

Mysterious beetle and butterfly aggregation

During fieldwork near Lake Bleu, in the El Kala region of northeastern Algeria, we encountered an unfamiliar interaction between the speckled rose chafer beetle (*Protaetia morio*) and the two-tailed pasha butterfly (*Charaxes jasius*). Both species are common in the Mediterranean.

Groups of around six to eight beetles were aggregating on branch crotches of a strawberry tree (*Arbutus unedo*). These groups were frequently joined by one or two butterflies (<https://bit.ly/3eSXHu1>). We noticed that the butterflies did not land near single beetles, and from their flight patterns, they seemed to know exactly where the beetles were, as if they were attracted by chemicals.

We observed the butterflies trying to feed on something in the middle of the beetle groups. Because the two species have similar diets (nectar, ripe fruit, and tree sap), our first impression was that the butterflies were consuming tree sap in order to obtain water, amino acids, and minerals. However, we closely examined different branch crotches where the beetles congregated and found no signs of an exudate or wounds. Neither the beetle nor the butterfly has the ability to extract xylem sap by itself. Could the butterfly have been feeding on the excretions of the beetle? Why do the beetle and butterfly target branch crotches? Does this interaction involve a more complicated interspecific chemical communication between the plant and the two insect species? Future field surveys and experiments may shed light on this mystery.

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