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Classification of honey according to their physical parameters

Přidal, A.¹, Vorlová, L.²

¹Dept. of Zoology and Apiculture, Mendel Univ. of Agriculture and Forestry, Zemědělská 1, 613 00 Brno, Czech Republic, apridal@mendelu.cz; ²Dept. of Biochemistry and Biophysics, Univ. of Veterinary Medicine and Pharmaceutics, Brno, Czech Republic, vorloval@vfu.cz

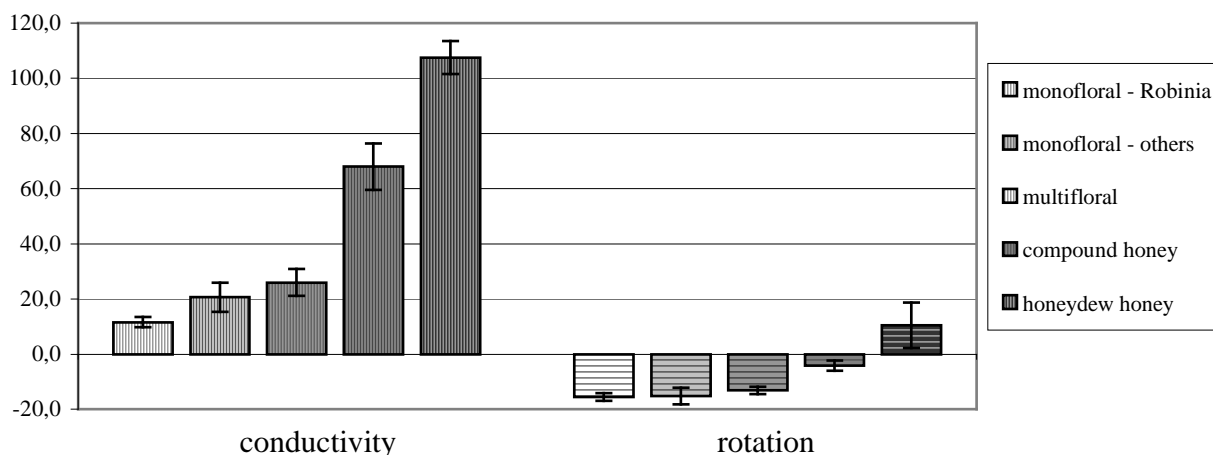
The aim of presented study was to find how close dependence exists between results of pollen analysis, on the one hand, and optical rotation and electrical conductivity, on the other hand, in 55 studied honey samples from CZ. These relations were very close ($r > 0,80$) and very highly significant (table 1). Several analysed samples would be inserted in honey groups (blossom, honeydew and compound honey) wrongly if only conductivity was measured. According to the Czech standard, the blossom honeys have conductivity max. $55 \text{ mS}\cdot\text{m}^{-1}$; honeydew honeys have conductivity between $90 - 130 \text{ mS}\cdot\text{m}^{-1}$ and compound honeys have conductivity between $50 - 130 \text{ mS}\cdot\text{m}^{-1}$. This fact and high correlation coefficients are evidence that exact sorting of honey must be carried out not only by measuring of conductivity but also by optical rotation and microscopic analysis - namely in transition bands of conductivity among individual honey groups.

Table 1: Correlation coefficients among physical parameters of honey

(Statistical significance * $P < 0.05$; ** $P < 0.01$; *** $P < 0,001$; ns - no significance.)

<i>Parameter</i>	PA	moisture	a_w	conductivity	rotation
PA	1				
moisture	-0,29*	1			
a_w	-0,09 ^{ns}	0,59***	1		
conductivity	0,86***	0,23 ^{ns}	-0,08 ^{ns}	1	
rotation	0,80***	-0,35**	-0,08 ^{ns}	0,86***	1

Fig. 1: Average values of conductivity and rotation according to honey groups



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