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The distribution, population and breeding success of Saker Falcon *Falco cherrug* in Serbia, 2020–2022

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Abstract This paper presents the results of research on the distribution, population and breeding success of Saker Falcon *(Falco cherrug)* in Serbia, in the period of 2020–2022. Detailed monitoring was carried out in the territory of Vojvodina, northern lowland part of Serbia, which included primarily survey of all routes of high-voltage transmission lines (2,600 km in length). A total of 586 georeferenced data were collected, of which 318 related to main reproductive period during March–June. Current breeding range of Saker Falcon in Serbia (Vojvodina) covers a relatively compact territory. Breeding range in 2022 covered cca. 14,500 km^2, situated in Vojvodina. The number of territories occupied by pairs or adult single birds increased from 44 in 2020 to 54 in 2022. In 2020, there were 21 successful pairs, in 2021, this number increased to 26, while in 2022 reached 30. Most of the successful breeding pairs occupied artificial nests installed on pylons of high voltage transmission power lines (75 metal boxes and 99 wooden platforms). Suitable habitats for reproduction of Saker Falcon in Vojvodina covers area of cca. 16,000 km^2, thus giving estimation of a total capacity of Vojvodina for Saker Falcon on cca. 84 breeding pairs.

Keywords: Saker Falcon, *Falco cherrug*, Serbia, distribution, population, breeding success

Összefoglalás Jelen tanulmány bemutatja a kerecsensólyom *(Falco cherrug)* elterjedésével, állományával és költési sikerével kapcsolatos, 2020 és 2022 közötti szerbiai kutatások eredményeit. A részletes felmérések a Vajdaság területén, Szerbia északi síkvidéki részén történtek, és elsősorban a nagyfeszültségű távvezetékek teljes nyomvonalára (2600 km hosszúságban) irányultak. Összesen 586 georeferált adat került rögzítésre, amelyek közül 318 a fő szaporodási időszakra (március–június) vonatkozott. A kerecsensólyom jelenlegi költési területe Szerbiában (Vajdaság) egy viszonylag kompakt területet foglal magába. A 2022-es fészkelőterület körülbelül 14 500 km^2-t fedett le. Az elfoglalt területiumok száma, ahol párok vagy egyedülálló kifejlett madarak tartózkodtak, a 2020-ban megfigyelt 44-ről, 2022-re 54-re emelkedett. 2020-ban 21 sikeres pár volt, 2021-ben ez a szám 26-ra nőtt, míg 2022-ben elérte a 30-at. A sikeresen költő párok többsége mesterséges fészkeket foglalt el, amelyek nagyfeszültségű távvezetékoszlopokra telepített fémdobozokat (75) és fából készült platformokat (99) jelentettek. A kerecsensólyom számára alkalmas élőhelyek a Vajdaságban körülbelül 16 000 km^2-t fednek le, így a vajdasági kerecsensólyom állomány nagyságát körülbelül 84 fészkelő párra becsüljük.

Kulcsszavak: kerecsensólyom, *Falco cherrug*, Szerbia, elterjedés, állomány, költési siker

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Introduction

Saker Falcon *(Falco cherrug)* is a rare breeding bird species in Serbia. The majority of adult birds are resident and stay inside and/or around breeding territory throughout the year. The breeding range in Serbia is concentrated in the northern part (Pannonian plain – Vojvodina) *(Figure 1)*. There were some observations in the breeding season from highland grassland steppe plateaus in southeastern Serbia (Stara Planina Mt, Vardenik Mt, Dukat Mt.), in the last decade of the 20th century and the early 21th century, which are inhabited by European Ground Squirrels *(Spermophilus citellus)* (Petrov 1992, Sekulić 1995, Ham & Puzović 2000, Puzović *et al.* 2009, Janković 2010). The Saker Falcon is relatively evenly spread in the lowlands of Vojvodina, inhabiting agricultural land, steppes and saline grasslands. The most dense concentrations of occupied territories are in the regions of south, central and north Banat and in east and north Bačka (Rajković 2013/2014, Puzović *et al.* 2015, Rajković & Puzović 2018). The breeding population in Srem region, with more than 15 known pairs in 1990s, almost completely disappeared recently, probaly influenced by negative preassure from pigeon breeders (Puzović 2007a, Puzović 2008, Rajković & Puzović 2018).

Figure 1. Overview map of Serbia and neighboring countries.
1. ábra Szerbia és a szomszédos országok áttekintő térképe

Saker Falcons formerly used to breed on trees (Deliblato Sands and alluvian forests near large rivers) (Matvejev 1950, Ham 1982), rarely on loess walls (Titel Hill) (Ham & Puzović 2000) and possible on cliffs (Stara Planina Mt.) (Janković 2010, Sekulić & Radaković 2014). In the last 40 years, most of the occupied nests were located on pylons of high-voltage transmission power lines (hereafter pylon) in Vojvodina (Puzović 1988a, Ham & Puzović 2000, Puzović 2007a, Puzović 2008a, Rajković & Puzović 2018), in nests of Common Raven *(Corvus corax)* and very rarely of Hooded Crow *(Corvus cornix)*, as well as in artificial platforms and boxes. The first breeding of Common Raven in Serbia was recorded in 1979 near Temerin in Bačka (Balog 1992), and the breeding of Saker Falcon in Common Raven nest on pylons was firstly registered in 1982 near Samoš in Banat by Istvan Ham (Puzović 2008a). The only confirmed and successful breeding of Saker Falcon out of Vojvodina was recorded in Pomoravlje (Stig) area in central Serbia during 2007 and 2008, recorded by Goran Sekulić, in agriculture area on pylon, in Common Raven nest (Puzović *et al.* 2015).

During the 19th and in the first half of the 20th century, Saker Falcon was a very rare breeder in the Pannonian part of Serbia (Bačka and Banat), while in the rest of the country it was a winter guest and vagrant (Landbeck 1843, Matvejev 1950, Čornai 1952, Šćiban *et al.* 2015). The oldest recorded nesting sites were located in the vicinity of Pančevo, Dubovac, Kovilj and Titel (Schenk 1918). During the 1950s, it was found locally in southern Banat and used suitable nests on trees in forests along rivers (Szlivka 1959) and also forests on the slopes of Fruška Gora Mt. (Géroudet 1958). According to Pelle *et al.* (1977), in Vojvodina, it was rare breeder in the forests close to the Danube, and in Fruška Gora and Deliblato Sands. Antal *et al.* (1971) mentioned it for the alluvial forests near the Tisza River as well. Several breeding data for Bačka and Srem are provided by Marčetić and Medaković (1954), for the period 1951–1954 (Karapandža, Kazuk, Bogojevo, Plavna, Adica, Bačko Novo Selo, Bačka Palanka, Futog, Mačkov Sprud and Paragovo). There were no data from Kosovo and Metohija until the 1960s (Marčetić & Andrejević 1960), although there is a mounted skin of this species with an illegible label in the collection of the Museum of Kosovo. There is also a mounted specimen in the collection from 03.01.1966, which was previously wrongly determined as Peregrine Falcon *(Falco peregrinus)* (Ham & Puzović 2000).

The first monitoring of breeding population of Saker Falcon at local level has been carried out in Deliblato Sands protected area in 1970s and 1980s by Ham (1977, 1982) and in Srem region during the 1980s and 1990s (Puzović 1988b, Puzović 2007a). The first officially organised national breeding population survey was carried out in Serbia during 2007–2008 that was done by Bird Protection and Study Society of Vojvodina with support of International Wildlife Consultants Ltd. (IWC), Institute for Nature Conservation of Serbia, Provincial Secretariat of Environmental Protection and Sustainable Development, League for ornithological action and Joint Stock Company „Elektromreža Srbije“ (EMS). The main objective of the project was to survey all areas where the breeding of this species was possible and expected, with particular focus on electric power lines, steppe and saline grassland habitats and alluvial forests. In 2007 and 2008, almost all „portal“ type (lattice portal tower) and „jela“ type (single circuit tower-triangular configuration) pylons were surveyed in Vojvodina, Mačva and in North Pomoravlje (central Serbia).

In 2007, 40 occupied territories (eyries) with presence of adult Saker Falcons in the breeding period were found in Serbia, 39 of them in Vojvodina. There were 27 territorial pairs among which 20 were successful. More than 90% of all pairs nested in Common Raven nests. In Vojvodina, 15 territories were found in Banat, 14 in Bačka and 10 in Srem (Puzović 2007b). In 2008, 28 occupied territories (eyries) with presence of adult Saker Falcons in breeding period were found. There were 22 territorial pairs among which 18 were successful. In Vojvodina, 12 territories were found in Banat, 10 in Bačka and 6 in Srem (Puzović 2008c).

Monitoring of the breeding population of Saker Falcon on high-voltage transmission power lines was carried out in Vojvodina again in 2013 and 2014, under the organization of the Bird Protection and Study Society of Serbia (BPSSS), with a focus on incubated and successful pairs (Rajković 2013/2014). In 2013, 17 successful breeding pairs were recorded (Banat 10, Bačka 7 and Srem 0), and only 14 in 2008 (Banat 8, Bačka 5 and Srem 1).

In Vojvodina, during the first half of 1970s, there were only ten or a little more pair of Saker Falcon (Ham 1977), while at the beginning of the 1980s, there were 25–30 breeding pairs (Ham 1982). Vasić *et al.* (1985) estimated the breeding population in the northern plains of former Yugoslavia on 40 pairs for the same period, and specifically in Deliblato Sands up to 9 pairs. Snow and Perrins (1998), mainly based on information compiled by Voislav Vasić, estimated the size of the population in Serbia on 34–40 pairs for 1995, and the trend as a significant increase. The total population in Serbia for the period 1994–1996 was estimated on 51–65 breeding pairs (Ham & Puzović 2000). The breeding population, according to a two-year long survey (2007–2008), was estimated on 50–60 pairs (Puzović *et al.* 2009). For the period of 2008–2013, estimation was 22–32 breeding pairs in Serbia (Puzović *et al.* 2015). According to a two years survey, in 2013 and 2014, the total breeding population in Vojvodina was estimated on 16–21 pairs (Rajković 2013/2014), although that probably refer only to incubating and successful pairs, which are obviously representing only a part of the total national breeding population per year.

Population declining in the second half of the 20th century until the middle of the 1980s, when recovery had started, is probably attributed to increased negative anthropogenic pressure on habitats and individuals. However, successful adaptation for nesting in Common Raven's nest on electricity pylons, as newly built infrastructure in large agricultural lands without trees, as well as dietary reorientation to birds, mainly to Columbidae and Corvidae, has gradualy improved the situation (Ham & Puzović 2000, Puzović 2007a, Puzović & Krnajski 2007a, 2007b, Puzović 2008, Puzović *et al.* 2015). The breeding trend in the last two decades was identified as decline (Puzović *et al.* 2015).

During 2007 (June–October), the previously mentioned project partners firstly installed 50, and in 2008–2009, another 49 wooden platforms on pylons, and additonal six on trees. First confirmed breeding of Saker Falcon in wooden platform was recorded in 2013 near Kumane in Banat (Rajković 2013/2014). In 2014, 2015 and 2017 for a first time in Serbia, 30 metal (aluminium) nest boxes were installed on pylons. After that, during 2020–2022, additional 45 metal boxes were installed as well, with main coordination by experts from Institute for Nature Conservation of Vojvodina Province (INCVP) and realization by EMS workers. By the end of 2022, a dense network of artificial nests has been created that cover entire space of the northern lowland part of Serbia, with in total 180 nests (105 wooden platforms and 75 metal boxes), and with adopted task to reach 200 until 2024.

Material and Methods

During 2020–2022, monitoring of the breeding distribution and population, including success of reproduction of the Saker Falcon in the territory of Vojvodina was carried out, especially during the main reproductive period (March–June). Survey of all routes of high-voltage transmission lines was carried out (more than 2,600 km in length) annually, especially in detail on those where active territories of Saker Falcon were known from before, and where natural nests of Common Raven and artificial nests existed. Several other locations were also inspected, which, despite the absence of power lines as nesting base, have favorable

conditions for Saker Falcon feeding. Most of the existing large nests of eagles *(Haliaeetus albicilla, Aquila heliaca, Clanga pomarina, Circaetus gallicus)* were also examined within the monitoring program related to those species. The priority was to survey all areas where the reproduction of this species is potentialy possible, focused on the areas with presence of electric power lines, steppe and saline habitats, forest zone beside large river flows and localities around settlements with pastures and traditional grazing.

The main field activities were carried out in the period of March until the second half of April, when the locations with the presence of adult birds (occupied territories-eyries) were determined. After that, those and other potential locations were particularly intensively visited to determine whether the pairs had started/continued breeding and what the breeding success rate was. These activities were particularly implemented in the period of 1 May–30 June. Some additional checks, if they were needed, have been carried out during July and August.

Except work on installation of artificial aluminum nest boxes and wooden platforms on pylons, detailed survey of all the previously installed nests was also carried out by the experts of INCVP, in cooperation with EMS and BPSSS, based on the signed cooperation agreement No. 04-802, from 23.03.2020. Almost all existing „portal“, „jela“ and „bure“ types of electric pylons were visited several times in Vojvodina, during 2020–2022. In total, 90 field working days were conducted.

All collected data and observations in the field were entered into the electronic database of georeferenced data, with the use of the „Terenska-Field” application, which was developed through IPA project for the purposes of establishing the Natura 2000 ecological network in Serbia. During three years of field research (2020–2022), a total of 586 units of information, georeferenced data, were collected and entered the electronic database, using the application „Terenska”. From that number, 310 data were collected in the March-July period, which primarily relate to the reproduction season of Saker Falcon in Serbia.

Results and Discussion

The current breeding range of Saker Falcon in Serbia (Vojvodina) covers a relatively compact territory *(Figure 2)*. There are no pairs that are isolated and situated more than ten kilometers away from the nearest neighboring pair or group of pairs. In 2020–2021, the breeding range contained areas of the entire Banat and the eastern part of Bačka, and covered about 13,400 km^2 *(Figures 3, 4)*. The breeding distribution in 2022 *(Figure 5)* shows that breeding range has slowly expanded, primarily to the areas of north-west and west Bačka, and to a small extent also to the middle part of eastern Banat. New pairs were formed near Svetozar Miletić and Sonta villages, which were more than 14 km and 38 km far from the earlier known nearest active nest. The increasingly frequent appearance of individuals in north-east Srem, where one pair tried to nest in 2022 near Novi Karlovci, after several years of absence in that region, is also noticeable.

Occupied territories are present and distributed relatively evenly inside the breeding range of the species in Banat and Bačka, with the fact that in 2022 the largest number of successful

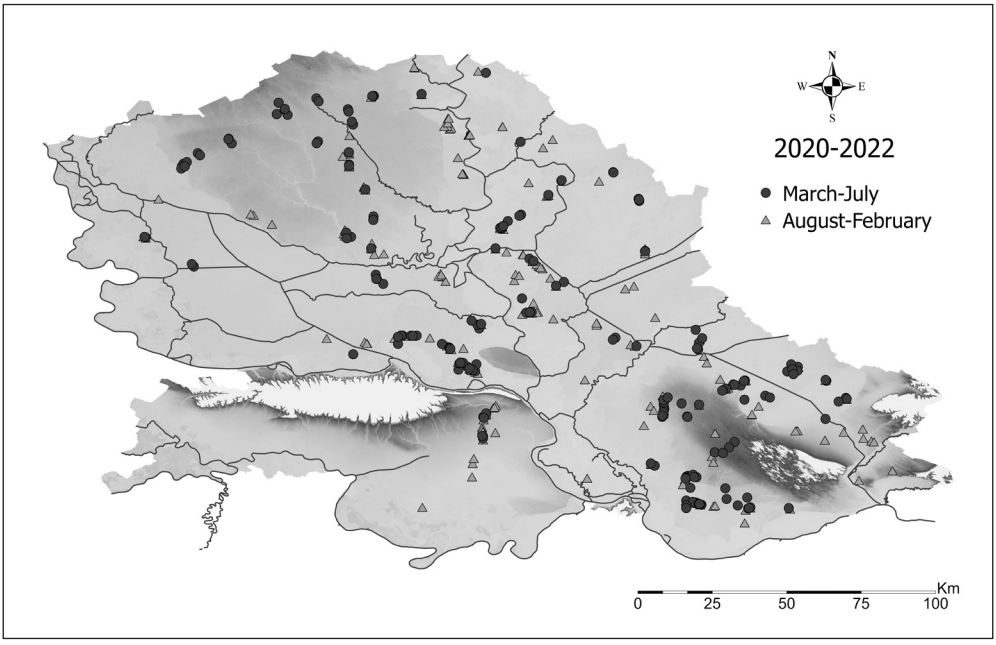

Figure 2. Observations of Saker Falcon in Vojvodina, in the period of 2020–2022 (circle: March-July, triangle: August-February)

2. ábra Kerecsensólyom *(Falco cherrug)* megfigyelések a Vajdaságban a 2020–2022 közötti időszakban (kör: március-július, háromszög: augusztus-február)

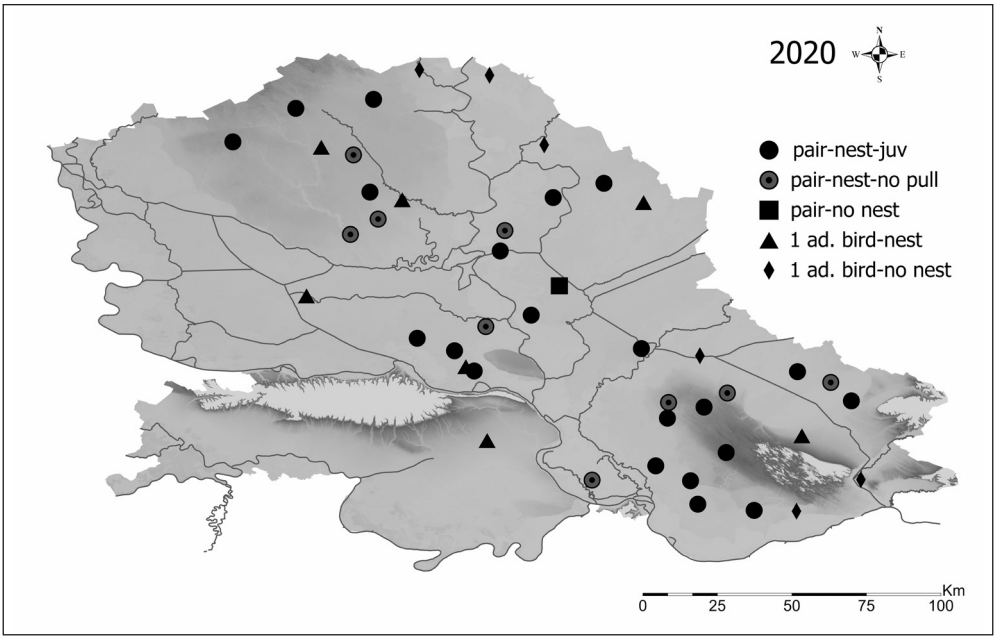

Figure 3. Occupied territories in the breeding period of Saker Falcon *Falco cherrug* in Serbia, in 2020

3. ábra A költési időszakban foglalt kerecsensólyom-revírek Szerbiában 2020-ban

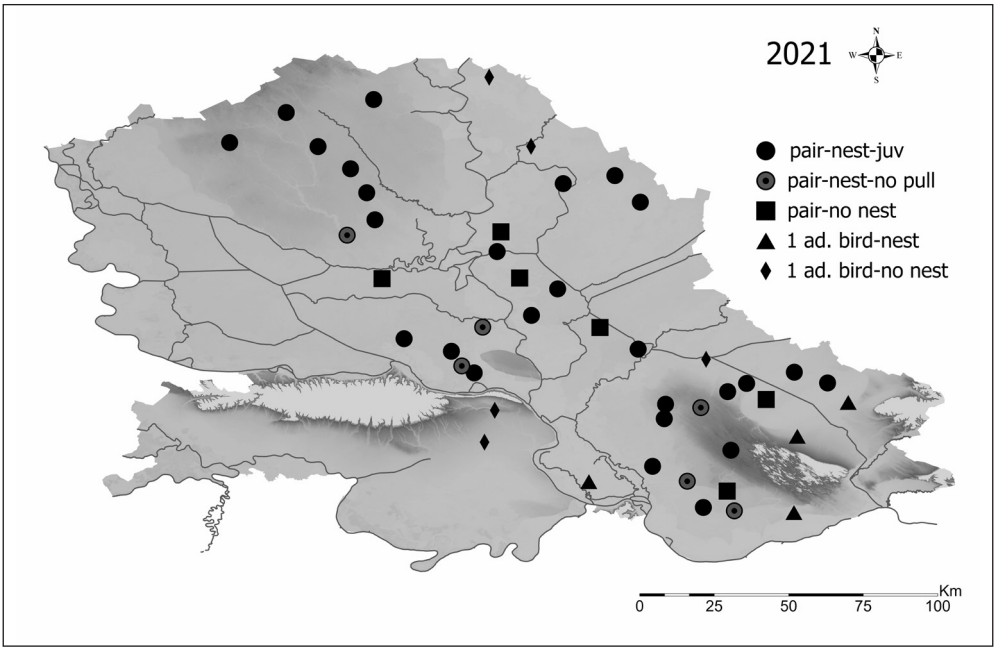

Figure 4. Occupied territories in the breeding period of Saker Falcon in Serbia, in 2021
4. ábra A költési időszakban foglalt kerecsensólyom-revírek Szerbiában 2021-ben

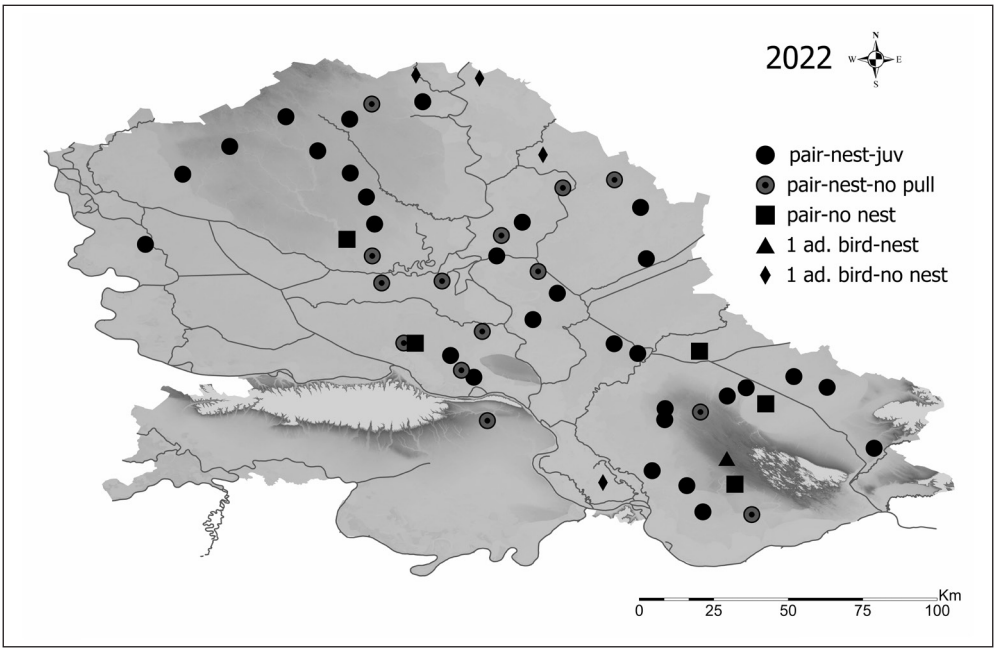

Figure 5. Occupied territories in the breeding period of Saker Falcon in Serbia, in 2022
5. ábra A költési időszakban foglalt kerecsensólyom-revírek Szerbiában 2021-ben

pairs were nested in central Banat and northern Bačka. The total breeding range in 2022 in Serbia (Vojvodina) therefore covered cca. 14,500 km^2.

During 2020–2022, adults were recorded in the reproductive period, in only a few localities in Vojvodina (Siget near Srpski Krstur and Jaroš near Mokrin, both in Banat), with no high-voltage transmission lines present in the wider area, so only potential breeding substrate are trees. According to oral information from colleagues dealing with eagles, in the same period, during the regular control of more than 150 existing nests of eagles *(Haliaeetus albicilla, Aquila heliaca, Clanga pomarina, Circaetus gallicus)* in the northern lowland part of Serbia, in forests, group of trees and on solitary trees, occupation by the Saker Falcon in the breeding period was not recorded.

Observations of Saker Falcon during 2020–2022 from the non-breeding period (August–February) were mostly recorded in the entire Banat and the eastern part of Bačka, where most of the breeding pairs are present as well, but a several number of recorded individuals, mostly sexually immatures in north-eastern Srem, is also noticeable, which suggests that Saker Falcon is slowly returning to that area.

Table 1. Breeding population of Saker Falcon in Serbia, 2020–2022
1. táblázat A kerecsensólyom fészkelőállománya Szerbiában, 2020–2022

Year / Region	Successful pair (nest-juv)	Unsuccessful pair (nest-no pull)	Pair on territory (no nest)	Single ad. on territory (nest)	Single ad. on territory (no nest)	Total
2020						
BAČKA	7	4	0	4	1	**16**
BANAT	14	5	1	3	4	**27**
SREM	0	0	0	0	1	**1**
Other parts of SERBIA	0	0	0	0	0	**0**
Total	**21**	**9**	**1**	**7**	**6**	**44**
2021						
BAČKA	10	3	1	0	0	**14**
BANAT	16	3	5	4	3	**31**
SREM	0	0	0	0	2	**2**
Other parts of SERBIA	0	0	0	0	0	**0**
Total	**26**	**6**	**6**	**4**	**5**	**47**
2022						
BAČKA	12	7	2	0	1	**22**
BANAT	18	6	3	1	3	**31**
SREM	0	1	0	0	0	**1**
Other parts of SERBIA	0	0	0	0	0	**0**
Total	**30**	**14**	**5**	**1**	**4**	**54**

There is a significant increase in the number of territories occupied by pairs or adult single birds in the breeding period of 2020–2022 in Serbia (Vojvodina), from 44 in 2020 to 54 in 2022 (122.7%). The number of localities with pairs present in the reproductive period also strongly increased from 31 in 2020 to 49 in 2022 (158.1%). Considering that the same method was applied during all three consecutive years, most probably these newly discovered adult individuals or pairs were not previously overlooked, and consequently it is a real population increase and expansion of breeding range. The number of successful pairs increased significantly, from 21 in 2020 to 30 in 2022, but also the number of pairs with an occupied nest but no successful breeding, increased from 9 in 2020 to 14 in 2022 *(Table 1)*.

The reason for the increase in the number of successful pairs is primarily due to occupation of previously repaired old nest boxes/platforms and installation of new ones which are suitable for breeding, with external bars for perching and wing strengthening and improved bottom of nests for incubation (shaggy rag floor cover was placed as a base and above it a layer of fine gravel, and in some cases third layer with a man-made nest consists of wooden branches). Moreover, a possible reason for the increase in the number of unsuccessful pairs is the occupation of new territories by unexperienced immature individuals, disturbance and unfavorable weather conditions.

Table 2. Breeding success of Saker Falcon in Serbia, 2020–2022
2. táblázat A kerecsensólymok költési sikere Szerbiában, 2020–2022

Year / Region	Number of successful pairs	Total number of fledged individuals (Juveniles)	Average number of juveniles per successful pairs	Average number of juveniles per recorded pairs	Average number of juveniles per recorded occupied territories
2020					
BAČKA	7	20	2.86	1.82	1.25
BANAT	14	40	2.86	2	1.55
SREM	0	0	0	0	0
Total/average	**21**	**60**	**2.86**	**1.91**	**1.36**
2021					
BAČKA	10	32	3.20	2.28	2.28
BANAT	16	44	3.14	1.76	1.37
SREM	0	0	0	0	0
Total/average	**26**	**76**	**2.92**	**1.95**	**1.58**
2022					
BAČKA	12	37	3.08	1.76	1.68
BANAT	18	59	3.27	2.18	1.90
SREM	0	0	0	0	0
Total/average	**30**	**96**	**3.20**	**1.96**	**1.77**

Out of the total number of recorded pairs (31) in breeding period during 2020, 21 pairs (67.7%) successfully fledged chicks. During 2021, the number of recorded pairs was 38, among which 26 were successful (68.4%), while in 2022, the number of pairs was 49, among which 30 were successful (61.2%). The highest number of fledglings from successful pairs was 5, in 5 cases, and the lowest number of fledglings was 1.

The total number of young individuals that successfully fledged from nests increased from 60 in 2020 to 96 in 2022, and the average number of reared young individuals per successful nest has grown from 2.86 in 2020 to 3.20 in 2022 *(Table 2)*. Positive trends in both cases are probably caused by favorable climatic conditions, without too much precipitation in the spring months (March–April), especially in 2022, as well as due to more than 40 newly installed nest boxes, and large number of the repaired ones.

During 2013–2014 in Serbia, almost all Saker Falcon pairs were nesting on high power line pylons in Common Raven nests, more precisely 87% of all recorded successful breeding pairs (Rajković 2013/1014). In the last three years, the situation has completely changed and a significant reason for that was certainly the numerous installations of metal boxes. Thanks to the increased availability of new artificial nests, evenly deployed in large open agriculture areas, and installed on pylons that are not too close to roads, buildings and settlements, in the last few years they have been massively occupied, both by pairs that were already present at the given locations, as well as by newly formed pairs. Although in 2013 only 1 out of 17 recorded successful pairs nested in an artificial nest (5.8%), during 2020 the share of

Table 3. Breeding places/occupied nests of successful pairs of Saker Falcon on towers of high-voltage transmission power lines in Serbia, 2020–2022

3. táblázat Sikeresen fészkelő kerecsensólyom párok fészkelőhelyei / foglalt fészkei nagyfeszültségű távvezeték oszlopokon Szerbiában, 2020–2022

Year / Breeding place	Pylon type "Portal"	Pylon type "Jela"	Pylon type "Bure"	Total
2020				
METAL BOX	2	6	0	8
WOODEN PLATFORM	2	1	0	3
RAVEN NEST	9	1	0	10
Total/average	**13**	**8**	**0**	**21**
2021				
METAL BOX	4	10	0	14
WOODEN PLATFORM	0	1	0	1
RAVEN NEST	7	3	1	11
Total/average	**11**	**14**	**1**	**26**
2022				
METAL BOX	7	13	0	20
WOODEN PLATFORM	1	1	0	2
RAVEN NEST	5	2	1	8
Total/average	**13**	**16**	**1**	**30**

successful pairs that nested in artificial nests was 52.2%, in 2021 it increased to 57.7%, and in 2022 it was 73.3% of all successfully breeding pairs in Serbia.

Although more wooden platforms (105) were installed compared to metal boxes (75), it is noticeable that there is much more occupancy rate by successful pairs of artificial metal boxes *(Table 3)*. That difference increases over time, so in 2022, 26.6% of existing metal boxes were occupied by successful pairs (20 of 75), compared to only 2.1% of occupied existing wooden platforms on pylons (2 of 94). If pairs that occupied artificial nests but were not successful in reproduction, are also included, then the importance of metal boxes for breeding additionally grows.

Three territorial pairs were also recorded (near Lokve and Jarkovac in Banat and near Bačko Gradište in Bačka), which occupied medium-voltage concrete transmission lines (35 kV) and the existing Common Raven nests on them. Those pairs were not breeding successfully.

On the line routes of transmission power lines where the pairs of Saker Falcon are line up along the route, the distance between adjacent pairs generally is not less than 6–7 km, while the shortest recorded distance between two adjacent active nests was 2.92 km near Padina in Banat and 3.76 km near Šajkaš in Bačka. The smallest distance of an active nest from the edge of a nearest settlement was 1 km, which was recorded in only one case. Three active nests were at 1.3 km from settlements, while most of the active nests, i.e. occupied territories were on more than 2 km distances from settlements.

Research in neighboring Hungary (Prommer *et al.* 2018), where there are similar environmental conditions as in Vojvodina (both within the Pannonian biogeographical region with similar agricultural methods, climate, etc.) has determined average home range for adult Saker Falcon in the reproductive period on 190 km^2. According to that it should be possible to estimate the total capacity of Vojvodina is cca. 84 breeding pairs of Saker Falcon, having in mind previous assessment that a suitable habitat for reproduction in Vojvodina covers an area of cca. 16,000 km^2.

Conclusions

The current breeding range of Saker Falcon in Serbia (Vojvodina) covers a relatively compact territory and gradually expands in the last few years. In 2020–2021, breeding range contained areas of the entire Banat and the eastern part of Bačka, and covered cca. 13,400 km^2, while in 2022, slowly expanded and covered cca. 14,500 km^2.

There is a significant increase in the number of territories occupied by pairs or adult single birds in the breeding period of 2020–2022 in Serbia (Vojvodina). The number of localities with pairs present in the reproductive period also strongly increased. All recorded pairs occupied pylons of high-voltage transmission power lines.

The number of successful pairs that nested in artificial nests increased significantly, from 52.2% to 73.3% of all successfully breeding pairs in Serbia during 2000–2022.

Out of the total number of recorded pairs (31) in the breeding period of 2020, 21 pairs successfully fledged young. In 2021, 26 pairs were successful, while in 2022, a total of 30

pairs were successful. Among successful pairs, the highest number of fledglings was 5 (in 5 cases), and the lowest number of fledglings was 1.

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