

The research of blood-sucking insect is important mainly because of the health aspect. In many cases, they are the carriers of a various disease. A lot of species of the Nematocera suborder feed only of sugary solutions. This food affects their behavior and their way of life. Blood-sucking insect is able to search for food with beneficial sugar content. The composition of this food affects the amount of body reserve, longevity, oviposition of eggs. These effects manifest differently with various organisms. The goal of this thesis is to summarize the knowledge of preferentially picked plants of blood-sucking females of the Nematocera suborder and to describe the affect of food sugar content on the examined insect and the pathogen transmission.

Key words: blood-sucking insect, sugar feeding, *Phlebotomus papatasi*, *Anopheles gambiae*, fecundity, preferences, influence