

The genus *Phengaris* in north-western Romania

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Abstract: All four butterfly species of the genus *Phengaris* are protected under Annex II and Annex IV of the Habitats Directive 92/43/EEC and are also listed in the annexes of the Romanian Government Emergency Ordinance (GEO) 57/2007. These legal frameworks require the designation of Sites of Community Importance (SCI), or protected areas to ensure their long-term survival. However, in Romania significant gaps still exist regarding the precise distribution of these species. The present study aims to address some of these gaps by combining data from the literature with field observations carried out by the authors in recent years in north-western Romania.

The study area covers Bihor, Satu Mare, Maramureș, and Sălaj counties. The investigations led both to the reconfirmation of historical records and to the discovery of new populations, as follows: *Phengaris teleius* – 16 localities (including new records), *P. alcon* – 4 localities, *P. arion* – 12 localities, while *P. nausithous* showed no recent confirmed occurrences. Within the Tășnad Hills, suitable habitats were identified for three of these species (*P. teleius*, *P. alcon*, *P. arion*), which makes this area eligible for designation as a Natura 2000 site.

Key habitats are represented by traditionally managed wet meadows, extensive *Quercus cerris* forests, and semi-steppe hills, ecosystems that retain a semi-natural character due to limited human impact. Nevertheless, the recent degradation and disappearance of these meadows represent a major threat to the species that depend on them.

The results highlight the urgent need to integrate these habitats into conservation programs, in accordance with European and national legislation, to prevent further declines of *Phengaris* populations. At the same time, the proximity to the Tășnad Tourist Resort offers opportunities for developing ecotourism trails, generating benefits for both biodiversity conservation and local rural communities.

Keywords: *Phengaris*, Romania, species distribution, Natura 2000, habitat conservation, biodiversity monitoring, Carpathians

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