

SOME ACTUAL QUESTIONS OF THE PROTECTION OF RARE AND THREATENED INSECT SPECIES

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The questions concerning criteria of selection, conservation status and aims of protection of the rare and threatened insect species are considered. It allows to conclude that the general aim of legal protection of any rare insect species is to confirm reasons for conservation of valuable natural ecosystems and landscapes.

Key words: rare and threatened insects, Red Data Book, natural ecosystems, habitat, nature conservation

There is no any doubt that the diversity of Insects needs a same protection as mammals, birds, reptiles, amphibians and fishes. It is declared in the new issue of the Red Data Book of Ukraine (2009), where 226 rare and threatened insect species are pointed. However, this list still remains rather eclectic, resembling previous issue of national Red Data Book (1994). In particular, there are many species staying practically out of any danger, with a lot of those, which are little known and hardly identified. From the other side, many threatened insect species remain out of any legal protection despite they need it even more than such listed ones.

Recent situation causes several questions concerning conservation of rare and threatened Insect species in Ukraine:

- 1) What kind of criteria has to be used for selection of the species which need protection?
- 2) How to coordinate conservation status of threatened species with the ways of their protection?
- 3) What is the general aim to protect the threatened insect species?

So we will attempt to answer these questions on the base of own investigations upon populations and habitats of rare Insect species in diverse regions, such as Ukrainian Carpathians, West Polissia, West Podillia, and other. There is a wide range of natural and seminatural ecosystems presented: from primeval and secondary broadleaf, mixed or coniferous mountain or lowland forests to wet meadows, mesophile and dry grasslands, calcareous meadow and rocky steppes, oligotrophic peat bogs, psammophyte heaths, subalpine and alpine dwarf woodlands or tundra. Investigations of distribution and ecological preferences as well as threats of the rare insect species in this context give plentiful materials for thoughts and important conclusions concerning the declared problem.

The last question is the principal: *What is the aim to protect rare insects?* As it is known, the individual protection of invertebrates has not any sense. Moreover, even the estimation of its population number in larger area scale is rather impossible because of sharply differences in individual number depending of life cycle phase,

season and annual fluctuations. Thence we can only operate with relative indexes of the species abundance as well as its trends in the longer time. It causes to conclusion, that the insect species population could not be an object of protection alone, but only with its environment – a habitat in general.

Other side of the question has a functional sense. What will happened if some rare insect species become extinct? Most probably, it will have not any appreciable aftermaths for structure and functions of the ecosystem, because there are many much abundant species with the same functional status, which could replace a lost trophic chain. Another thing lays in the fact that insects are lower trophic level, “a forage” simply, and they must be abundant for providing their functional role in ecosystem. It is the cause making senseless any attempts to protect rare and threatened insect species on the level of individuals.

However rare insect species have other important role – they are indicators of the ecosystem status, its “virginity” or transformation processes driving in. Just this aspect must be predominant for fixing the conservation status of rare insects in ecological sense (with taking into consideration also scientific or esthetic value of the species). Then the general aim to protect legally any rare or threatened insect species is *to confirm reasons for conservation of valuable natural ecosystems and landscapes*.

Follow actual question is concerning conservation status of protected species. The categories used in the Red Data Book of Ukraine (2009) are inadequate from the above-mentioned point of view. This situation causes also to presence of a number of “little known” insect species in national Red List. For example, there are widely distributed and abundant species like *Eudia pavonia* (Linnaeus, 1758), *Endromis versicolora* (Linnaeus, 1758), *Catocala fraxini* (Linnaeus, 1758), *Catocala sponsa* (Linnaeus, 1767) and many others, seem subjectively “rare” only because of their short flight time or cryptic meaning of life. Moreover, it is not determined exactly and practically incomprehensible what is the difference between “Rare” and “Vulnerable” species, as well as between “Not evaluated” and “Insufficiently known” species. Even international categories of threat (IUCN) are restrictedly useful because they are grounded by naked data of relative distribution and abundance trends of the species.

It seems that some additional categories of rare insect species have to be used for deeper comprehension of their protection needs.

A) Virgin ecosystem species. There are species characteristic for primeval ecosystems, which have to be extinct due to ecosystem transformation. Thus, there are indicators of the little disturbed natural ecosystems.

B) Characteristic species. There are species strictly connected with other valuable ecosystems (habitats). Their occurrence or absence is evident for significant environmental changes in the sense of biodiversity conservation.

C) Constitutionally rare species. Relics and strict endemics, or other rare species with their presence point out to the unique ecological and biogeographical status of the habitat.

There are other similar categories which could be determined in this logical context. Occurrence of the mentioned above species has to be an important argument for protection of corresponding habitats.

As we consider, the suitable criteria of selection insect species, which need a legal protection, seem like following:

1. Restricted or local distribution of the species.
2. Negative trends of abundance.
3. Ecological vulnerability (partly reflected by criteria 1-2; Kanarsky, 2010).
4. Indicator value (categories A-C).
5. Relative large size of the species individuals with possibility for their identifying by not strictly expert only.

On our mind, the use of considered ways to answer crucial questions of legal protection of rare and threatened insect species could be favourable in the way to optimize size and contents of the National Red Data list as well as to make it more ecologically grounded and suitable for providing adequate protection of valuable natural ecosystems and habitats.

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ДЕЯКІ АКТУАЛЬНІ ПИТАННЯ ОХОРОНИ РАРИТЕТНИХ ВИДІВ КОМАХ

Ю. В. КАНАРСЬКИЙ

Розглянуто питання критеріїв відбору, охоронного статусу і цілей охорони рідкісних і зникаючих видів комах. У результаті зроблено висновок, що головною метою законодавчої охорони раритетних видів комах повинно бути обґрунтування охоронного статусу для цінних у плані біорізноманіття природних екосистем і ландшафтів.

Ключові слова: рідкісні та зникаючі види комах, Червона книга, природні екосистеми, оселища, охорона природи

НЕКОТОРЫЕ АКТУАЛЬНЫЕ ВОПРОСЫ ОХРАНЫ РЕДКИХ ВИДОВ НАСЕКОМЫХ

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Рассмотрены вопросы критериев отбора, охранного статуса и целей охраны редких и исчезающих видов насекомых. В итоге сделан вывод, что главной целью законодательной охраны редких видов насекомых должно быть обоснование охранного статуса для ценных в плане биоразнообразия природных экосистем и ландшафтов.

Ключевые слова: редкие и исчезающие насекомые, Красная книга, природные экосистемы, местообитания, охрана природы

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