

Proximate amino acid, fatty acid and mineral composition of two Sudanese edible pentatomid insects

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Abstract. The amino acid, fatty acid and mineral composition of *Aspongubus viduatus* F. (melon bug) and *Agonoscelis pubescens* (Thunberg) (sorghum bug) were investigated. The approximate analyses of *A. viduatus* and *A. pubescens* adults showed 8.3 and 7.6% moisture, 27.0 and 28.2% crude protein, 54.2 and 57.3% fat and 3.5 and 2.5% ash on a dry-matter basis, respectively. The bug protein contained 16 amino acids, including all of the essential ones. Compared with the amino acid profile recommended by FAO/WHO, the protein was of medium quality. The most predominant fatty acids in melon bug oil were oleic, palmitic, linoleic and linolenic acids, viz. 45.5, 31.3, 4.9 and 0.48%, respectively, and in sorghum bug 41.15, 11.41, 35.28 and 1.28%, respectively. The mineral analysis indicated high P and K content. Scanning electron microscopy was used to study ground insect structure before and after oil extraction. Micrographs of full-fat ground insects were different from defatted ones.

Key words: *Aspongubus viduatus*, *Agonoscelis pubescens*, amino acids, fatty acids, minerals, scanning electron microscope