The chemical composition of propolis is highly variable, depending on the plant sources available to the bees, the geographic and climatic characteristics. In temperate zone bees almost exclusively collect propolis from the bud exudates of poplar trees. The main components of poplar propolis are phenolic acids and flavonoids, which are responsible for the biological activities.

There is a few reports about the contents of flavonoids in Slovenian propolis.

The aim of this work was to determine the content of the principal groups of flavonoids in Slovenian propolis. The results are a first step to characterization of Slovenian propolis.

MATERIALS AND METHODS

17 samples of raw propolis were analysed. The samples proceed from different regions of Slovenia (Fig. 1). Propolis samples were extracted with ethanol 80% ethanol at room temperature for a week.

- **Colorimetric analysis**
  The measurements were carried out using UV-Visible spectrophotometer.
  Three spectrophotometric methods for the quantitative determination of different flavonoids groups and total phenolics were used (Popova et al.,)
  - flavones and flavonols: method with AlCl₃ (galangin as reference).
  - flavanones and dihydroflavonols: method with 2,4-dinitrophenyhydrazine (pinocembrin as reference).
  - Total phenolic: Folin-Ciocalteu method (pinocembrin+galangin, 2:1, as reference)

- **Determination of principal flavonoids and phenolcs acids by HPLC/UV-visible.**

RESULTS AND CONCLUSION

- contents of total phenolics compounds varied from 20,1% to 50,9% (average 33,8%).
  (Fig.1)
- the levels of flavones and flavonols varied from 0,6 to 9,8% (average 3,8%) (Fig.1)
- the content of flavanones and dihydroflavonols in propolis samples studied varied from 0,39 to 2,5% (average 4,9%) (Fig.1)

- all samples had similar chromatographic pattern
- the samples are displayed the typical pattern of poplar propolis, characterized by the presence of phenolic acids and flavonoids
- the principal phenolic acids were caffeic (1), p-coumaric (2), ferulic (3) and cinnamic (4) acids
- the most abundant flavonoids were chrysin (5), pinocembrin (6) and galangin (7)