

Obscure and lined click beetles - *Agriotes obscurus* L., *A. lineatus* (combined trap for both species)

The obscure click beetle is 7-10 mm long. Similarly to other click beetles, its shape appears to be stubby, despite being elongated, as the margin of its broad thorax runs down beside the shoulder of the elytrae. Its head is convex, with dots, the thorax is also dotted, its side margins are bending towards the ventral side, the elytrae are conical. The lined click beetle is somewhat larger, 7-11 mm. There are stripes of dense hairs along its elytrae giving a "lined" impression. The antennae and legs are rusty red. Species identification of click beetles needs some expertise and a binocular microscope, or at least a good hand magnifier.



The beetles, which is captured in the trap

Host plants of the larva include maize, cereals, sunflower, sugar-beet, potatoes, other grasses, and also many other plants, i.e. tomatoes. The larvae feed on the roots. The main damage is caused by the larvae, the wireworms, which eat up hatching seeds and roots inside the soil. Damages are variable depending on the plant species attacked and the type of soil. Indicators of damage can be: imperfect hatching of seedlings (maize), damaged hatchlings and roots, yellow colouring of the plant parts above ground. The obscure and lined click beetles co-occur in many areas of Europe, so on such sites the application of the combined trap may be advantageous[1]. DO NOT try to add separate pheromone baits targeted for other click beetle species into the trap, because the pheromone components of these can interfere with attraction of the two target species (and vice-versa)!

Pheromone traps should be placed at the soil. Usual beginning of trapping in Hungary is end of March



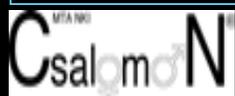
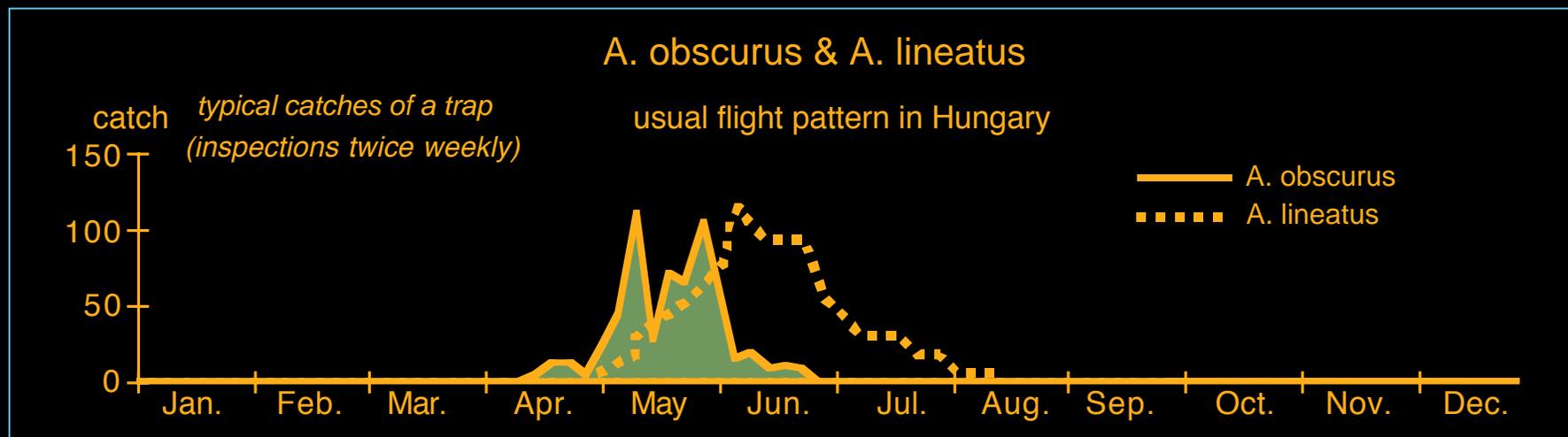
Selectivity of the CSALOMON® pheromone trap: the combined bait of the trap attracts both *A. obscurus* and *A. lineatus* at similar intensity. Of course, for both pests species-specific pheromone traps are also available (pls. refer to our product list), but the efficacy of the combined bait does not lag behind that of the respective species specific baits. Some *A. rufipalpis* or *A. sordidus* specimens can occasionally be captured, at some sites sizeable numbers of *A. proximus* can be caught. Other insects are caught only at random.

The bait of the CSALOMON® pheromone trap starts slowly to decrease its attractive activity after 4-6 weeks of field exposure (depending on actual weather conditions). After this period it is advisable to exchange the bait to a new one. BE SURE TO USE THE SAME ATTRACTANT AS BEFORE IN THE SAME TRAP; mixing baits for different species may hamper activity seriously!

The damage of the larva, which should be averted

Control of wireworms should be based on reliable forecasting. Application of pheromone traps is much easier and simpler than other sampling methods utilized before (i.e. soil sampling, etc.). Pheromone traps detect the occurrence of the pest very sensitively, so that infestation centers can be "mapped" and treated by insecticide easily. The non-sticky trap types are capable of catching very large numbers of beetles without being saturated. Detailed measurements for *A. obscurus* or *A. lineatus* are not yet available. According to experience in Italy on the closely related *A. ustulatus*, if the average catch per trap does not exceed 150-200 specimens per year, damage is highly improbable on the given field[2]. In case of higher captures, it is advisable to perform larval sampling (soil cores) for more accurate estimation of population levels. This may be performed through agrotechnical means, crop rotation or in more severe cases by soil insecticides[3]. More accurate establishment of correlations between trap captures and larval density in different cultures are underway (Lorenzo Furlan, pers. comm.).

[1]Tóth M., Furlan, L. *IOBC/wprs Bulletin*, 28:133-142, 2005; [2]Furlan, L. és mtsi, *ATTI Giorn.Fitopat.* 1:133-140, 1996; [3]Jermy T, Balázs K. (eds.) *Handbook of plant protection zoology. (in Hung.) Akadémiai Kiadó, Budapest, 1990.*



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vetési pattanób.
A. lineatus

So it looks when caught
in the CSALOMON® YF
trap!



sötét pattanób.
A. obscurus

Click beetles caught in traps with *A. obscurus* bait (1998-2004)

(after Tóth & Furlan, 2005, IOBC/wprs Bull., 28:133-142;
Furlan & Tóth, 2007, IOBC/wprs Bull., 30:19-25)

- *obscurus* catches
- *sordidus* catches
- *rufipalpis*
- no catch



Click beetles caught in traps with *A. lineatus* bait (1998-2004)

(after Tóth & Furlan, 2005, IOBC/wprs Bull., 28:133-142;
Furlan & Tóth, 2007, IOBC/wprs Bull., 30:19-25)

- *lineatus* catches
- *proximus* catches
- no catch

