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THE WILDCAT (*FELIS SILVESTRIS*) IN THE LOWER BUG REGION (SOUTHERN UKRAINE)

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Abstract

The wildcat (*Felis silvestris*) is one of the least studied species of the European mammal fauna and an important conservation target in the Ukrainian network of protected areas. The increase in the number of records of the species in recent decades, including on the south-eastern border of its range, indicates the stabilisation of the western Ukrainian population and, at the same time, the potential for its dispersal from the Forest-Steppe to the Steppe. One of the latest sanctuaries of the species in the Lower Bug region is the territory of the Karmeliukove Podillia National Nature Park (20 203 ha). Observations of the wildcat in Trostianets and Chechelnytsia raions (Vinnytsia Oblast), which are part of the Park's territory, have been recorded since 2009. In 2017–2024, these animals, their hiding places and traces of their life activity were detected annually in the Park's forested areas and in the quarters of the Haisyn forestry enterprise. The reports of these institutions indicate that at least 30 individuals currently live in the forest-steppe interfluve of the Savranka, Kodyma, and Bug rivers, forming a stable centre of the species population, from which individuals are dispersing through the Bug ecocorridor to the territory of Mykolaiv Oblast. This process of dispersal into the steppe area of the Bug Lowlands is rather sporadic, but it has led to the species' penetration far to the south-east, almost to the sea coast in the area of the Bug–Berezan interfluve. Since the autumn of 2017, periodic sightings of the species have been recorded there in the area between the villages of Kovalivka, Zelenyi Hai, and Stepove in Mykolaiv Raion. A cadastre of wildcat records in the Lower Bug region was created, which includes 21 locations; all these points are marked on a map. The reason for the increase in abundance and expansion of the geography of records is the increase in the population core in Podillia and the improvement of habitat conditions in the Bug region on the whole, including the Lower Bug, where the species has moved beyond the forest-steppe along riverine habitats and has actually penetrated the steppe zone. As a result, in 2017–2024, the number of sightings of the wildcat in the steppe Bug region increased by 5–7 registrations annually, indicating that the species dispersed from the river valleys of the Bug hydrosystem to adjacent areas of the agricultural landscape. According to the characteristics of the habitats occupied by wildcats, they are confined to balka and bairak forests and floodplain meadows near rivers.

Cite as

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Лісовий кіт (*Felis silvestris silvestris*) у Нижньому Побужжі (південь України)

Ігор Наконечний, Наталія Швець

Резюме. Кіт лісовий (*Felis silvestris*) є одним із найменш вивчених видів європейської теріофауни і важливим об'єктом охорони в українській мережі ПЗФ. Збільшення за останні десятиріччя кількості знахідок представників виду, в т.ч. на південно-східній межі ареалу, свідчить про стабілізацію західноукраїнської популяції і водночас — про потенціал її розселення з Лісостепу у Степ. Одним із нових резерватів виду в Нижньому Побужжі стали угіддя НПП «Кармелюкове Поділля» (20 203 га). Зустрічі кота в угіддях Тростянецького і Чечельницького районів (Вінницька обл.), які входять до цього НПП, фіксуються з 2009 р. Упродовж 2017–2024 рр. цих тварин, їхні схованки і сліди життєдіяльності виявляли щорічно в лісових масивах Парку і кварталах підприємства «Гайсинський лісгосп». Звітні дані цих установ свідчать, що в лісостеповому межиріччі річок Савранки, Кодими й Бугу нині мешкає не менше 30 особин, які формують сталий осередок виду, із якого відбувається розселення окремих особин через Бузький екокоридор на територію Миколаївської обл. Цей процес розселення у степовій місцевості Бузького Пониззя є досить спорадичним, проте він призвів до проникнення виду далеко на південний схід, майже до морського узбережжя в районі Бузько-Березанського межиріччя. Саме там з осені 2017 р. фіксовані періодичні знахідки представників виду на ділянці між сс. Ковалівка, Зелений Гай і Степове Миколаївському району. Створено кадастр знахідок кота дикого в регіоні Нижнього Побужжя, який включає 21 місцезнаходження; всі ці точки позначено на мапі. Причиною збільшення кількості і розширення географії реєстрацій автор вважає збільшення популяційного ядра на Поділлі і покращення умов мешкання виду в Побужжі в цілому, де вид уздовж прирічкових біотопів проник в межі степової зони. Як наслідок, у 2017–2024 рр. обсяги знахідок кота лісового в степовому Побужжі зростали на 5–7 реєстрацій щорічно, вказуючи на його проникнення з річкових долин бузької гідромережі на суміжні ділянки агроландшафту. Судячи з особливостей біотопів, які заселяють коти у степовому агроландшафті, має місце їхня приуроченість до байрачно-балкових лісонасаджень і лучно-плавневих ділянок річкових водойм.

Ключові слова: кіт лісовий, *Felis silvestris*, географічне поширення, Причорномор'я, Україна.

Introduction

The wildcat (*Felis silvestris* Schreber, 1777) is a common species of the European mammal fauna being widely distributed though quite rare, and thus often understudied. The species is represented by a number of ecological forms that are adapted to various types of habitats, from strictly afforested to shrubby and floodplain ones. Individuals belonging to different ecological forms also have morphological differences in their coat colouration and body dimensions [Mattucci *et al.* 2015]. The core of the species' modern geographic range covers the Alpine–Carpathian region, gravitating to the belts of the mixed and deciduous forests. The western and southern parts of the primary range are highly fragmented and form several disjunctions with varying levels of autonomy [Yamaguchi *et al.* 2015].

In the territory of Ukraine, the wildcat is an indigenous species of the zone of deciduous forests, the eastern limit of which reaches the Dnipro River [Zagorodniuk *et al.* 2014]. As of 2009, the abundance of the wildcat population in Ukraine was estimated at 400–500 individuals, most of which occur in Transcarpathia (= Zakarpattia Oblast) [Shkvyria *et al.* 2009]. The number of reports about the species' records has notably increased in recent decades, demonstrating signs of range expansions to the south and east [Shkvyria 2010; Zagorodniuk *et al.* 2014; Oleynik 2020]. An increasing number of wildcat sightings was also reported from most European countries [Gerngross *et al.* 2021].

Concerning the Bug region, data on the occurrence and distribution of the wildcat have been extremely scarce [Zagorodniuk *et al.* 2014]. By the late 20th century, only single records of the species had been known in the Danube and Dnister regions. However, the number of published studies and reports by hunters and rural residents have increased during the past 10–15 years, which suggests that the species' abundance has also been growing and its range has expanded to the south-east.

The aim of this work was to study the modern distribution and to estimate the abundance of the wildcat in the Lower Bug region of Ukraine as an integral natural complex.

Study area

The Lower Bug region covers the areas nearby to the lower reaches of the Southern Bug River, from the city of Haivoron to Mykolaiv. In an administrative context, these are the western raions (districts) of Kirovohrad Oblast, the southern raions of Vinnytsia Oblast, the northern raions of Odesa Oblast, and the central raions of Mykolaiv Oblast.

The South Podolian part of the Bug region is characterised by a forest-steppe agricultural landscape with remnants of natural oak–hornbeam forests and sessile oak plantations [Marynych & Shyshchenko 2005]. The main forests (within Trostianets and Chechelnyk raions of Vinnytsia Oblast) were included into the territory of the Karmeliukove Podillia National Nature Park in 2009. South of Pervomaisk arises a lowland–steppe agricultural landscape with bairak and lowland forest plantations (forest cover is 8.2–6.6%). The latter together with floodplains of the near-mouth parts of the Bug valley (11 700 ha) are the key habitats of the Southern Bug natural complex. Its floodplain–forest areas ensure the existence of an integrated Bug ecological corridor with a high level of the modern biodiversity [Kostyushin *et al.* 2007], facilitating the mutual movement of biota associated with different natural zones.

Materials and Methods

The study was based on data generalised from original and literature sources and interviews about wildcat sightings in the Lower Bug region. The bulk of materials were data collected by the authors during surveys in different parts of the region, including those in the 'Chronicle of Nature' of the Karmeliukove Podillia National Nature Park (2009–2024). Generalised were also the data obtained from hunters, forestry workers, villagers, and local historians. A total of 29 people were interviewed, who reported about wildcat findings. Also important were the data collected from previous publications and reports of state institutions (game and forest management authorities, forest administrations, and protected areas), which contain information about the species composition of local faunas, climatic conditions, and the nature of forestry activities.

When estimating the species' abundance, the reports must be treated carefully—in interviews with the use of photos of animals of different species, nearly 80% of the reports turned out to be absolutely dubious in regard of identification of *Felis silvestris*. In the analysis of the locations of visual records of the wildcat and its dens, in addition to surveys and interviews, camera traps were also employed. In the territory of the Karmeliukove Podillia National Nature Park, 19 camera records of the wildcat were collected during 418 days of observations[1]. A total of three dens were found. The collected data were analysed in the context of spatiotemporal changes allowing the dynamics of the species' expansion to be described.

Results and Discussion

Interviews of the local residents revealed that wildcats are often mistaken for feral domestic cats. Although hunters are familiar with this species, they keep quiet about bags due to its protected status. Nevertheless, some information could have been collected, in addition to the data from the camera traps installed in protected tracts of the Karmeliukove Podillia National Nature Park.

Morphological features

Due to the similar colouration of wildcats and feral 'wild-like' domestic cats, their differentiation in the nature is difficult. The main distinguishing features are the larger dimensions of the wildcat and the presence of dark circular bands on its tale and hind legs, and the almost black bands on its back. The tip of the tail is always dark (Fig. 1 *a*).

[1] At the same time, no wildcats were recorded by the camera traps installed in floodplain forests on the right bank of the Bug in Mykolaiv Raion during 117 days of observation (2023–2024).

Females are usually more brightly coloured, especially in summer, whereas males are darker and their stripes are more contrasting. The stripes are especially clear in young individuals. Vertical bands are always present on the face, but they are less contrasting on the neck, chest, and the sides of the body. There are two or three well-pronounced dark, almost black stripes running from the temporal region of the head along the neck reaching the scapulae. Especially characteristic are the dark stripes on the inner and outer sides of the thighs, which form a single pattern with the 'rings' of the tail. The soles of the paws are dark, the eyes are grey, light grey, sometimes with a blue tint. The nose is dark pink with little contrast against the background of the body.

Distribution range and cadastre

The occurrence of the wildcat in the south of Podillia has been confirmed by a number of factual records. In the Savranka and Kodyma interfluve, it has been recorded during the entire 20th century (interview data). In 1996–2010, several records of the species were reported from forests of Chechelnyk Raion and from shrubby–floodplain habitats of the Savranka River valley, as well as from forests along the Kodyma River valley (see the cadastre). Sightings of the wildcat in the territory of the Karmeliukove Podillia National Nature Park has been recorded since the first year of its establishment (2009), whereas in 2017–2024 wildcats and their traces of life activities were reported annually. Camera traps recorded the species in different quarters of the Luhy and Liubomyrka departments of the Park in 2020–2024 (see Fig. 1). In the Liubomyrka department, a maternity den was found in June 2022 (Fig. 2).

Fig. 1. A wildcat in the Karmeliukove Podillia National Nature Park. The photos from the camera trap allow the colouration features to be recognised: dark annular stripes on the tail and hind legs. Photo by N. Shvets, 02–10 January 2020.

Рис. 1. Кіт лісовий в НПП «Кармелюкове Поділля». Світлини з фотопастки дозволяють бачити специфіку забарвлення: темні кільцеві смуги на хвості й на задніх лапах. Фото Н. Швець, 02–10.01.2020.

Fig. 2. A wildcat maternity den arranged in a tree cavity, Liubomyrka department of the Karmeliukove Podillia NNP, quarter 104. Photo by N. Shvets, June 2022.

Рис. 2. Виводкова схованка кота дикого, влаштована в прикореневих пустотах дерев, Любомирське відділення НПП «Кармелюкове Поділля», квартал 104. Фото Н. Швець, червень 2022 р.

The list of newly discovered record localities (without published data) includes 21 locations, presented in chronological order. They are visualised on a map (Fig. 3) with numbered symbols.

Vinnytsia Oblast:

1) Chechelnyk Raion, between the villages Brytavka and Olhopil, forests, 1996–2010, five records, interview data; 2) same location, valley of the Savranka River, shrubby–floodplain habitats, 1996–2010, two records, interview data; 3) same location, forests along the valley of the Kodyma River, 2017, reported by hunters and mushroom pickers; 4) Haisyn Raion (former Trostianets Raion), nearby to Buda, 2017–2024, direct observations, including a den (quarter 26) by N. Shvets; 5) same location, nearby to Popova Hreblia, 2017–2024, direct observations, including a den (quarter 21) by N. Shvets; 6) Chechelnyk State Forestry Enterprise, January–February 2018, records of 20 individuals (URL); 7) Haisyn Forestry Enterprise, 2021, first record of the species (data from the enterprise); 8) Karmeliukove Podillia NNP, Luhy and Liubomyrka departments, 2020–2024, annual records by camera traps, also a maternity den in the latter (quarter 104) found by N. Shvets (photo of 2020 in Fig. 1).

Odesa Oblast:

9) Podilsk Raion, autumn 2024, six individuals, interview data; 10) areas of the lower reaches of the Kodyma River, data from the mid-1990s and later, five individuals reported by hunters and villagers; 11) upper reaches of the Tylihul and Bakshala rivers, data from the mid-1990s and later, three individuals, reported by hunters and villagers; 12) Tylihul–Chychykliia interfluve, within Liubashivka, Mykolaivka, and Berezivka raions, without details, 2020–2022, four individuals, bagged, reported by hunters.

Mykolaiv Oblast:

13) Pervomaisk Raion, autumn 2024, three individuals, interview data; 14) left bank of the Bug River, Holovanivskyi Forest, 2003–2012, bagged and roadkill, three individuals, interview data; 15) left bank of the Bug River, Ratsynska Dacha, near Voznesensk, 2003–2012, bagged and roadkill, two individuals, interview data; 16) left bank of the Bug River, former Arbuzynka Raion, nearby to the villages Semenivka and Zelena Poliana, 2003–2012, bagged and roadkill, three individuals, interview data; 17) Mykolaiv Raion, nearby to Kovalivka, floodplain and slope forests on the right bank of the near-mouth section of the Bug River, 2017 and later, five individuals, reported by hunters and shepherds; 18) Mykolaiv Raion, between the villages Zelenyi Hai and Stepove, valley of the Berezan River, 2017 and later, five individuals, reported by hunters and shepherds; 19) Tylihul–Chychykliia interfluve, within Domanivka and Veselynove raions, without details, 2020–2022, three? individuals, bagged, reported by hunters; 20) Mykolaiv Raion, nearby to Zelenyi Hai, early December 2024, a large wildcat was chased up a tree by dogs, reported by the locals (identification by photo); 21) same location, south of Stepove (4.5 km far from the previous locality), 8 December 2024, hunting dogs chased a wildcat out of a forest stripe and up a tree (characteristic colouration of a young female with a clear pattern, light grey eyes), reported by the locals.

Cases of wildcat sightings in the Bug region south of Kodyma, that is, within the north-eastern raions of Odesa and Mykolaiv oblasts, had been rare by the end of the 20th century. Elder villagers from these areas reported about its presence after the Second World War. Later records of the wildcat have been known among hunters and the locals since the mid-1990s, and these observations have become more frequent in recent years, particularly from around the lower reaches of the Kodyma and the upper reaches of the Tylihul and Bakshala rivers (see Fig. 3). In addition, a number of reports were received about bagged and roadkill wildcats from the left bank of the Southern Bug (see cadastre). Since 2017, reports have appeared from hunters and shepherds about sightings of the wildcat in floodplain and slope forests on the right bank of the near-mouth section of the Bug and in the Berezan River valley (see cadastre). This area is located nearby to the Southern Bug irrigation system with drainage discharges into the Berezan. Detailed descriptions of the animals were not reported because they were thought to be feral domestic cats.

In the past decade (2014–2024), the number of reports of wildcat sightings in Mykolaiv Oblast increased to 3–5 cases per year on average, with a clear concentration of the record localities near the upper section of the Chychykliia–Bug interfluve and in the Bug valley itself (see Fig. 3). These reports came from mature deciduous forest plantations on the left bank of the Bug, forested and shrubby bairak-type habitats of the Bakshala and Chychykliia valleys, and floodplains of the lower reaches of the Chortala River.

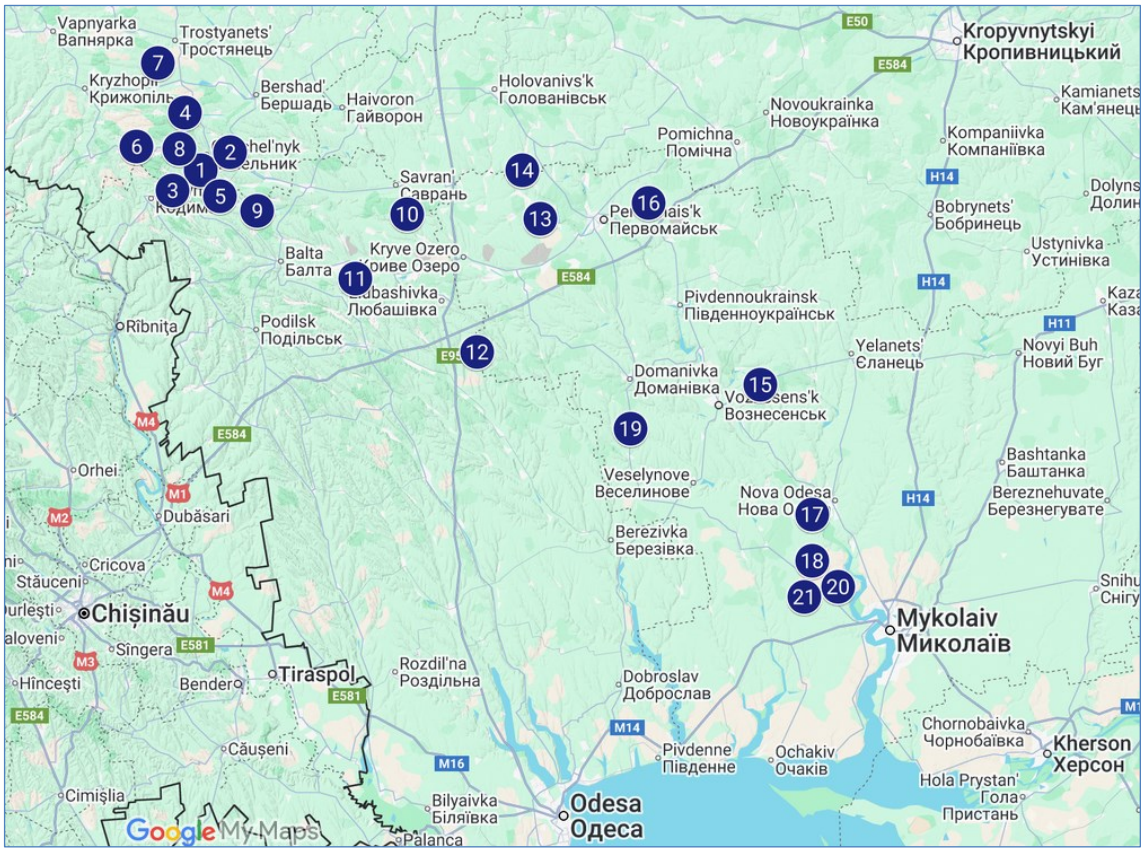

Fig. 3. Spatial distribution of wildcat records in the Lower Bug region in 1991–2024. URL (google.com). Points no. 1–21 are given in the text (cadastre).

Рис. 3. Просторовий розподіл зустрічей кота лісового в Нижньому Побужжі 1991–2024 рр. URL (google.com). Пункти № 1–21 наведено в тексті (кадастр).

There are known cases of wildcats being shot by hunters in 2020–2022 on fields in the Tylihul–Chychykliia interfluve, in the territory of Domanivka and Veselynove raions of Mykolaiv Oblast and in the neighbouring Liubashivka, Mykolaivka, and Berezivka raions of Odesa Oblast (see cadastre). There are also published data about four individuals bagged in 2008–2015 in the Berezan River basin (Mykolaiv and Ochakiv raions of Mykolaiv Oblast) [Zagorodniuk *et al.* 2014].

The generalised list of record localities allows the South Podolian centre of distribution of the species to be outlined (see Fig. 3). It covers the belt of oak–hornbeam forests of the hilly interfluves of the Berladinka, Savranka, Dokhna, and Smolianka rivers, all of which are right tributaries of the Bug. This range segment has an estimated area of 83 400 ha, 34.2% of which is covered with forests.

Estimated abundance

The available data indicate that the frequency of records of the species increased in 2014–2015, which suggests an increase in its abundance. These data are also consistent with the survey results carried out in the state forestry enterprises. In total, forestry enterprises of Vinnytsia Oblast in 2021 reported about the presence of 25 individuals of the wildcat (URL). Based on the entire body of data, the species' abundance in the Bug–Savranka–Kodyma interfluve area can be estimated at ca. 25–30 individuals, most of which (at least 20 individuals) occur within the Karmeliukove Podillia National Nature Park (20 203 ha). Another ca. 10–12 individuals likely occur south of the Kodyma, that is, in the territory of Odesa and Mykolaiv oblasts. From the latter area, nine reports were received about sightings of the wildcat in the autumn of 2024. At the same time, the density of record localities in the Bug–Kodyma interfluve increases northward from the Kodyma.

In sum, the estimated abundance of the wildcat population in the South Podolian part of the Lower Bug region is 30–35 individuals. The increase in the wildcat's abundance in this part of the species' range was also noted earlier [Suss 2012; Drebet & Kapelukh 2019]. Favourable factors, presumably, are the milder climate, afforestation of the balkas, the increase in the area overgrown with shrubs, and the high abundance of rodents. Also, the volume of forestry work has decreased sharply, sanitary fallings almost ceased, and hunting was also prohibited in recent years (2022–2024). If the estimated 25–30 individuals are considered for the total forested area of the national park and the forestry enterprises (24 000 ha), then the species' density will be 0.7–0.8 individuals per 1000 ha. This conforms with the estimated areas of individual territories of wildcats in Western Europe, where these individual territories in forested areas are 228 ha for females and 1300 ha for males [Monterroso *et al.* 2009].

Estimating the species' abundance in steppe areas of the region is more difficult. Annual reports of the Mykolaiv Oblast Game and Forest Management Authority and reports of national parks and reserves of the region contain no data on this species. Based on results of the interviews conducted by the authors in 2020–2024, the estimated abundance of the wildcat in the southern Lower Bug region (200 100 ha) is 11–15 individuals, with a density of 0.05–0.06 individuals per 1000 ha.

Obviously, these abundance estimates for a territory with highly mosaic biotopes are very approximate. Nonetheless, these data allow the centres of registrations to be outlined, of which there are three: 1) forested areas near the lower reaches of the Kodyma (Pervomaisk Raion); 2) forested–floodplain areas on the right bank of the lower reaches of the Southern Bug (between Voznesensk and Kovalivka); and 3) the upper reaches of the Berezan (Mykolaiv Raion). Respectively, the total abundance of the species within the entire Lower Bug region and adjacent areas as of late 2024 can be estimated at 30–35 individuals, which is similar to the abovementioned South Podolian part of the Bug region.

Biotopic features

The spatial distribution of record localities of the wildcat in the Lower Bug region indicates notable biotopic differences in different zones. In the south of Podillia, including the Karmeliukove Podillia National Nature Park, the wildcat's occurrence is related to deciduous forests with glades, old clear-cuts and balkas overgrown with shrubby vegetation. Most finds of the species and its dens in the national park are confined to mature forest plantations on flat interfluves (e.g. the Savranka–Southern Bug interfluve) cut by small streams. During winter surveys in 2017–2018, wildcats and their traces were found near field edges, along forest roads, near haystacks, and in shrubberies on balka slopes. In the forest-steppe, the wildcat avoids agricultural landscapes, settlements, and areas with human presence. The found shelters and dens were in hollows of old trees, in cavities between roots, and among rocky debris. Temporary shelters were found in piles of slash, floodplain reed beds, cavities between fallen trees, etc. An important condition of habitat suitability for the wildcat is access to watering places.

For the steppe part of the Lower Bug region, the biotopic preferences of the species are more diverse, although there is still a dependence on forested, shrubby, and floodplain habitats. The main locations of the wildcat's existence are river valleys, forested balkas, dense field-protecting forest stripes, and plots with saltmarsh and meadow–reed vegetation. Autumn and winter sightings of wildcats were reported from weedy fields with sunflower stubble, densely populated by rodents.

Directions of expansion

There has been an increase in the number of reports about wildcat sightings beyond the South Podolian forests, in the territory of Odesa and Mykolaiv oblasts, which indicates the expansion of the Lower Bug distribution centre of the species. Partly, it can be related to the improved conservation practices in the reorganised game and forestry enterprises within the Balta and Kryve Ozero forests. The interviewed hunters, gamekeepers, and forest protection workers from these areas reported about rare encounters with large cats as early as 2003–2005. Interestingly, hunters from Kodyma Raion of Odesa Oblast also reported about 'reed' cats that 'gravitate' to Transnistria. There is

unverified information about the capture of an adult individual (male) in the autumn of 1998 in the forested upper reaches of the Tylihul River.

Later, starting from the dry summer of 2010, cases of sightings of 'reed' cats along the Southern Bug valley have been reported by shepherds and hunters from Pervomaisk and Domanivka raions of Mykolaiv Oblast.

The generalised information on the dates and locations of wildcat sightings indicate that the South Podolian subpopulation increased in 1994–2009, naturally followed by the dispersal of several individuals beyond the limits of the distribution centre. Their dispersal to the east and north was restrained by the open landscape of adjacent plains and was directed by the Dnister and Bug ecological corridors (Fig. 4). This process continues to this day and there are signs of the species' dispersal from the Southern Bug natural complex into steppe and field habitats, although the success of the wildcat's permanent settlement in these habitats remains unlikely.

Therefore, the available data indicate that a southward dispersal of the wildcat took place in the Lower Bug region in 2010–2024, from the Podolian forest-steppe to the steppe. A principal rout of this dispersal, along with the Dnister River [Oleynik & Rozhenko 2011], was the Southern Bug ecological corridor. In the past five years, as they move along the Southern Bug valley downstream, wildcats have also occurred in adjacent agricultural landscapes.

Using the favourable biotopic and trophic conditions provided by the Lower Bug area, the wildcat has already reached the coastal dry steppe lowlands of the Bug–Berezan interfluve. A likely reason for the species' appearance in steppe habitats could also be competition with the jackal, the main habitats of which in the Lower Bug region are those within river valleys. Cases of records of the wildcats in steppe areas were also reported from the Lower Dnister area [Arkhipov 2015].

Fig. 4. Spatial structure of the distribution range of the wildcat in the Dnister–Bug interfluve (green outline). The red signs (hatching, dashed line and arrows) indicate the West Podolian centre of the range and the directions of its expansion. Brown dotted line is the boundary of the South Podolian centre and the direction of the animal's dispersal.

Рис. 4. Просторова структура ареалу кота лісового в Дністровсько-Бузькому межиріччі (зелений контур). Червоними значками (штриховка, пунктир і стрілки) позначено Західно-Подільський осередок та напрямки його розширення. Коричневим пунктиром позначено межі Південно-Подільського осередку та напрямки розселення тварин.

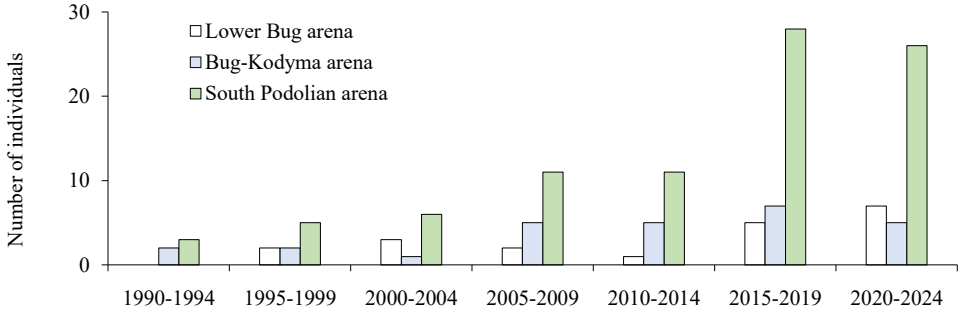

Fig. 5. Dynamics of wildcat records in the Dnister–Bug Lowlands in 1990–2024.

Рис. 5. Динаміка кількості зустрічей кота лісового у Дністровсько-Бузькому Пониззі у 1990–2024 років.

The increased number of wildcat records (Fig. 5) in steppe areas of the Lower Bug region is hard to be explained in a biogeographic context. This phenomenon could possibly indicate the species' dispersal and the expansion of its range, but could also be the result of normalisation of the state of its South Podolian populations. The prohibition of hunting and the decreased levels of disturbance have had a positive impact on the state of these populations in recent years, which facilitated the dispersal further south. The main routes of this expansion to the steppe zone have been river valley ecological corridors.

Conclusions

Summing up the results of this study we can conclude the following:

1) Various data sources indicate that a stable distribution centre of the wildcat existed in the south of Podillia in 2010–2015, from which the species spread to steppe areas of the Lower Bug region. An important sanctuary of the species has been the Karmeliukove Podillia National Park.

2) Environmental changes initiated by a complex of natural and anthropogenic factors in the early 21st century have caused the increase of the abundance of the South Podolian subpopulation of the species and have led to its dispersal to the south-east, which continues to this day.

3) The expansion of the wildcat's distribution range to the south requires the organisation of its protection, the first step of which must be raising public awareness about the conservation status of this rare animal in order to prevent its persecution.

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