

Click beetle - *Agriotes ustulatus* Schaller

The beetle is elongated, length 7- 11 mm. Its shape is despite being elongated, appears to be stubby, as the margin of its broad thorax runs down beside the shoulder of the elytrae. Its head is broad, rounded, the elytrae end in a conical shape. The elytrae can be coloured from black to brownish or reddish brown. Species identification of click beetles needs some expertise and a binocular microscope, or at least a good hand magnifier.

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 adult beetle feeds on leaves of grasses, and on flowers by pollen; it can frequently be seen for example on *Umbelliferae* flowers. The main damage is caused by the larvae, the wireworms, which eats up hatching seeds and roots inside the soil.

Damages are variable depending on the plant species attacked and the type of soil. Indicators can be of imperfect hatching of seedlings (maize), damaged hatchlings and roots, yellow colouring of the plant parts above ground.

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

Selectivity of the CSALOMON® pheromone trap: in tests conducted at several sites in Hungary and Italy no other click beetle species were attracted during the flight period of *A. ustulatus*.



The beetle, which is captured in the trap



www.elateridae.com

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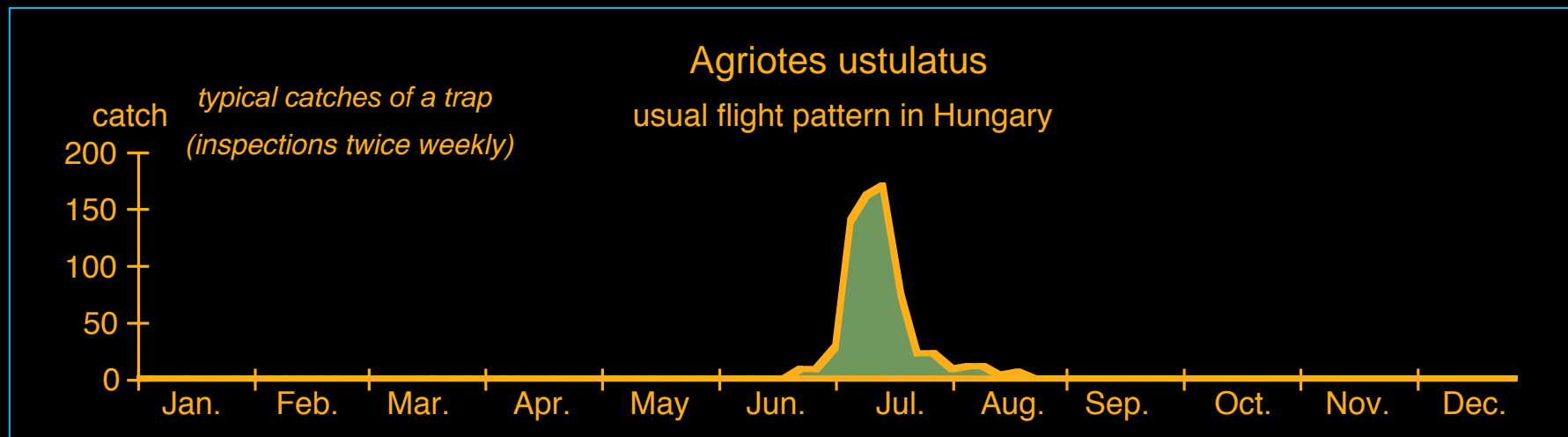
A CSALOMON® pheromone trap starts slowly to decrease its attractive activity after 3-4 weeks of field exposure (depending on actual weather conditions). After this period it is advisable to exchange the bait to a new one. **BE SURE TO USE THE SAME BAIT AS BEFORE IN THE SAME TRAP**; mixing baits for different 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 funnel trap types are capable of catching very large numbers of beetles without being saturated. According to experience in Italy, if the average catch per trap does not exceed 150-200 specimens per year, damage is highly improbable on the given field[1]. 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[2]. More accurate establishment of correlations between trap captures and larval density in different cultures are underway (Lorenzo Furlan, pers. comm.)

[1] Furlan, L. és mtsi, *ATTI Giorn.Fitopat.* 1:133-140, 1996; [2] Jermy T, Balázs K. (szerk.) *A növényvédelmi állattan kézikönyve. Akadémiai Kiadó, Budapest, 1990*



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VARB3 trap

So it looks when caught in the CSALOMON® VARb3 trap!

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

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

● *ustulatus* catches

○ no catch

