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distinguishable, as can be seen on scanning electron micrographs of the internal sclerotized parts. Scanning microscopy also reveals the clustered organization of the secretory cells surrounding the collecting chamber. The secretion of the metapleural gland is released into intracellular collecting ducts surrounded by a microvillar sheath, each connected to the cuticular lining of the collecting chamber. Treatment of half thoraces in a 5 % potassium hydroxide solution made it possible to obtain a survey of the irregular shape of the collecting chamber. Observations on the outer wall of the metathorax and the pronounced bulla of the metapleural gland reservoir revealed the presence of a probably highly specialized cuticular structure beneath the narrow slit-like opening of the reservoir. This cuticular structure resembles a gutter, a conducting ridge which is thought to have its importance in transferring the white secretion from the reservoir opening to the hindleg coxae. Movements of the coxae then are probably responsible for further spreading of the secretion onto the ants body and in the fungus gardens within the nest. Preliminary experiments with pure metapleural gland secretion against the bacteria *Escherichia coli* and the entomogenous fungus *Metarhizium* confirmed an earlier hypothesis, contributing antiseptic properties to the secretion.

64 AN ECOLOGICAL STUDY OF THE BENTHOS OF MANGROVES AND SURROUNDING BEACHES AT GAZI BAY, KENYA. J. Schrijvers and M. Vincx - University of Ghent .

Twelve sites in the mangroves around Gazi Bay, Kenya, are examined for density, diversity and biomass of meio- and macrobenthic infauna. The stations show divergent environmental factors that differ especially concerning human influence and vegetation (sandbank, *Sonneratia*, *Rhizophora*, *Avicennia*, *Ceriops* and *Bruguiera*). Only the macrobenthic Isopoda, Amphipoda, Polychaeta, Cumacea and Tanaidacea, and the meiobenthic Nematoda are determined up to the level of family (eventually even up to the level of genus or species). The total density hangs in between 1964 and 6101 ind./10cm² for the meiobenthos, in between 265 and 6025 ind./m² for the macrobenthos. The macrobenthic diversity (H') lies in between 1.65 and 3.35 and the total ashfree macrobenthic biomass lies in between 13 and 2079 mg/m². The nematode community has a diversity (H') of an average of 3.88 and a total average dryweight of 0.032 mg/10 cm². Mathematical processing of the data proves that patterns in the community ecology are only vaguely connected to the vegetation type. That connection only exists because the mangrove type forms the base of other, more defining factors, such as sediment, The difference between sandbank and mangrove sediment is actually very clear. Composition of the fauna may eventually be connected to the type of mangrove tree but there can not be decided on by means of this research. A comparison with data in literature shows that Gazi has larger densities and biomass than other 'similar' regions and that Gazi mangals in general also have larger densities and biomass than estuaries and lagoons (contrary to what ALONGI (1990) (1) claims).

(1) D.M. ALONGI (1990). *Oceanogr. Mar. Biol. Annu. Rev.* 28 : 381-496.