

EXAMINATION OF THE MORPHOLOGICAL CHARACTERISTICS OF THE PANNONIAN ECOTYPE OF *APIS MELLIFERA CARNICA* IN BREEDING STOCKS IN HUNGARY

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In Hungary, the Pannonian ecotype of the Carniolan bee (*Apis mellifera carnica*) is considered native, well adapted to the local climate and environmental conditions, and known for its excellent production and behavioural traits. However, its genetic conservation and maintenance of its purity pose major challenges for domestic beekeepers. Hungary has an extremely high bee density, which increases the likelihood of hybridization, especially with the Italian bee and the Buckfast hybrid. The situation is further complicated by unsuitable geographical conditions for isolated mating stations and the natural aerial mating of the queens, which hinders genetic purity.

The preservation of breed purity of the Pannonian bee is carried out by the Hungarian Beekeepers National Association in Hungary, which is the only state-recognised breeding organisation in this field. After the breeding selection conducted by association members, our department performs the morphological measurements on the bee samples. In this study, we present the 2023 examination results of 360 bee colonies originating from 72 queen breeders. Three main morphological characteristics were identified during the breed classification: the cubital index of the wing, the colour of the tergite, and the length of the proboscis. The results show that 95.8% of the samples meet the criteria for the Pannonian bee in terms of cubital index, 89.5% in terms of tergite colour, and 94.5% in terms of the proboscis length. In addition to the protection of wild pollinators, the preservation of the genetic integrity of the Pannonian native honey bee is essential due to its beneficial traits.