

## NEW DATA ON DISTRIBUTION OF THE WILDCAT (*FELIS SILVESTRIS* SCHREBER, 1777) IN PODILLIA, UKRAINE

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**New data on distribution of the wildcat (*Felis silvestris* Schreber, 1777) in Podillia, Ukraine.** — M. Drebet, Ya. Kapeliukh. — During 2016–2019, new data on the wildcat's distribution in Khmelnytskyi, Vinnytsia, and Ternopil regions were obtained. The data concern 4 findings of the wildcat whereof 3 findings are dead specimens (a dead female in a poacher's automatic trap, 2 specimens (male and female) hunted by a poacher, one specimen killed during the red fox population control measures in Podilski Tovtry National Nature Park, and one specimens recorded by a camera trap in Medobory Nature Reserve. The article provides detailed data on new findings of the species in Podillia and describes the environmental factors influencing its population, as well as provides recommendations on protection of the wildcat in the region. The frequency of occurrence of the wildcat in Podillia has been growing for several years. Nevertheless, the data remain incidental and occasional thus cannot indicate the growth of the species abundance in the region. Most of the located specimens were found dead on roads, in poacher traps or they were even killed during population control measures in the territory of protected areas. According to the information provided by Kamianets-Podilskyi organization of the Ukrainian Hunter and fishermen Society, its associate hunting teams annually obtain more than 100 specimens of feral cats, among which supposedly there is a great number of wildcats. Currently, spaying feral cats is the key element for preservation of the wildcat population in general, nevertheless, this aim remains unfulfilled only because this issue is not addressed properly thus a significant number of intact pets maintains contacts with the wildcat outside the human settlements. Ecological educational programs are an essential measure for the wildcat protection, especially in its habitats, though usually such work is aimed at both current and remote prospects. It is expected that a ban for hunting of feral cats in habitats of the wildcat implemented by including the appropriate paragraph into the population control permit issued by the Ecology and Natural Resources Department should enhance the species' preservation in the near future. Availability of long-distance photographic equipment for locating the wildcat (such as camera traps) and monitoring system implementation at least on sites of protected areas would provide the required data on the abundance and distribution of the wildcat in the region allowing to improve measure for its protection and conservation.

Key words: wildcat, Podillia, regulation of predators, poaching, camera traps.

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### Introduction

The wildcat (*Felis silvestris* Schreber, 1777) is a rare mammal species in Podillia and in Ukraine. It is listed in the Red Book as vulnerable (Shkvyrya, Shevchenko, Potish, 2009). Information regarding its distribution in Podillia is rather fragmentary and generally relates to solitary visual (long-distance) observations and roadkills (Shkvyrya et al., 2009; Sus, 2012; Zagorodniuk, Pirhal, 2013; Vikyrchak, 2014; Drebet et al., 2018). The population of the wildcat in Podillia generally corresponds to its historical distribution area with an increasing tendency (Shkvyrya, 2010; Zagorodniuk et al., 2014). Recent wildcat detection data evaluation regarding Podillia was summarised in the article dedicated to the wildcat's current distribution in Ukraine and its expansion to the east (Zagorodniuk et al., 2014). Due to difficulty of visual detection of the wildcat in its natural environment, examination of animal bodies is proved to be especially valuable (Shkvyrya, 2010). Extensive use of advanced methods of detection of animals in natural environment, especially by camera traps, also provides valuable information on rare species in their habitat when these traps are placed according to the correct methodological approach (Wening et al., 2019).

The present paper aims to analyse the recent findings of the wildcat and update the information regarding the current distribution of its population in Podillia.

## Material and methods

The analysis is based on findings of 4 dead wildcat specimens in Khmelnytskyi (2 findings, 2 specimens) and Vinnytsia (1 finding, 2 specimens) regions, as well as on a detection of a wildcat with a camera trap in Ternopil region (1 finding, 1 specimen) in 2016–2019. Except for the two specimens found in Vinnytsia region, the other specimens were detected in the territory of protected areas, particularly in Podilski Tovtry National Nature Park and Medobory Nature Reserve.

## Description of findings

### *Khmelnytskyi region, Kamianets-Podilskyi district (Podilski Tovtry National Nature Park)*

During survey in the National Nature Park on 05.03.2016 we found a dead specimen of the wildcat trapped in a poacher's automatic trap (loop) (Fig. 1). The cat was found in a little river valley, which runs through a hornbeam-oak forest. The specimen was a young female, body length about 80 cm with a little deviation in phenotype (notably on the head which is a common feature of hybrids (I. V. Zagorodniuk, M. V. Rozhenko, pers. comm.). General coat pattern was grey without typical shoulder stripes, and there were red spots on the face. The body and the paws were very typical for the wildcat. Paw length was 3.6 cm. The distance from the record locality to the adjacent human settlement was approx. 4 km.

During the red fox population control measures performed in the territory of Podilski Tovtry National Nature Park in autumn 2019, 1 specimen of the wildcat was also shot (Fig. 2). The wildcat was killed in the forest area in the Studenytsya river valley located in Kamianets-Podilskyi district. The aforementioned specimen had features typical for the species. Both specimens were found in the Studenytsya river valley area at a distance of approximately 4 km from each other.

Population control measures aimed to control the number of certain animal species, particularly foxes, in objects of the Ukrainian Natural Reserve Fun has eminently gained ground after an absolute prohibition of hunting protected areas and it bears an urgent threat to population of the wildcat in Podillia. For instance, during the fox population control measures conducted in Podilski Tovtry National Nature Park, the hunting groups annually killed over 100 specimens of feral domestic cats only in Kamianets-Podilskyi district. Considering the fact that most of the restored species of the wildcat have traces of hybridization, it complicates its recognition from a shooting distance, therefore a significant number of wildcats gets also shot, which is later confirmed by our data.

### *Vinnytsia region, Haisyn district (Haisynske Forestry District)*

In summer of 2018, at M12 road shoulder located in Vinnytsia region, Haisyn district (13 km to the east of Haisyn) a fact of selling animal furs, including furs of a male and a female specimen of the wildcat was reported (Fig. 3).

According to the seller's (poacher) statement, the wildcat is a rare "beast of prey", widely spread in surrounding forests owned by Haisynske Forestry District, which is located in the eastern part of Vinnytsia region within boundaries of Haisyn, Teplyk, Nemyriv, Illintsi, Trostianets districts and Ladyzhyn city. Prevailing forest type is young oak wood. A report issued by Haisynske Forestry District in 2017 identifies the wildcat in the list of protected species and its habitats are qualified as forests of high conservation value. The aforementioned status provides that the wood felling is prohibited or performed with the exception of the key biotypes. Nevertheless, the Environmental Impact Analysis report in 2019 does not specify the presence of the wildcat in the forestry district.

The fur of the male specimen had all features typical for the species, particularly the significant size, blunt tale with three visible dark rings, and dark end of the tail. The soles were black. The length of the hide with the tail was approximately 120 cm (Fig. 3). The fur of the female specimen (no image available) also had well-defined morphological features such as distinct tail bands, stripes on the nape and on the shoulder.



Fig. 1. A dead female of the wildcat (in a poacher's trap) in the territory of Podilski Tovtry National Nature Park. Photo by Mikhail Drebet.

Рис. 1. Загибла у браконьєрському самолові самка лісового kota на території Національного природного парку «Подільські Товтри». Фото Михайла Дребета.



Fig. 2. A wildcat that died during biotechnical works on the regulation of red fox population in the territory of Podilski Tovtry National Nature Park. Photo by O. P. Yuziuk.

Рис. 2. Загибла особина лісового kota під час здійснення біотехнічних заходів з регулювання чисельності лиса рудого на території національного парку «Подільські Товтри». Фото надане головою Кам'янець-Подільської РО УТМР О. П. Юзюком.



Fig. 3. Hides of animals, including the wildcat (middle). Vinnytsia region, Haisyn district. Photo by Mikhail Drebet.

Рис. 3. Вичинені шкурки хутрових звірів, серед яких кіт лісовий (посередині). Вінницька область, Гайсинський район. Фото Михайла Дребета.

### ***Ternopil region, Gusyatin district (Medobory Nature Reserve)***

One specimen of the wildcat was spotted in the territory of Medobory Nature Reserve on 16 July 2019 by a camera trap in a forest of Viknianske Forestry District (Fig. 4). Its trivial attributes were confirmed by I. V. Zagorodniuk and M. V. Rozhenko based on the photo taken by the camera trap and on such features as general body size, body type, colouration and other details.

On 05.12.2019, upon inspection of the place where the animal was spotted it was established that the event took place in the Viknianske Forestry District, at the compartment line between block 12 allotment 13 (89 year old forest made up of 9 European hornbeam 1 European spruce + European oak, density — 0.7 and the average tree diameter 34-36 cm) and block 14 allotment 2 (84 year old two-storeyed forest, first storey is represented by 104 year old European oak, second — 3 European oak (84) 4 European hornbeam 1 Small-leaved linden 1 Norway maple 1 Elm-tree + European ash + Sweet cherry, density — 0.63 and the average tree diameter 38 cm; the undershrub is represented by cobnut, its crown closure — 0.3).

The block path, which is 60 m away from the location of the camera trap, leads to an abandoned hard-top road connecting Hrymailiv and the villages Monasterykha and Mala Luka. Due to the absence of repair works, the road is currently in inapplicable condition and is almost out of use. The roadsides are covered with black elder, black thorn, hawthorn; block 16 allotment 1 also contains 89 year old trees made up of 7 European oak 3 European hornbeam (49) + European hornbeam (89), density — 0.66 and the average tree diameter 38 cm, the undershrub is represented by black elder, crown density — 0.2. Beyond the block are opened fields, which alternate with ravines with heavy bed of bushes and old willows. In one of the ravines, there is a small stream that dries in warm years. After the re-inspection of the aforementioned biocenosis conducted on a fresh snow, it was impossible to identify the wildcat tracks.

### **Discussion**

Our data confirms that the frequency of the wildcat's occurrence in Podillia is constantly growing, foremost due to the attention to this species. The obtained data remains occasional and even accidental therefore it cannot provide evidence for the wildcat population growth in the region. Besides, the stabilisation of the wildcat's abundance in the region remains debatable because most of the records are findings of roadkill, specimens in poacher's traps and even killed during population control measures, which also includes the territory of protected areas. On the other hand, data obtained on the wildcat using camera traps are highly valuable therefore implementation of special camera trap monitoring programs in the territory of protected areas would provide data on the species' abundance and distribution in the region.



Fig. 4. Wildcat in the territory of Medobory Nature Reserve recorded by a camera trap. The enlarged image of the cat is in the upper right corner. The model of the camera trap is UV 595 HD Extreme for Game Scouting and Security Surveillance. Photo by Ya. Kapeliukh.

Рис. 4. Кіт лісовий на території природного заповідника «Медобори», зафіксований фотопасткою. У правому верхньому кутку — збільшене зображення кота. Модель фотопастки — UV 595 HD Extreme for Game Scouting and Security Surveillance. Фото Я. Капельюха.

## Conclusions

The obtained data confirm that the main negative factors influencing the abundance of the wildcat in Podillia are poaching, killing of animals during the fox and feral cat population control measures, including the death in poacher's automatic traps. Most of the current findings are dead animals killed by the poachers or hunters and those found in automatic traps. Thus, an important factor of maintaining the wildcat population is prohibition of hunting on feral cats during animal population control measures conducted within the wildcat's habitats including severe control upon poaching. Other important measures are sterilisation of feral cats and public ecological educational campaigns.

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## References

- Drebet, M., V. Martyniuk, A. Grygorchuk. 2018. Species of mammals included in the Red Data Book of Ukraine, which are widespread in the territory of NPP "Podilski Tovtry". Materials for the 4th edition of the Red Data Book of Ukraine. Schmalhausen Institute of Zoology NAS of Ukraine, Kyiv, 260–263. (Series: Conservation Biology in Ukraine; Issue 7, pt 1). (In Ukrainian)
- Shkvyrya, M. G., L. S. Shevchenko, L. A. Potish. 2009 b. European wildcat *Felis silvestris* Schreber, 1777. *Red Data Book of Ukraine. Animal World*. GlobalConsulting, Kyiv, 545. (In Ukrainian)
- Shkvyrya, M. G. 2010. Podolian population of the European wildcat, *Felis silvestris* (Carnivora, Felidae), in Ukraine. *Vestnik Zoologii*, **44** (3): 279–280. (In Russian)
- Shkvyrya, M. G., A. V. Sahaydak, V. N. Tyshchenko. 2009. Record of the European wildcat, *Felis silvestris* (Carnivora, Felidae) in Vinnytsia region (Ukraine). *Vestnik Zoologii*, **43** (1): 68. (In Russian)
- Sus, B. B. 2012. Modern findings of the forest cats *Felis silvestris* (Mammalia, Carnivora), in Vinnytsia Region (Ukraine). *Vestnik Zoologii*, **46** (6): 550. (In Russian)
- Vikyrchak, O. 2014. Findings of the wildcat, *Felis silvestris* Schreber, 1777 (Carnivora, Felidae), in the territory of the Ternopil region, Ukraine. *Proceedings of the Theriological School*, **12**: 108–110. (In Ukrainian)
- Wening, H., L. Werner, M. Waltert, M. Port. 2019. Using camera traps to study the elusive European Wildcat *Felis silvestris silvestris* Schreber, 1777 (Carnivora: Felidae) in central Germany: what makes a good camera trapping site? *Journal of Threatened Taxa*, **11** (4): 13421–13431.
- Zagorodniuk, I., A. Pirkhal. 2013. Mammals of Podillia: taxonomy and changes of fauna composition during the last century. *Proceedings of the State Natural History Museum (Lviv)*, **29**: 189–202. (In Ukrainian)
- Zagorodniuk, I., M. Gavriyuk, M. Drebet, I. Skilsky, A. Andrusenko, A. Pirkhal. 2014. Wildcat (*Felis silvestris* Schreber, 1777) in Ukraine: modern state of the populations and eastwards expansion of the species. *Studia Biologica*, **8** (3-4): 233–254.