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Recent population status of the Peregrine Falcon *Falco peregrinus* in European Russia

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Abstract. The total population of the Peregrine Falcon within European Russia is about 700 pairs. Out of them there are 450-550 pairs of *F. p. calidus*, 30-40 pairs of *F. p. brookei*, and 150-200 pairs of nominative *F. p. peregrinus*. In the east (close to the Ural Mountains) they nest mostly on cliffs, while in the west some of them nest on the ground (bogs). Some nests in trees which have been found 25-35 years ago as well as recent summer records are reasons to believe that tree-nesting ecotype of European Peregrines still persist amidst forest plains in European Russia.

Key words: Peregrine Falcon *Falco peregrinus*, birds of prey, population, nesting, European Russia.

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The total European population of the Peregrine Falcon is recently estimated between 6200 and 10000 pairs (Tucker & Heath 1994). A smaller portion of it (2900-3500 pairs mostly in Great Britain, France and Germany) belongs to the nominative European Peregrine subspecies *F. p. peregrinus*. Another part consists of the Mediterranean Peregrine *F. p. brookei* in Spain, Italy, Turkey and other South European countries (2200-4700 pairs) as well as of the Eurasian Tundra Peregrine *F. p. calidus* in the northern Fennoscandia, Russia and Greenland (1100-1800 pairs).

All three subspecies inhabit the eastern part of Europe within the former Soviet Union (Fig. 1). *F. p. calidus* occupies the tundra and forest-tundra zones, i.e. the northern strip of European Russia. There are isolated *F. p. brookei* populations in mountain regions of Crimea (c. 10 pairs) and Caucasus (over 50 pairs). As for *F. p. peregrinus*, its populations inhabit the vast forest zone mostly north of 55 parallel of latitude. Some Peregrines are recorded in summer seasons in Belarus and northwestern Ukraine but without reliable nesting records in recent years (Dorofeev 1993).

The total Peregrine Falcon population within European Russia is roughly estimated as ca. 700 pairs (Galushin 1994). The major part of it certainly belongs to *F. p. calidus* (450-550 pairs). The most reliable

studies have been performed at the Kola Peninsula (10 pairs per 1000 sq. km) by Ganusevich (1988, 1992) and in the far north eastern "corner" of Europe (65-75 pairs per 41500 sq. km) by Morozov (1991). A small fraction (30-40 pairs) falls in *F. p. brookei* on the Russian part of the northern Caucasus slope (Vitovich & Tkachenko 1988, Kazakov 1989, Tilba 1989, Mnatsekanov & Tilba 1990).

Therefore it seems only 150-200 pairs of the nominative *F. p. peregrinus* inhabit over one mil. sq. km of the huge European Russian taiga and mixed forest. If that rough estimation is more or less correct the European Peregrine population density is very low, i.e. less than one pair per 10000 sq. km. It is reasonably in line with a density of 16 pairs per 150000 sq. km west of the Ural Mountains (Shepel 1992) as well as with isolated nesting records in Bashkiria (Loskutova 1985), the Novgorod region (Mishchenko & Sukhanova 1993), etc.

As for a very high estimation for the forest zone in Western Siberia (28000 pairs, i.e. about 160 pairs per 10000 sq. km) it was computer calculation from line transect data (Ravkin *et al.* 1988). All but a few ornithologists believe those figures as an unreliable overstatement, and do not use them in their studies and assessments.

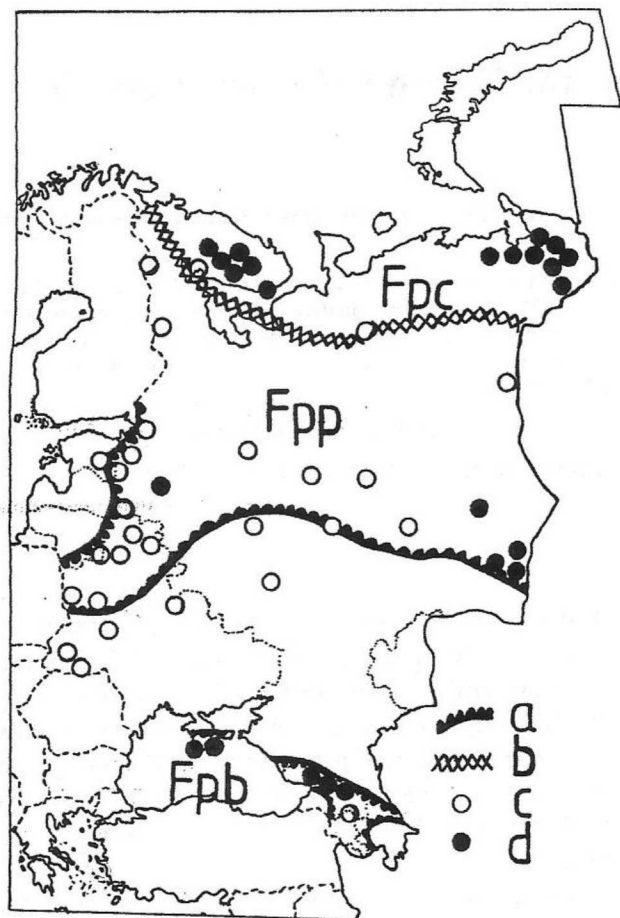


Fig. 1. Breeding ranges of the Peregrine subspecies in Eastern Europe (1985–1994). Fpp – *Falco peregrinus peregrinus* (*brevirostris*), Fpc – *F. p. calidus* (*leucogenys*), Fpb – *F. p. brookei* (*causasicus*), a – species range, b – subspecies range, c – summer records, d – living nests, () – synonyms.

[Ryc. 1. Zasięgi lęgowe podgatunków sokoła wędrownego we Wschodniej Europie 1985–1994. a – granica zasięgu lęgowego gatunku, b – podgatunków, c – stwierdzenie z okresu pólęgowego, d – stwierdzenia zajętych gniazd, () – synonimy.]

The majority of occupied nests of the European Peregrine is situated on river cliffs (Perm–Kama region, Bashkiria). The only bog nesting pair has been recently found by Mishchenko and Sukhanova (1993) in the Novgorod region. Not far from there, i. e. in Estonia (Kumari 1974) and the Leningrad region (Malchevskiy & Pukinskiy 1983) some Peregrine pairs nested amidst bogs in the 1950s and 1960s. At present no single nest in trees is known in Russia. The last tree-nesting pairs were recorded 25–35 years ago in

Moscow (Samoilov 1983), along the Rybinsk reservoir at the Upper Volga river (Nemtsev 1994) as well as in Estonia, northern Ukraine and western Belarus (Dorofeev 1993). However recent summer records of Peregrines which demonstrate nesting behaviour in plain forest regions of European Russia are reasons to hope that tree-nesting pairs of this species still persist today.

Population changes of the Peregrine Falcon in Europe and North America as well as their causes have been well studied and they are known: a population crash in 1960s due to DDT and other toxic chemicals followed by recovery in 1970s and 1980s after pesticide prohibition (Ratcliffe 1980, Cade *et al.* 1988). Population trends are not so clear in European Russia. An overall decline has been characteristic from the 1950's to the 1970's. The main reasons were mass shooting during a campaign for eradication of "harmful" predators, nest destruction, disturbance of breeding birds and habitat loss (Flint & Galushin 1981, Galushin 1981, 1991). Certainly pesticide contamination was also one of the major causes, but with rare exception (Peakall & Kiff 1979, Henny 1993, Potapov 1993, Henny *et al.* 1994) it was not studied in Russia. During that time, Peregrines disappeared from southern forests and steppe-forest zones (Ukraine, Belarus, central European Russia). For example in Estonia there were 40–50 bog nesting pairs in the 1950's (Kumari 1974), ca. 15 pairs in the 1960's, while they either completely disappeared at the beginning of the 1980's or possibly three pairs still nest there (Lilleleht & Leibak 1993).

At present, the Peregrine Falcon is included in the Red Data Book of the Russian Federation, resulting in many of the above pressing factors being weakened or arrested. However there is no obvious indications of the subspecies recovery like in West Europe. Some active measures for reintroduction like captive breeding and releasing into the wild would help to restore the European Peregrine populations in European Russia.

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STRESZCZENIE

[Aktualny stan populacji sokoła wędrownego w europejskiej części Rosji]

Europejską populację sokoła wędrownego szacuje się na 6200–10000 par. Podgatunek nominatywny *Falco p. peregrinus* stanowi niewielką część tej liczby – 2900–3500 par, występujących głównie w Wlk. Brytanii, Francji i Niemczech.

Na terenie byłego Związku Radzieckiego występują wszystkie 3 europejskie podgatunki. Szacuje się, że w europejskiej części Rosji jest ok. 700 par. Większość z nich stanowi *F. p. calidus* (450–550 par). Około 30–40 par to *F. p. brookei* zasiedlający północne stoki Kaukazu.

Szacunkowa liczebność podgatunku *F. p. peregrinus* wynosi zatem 150–200 par, żyjących na terytorium 1 mln km kw. rosyjskiej tajgi i strefy lasów mieszanym, co daje zagęszczenie 1 pary na 10000 km kw. Liczba stwierdzonych par jest jeszcze niższa. Większość z nich gnieździ się na stromych brzegach rzek (Baskiria, region Kama-Perm). W 1993 roku stwierdzono gnieźdzenie się na ziemi w guberni Nowogrodzkiej. Aktualnie nie jest znane żadne gniazdo nadrzewne. Ostatnie takie stwierdzone gniazda były 25–35 lat temu w okolicach Moskwy, nad Zalewem Rybińskim na górnej Wołdze, a także w Estonii, północnej Ukrainie i w zachodniej Białorusi. Jednak latem 1994 roku obserwowano gniazdowe zachowanie sokołów w strefie lasów, co pozwala sądzić, że takie gniazda jeszcze istnieją.

Na terenie Rosji badań nad stanem i zmianami liczebności sokoła wędrownego oraz ich przyczynami było bardzo mało. Niejasne są tu także aktualne trendy populacyjne. W latach sześćdziesiątych i siedem-