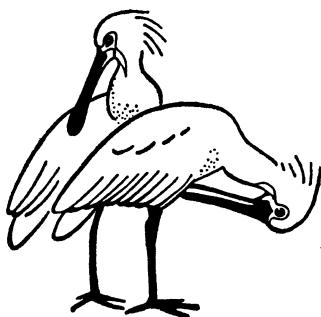


PROCEEDINGS OF THE XVTH INTERNATIONAL ORNITHOLOGICAL CONGRESS

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Switzerland each year from 1934-1966 have been used to construct a Wryneck population index. This annual index fits well the recorded observations of fluctuations in the general level of Wryneck populations in Switzerland.

The first juveniles begin to move south in August, apparently as soon as (or sometimes even before) their first moult is completed. Nestlings ringed in June migrate significantly earlier than those ringed subsequently. Most young birds return in the following spring to the general area of their birthplace (75% within 25 km, 90% within 70 km). Nearly all adults return in subsequent years to the immediate area of their previous breeding place.

Migratory movements, which are shown on maps, predominantly between south and west in autumn (and the reverse in spring), even as far east as Finland but few ringing data have been obtained from the USSR, where distribution of the nominate race in Asia may mean that there is some SE migration in autumn. The peak period for autumn migration in Europe is the beginning of September.

There are no recoveries from south of the Sahara, where most European Wrynecks winter, recoveries indicating that a small proportion of the population winters in the Mediterranean region.

Most of the deaths recorded after the year of birth occur in May, predominantly in breeding areas. The adult annual mortality rate is about 67%, and first-year mortality about 72%. The mortality of Wrynecks ringed in Fenno-Scandia does not differ significantly from that of birds ringed with German and Swiss rings, nor does the mortality of nestlings ringed in June differ from that of nestlings ringed in July. For the population to be stable, it is calculated that each pair of adults should rear 4.8 young annually to the free-flying stage. (*Read 31 Aug. 1970*)

R. J. Peltzer, Esch-Alzette, Luxembourg

Notes on the polygamous behaviour of *Acrocephalus arundinaceus*

From 1964 onward, the population of *Acrocephalus arundinaceus* of 2 ponds (situated 48°58'N, 6°32'E in northeastern France) was studied to get details (among other subjects) on the polygamous behaviour of this bird. 274 Great Reed Warblers were ringed (1961-69) of which 218 with colour-rings. These studies will be continued in 1970 and it is hoped that further results will be available at the Congress.

From 1967-69, six cases of polygamy have been observed in a population of ca 10 pairs: 4 cases with 2♀♀ and 2 with 3♀♀. The ♂♂ concerned had a minimum age of 3 (3x), 4 (2x) and 5 (1x) years. One ♂ was polygamous in 2 consecutive years in the same place. The development of the status of another ♂ could be observed well: ringed as nestling in 1966, it remained un-paired in 1967. In 1968, it lived in monogamy in another territory and in 1969, it was paired with 3♀♀ in the same place as in 1968. Polygamy was observed in three localities only; in the other places under observation no evidence of polygamy was found. In each of these sites polygamy was found three times, two times and once, respectively.

The places where polygamy was observed had the following characteristics: Without exception, they were situated at the end of the reed vegetation and thus had only one front adjacent to the territory of other ♂♂ (which had to be defended), but 2 fronts with bushes and trees to fetch food. It seems that ♀♀ prefer a good biotope to an un-paired ♂, and that such bio-

topes are principally occupied by experienced ♂♂ aged 3 years or older. The lack of experience of young ♂♂ may explain that these choose (or are obliged to choose) less favourable biotopes and that they have only 1 ♀ or even none. It seems that the fledging success in case of polygamy is lower than in monogamy; but the number of observations is too low for a definitive conclusion. (*Read 1 Sept. 1970*)

C. J. Pennycuik, *Department of Zoology, University College, Nairobi, Kenya*

Energetics of thermal soaring in birds

The usefulness of thermal upcurrents for soaring depends on their dimensions, strengths and lateral spacing, and also on the depth of the convective layer. East Africa is one of several areas where good soaring conditions frequently occur, and several groups of birds, notably storks, pelicans and vultures are specialised to make use of them in different ways. Thermal soaring serves two main functions: (a) food searching and (b) cross-country flight on both local and long-distance migrations. The gliding performance of birds is considered in terms of (a) the minimum size and strength of thermals in which they can remain airborne, and (b) the cross-country speeds which they can achieve in average soaring conditions. Examples of achieved cross-country speeds and distances, observed by following birds about in a powered sailplane, are given, and related to measurements of gliding performance.

The use of thermal soaring permits a saving in energy (in terms of work done per unit distance flown) as compared to straight flapping flight, but this must be offset against lower cross-country speed, obligatory night stops, and greater dependence on weather conditions, which vary from place to place, and also seasonally and with time of day. (*Read 1 Sept. 1970*)

G. S. A. Perez, *Department of Agriculture, Government of Guam, Agaña, Guam*

Relative status and ecological notes of some Guam birds

A five-year record of monthly and twice-monthly bird counts, combined with a two-year accumulation of detailed field notes, has enhanced what little available data there is on Guam's avifauna. The island's mixed limestone forests appear to support a much richer variety of land birds than that found in volcanic ravine forests. Remarkably, the flightless and endemic Guam Rail *Rallus owstoni* has managed to survive throughout major changes in the island's landscape. In contrast, the Marianas Mallard *Anas oustaleti* and reed warbler *Acrocephalus luscini* *luscini* are two species presently threatened with extinction. Population trends of other species reflect changing ecological conditions and the critical need for ornithological research on Guam. (*Read 3 Sept. 1970*)

J. Pinowski & J. Truszkowski, *Institute of Ecology, Polish Academy of Sciences, Warsaw, Poland*

Flight from the nest and the abandoning of broods by Tree Sparrows (*Passer montanus*) and Great Tits (*Parus major*)

The study was carried out near Warsaw, 52°20'N, 20°50'E between, the Kampinos Forest and the River Vistula in the years 1960-1968. 400 nest-boxes were hung all over the area at the height of 3-4 meters. In all, the course of 1,500 Tree Sparrow broods and 200 Great Tit broods was followed. All the nest-boxes were checked once a week during the breeding