3rd European Congress on Social Insects

St. Petersburg, Russia, 22–27 August 2005

PROCEEDINGS

Monogynous and polygynous red imported fire ants, *Solenopsis invicta* Buren (Hymenoptera: Formicidae), in Taiwan

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Keywords: multiplex PCR, Gp-9, monogyny, polygyny

The social forms of the Red imported fire ants, which were initially discovered in Taoyuan County in 2003, were determined. Both polygynous and monogynous colonies were found. The inclusion of both social forms suggested two possible scenarios of fire ant invasion. Fire ants queens or colonies of both social forms could have invaded Taiwan together at approximately the same time. Alternatively, fire ants of one social form could have invaded Taiwan before the other within a short time period. The scenario of lone invasion by either polygynous or monogynous colonies was ruled out due to male sterility of polygynous colonies and the presence of both social forms. The significance of the presence of both social forms in the red imported fire ants in Taiwan is also discussed.

A study of *Myrmica sabuleti* (Hymenoptera, Formicidae), the ant host of *Maculinea arion* (Lepidoptera, Lycaenidae), in relation to a beltway construction project

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Keywords : ant community, biodiversity, *Maculinea arion*, *Myrmica*,

The Choisille river valley, near Tours (France), currently shelters a meta-population of Large Blue butterflies (*Maculinea arion*), a protected species at the national and European levels that depends obligatorily on a plant host (*Origanum vulgare*) and an ant host (*Myrmica sabuleti*) to complete its life cycle.

In July-August 2004, we carried out a study for the General Council of Indre-et-Loire, as part of preliminary impact studies for the northwest section of the Tours beltway construction project.

The inventory of ants and *O. vulgare* was performed on 100m² square of each of five sites and the abundance of *M. sabuleti* and other ants was evaluated using baits.

Two of the three most populous sites of the valley are directly threatened by the project. The mitigation measures proposed by the General Council consist in saving a little section of one of the threatened sites, arranging two other potential sites already visited by *M. arion*, and displacing the butterfly populations from the threatened sites to a fifth dry grassland site. The biological feasibility of these measures was evaluated using a comparative study on the state of *O. vulgare* and *M. sabuleti* on sites where *M. arion* was largely present and on sites planned for the future populations of butterflies.

The mitigation measures proposed by the General Council are discussed.