

Can harmful insects turn useful pollinators?

14 October 2022 | News

An international team of researchers including Florian Etl and Jörg Schönenberger from the University of Vienna, Stefan Dötterl and Mario Schubert from the University of Salzburg, and Oliver Reiser and Christian Kaiser from the University of Regensburg, succeed in providing evidence for an important hypothesis on the evolution and diversity of animal pollination.



An international team of researchers including Florian Etl and Jörg Schönenberger from the University of Vienna, Stefan Dötterl and Mario Schubert from the University of Salzburg, and Oliver Reiser and Christian Kaiser from the University of Regensburg, succeed in providing evidence for an important hypothesis on the evolution and diversity of animal pollination.

The hypothesis states that insect flower pests can become useful pollinators during the course of evolution. Botanists call this “antagonist capture”, meaning that plants are able to turn a harmful insect into a pollinator through evolutionary adaptations in their flowers or inflorescences. This theory has now been confirmed for the first time in *Syngonium hastiferum*, an aroid plant (arum family, Araceae) from Costa Rica.

While all other members of the genus *Syngonium* studied so far are pollinated by nocturnal beetles, *Syngonium hastiferum* is exclusively pollinated by a hitherto unknown diurnal plant bug species. Interestingly, plant bugs also occur as flower visitors in beetle-pollinated aroids, but only as pests that eat pollen and flower tissue and thus damage the plants without pollinating them.

The study offers a new perspective on the evolution of flowering plants and the spectacular diversity of their flowers and their pollinators by providing the first evidence that pest insects can become efficient pollinators through changes in the flowers.