

**OR240***Role of exocrine glands in social insect defence***Johan Billen**

Social insects form colonies with an impressive cooperation among their numerous individual members, but at the same time also represent valuable resources for predators. They therefore are equipped with various defence mechanisms, that mainly include mechanical weapons such as powerful mandibles and stings, as well as defensive secretions produced in a variety of exocrine glands. Social Hymenoptera especially rely on the often poisonous secretions of their venom glands, that have different anatomical characteristics in the various groups. Also mandibular, metapleural and pygidial glands may be involved in hymenopteran defence. Termites mainly use frontal, labial and labral gland secretions, while also the recently discovered crystal gland has a defensive role. Spectacular defence showing ultimate altruism is found in some termite and ant species, that have 'exploding' individuals that can burst upon disturbance, and thus release frontal gland resp. mandibular gland products that disentangle the enemy. At a much smaller level, social insects also need to defend themselves and their nests against microorganisms. This involves glandular activity through the elaboration of antibiotics, as is known for the frontal gland in termites, the venom gland in bees, the larval labial glands in wasps, and the metapleural gland in ants. This talk aims to give a survey of the various glands that are involved in defence systems of social insects.