

PRELIMINARY ANALYSIS OF MITOCHONDRIAL AND AUTOSOMAL SNP GENOTYPING DATA SUGGESTS AN ADMIXED GENETIC ORIGIN OF BAZNA PIGS FROM ROMANIA

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Abstract

Bazna breed originates in a Transylvanian local pig populations created by crossing of Mangalitza sows with a Berkshire boar in 1872. Subsequently, these populations were improved in different episodes with British (ex. Hampshire) or German (ex. Angeln Saddleback) white belted breeds and cosmopolitan (ex. Large White, Landrace). It was officially recognised as breed in 1958. In the last years the number of Bazna pigs increased from several dozen animals to several hundred, due to an increased market demand for quality pork traditional products. To preliminary verify its presumed admixed origin, the mitochondrial CytB gene was sequenced in Bazna, Mangalitza and Vietnamese pigs (carriers of Asian haplotypes) and Romanian wild boar. Additionally, we analysed with Porcine SNP60 BeadChip few Bazna pigs and some presumed contributing breeds i.e. Mangalitza, Hampshire or cosmopolitan breeds. The NJ tree generated using mitochondrial DNA data evidenced a European (Mangalitza and wild boar) and an Asian cluster (Vietnamese). Some of the Bazna pigs clustered within the Mangalitza group, suggesting its maternal contribution. Other formed distinct sub-clusters suggesting the existence of additional European maternal lineages. Several Bazna pigs clustered in the Asian group, an observation consistent with the presence of Asian haplotypes introgressed via contributing British breeds. The principal component and admixture analysis using SNP data confirmed the admixed origin of Bazna breed.

Key words: *Bazna pigs, mitochondrial DNA, SNP, diversity, admixed origin*