Glandular trichomes of the leaves of *Adenocalymma alliaceum* Miers

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(With 1 figure)

The isolation of the population in the Amazon forest, coupled with insufficient care by the health system for them, has encouraged the practice of using plants for medicinal purposes. An example is seen with the use of leaves of *Adenocalymma alliaceum* Miers to treat colds, fevers and headaches (Zoghbi et al., 2002; Rodrigues, 2006; Rodrigues et al., 2010), a plant known in Amazonas state as garlic vine, due to the smell similar to the bulbs of *Allium sativum* L.

Adenocalymma alliaceum is a vine with cylindrical branches, compound leaves, opposite and bifolioladaes, whose leaves have a whole blade and are always green with a smooth margin, cuspidate apex and wedge-shaped base. The epidermis is uniseriate with rectangular cells covered with thick cuticle, a common characteristic for species of Bignoniaceae (Mauro et al., 2007). The glandular trichomes are composed of a basal cell and about 10 to 18 secreting cells in the apical position, on both sides of the epidermis of leaves (Figure 1a-c). Histochemical tests have confirmed the presence of lipids and proteins in the cytoplasm of secretory´s cells in glandular trichomes. Lipid reported for *Allium sativum* are also reported for leaves *Adenocalymma alliaceum* by Zoghbi et al. (2002).

In bulbs of *A. sativum* , the presence of alliin was described, whose enzyme action produced by alliinase causes allicin, which along with its degradation products, is responsible for biological activities of essential oils in the release of the odor of such species (Heinzmann, 2004). Confirming the presence of protein radicals in glandular trichomes of leaves of *A. alliaceum*, the shared activity of the protein and lipid constituents in the glandular trichomes during the release of the substances responsible for the odor of the leaves of these species could be inferred, similar to those of *Allium sativum*. This also shows the convergence of biochemical interactions between different groups of plants.

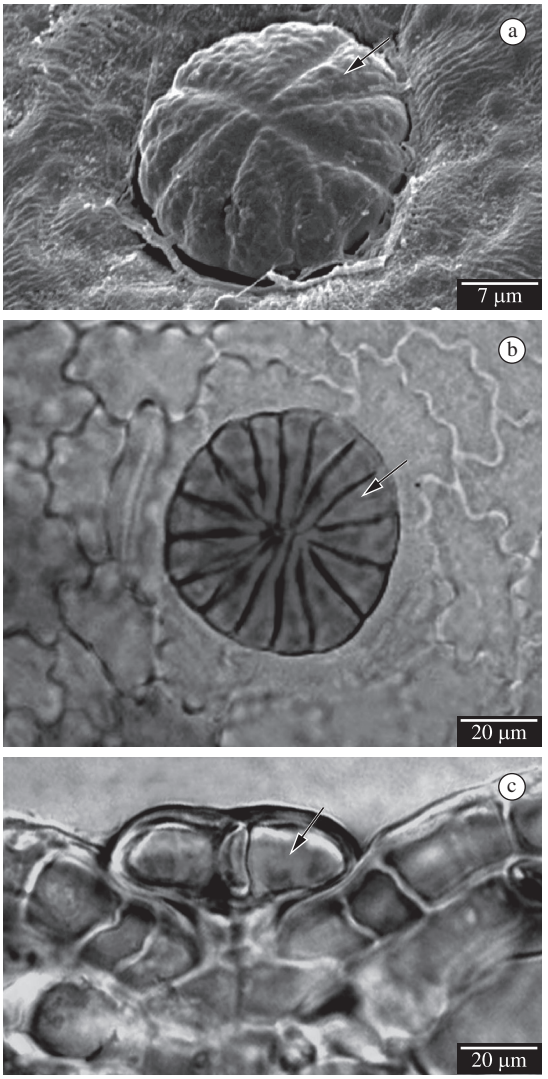

Figure 1. Glandular trichomes in the leaf epidermis of *Adenocalymma alliaceum*. a) Scanning electron microscopy; b) Detached epidermis; and c) Cross section. The heads show secretory cells. Bars (in a) 7 µm; in b) 20 µm; and in c) 20 µm).

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