Jan Raška: Reactions of the jumping spider Evarcha arcuata to aposematic true bugs

Abstract:

This paper studies the effect of qualities of a prey on predatory behaviour of *Evarcha arcuata* (Araneae: Salticidae). Naturally coloured aposematic larveae of *Pyrrhocoris apterus* have been compared to two types of prey: 1) to identically coloured but in defensive secretion different larvae of *Scantius aegyptius*, and 2) differently coloured larvae of white mutants of *P. apterus*. The defensive secretion of *S. aegyptius* has been found less effective in the first interaction with predator than that of *P. apterus*, however, after several trials the difference of reactions of the spider has not been noticeable. When changed the species of prey, *E. arcuata* has symmetrically and considerably generalised between the two species. Significant difference has been established in memory test – while *P. apterus* has been avoided even after one day, *S. aegyptius* has been attacked as thought the spiders were naive. The learning sequence has been similar in both colour forms of *P. apterus*; the generalisation of the two colours has been symmetrical as well. Both colour forms succeeded in memory test (e.g. spiders have proven difference in comparison with the naive ones), however, white mutants have been successfully attacked significantly more than the red ones.

Key words: Aposematism, mimicry, avoidance learning, generalisation, memory, jumping spiders, *Evarcha arcuata*, true bugs, *Pyrrhocoris apterus*, *Scantius aegyptius*.