

## Preliminarno istraživanje genetske raznolikosti populacije banijske šare svinje mikrosatelitskim biljezima

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### Sažetak

Smatra se da je banijska šara svinja nastala križanjem krmača domaće bijele svinje s klopavim ušima (landras) i/ili turopoljske svinje i nerastova crnog berkšira. Cilj ovog rada bio je pokazati genetsku raznolikost današnje populacije banijske šare, utvrditi sličnosti s bliskim populacijama svinja, te utvrditi razinu diferencijacije unutar populacije banijske šare. Temeljem genotipova dobivenih za 24 ISAG-FAO preporučena mikrosatelitna markera za svinje proučeni su osnovni pokazatelji genetske raznolikosti populacije banijske šare (n=30) u usporedbi s turopoljskom (n=20), crnom slavonskom (n=20) svinjom i landras pasminom svinja (n=17). Opažena heterozigotnost proučavanih populacija bila je u rasponu 0.36 - 0.60, pri čemu je ona kod banijske šare iznosila 0.58. Prosječno alelna bogatstvo (raspon 2.9 - 5.2) bilo je najviše u populaciji banijske šare, kao i broj privatnih alela uz rarefakciju (raspon 9 - 27). Modelno klasteriranje uz potvrđeni model za k=5 razlučuje banijsku šaru od ostalih analiziranih populacija, te pokazuje evidentnu genetsku substrukтуру unutar populacije. Zaključujemo da populacija banijske šare pokazuje veliku genetsku raznolikost, te se razlikuje od geografski bliskih populacija.

**Ključne riječi:** banijska šara, autohtone pasmine svinja, genetska raznolikost, mikrosatelitski markeri

## **Preliminary study on genetic diversity of the Banija spotted pig breed using microsatellite markers**

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### **Summary**

It is believed that Banija spotted pig breed (BS) was created by crossing domestic white sows with drooping ears and/or Turopolje pig sows with black Berkshire. The aim of this study was to assess genetic diversity of Banija spotted pig, to compare this population with geographically close populations and to assess the differentiation level of Banija spotted pig. Based on genotypes obtained for 24 ISAG-FAO recommended pig microsatellite markers, basic genetic diversity indicators were determined for 30 samples of Banija spotted pig, 20 samples of Turopolje and Crna Slavonska pig each, and 17 samples of Landrace population. Observed heterozygosity ranged from 0.36 - 0.60 reaching 0.58 in Banija spotted pig population. Average allelic richness ranged from 2.0 - 5.2 and was the highest in Banija spotted pig population. Rarefaction number of private alleles (range 9 - 27) was also the highest in this population. Structure analysis showed that there are five clusters in four analyzed populations, where Banija spotted pigs are clearly distinguished from other populations and substructured. We conclude that the population of Banija spotted pig shows great genetic diversity and is genetically different from neighboring (geographically close) pig populations.

**Key words:** *Banija spotted pig; indigenous pig breeds; genetic diversity; microsatellites*