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Recent climate change recorded in avifauna dynamics in Brandenburg (Germany)

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Avifauna observation data of the past 15 years (1990-2005), collected by the voluntary service of ornithologists in Brandenburg and Berlin, have been analysed, using different parameters in order to investigate the dynamics of migration and hibernation patterns of arctic, thermophile and migratory bird species.

Our data show that there exist some species that are adapting to recent climatic changes very fast. Even on an annual time scale as the strong coherence of the abundance of the stock pigeon (*Columba oenas*, short migratory bird) during winter and mean monthly temperatures indicate. Here, the rising numbers of mild winters in Brandenburg led to a rising number of these winter guests.

Several bird species have in response to recent climate change advanced the timing of their spring arrival and some also delayed their departure in autumn, e.g. the osprey (*Pandion haliaetus*), hobby (*Falco subbuteo*), barn-swallow (*Hirundo rustica*) and stonechat (*Saxicola rubicola*).

Few birds show little or reverse behavioural patterns to climate change. In these cases other impacts, natural or anthropogenic induced, have had a greater influence but often are secondary caused by climate change. It has for example been reported that long

migratory birds, adapting slower to climate change, experience a stronger competition with the increasing number of over-winterers that occupy the best breeding places. Thus the breeding success of certain long migratory birds may be limited (BERTHOLD, P. 1990, BAIRLEIN, F. 2006).

The investigated data set reveals great information on obviously climatically induced changes within the avifaunistic ecosystems, monitoring the “real-time” developments of the avifauna in Brandenburg, expressed by changing abundancy and migration patterns.

BERTHOLD, P. (1990): Birdlife of Central Europe: origin and diversity, current changes and aspects of future development. Verh. Dtsch. Zool. Ges. 83, 227-244.

BAIRLEIN, F. (2006): Klimawandel und Vögel. Press release on the occasion of the 24th International Ornithological Congress.