The Birds of Dicle Dam (Diyarbakır)

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Abstract: The birds of Dicle Dam, which is located 50 km north-east of Diyarbakır city centre, were studied between February 2000 and February 2002. During the observation period 116 bird species that belong to 15 orders and 38 families were determined and listed. Among these species defined, 44 of them certainly and 26 presumably breed in the area, while 46 of them are transitory migrating or wintering birds for the region. Three species are globally under threat. The determination of bird species will help in the evaluation and comparison of possible changes regarding the bird fauna in the future.

Key Words: Bird, Avifauna, Diyarbakır, Tigris, South-eastern Anatolia Region

Materials and Methods

Between February 2000 and February 2002, the bird species of Dicle Dam and near surroundings were observed by ornithological observations. Using line

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Introduction

The varied climatic and topographical conditions in Turkey mean that there is a great diversity of habitats. Therefore, the ornithological importance of Turkey has been revealed by many researchers both locally and generally (Ergene, 1945; Kumerloeve, 1961, 1967, 1969; Vielliard, 1968; Parr, 1981; Murphy, 1984; Beaman, 1986; S. K., 1988; Kiziroğlu, 1989; Martins, 1989; Eames, 1990; Kasparek, 1992; Ayvaz, 1993; Kirwan and Martins, 1994, 2000; Biricik, 1996; Turan and Erdoğan, 1998; Kaya et al., 1999; Kılıç, 1999, 2001; Karakaş and Kılıç, 2002). Although Turkey has a rich bird potential, it was reported that there is no homogeneity between regions in ornithological studies (Yarar and Magnin, 1997).

It is known that South-eastern Anatolia has great importance for many animal groups because of the semi-arid and fresh water ecosystems. Furthermore, this region, due to the large reservoir areas of dams which have been constructed in recent decades, is of special importance. The South-eastern Anatolia Project (GAP) will cause an increase in the watery land, which will likely cause some changes in the climate and flora of the region; therefore, this project will change the number and kind of bird species in the region, and both positive and negative effects on the avifauna of the region have been predicted (Ünlü et al., 1997). The determination of bird species will help us to evaluate and compare the changes in the bird fauna of the region in the future.
transects methodology, in total 60 ornithological observations were made, and during the breeding and transition seasons the number of observations was increased (Table 1). Field studies were performed with field glasses (10 x 50) and a telescope (20-60 x 60). Some birds were photographed using a 200 mm lens. The birds were identified immediately in the field using some ornithological handbooks (Harrison, 1975; Cramp and Simmons, 1978, 1983; Kiziroğlu, 1989; Heinzel et al., 1998). For the systematic list of birds, Kasparek and Bilgin (1996) was followed. The courtship behaviour, eggs/chicks and nests seen during field excursions were taken as criteria for the determination of any reproduction.

### Study Area

Dicle Dam is located at approximately 50 km northeast of Diyarbakır city centre and 7 km south-east of the province. It was constructed in 1998 for irrigation and energy production where the Maden and Dibi rivers join and become the Tigris River. The reservoir has an area of 24 km² (Figure 1). The water level of the dam lake varies according to seasonal rains. The main study area consists of the edges of the reservoir and 2 valleys, north and south of Eğil.

The region has a typical steppe climate with a 15 °C annual average temperature, and 42 °C maximal and -2.7 °C minimal temperatures in July and January.

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Figure 1. Map of the study area (x: Main observation points)
respectively. Precipitation primarily occurs in winter and spring, on average 491 mm, with snow during the winter, sometimes also in November and March, based on data of the Meteorological Station at Diyarbakır for the last 61 years.

In the region, different vegetation types are distinguished according to the altitude and character of the land. The main ligneous plants are 2 species of oak (Quercus), Crataegus sp., nettle tree (Pistacia), almond tree (Amygdalus communis), and fig tree (Ficus carica). Because of gradually negative human effects and the raising of livestock with excessive putting out to pasture the natural areas have been affected and some parts of the mountains have been destroyed by the loss of top soil. Human activities such as cattle and sheep grazing are widespread in the area. The area is subject to high hunting pressure, especially during winter.

Results and Discussion

A list of bird species and related maximum numbers observed at Dicle Dam and its near surroundings during the observation period are given in Table 2. As a consequence, at Dicle Dam 116 bird species that belong to 15 orders and 38 families have been recorded.

As a result of this study, 57 species are threatened, with 3 species (Circaetus gallicus, Aquila nipalensis and Grus grus) being placed in the categories A.1.2 according to the Red Data Book (Kiziroğlu, 1993). Three species observed in the region are globally under threat. Among these, Aythya nyroca and Gallinago media are placed in the categories of Lower Risk/Near Threatened, whereas Falco naumanni is considered Vulnerable (Hilton-Taylor, 2000). Falco naumanni and Gallinago media use the region during transition.

Sixty-six bird species are passeres, while 50 are non-passeres. Among these species, 42 are summer migrants, 28 are native, 22 are winter visitors and 22 are transit migratory for Turkey, while the status of 2 species has not been determined yet. On the other hand, 44 species definitely breed and 26 species presumably breed in the study area (Table 2).

We compared this study the previous studies carried out by different researchers and found that some species reported to exist in the region were not observed during our study period. Moreover, some species that were determined during our study were not mentioned by other researchers and these are first records for the region. Some species such as Ciconia nigra, Aquila nipalensis, Falco vespertinus, Falco columbarius, Sylvia hortensis and Phylloscopus sibilatrix recorded during this study are first records for Diyarbakır (Kumerloeve, 1967, 1969; Vielliard, 1968; Parr, 1981; Beaman, 1986; Martins, 1989; Eames, 1990; Kasperek, 1992; Ayvaz, 1993; Kirwan and Martins, 1994, 2000; Biricik, 1996; Kasperek and Bilgin, 1996; Kılıç, 2001; Karakaş and Kılıç, 2002).

Eames (1990) has given records for the species Hieraaetus fasciatus, Falco eleonorae, Haplopterus indicus, Pterocles alchata, Bubo bubo, Asio otus, Merops persicus, Ammomanes deserti, Sitta tephronota, Petronia brachyactyla, Petronia xanthocollis and Emberiza cincerea from South-eastern Anatolia, which were not observed in our study area. Parr (1991) gave records for Tetrax tetrax and Rhodospiza obsoleta from the south-east, but during our excursions they were not observed and there is no record in the region to date. Murphy (1984) has recorded the rose-coloured starling (Sturnus roseus) in the south-east but not mentioned its breeding. Our study shows that this species breeds in the study area.

Kirwan and Martins (1994) have recorded 49 species from South-east Turkey. From these records, 10 of them recorded in Diyarbakır district were not observed in the present study. In the same report, they stated that the status is uncertain for the spotted flycatcher (Muscicapa striata), but our study shows that this species uses the region only during transition.

Thirty species showing a dispersion in South-eastern Anatolia in a study carried out by Kasperek and Bilgin (1996) were not observed during the present study. However, in the same study they stated that some rare birds for South-eastern Anatolia, such as Ciconia nigra, Falco subbuteo, Sterna hirundo, Alauda arvensis, Pycnonotus rupestris and Coccothraustes coccothraustes, were recorded in the region.

We compared this study with other locality studies carried out in the region (Biricik, 1996; Kılıç, 2001; Karakaş and Kılıç, 2002). Forty-nine bird species out of 102 recorded by Biricik (1996) and 63 out of 136 reported by Karakaş and Kılıç (2002) were not observed during this study. The other important observation is the

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**PASSEIFORMES**

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| Melanocorypha bivaculata     | 43 8 | SM | SM | D | - |
| Calandrella rustica           | 11 | N, SM | SM | P | A.3 |
| Galerida cristata            | 28 34 18 29 40 26 10 18 15 17 22 | N | N | D | - |
| Alauda arvensis              | 35 4 | N | N | D | - |
| Ripa riparia                 | 40 | SM, TM | SM | D | - |
| Pipitidae rupincola           | 15 8 | SM, TM, WW | SM | P | - |
| Hirundo rustica              | 55 230 25 125 27 8 20 | SM, TM | SM | D | - |
| Hirundo daurica              | 15 10 24 | SM, TM | SM | P | - |
| Delichon urbica              | 400 360 210 70 10 | SM, TM | SM | D | A.4 |
| Anthus campestris             | 3 | SM, TM | SM | P | A.3 |
| Motacilla cinerea            | 7 | N, TM, WW | WW | - | A.4 |
| Motacilla alba               | 2 11 7 2 7 2 6 7 8 | N, TM, WW | N | D | A.4 |
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| Prunella ochlandii           | 7 5 | N | WW | - | - |
| Carpodiptes galbiceps        | 1 2 | SM, TM | SM | P | - |
| Enithrus ruficeps            | 2 6 | N, WW, TM | WW | - | - |
| Luscia megarhynchos          | 1 | SM, TM | ? | - | A.3 |
| Phoenicurus ochruros         | 8 17 3 4 5 12 4 | SM, WW, TM | WW | - | - |
| Phoenicurus phoenicurus      | 5 6 2 1 16 | SM, TM | SM | D | - |
| Saxicola torquata            | 4 | N, WW | TM | - | - |
| Oenanthe isabellina          | 4 3 6 2 4 12 9 15 7 | SM, TM | SM | D | - |
| Oenanthe oenanthe            | 3 6 1 4 2 1 | SM, TM | SM | D | A.3 |
| Oenanthe pleschenka          | 1 6 5 | SM, TM | SM | D | - |
| O.hispalensis melanoleuca    | 3 3 1 | SM | SM | P | - |
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decrease in the group Anseriformes. Biricik (1996) has given records of 16 species, Kılıç (2001) 8, Karakaş and Kılıç (2002) 13 belonging to the order Anseriformes. In this study, only 2 species were defined from this group. It is supposed that the declining population of this group is due to increasingly intensive hunting pressure and other negative effects in the area.

Local people stated that chukars (Alectoris chukar) were seen from time to time in the region until some years ago. We could not define this species during our study possibly because of the declining population due to increasingly intensive hunting pressure in the area. In spite of negative effects, many bird species use the region, especially during April-May (Figure 2).

However, some species (e.g., Egretta garzetta, Alcedo atthis, Ceryle rudis) that are well known to use clear fresh water systems were not observed in the area. Therefore, it is likely that there is pollution, especially from housing, near Eğil province in the region.

One of the negative effects of the dams on the habitat was that for some species like Ceryle rudis and Delichon urbica that were using the riverbed could not nest in the area, because the water level of the dam and riverbed changed from time to time, resulting in the loss of their nestlings.

The determination of bird species will help to evaluate and compare the changes in the bird fauna in the future. It will also be helpful for the preparation of ornithological maps of the regions.

Acknowledgements

This work is part of a research study supported by the Research Fund of Dicle University (DUAP-2000-FF-411). We would like to thank Engin GEM for preparing the map of the study area.

Figure 2. Dispersion of birds of Dicle Dam for each month.

References