

## Information on the Avifauna of the Upper Region of the Mid-Tisza (Concluding Part)

By

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This is an area, discussed in a previous article with a similar title, which stretches from Tiszadob to Tiszaeszlár and which will be referred to as the West Szabolcs Tisza region. The development of the present avifauna started during the middle of the last century as a result of river regulation and inland water canals. The gradual decrease of floodwaters, swamps and bogs previously existing in this region, resulted in a regression of the native hydrophilic fauna. At the same time, however, the progression of the mesophilic, i.e. xerophilic elements started from the dry land. This gradual change lasting over 80–100 years was a consequence of anthropogenic effects.

Thus, owing to the environmental change, the structure and development of the fauna differs from previously. Since the decrease of the breeding areas, in fact their practical extinction, resulted in the decrease of the nesting hydrocolic and phragmiticolic species. This shift in the proportion of fauna components is particularly conspicuous in the flood areas where, compared with the previous dominance of the hydrocolic and phragmiticolic species, the arabicolic ones are now predominant. The terricolic are also widespread, the reason for which, in my opinion, is that this change did not affect their breeding quite as much as that of the two groups mentioned above. Nevertheless, their actual numbers have also decreased, in fact they have completely disappeared from many districts, e.g. *Grus grus* (L.), *Himantopus himantopus* (L.) and *Anser anser* (L.).

The great majority of the arabicolic species of which there are very many now, only moved to the flood areas after these had dried up and increased woodlands had provided the necessary conditions for their existence. The constant increase in agricultural lands and the advance of agricultural techniques has also affected the avifauna. Continual earth movement and frequent disturbances were unfavourable to the breeding of terricolic species. Consequently the ratio between the terricolic and arabicolic species changed to the advantage of the latter.

The forests and flood-area woodlands were least affected by this change, and so the forest avifauna of today can be considered natives. Owing to river regulation there has been a change here, too, which has resulted in a certain qualitative, but perhaps rather quantitative difference in the fauna. The woodlands along the river became somewhat cultivated after being regulated, and so the sensitive species, e.g. *Corvus corax* L. have disappeared, others remained but reacted with a decrease in their total numbers.

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Some of the previous flood areas became sodic after being drained. Here, the consequent fauna change from hydrocolic and phragmitocolic species was not followed by the appearance of large numbers of arbicolic species as hitherto, but the progress of the avifauna of the edaphics of the sodic areas began.

The interference with nature by man resulted in an appreciable withdrawal and disappearance of the characteristic avifauna of the West Szabolcs Tisza region, the hydrophilic — hydrocolic, phragmitocolic — elements, as against the mesophilic and xerophilic species. Consequently a peculiar fauna mixture developed — with individual characteristics — which mirrors the changed and “cultivated,, environmental conditions. Thus, this process meant an impoverishment which continued until the growth of the grain-growing areas became established, i.e. until there was a desirable ratio between meadows, grazing fields and arable areas. This was “fortunate,, for us, as large forests, meadows and back-waters remained which are particularly valuable as refuges.

The previously extensive reedy areas, e.g. the Lökös-rét between Tiszalök and Tiszaeszlár dried up when the river was regulated and became grazing land and meadow. The hydrocolic and phragmitocolic species which stayed, withdrew into the back-waters and the reedy areas along their banks. The birds in the larger and smaller woodlands of the swamps and suitable surroundings found refuge mainly in the flood-area forest of Tiszadob.

According to my own observations and the information in the literature it can be stated that this impoverishing process has ceased. In fact, new species appear year after year as nesting birds. To mention a few of the most important: *Egretta garzetta* (L.), *Phalacrocorax carbo* (L.), *Aythya ferina* (L.), *Larus ridibundus* L. etc. can be observed. These species, in my view, have been inhabitants and nested in this area previously, too. Their present appearance should be considered as reconquering their previously lost domains.

Cultivation invading the smallest places is weeding out the species which are provided with certain wide oecological valentiae only slowly become acclimatized to changed conditions. Of course, this is a slow process and only after it is over can the remaining species who found refuge return and reappear. Those species which are migrant and sensitive to areas being cultivated disappeared completely, e.g. *Egretta alba* (L.), *Anser anser* (L.), etc.

Those anthropogenic surroundings which ensure breeding places similar to the previous ones assist somewhat in the regeneration of the fauna. Here, I think primarily of the main east and west canal and the extensive fishing lakes next to them. The establishment of these can already be noticed in the proportionate changes of the hydrocolic-arbicolic species. Thus, the process is reversed to some extent and the appearance of new species can be expected. We must stress, however, that the native, the original condition and the avifauna of the past can never return. Bird-life today, even though it may become more profuse, is merely a fragment, a modest version of the rich and varied bird world of the past.