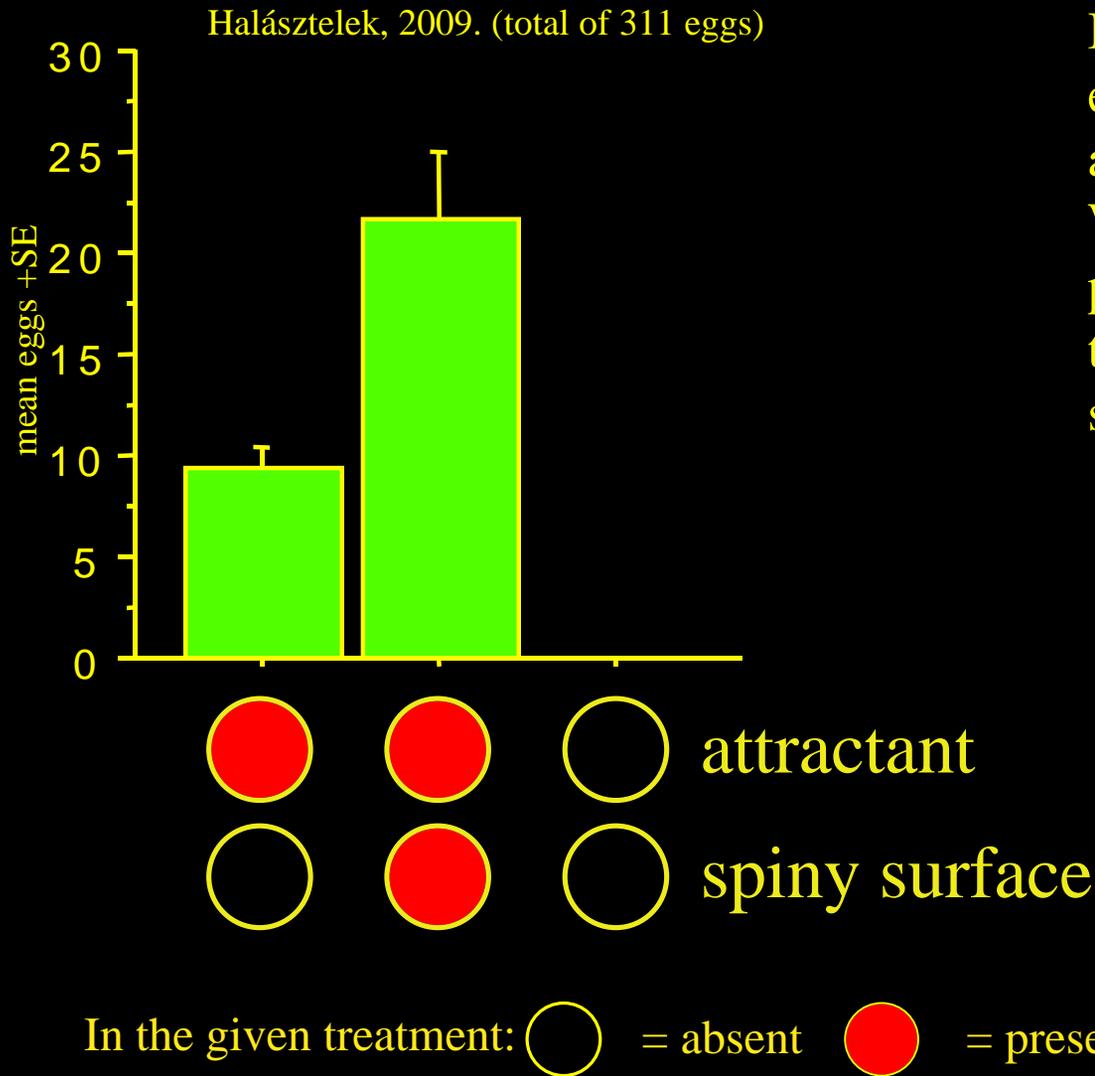
# The surprise

In the course of our tests we were surprised to observe that lacewings coming to the attractant would lay eggs on different parts of the trap!



This brought up the idea that by the help of the new attractant one can concentrate eggs of lacewings (naturally occurring in the biotope) to a preferred place (for example, to the plant to be protected)!

# Developing a product

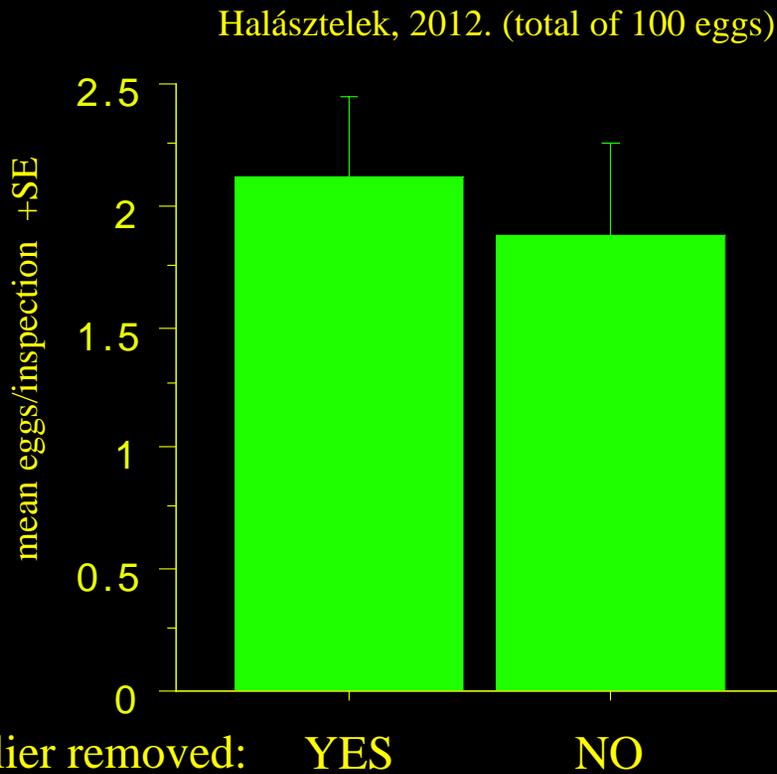


In order to increase the number of eggs laid, other possible stimuli affecting egg laying were studied. We found that if the attractant is placed on a spiny, rough surface, the number of eggs laid significantly increased!



Foto: Nagy Z.L.

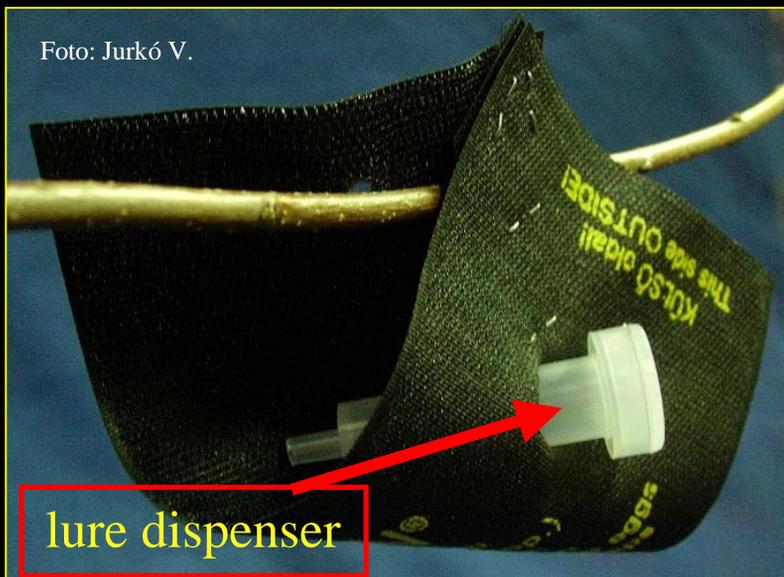
# No effect of eggs laid earlier



Presence of eggs laid earlier on spiny surfaces with the new attractant did not decrease the number of eggs laid afterwards. Thus, lacewings may lay eggs on the device as long as it becomes completely covered!

Data from: Koczor et al.: On possible practical applications of attractants for common green lacewings (*Chrysoperla carnea* species complex). Presentation, IOBC WPRS Pheromones and Other Semiochemicals Conference, October 1-5 2012, Bursa, Turkey

# The new product



The [CHRegg] egg concentrator when assembled

Based on our discovery and developing efforts we introduce here the first time the CSALOMON® [CHRegg] lacewing egg concentrator!

How does the [CHRegg] concentrator work?

The lure attracts lacewings to the device and they – due to the spiny surface inside which enhances egg laying – will lay many eggs on the surface. After hatching, a lacewing larva population magnitudes higher than normally expected would prey on aphids and other pests in the vicinity of the device.



Aphids are preferred food for lacewing larvae

# Application possibilities

The grower can concentrate a great number of eggs with the aid of the CSALOMON® [CHRegg] egg concentrator to the plant to be protected (to small trees, bushes, dense stands of perennials and rows of field crops, etc). Eggs already laid on the concentrator can be moved to the preferred place in your garden or greenhouse, where the presence of many lacewing larvae is needed.

Artificially reared lacewings for biocontrol purposes can be bought at the price of ca. 10-20 Euro / 100 larvae from several manufacturers. Costs of transfer and in some cases applying device, etc. may add to this amount.

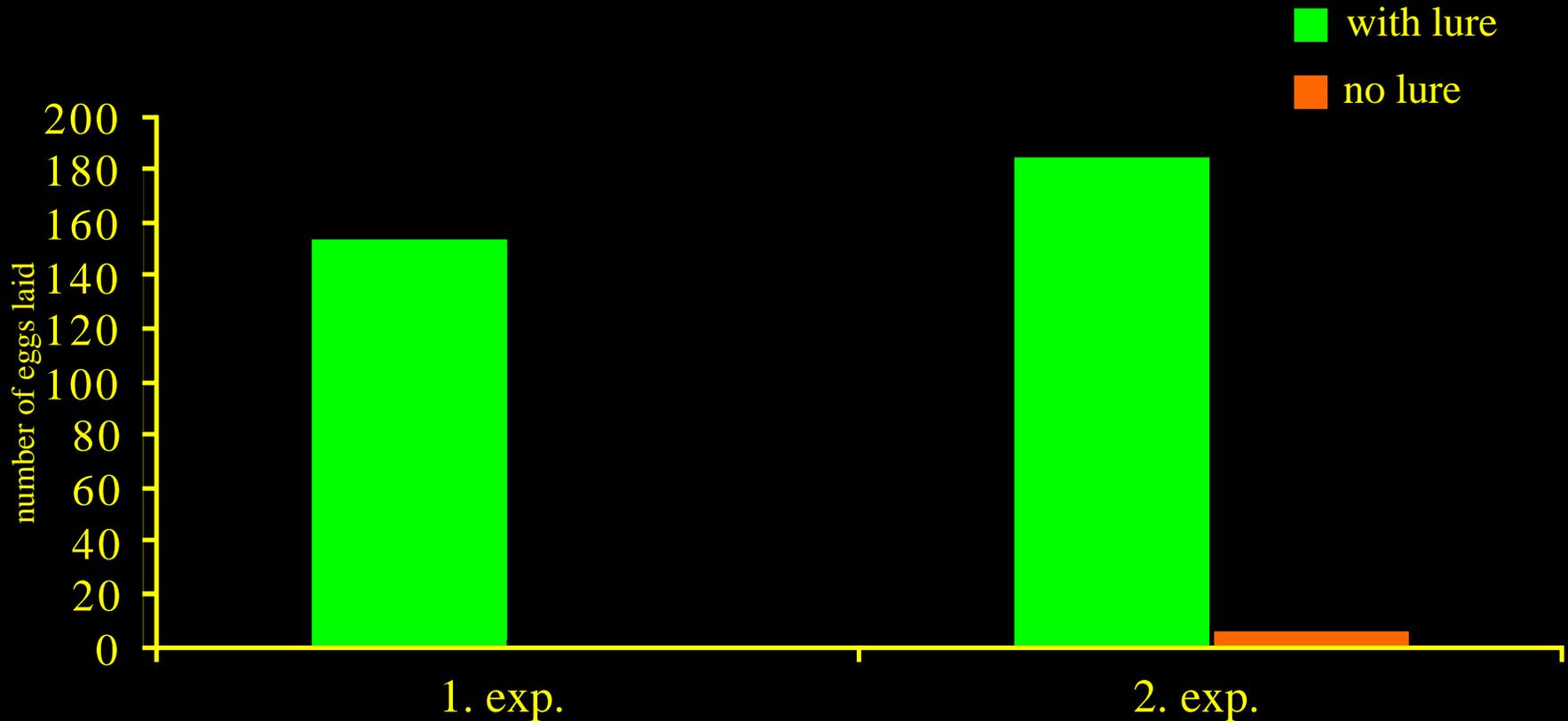
When applying the [CHRegg] egg concentrator, costs may be considerably lower, since we exploit the resources („feral” lacewings in the biotop) of the natural habitat. The egg concentrator will collect lacewing eggs continuously for many weeks or months, instead of a single release of a batch of artificially reared and purchased lacewings.



Foto: Koczor S.

Eggs of lacewings on the egg concentrator

# Application possibilities

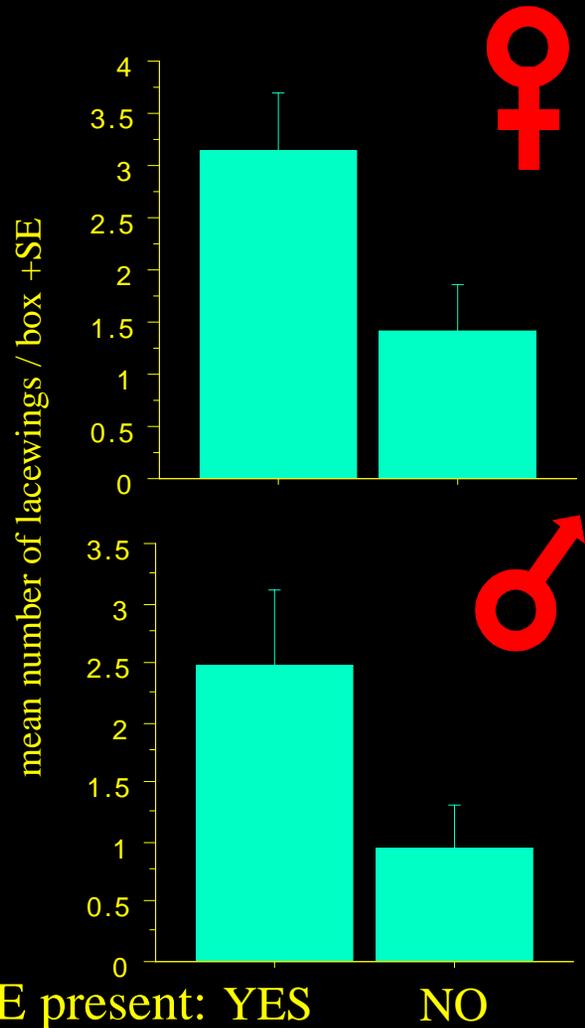


The attractant lure on its own (without the device) can also be suspended on plants. In such a case lacewings in the biotope will lay more eggs on plants possessing a lure dispenser than on plants with no dispenser, and hatching larvae will hunt for aphids on branches and plants nearby.

(Tabilio, R., Letardi, A. Tóth M. unpublished observations – peach orchard, , Rome, Italy , 2006. )

# Application possibilities

When the attractant dispenser is placed on overwintering boxes, 2-3 times more lacewings will overwinter in boxes with lures than in ones without. Thus the grower can – already the previous autumn – increase numbers of lacewings coming out in the spring in his garden.



lure  
dispenser

overwintering  
box

Foto: Tóth M.

Data from: Koczor et al.: On possible practical applications of attractants for common green lacewings (*Chrysoperla carnea* species complex). Presentation, IOBC WPRS Pheromones and Other Semiochemicals Conference, October 1-5 2012, Bursa, Turkey

# To order / to inquire:



Plant Protection Institute, MTA ATK, Budapest, POB 102., H-1525; Hungary tel.: (36-1)-391-8637, (36-30)-982-4999; fax: (36-1)-391-8655; e-mail: <csalomon.orders@agrar.mta.hu>  
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