to understand its degree of dependence on ants. We observed behavior of both ant (*Camponotus japonicus*) workers tending the Reverdin’s Blue butterfly and butterfly immatures: two individuals at larval stage and one pupa. The eggs were laid on the host plant (*Indigofera pseudotinctoria*), and emerged caterpillars spent on the plant feeding on it. Workers of ants tended the 2nd to 4th instar caterpillars and the ant workers tending each caterpillar were from the same ant colony. When they matured, the caterpillar downed to the ground and entered into the nest of ants that had tended the caterpillar, where the caterpillar pupated. The butterfly pupa was tended by ants in their nest until emergence. Based on their behavior, the tending ants can be divided into two types, primary tending ants (PTA) and secondary tending ants (STA). The PTA attended the butterfly for a long period, from caterpillar stage to the emerging adult, and spent long time (more than 70% of observation time) with the caterpillar. Then, the PTA attended and gently tapped the emerging butterfly with their antennae. On the other hand, the STA only occasionally visited and tended the butterfly caterpillar and pupa for short period (less than 10% of observation time), spending most time in tending aphids. These suggest close association between *Camponotus* ants and the Reverdin’s Blue butterfly and, that the tending ants change their behavioral pattern according to the developmental stages of butterfly immatures.

**Keywords:** Myrmecophilic relationship, ant, lycaenid butterfly, tending behavior, facultative associations.

**637 - AN UPDATE OF THE ANT FAUNA OF TAHITI AND MOOREA (FRENCH POLYNESIA)**

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Following the discovery of an introduced little fire ant population on Tahiti in October 2004, an inventory has been launched to map the infestation on this island, but also on the adjacent island of Moorea. This effort leads to an update of the ant fauna of both islands. Forty four ant species are now recorded from these sister islands. These insular ant communities this fauna appear heavily dominated by introduced species: there is no endemic ants and only nine species may be considered autochthonous ones (*Hypoponera confinis*, *Oligomyrmex corniger* (=*Oligomyrmex tahitiensis*), *Pheidole oceanica*; *Pheidole sexspinosa*; *Pheidole umbonata*, *Platythyrea parallela*; *Ponera swezyi*; *Rogeria sublevinoides*, *Strumigenys mumfordii* (=*Smithistruma mumfordii*). Among the introduced species, four major invasive ants are recorded: *Anoplolepis gracilipes*, *Pheidole megacephala*, *Solenopsis geminata* and *Wasmannia auropuncta*. From a conservation perspective, in the context of French Polynesia, which is recognised as one of the 25 world major biodiversity hotspots, we consider these species as major threats that would imperil biodiversity, especially if they spread further in altitude. Among them, the recent discovery of *W. auropunctata* is especially a major concern, according to its well-known biodiversity disruption abilities. To date, little fire ants appear restricted to Tahiti, where 15 infestations have been recorded, covering 250 ha. All these plots are under an eradication plan with Amdro® treatment since July 2005.

**638 - ONTOGENY OF THE DEFENSIVE STINGING BEHAVIOR OF THE FIRE ANT,**

**Solenopsis invicta**

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The introduced fire ant, *Solenopsis invicta*, is notorious for its aggressive stinging behavior, yet this aspect of its biology has received little study. To better understand this important behavior I quantified age-related changes in the defensive stinging behavior of *S. invicta* workers. I collected worker brood from 35 different colonies in the Tallahassee, FL area, from which I selected a large pool of late-stage pupae. From this pool I created groups of same-aged workers from which, at different ages, I assayed defensive stinging behavior. As measures of defensiveness I recorded the number of stings, and the amount of venom per sting (venom dose), delivered by individual workers. I found the defensiveness of *S. invicta* workers (both measures) to increase with age initially, but then decline after a mid-age peak. Interestingly, this peak appears after the termination of venom production and occurs over ages where workers are likely to be located within the nest. Thus, the ontogeny of *S. invicta*'s defensive stinging behavior appears to follow a trajectory that maximizes nest protection; workers of ages less well suited, physiologically or spatially, to defend the nest (such as the youngest and the oldest workers) were
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