



# A glance at the changes in the fauna of Warsaw and its surroundings caused by the war (1948) – excerpts<sup>\*</sup>

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During the wartime years of 1940–1945, which I spent in Warsaw, I made some faunistic and ecological observations that drew my attention to the great intensity of changes in the quantitative and qualitative composition of the fauna of the city and its environs during the war. (...)

The nature of the factors that affected the change in fauna was diverse in its effects and did not necessarily have a destructive impact on its composition. We may distinguish four types of such factors, namely: destructive factors, i.e. those that utterly change the fauna; depleting factors, i.e. those that change the fauna partially; factors that enrich the fauna; and factors with multifarious effects, e.g. those that impoverish and enrich the fauna simultaneously. The chief causes that made the above elements come into play and indirectly prompt various changes in fauna during the war were: the exceptional severity of several consecutive winters, the economy of the occupying authorities, as well as warfare taking place in the city and its surroundings, inclusive of its direct and indirect corollaries.

Let us consider the effects of those causes in turn, using examples. The first winters of the war were extremely harsh and long. Spring would follow very late. (...) The terror that prevailed during the German occupation and strict observance of the curfews caused a complete cessation of traffic in the capital at night. The adult caterpillars of the *Acronicta aceris* L. moth, which at the time would descend from street trees, were thus safe from being trampled en masse by the passers-by as before, and almost all had the opportunity to find a quiet nook to pupate. As a result, the population of this species greatly increased. In 1941 and 1942, chestnut and maple

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trees lining the streets were completely stripped of their leaves by swarms of the caterpillars of the aforementioned moth. (...)

One of the reasons why in urban areas there appeared species that do not live there (accidental visitors) are the attractive properties of street lamps. It is a well-known phenomenon that the fauna of nocturnal butterflies in the immediate vicinity of the city is depleted when vast numbers of moths fly to the city lights, where they die without providing adequate habitat conditions for their offspring. The reduced allocation of electrical power to the civilian population and the strictly enforced blackout of the city have led to a significant depletion of the urban fauna in terms of the above-mentioned visitors. Throughout the war, I did not encounter any of the light-attracted species that had been common before the war, such as *Hepialus sylvina* L., which would appear in late summer. In this way, the city fauna became impoverished, though the blackout in Warsaw undoubtedly had a beneficial effect for the fauna of the suburban areas.

The occupation economy led to an unprecedented decline in the standard of living and general impoverishment of the city's inhabitants. This had numerous consequences. All lawns, weedlands, fallow fields and other uncultivated areas in the city and on the outskirts of Warsaw, which had previously been breeding grounds for a whole range of species, were taken over for cultivation as so-called allotment gardens. The impoverished population also took up goat and rabbit husbandry on a massive scale. The vegetation of the ditches and other uncultivable wasteland, which ensured refuge to numerous animal species in the city, was used as feed for the livestock. For the same economic reasons, trees, copses and groves in parks and on the outskirts of the city were devastated at a rapid pace, as they were felled for fuel, eliminating multiple fauna habitats. (...)

In other areas of life, the impoverishment of the population led to a general deterioration in sanitary conditions and the resulting proliferation and flourishing of many species more typical of the city than those mentioned above. I am referring to the fauna of the human dwellings. Occupation-related food restrictions compelled people to diligently collect and store foodstuffs and even various types of waste in thousands of more or less improvised pantries and storerooms. This created perfect conditions for the mass reproduction of a wide variety of species, whose development had until then been confined to few of the more hygienically maintained warehouses. One commonly observed huge numbers of the *Sitopendra panicea* L. beetles, reproducing en masse in the hard tack from bread that was scrupulously kept "for a rainy day". In some flats, I observed veritable swarms of winged hymenoptera parasites of the first- and second-degree living in the larvae of the aforementioned beetle. (...)

In many places in Warsaw, for purposes known only to themselves, the Germans built open, concrete water tanks. The rainwater collecting there very quickly attracted a large number of mosquitoes, beetles and water bugs. Of the vertebrates, the

reservoirs were inhabited by toads, whose croaking could still be heard there in early July. Above the water, flocks of swallows, which had not visited the city centre at all before the war, were flying around.

The war had no less of an impact on Warsaw's fauna than the occupation economy. Direct consequences included the rubble and uninhabited ruins, whose amount would increase since 1939, creating very favourable nesting conditions for a species more commonly found in mountainous and rocky areas, namely the black redstart (*Phoenicurus ochruros* G.m.). The sonorous, albeit somewhat monotonous, song of this bird was heard more and more often in the city during the German occupation, and after the 1944 uprising, it nested in such numbers that there is hardly a street in Warsaw where it cannot be heard in spring. Swallows, swifts and jackdaws, which are now much more numerous than before the war, also readily take advantage of the ruins. As for the mammals, the ruins are inhabited by polecats and weasels. The graceful frolics of the latter can be observed in the Old Town market square. The brown rat has multiplied enormously. Bats are also appearing in increasing numbers. However, not all vertebrates have found good conditions in the ruins. For example, street pigeons, which had enlivened the urban landscape before the war, are now almost completely extinct.

The fauna benefited in equal measure in a period which began during the uprising in the summer of 1944, which saw unprecedented pollution of the city with carrion, corpses, rubbish, etc., with decomposing organic remains found in large quantities in the rubble and streets of the city. Never encountered in the city before, the large sexton beetles now testify to the gruesome possibilities of life among the rubble. A tremendous proliferation of flies is immediately conspicuous. (...)

One of the direct and beneficial circumstances of the war which enriched the fauna was the mass migration of displaced and resettled populations, as well as military and other transports, which carried human parasitic insects or insects otherwise associated with humans over hundreds of kilometres. In this way, for example, the common bedbug, transported among other things in portable huts, quickly regenerates its population in burned-out Warsaw. In addition, numerous insects and other arthropods that are loosely or not at all related to human life are moved by means of long-distance transport as involuntary passengers, to finally end up in Warsaw by chance.

One should also note noting the adverse impact of direct warfare on fauna. The aforementioned household fauna seems to be the most affected, having burned down with the entire city in 1944. However, even in such violent cataclysms, nature finds inconceivable ways to survive, as I had the opportunity to observe during my stay in Wrocław in 1945. There, on warm, clear evenings in early September, I heard several times the chirping of house crickets among the ruins of houses, on both sides of a completely destroyed street in a completely destroyed district. Street trees are one of the most durable quarters for urban fauna. During the uprising and later

in the autumn of 1944, the trees were cut down or otherwise destroyed. Hence, the street tree fauna in the centre of Warsaw is almost non-existent. (...)

The indirect effects of the war in Warsaw and its surroundings are fairly conducive to the development of fauna. The city and its outskirts have largely been deserted. The farmland and allotments, riddled with trenches and fortifications, have been covered by a sea of weeds growing freely and unchecked. Ecologically, the landscape resembles a steppe. Naturally, at our latitude, even if humans did nothing to develop these areas, the landscape would quickly transform from steppe to forest. Already at this point, numerous fresh seedlings of willows, poplars and birches are sprouting from among the weeds growing on the rubble, and other trees would soon follow. However, during the first few years, the fauna of these wastelands would assume an increasingly distinct steppe-like character. (...)

Instead of the former symphony of the metropolitan street, a cemetery-like silence now reigns, in which “field crickets rustle their usual song”<sup>1</sup>. Next to a pile of rubble, magnificent clumps of nettles grow, above which beautifully coloured skip-pers sway in the sun. Here and there, scattered bushes of poplars and willows grow, on which one sees spectacular caterpillars of the hawk-moths and the prominents. Insect life is flourishing. Nature is reclaiming the land once taken from it by man. Affluent and secure in his abode, the city dweller realizes that the eternal struggle between man and nature continues to this day.

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Translated by Szymon Nowak

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<sup>1</sup> A slightly altered quote from a poem by Teofil Lenartowicz, a 19th-century Polish poet (editor's note).