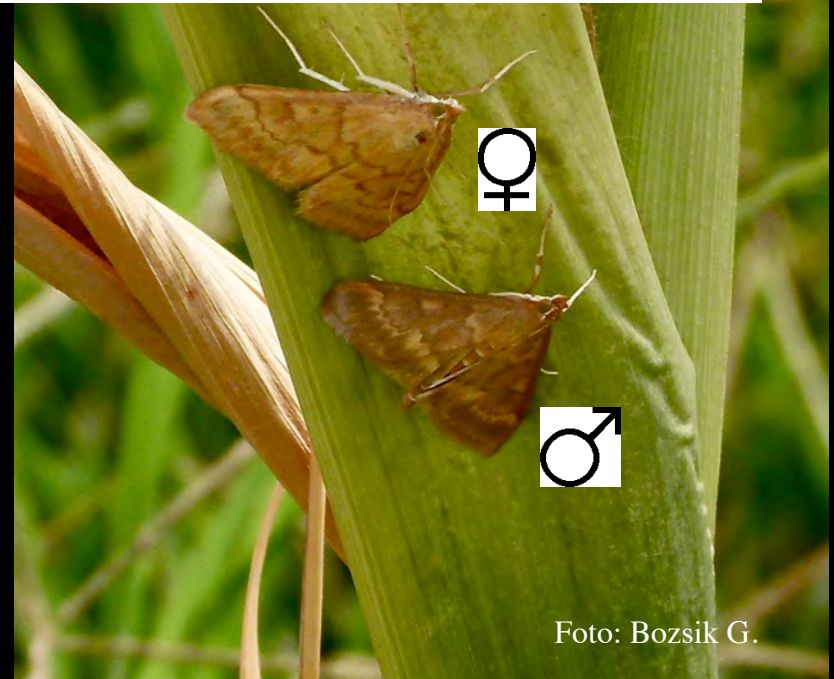
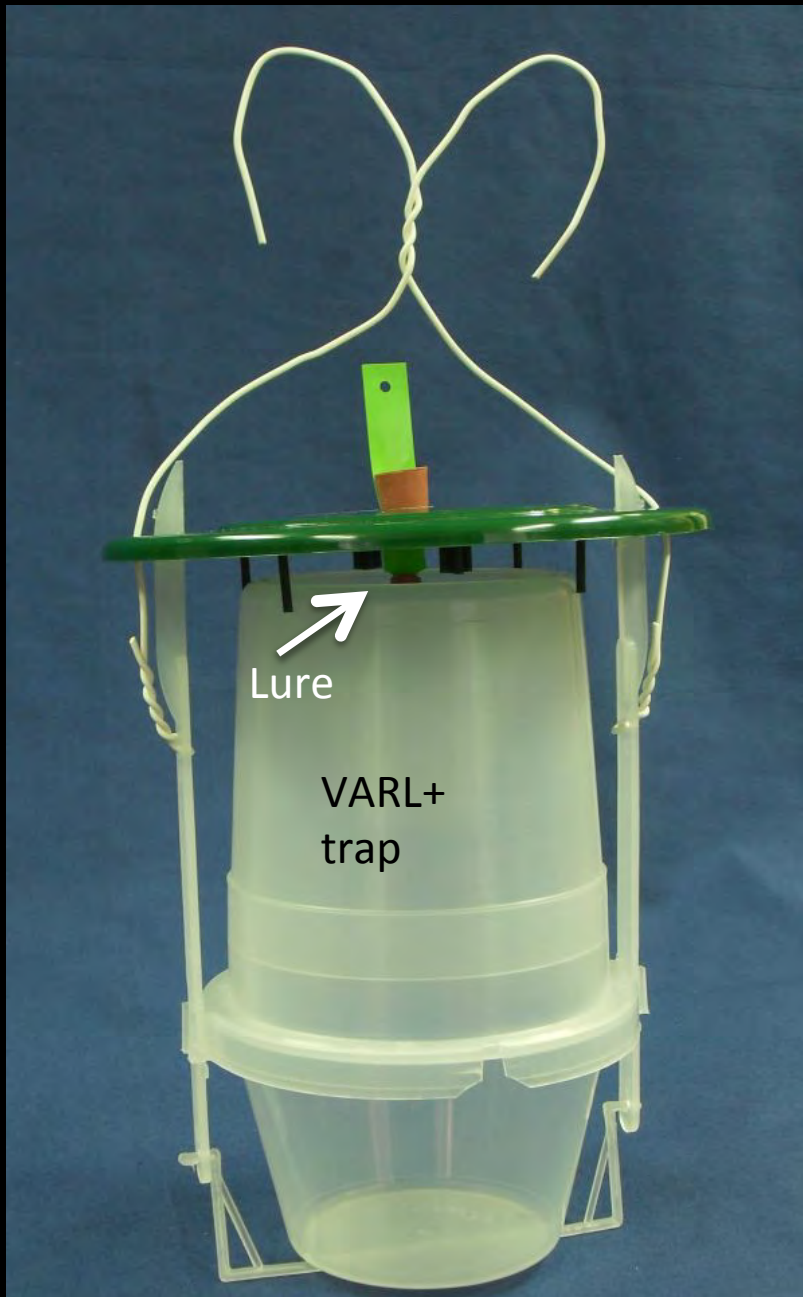


How to use? The [CSALOMON® VARL+ trap](#), with bisexual lure of the European corn borer (*Ostrinia nubilalis*)



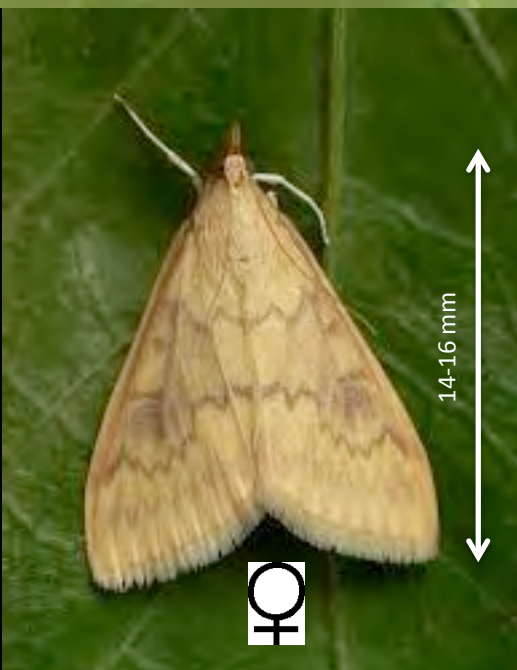
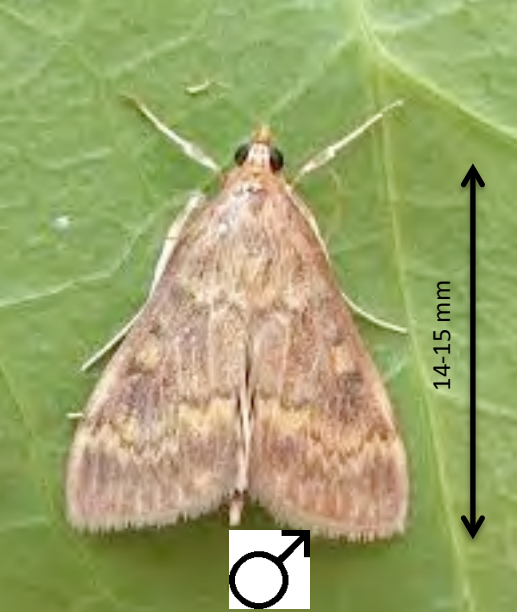
European corn borer (*Ostrinia nubilalis*) adults (male and female)

This important lepidopteran pest can be trapped efficiently with this trap-cum-bait combination

The bisexual lure is a feeding attractant (NOT a pheromone), therefore the trap catches **FEMALES** also beside the males.

Can be used for: detection of spread to new geographical regions, detection of seasonal occurrence (start of flight), flight pattern, timing of control measures (if necessary).

The European corn borer (*Ostrinia nubilalis*)



Male and female moths differ in colouring from each other.



www.forestpests.org



www.insectimages.org



bugguide.net



www.ipmimages.org



UGA1524101

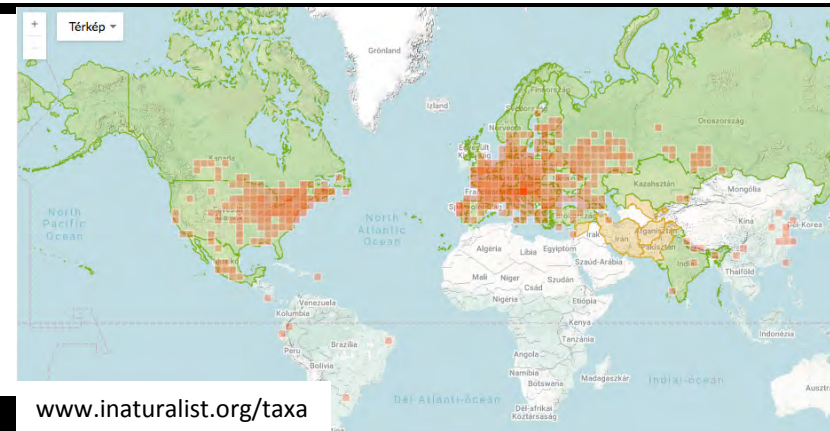


www.maine.gov

UGA1481178

Larvae of the corn borer cause damage by boring into plant parts and feeding inside. Most important damages are regularly observed in **maize, peppers**, hops, hemp, sorghum but the pest can attack many other agricultural plants also.

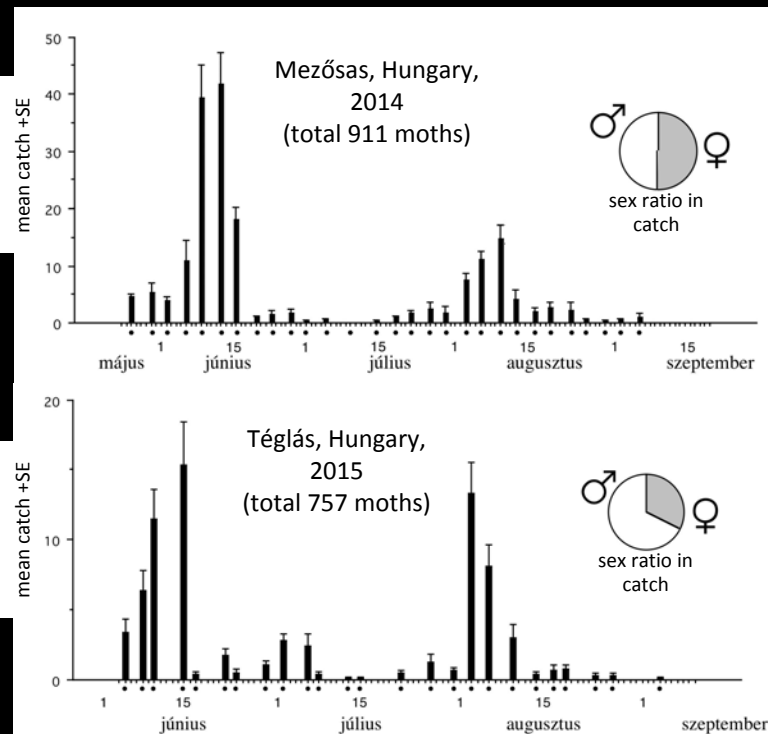
It is present in most countries of Europe, but it is also widespread in North Africa and the Middle East reaching to the east as far as China. It has been introduced into North America also, where starting from the East Coast it enters deeply into the continent.



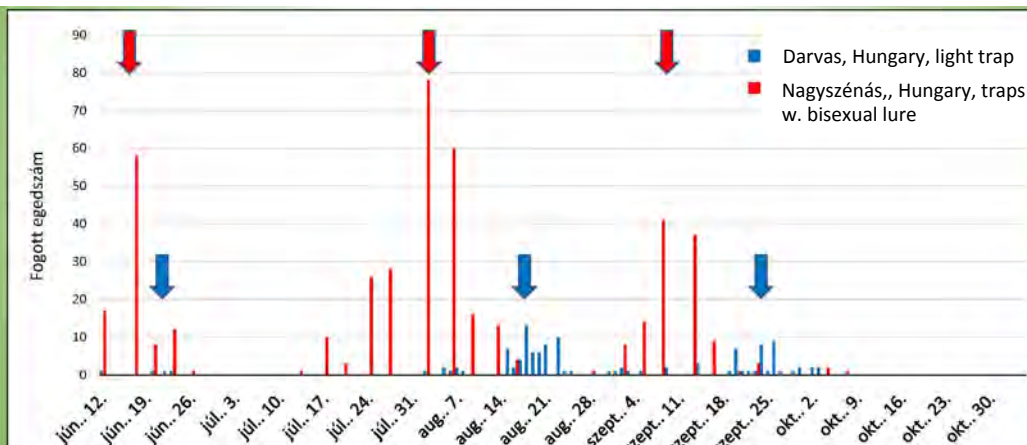
www.inaturalist.org/taxa

Seasonal occurrence, flight patterns of the European corn borer:

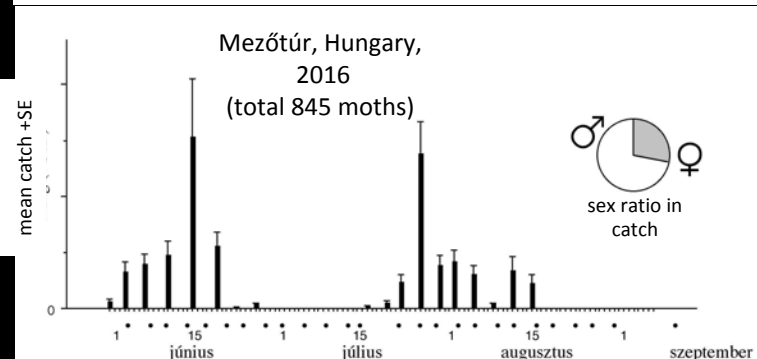
In Hungary the corn borer usually shows **2 flights** per season. In northern places of Europe only **1 flight** is observed.



To the south (i.e. Italy) occasionally a **3rd moth flight** occurs, which, due to its inexpectability may result in severe economic damages. In Hungary in the hot year of 2018 a 3rd moth flight was also detected. Consequently growers in Central Europe should be prepared to control damage coming from larvae of a 3rd moth flight in hot years!



Flight pattern of European corn borer in 2018 in Hungary. After: [Integrált termesztés a kertészeti és szántóföldi kultúrákban XXXV. pp. 40–41.](#)



Flight pattern of the European corn borer in VARL+ traps with bisexual lure, in Hungary, in three consecutive years. After: [Növényvédelem 78:141-147.](#)

In North America the introduced pest shows increasing numbers of flights from North to the South: while at the Canadian border it shows **1 flight**, then in the middle part **2-3 flights**, finally in Florida **4 flights** per season.



Selectivity of the European corn borer trap with bisexual lure:

The bisexual lure **is a feeding attractant** (NOT a sex pheromone), therefore depending on site and season some other moths can also come into the trap. The user should be able to tell apart these from the target *O. nubilalis* for reliable evaluation of trap catches.

In Hungary we regularly found some specimens of the noctuids *Autographa gamma*, *Helicoverpa armigera*, *MacDunnoughia confusa*, or occasionally some relatives. These can be told apart from the European corn borer due to their much larger sizes. (PLS note that in other regions other species may be trapped)



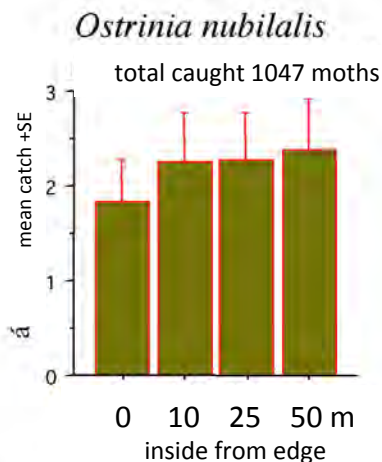
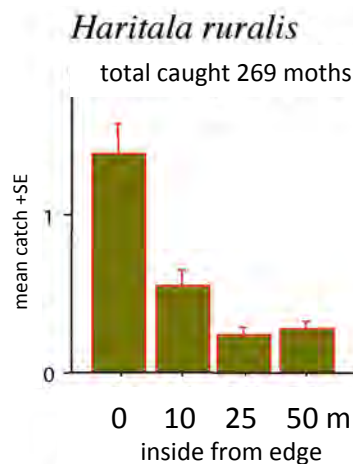
Non-target noctuids frequently found in VARL+ traps with bisexual lure of *O. nubilalis* in the catch container, beside specimens of the target pest. After: [Agrofórum 29:44-46.](#)

A possibility to **improve selectivity** of the VARL+ trap baited with bisexual lure of *O. nubilalis*:

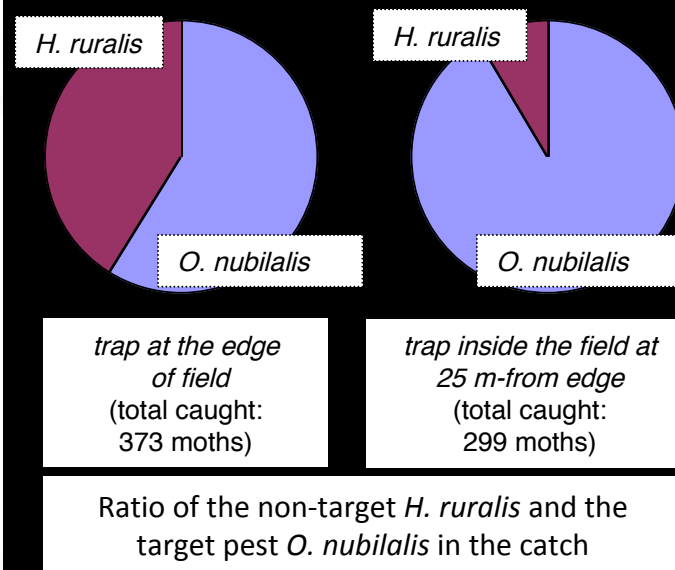
However, telling apart the non-target moth *Haritala (Pleuroptya) ruralis* from the target is a challenge, since this moth is similar to *O. nubilalis* in shape, size and colouring. (This is a non-pest moth, lives on *Urtica*)



Foto: Tóth M.



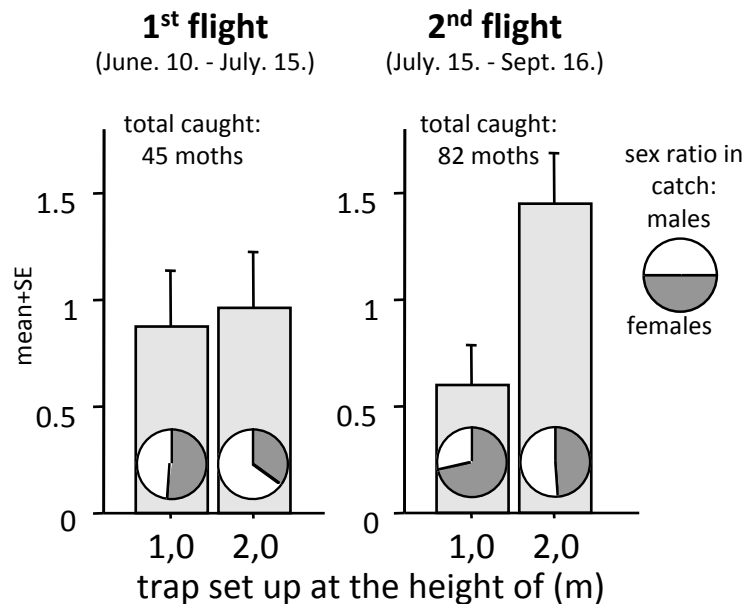
If one sets up the trap **inside** the maize field (min. 25 m from the edge or more), and NOT at or near the field edge, the ratio of the non-target *H. ruralis* can decrease a lot in the catch, resulting in **better selectivity**!



Catches of *H. ruralis* and *O. nubilalis* in traps set up at the table edge or inside the table at different distances, in VARL+ traps with bisexual lure (maize field, Berettyóújfalu, Hungary, 2016).

After: [Agrofórum 29:44-46, 2018](#), [Növényvédelem 30:56-59, 2019](#)

Setting up the *O. nubilalis* trap at different heights can also influence catches and consequently trap performance:



Catches of European corn borer in VARL+ traps with bisexual lure set up at different heights, in the two flights (maize field, Debrecen, 2016. After: [Növényvédelem 55:193-201, 2019](#))

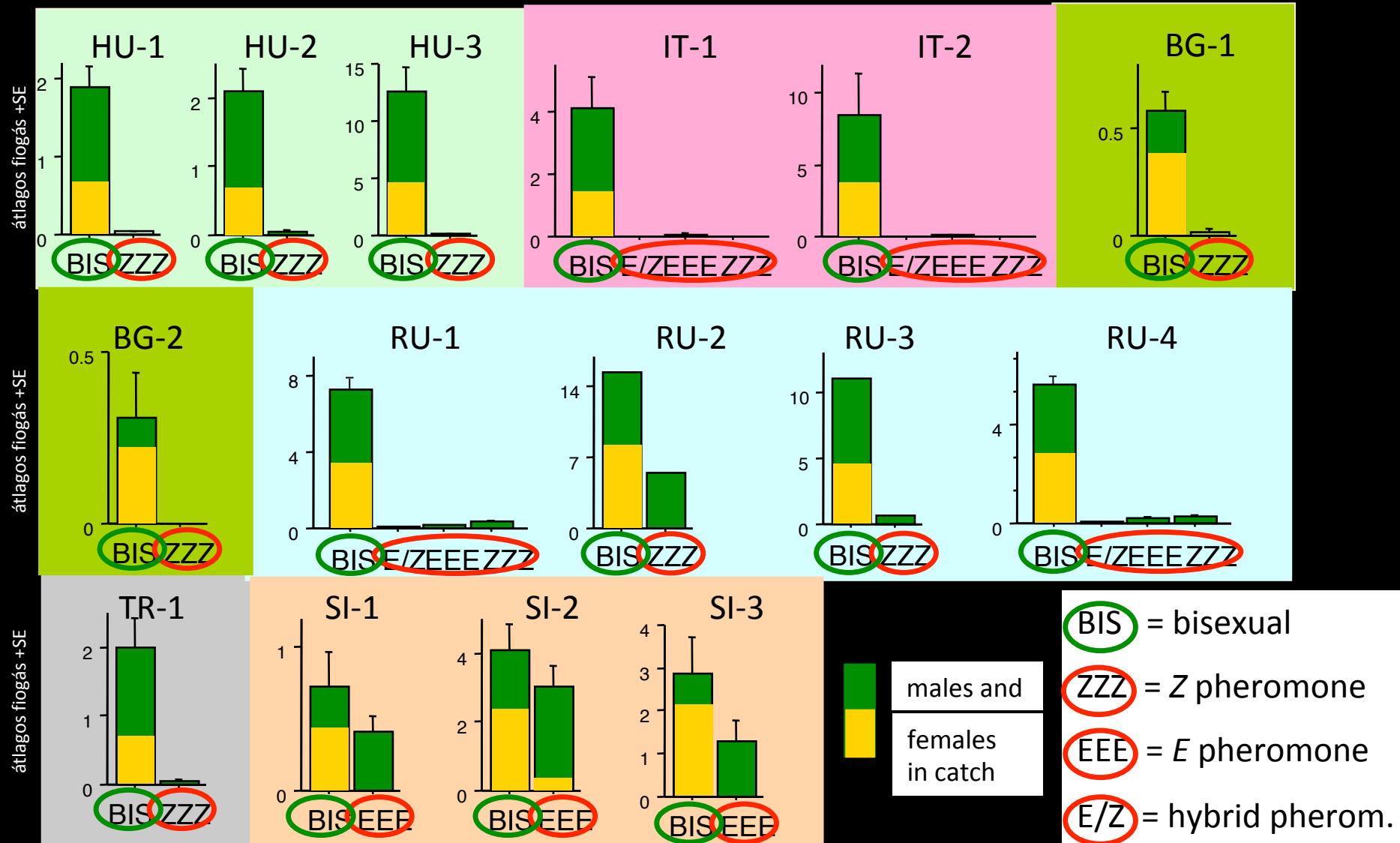
In conclusion, best selectivity and performance of our *O. nubilalis* trap can be achieved if the trap is set up **inside** the maize field, and **high up** from the 2nd moth flight on!

To inquire: CSALOMON Ltd., H-1116 Budapest, Kondorfa u. 1. Hungary, tel. +36-30-982-4999, order@csalomon.hu

webpage: www.csalomontraps.com

Assistance in preparing this advisory leaflet is deeply acknowledged to M. Tóth

There are frequent problems with performance of commercial sex pheromone lures of *O. nubilalis*. On comparison, our bisexual lure was **more reliable** in all countries tested!

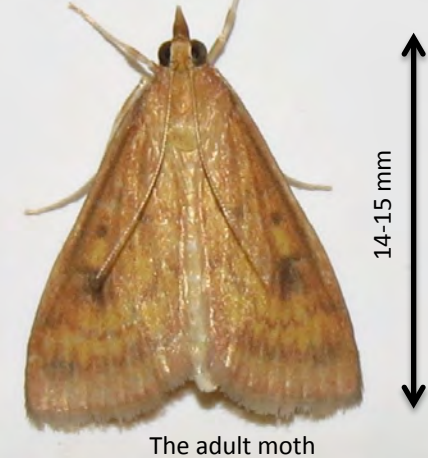


Catches of *O. nubilalis* in several countries in VARL+ traps with bisexual lure or with sex pheromone lures (obtained commercially)
 HU=Hungary, IT=Italy, BG=Bulgaria, RU=Russia, TR=Turkey, SI=Slovenia). After: [26th IWGO Conference, Beijing, China, 10-12 April 2017](#) and
[Proc. V Intl. Sci. Conf. Simferopol, IT pp. 104-106.](#)

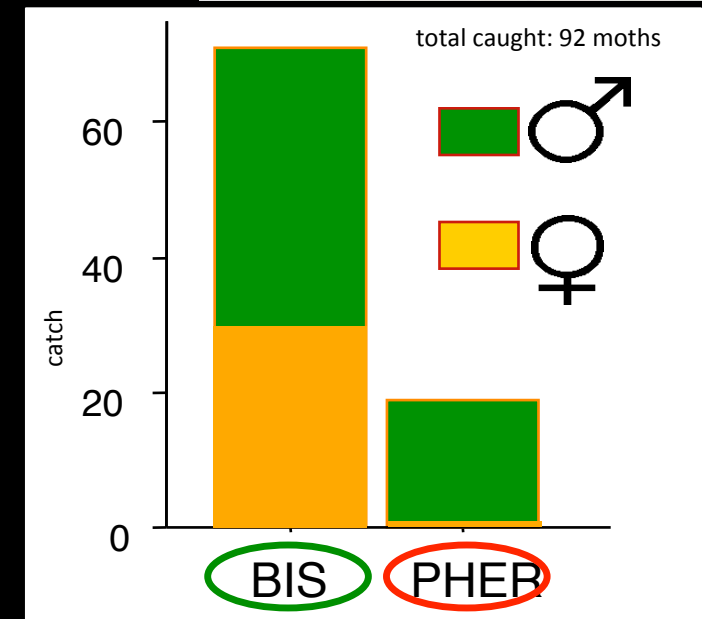
The next step: the Asian corn borer *Ostrinia furnacalis*!



The Asian corn borer *Ostrinia furnacalis* is a close relative of *O. nubilalis*. It is present in India, China, Japan, Indonesia, New Guinea, Australia and neighbouring areas.



O. furnacalis has very similar life habits, host range and causes similar damages to those of *O. nubilalis*.



Catches of *O. furnacalis* in VARL+ traps baited with the bisexual lure (BIS) or with synthetic *furnacalis* pheromone (PHER) (Amur region, Russia, after: [Acta Phytopathologica et Entomologica Hungarica 57: 148-164 2022.](#))

In a first test our *Ostrinia* bisexual lure was catching much more than the *furnacalis* synthetic pheromone! This suggests that the lure **will be useful for trapping the Asian corn borer** also!