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## **Callow workers of the ant *Cataglyphis iberica* (Hymenoptera, Formicidae) need social contact to acquire their colony label**

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In social insects, many behavioural studies have investigated how newly emerged individuals integrate their mother colonies. But no analysis of the chemical profile of these individuals and their ontogenetic changes has been conducted. The aim of this work was to study the acquisition of the hydrocarbon specific profile of the colony by callow workers of the ant *Cataglyphis iberica*, during the days following their emergence, and to highlight the importance of the early social environment in the construction of the specific colony profile. Two colonies,  $\alpha$  and  $\beta$ , were used and the content of the postpharyngeal gland (PPG) of six age classes per colony was analysed. The weight of the PPG content in  $\alpha$  workers, which stayed with their nestmates until dissections, increased with age and became similar to mature controls (workers more than 3 months old). In  $\beta$  workers, the same quantitative evolution occurred but the amount remained lower than that of control nestmates. Isolation also seemed to affect the acquisition of the colony profile. The profile of young  $\alpha$  workers changed gradually with age and became closer to the mature  $\alpha$  profile, while in  $\beta$  callows, the profile also changed with age but remained very different from the mature  $\beta$  profile. Our results suggest that chemical cues can be transferred from mature individuals to their callow nestmates (e.g. through trophallaxis and allogrooming) allowing these new colony members to integrate the "Gestalt" colonial odour.