

Egyptian Propolis: 2. Chemical Composition, Antiviral and Antimicrobial Activities of East Nile Delta Propolis

Faten K. Abd El Hady and Ahmed G. Hegazi*

Departments of Chemistry of Natural products and Parasitology*, National Research Center, Dokki, Giza, Egypt. P. code: 12622.

E-mail: ahmedgaffer@mail.suc.eun.eg and samira@mena.org.eg

* Author for correspondence and reprint requests

Z. Naturforsch. **57c**, 386–394 (2002); received December 18, 2000/October 9, 2001

Propolis, Polyphenols, Antiviral and Antimicrobial Activities

Three propolis samples from East Nile Delta, Egypt were collected. Propolis samples were investigated by GC/MS, 103 compounds were identified, 20 being new for propolis. Dakahlia propolis was a typical poplar propolis but it contained two new caffeate esters and two new triterpenoids. Ismailia propolis was characterized by the presence of new triterpenic acid methyl esters and it did not contain any aromatic acids, esters and flavonoids. Sharkia propolis was characterized by the presence of caffeate esters only, some di- and triterpenoids.

The antiviral (Infectious Bursal Disease Virus and Reo-Virus) and antimicrobial (*Staphylococcus aureus*; *Escherichia coli* and *Candida albicans*) activities of propolis samples were investigated. Dakahlia propolis showed the highest antiviral activity against Infectious Bursal Disease Virus (IBDV) and the highest antibacterial activity against *Escherichia coli* and the highest antifungal activity against *Candida albicans*. While Ismailia propolis had the highest antiviral activity against Reo-virus. Sharkia propolis showed the highest antibacterial activity against *Staphylococcus aureus* and moderate antiviral activity against infectious bursal disease virus and reovirus.