Glands are specialized in the storage and emission of their secretions. The exocrine glands of termites may be epidermal structures or differentiated organs connected to the bucal cavity or to the reproductive apparatus. They have an ectodermal origin, and the most important glands are multicellular. Epidermal glands are widely spread throughout the whole body of the termite and are generally composed of cells with great secretory capacity. Termites have efficient social communication mediated by chemical signals released from different exocrine glands. The secretion of these glands are involved in a wide array of social behaviors, including defense, queen dominance, trail following, building and reproductive activity. Few exocrine glands have an individual role like the salivary glands, which are the source of digestive enzymes, and because of this, their occurrence is common in all termite caste. In addition, some glands represent neof ormation that is specific to a given termite family, genus or species. Routine methodology of transmission electronic microscopy of the termite body showed two types of glandular cells according to their structural organization, class 1 and 3 cells, in the standard classification of Noirot and Quennedey [1]. Class 1 cells are modified epidermal cells which discharge their secretory product directly through the cuticle to the outside of the insect body (Figure 1A). Class 3 cells are composed by cells provided with a cuticular canal for elimination of their secretion (Figure 1B). Among the cephalic glands, the mandibular glands consists of class 3 cells, while the labral and frontal glands have class 1 cells disposed in a monolayered epithelium. Mandibular glands of termite queens present lipid droplets and a characteristic myeloid secretion. Frontal glands of some soldiers of Nasutitermitinae show epithelial cells with a developed smooth endoplasmic reticulum and a subcuticular space for storage of secretion [2]. Thoracic glands are composed of tarsal and salivary glands, although the system of ducts from the latter, also known as labial, open on the termite head. In addition to the ducts and two reservoirs, the salivary glands of termites consist of secretory cells organized into acini. Acini are composed of central and parietal cells, with the cytoplasm of the former containing numerous electron lucid secretory vesicles [3]. Sternal [4] and tergal glands are abdominal structures that follow the epithelial organization, but both classes of glandular cells are present. Scanning electronic microscopy of the glandular openings showed pores and sensilla, mainly campaniform sensilla. Epidermal glands with class 3 secretory cells also appear under intersegmental membrane of some alate reproductives and a new model of exocrine gland is present in the genus Ruptitermes [5]. This dehiscent gland is characteristic of workers and located laterally in the thorax and beginning of the abdomen. The majority of exocrine glands produce pheromones and they are characterized by the presence of a well-developed smooth endoplasmic reticulum, Golgi apparatus and numerous mitochondria (Figure 1). A full understanding of the social organization in Isoptera can not be reached without a more complete knowledge of the occurrence, structure and function of the exocrine glands.

References
Figure 1- Glandular cells of termite reproductives. A) Class 1 cell of tergal gland. li=lipid; m=mitochondria; n=nucleus; SER=smooth endoplasmic reticulum. Bar=1μm. B) Class 3 cell under the intersegmental membrane of the abdomen. c=cuticle; cc=conducting canal; e=epidermis; mv=micorvilli; n=nucleus; rc=receivering canal. Bar=5μm.