Who drives the evolution of color mimicry in the Mediterranean ant *Camponotus lateralis*?

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The color similarity between *Camponotus lateralis* (Olivier, 1792) and *Crematogaster scutellaris* (Olivier, 1792) was noticed by many myrmecologists. Already Carlo Emery (1886) suggested Batesian color-mimicry, but no predator driving its evolution has been suggested until I started observing lizards in the field and designing feeding-experiments. Several field anecdotes indicate that lizards eat ants but avoid *Crematogaster*. *Crematogaster* was in relation to individual number in the field highly significant underrepresented in feces of the common wall-lizard (*Podarcis muralis*). Laboratory feeding-experiments in an observation terrarium with 25 Italian wall-lizards (*Podarcis sicula*) were designed to test the adaptive value of mimicry in *Ca. lateralis*. The experiments took ca. 16 months. The following results were statistically supported:

1. Lizards ate more *Ca. lateralis*-group than *Cr. scutellaris*-group workers.
2. Lizards ate more *Crematogaster* workers when they were spatially closer to those of *Camponotus*.
3. Lizards preferred *Camponotus* workers with a color difference to *Crematogaster* even two months after the experience.

The results suggest that lizards avoid the taste of *Crematogaster* workers and learn to associate taste with optical appearance. However, lizards often confuse mimic and model. The spatial proximity of *Ca. lateralis* and *Crematogaster* has the advantage for *Ca. lateralis* that it reduces lizard predation, but the disadvantage for *Crematogaster* that it increases predation. The long-term memory of lizards when recognizing a color pattern indicates strong selection pressure on color perception and memory power. *Camponotus* ants might be important due to their stable abundance throughout the year. Frequent syntopic occurrence with *Ca. lateralis* in near-natural biotopes and high lizard densities suggest that they are the main or only drivers of evolution of Batesian mimicry of regional color morphs in *Ca. lateralis*.

Anschrift des Verfassers

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Was können wir von alter DNA über die jüngere Evolutionsgeschichte der Insekten lernen?

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In den letzten Jahren konnten bei dem Sequenzieren von Exemplaren aus naturhistorischen Sammlungen – dies wird auch „Museomics“ genannt – große Fortschritte gemacht werden. So gelang es Shpak et al. (2023) die gesamten Genome von 200 Jahre alten