

Abb. 3: Korrelation zwischen Gesangsaktivität und Fütterbeteiligung bei implantierten Teichrohrsängermännchen

# Mating system versus environment factors in the Aquatic Warbler Acrocephalus paludicola.

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1. The study was carried out in 1987-1989 in natural fen mires in SE Poland. Two census plots were chosen: the optimal one (A) with a high breeding density of Aquatic Warbler, and the suboptimal plot (B) with low breeding density.

2. On plot A the vegetation was, in general, shorter, the water deeper and the potential food resources (invertebrates) more abundant.

3. On A plot locally as much as 8.6 stationary males and 15.7 simultaneously nesting females per 10 ha were found, and the mating system was obligatory polygyny. On plot B the density was 1.0 male and 1.3 female per 10 ha, and the mating system was facultative polygyny.

4. The supposition is that the distribution of nesting females depends on food (invertebrates) distribution. In the places of rich invertebrate life nest concentrations were created. Some indirect evidence was found to support the view of importance of food factor. In the second half of 1989 breeding season, when the food conditions were unusually poor, the starvation of the whole broods was observed ( in 3 out of 15 nests), and average number of fledglings produced per successful nest was the lowest. In the case of the nests situated close to each other the foraging areas of feeding females did not overlap considerably. Such exclusion again indicates the importance of the food factor. Also the average distance of female feeding flights was longer during the periods of poor feeding conditions.

5. During the three study seasons the nest losses (n=115 nests) were unusually low for small Passerines which built open nests on the ground. The total losses up to 18.5% and losses from predation up to 10.2%. The male warning behaviour (warning song) was considered as the

main reason of low nest losses. This constitutes the male main contribution to raising young as males never incubate and feed nestlings. The additional warning function of the song might be one of the reasons why Aquatic Warbler males sing with more or less constant intensity during the whole breeding season.

7. Collected data on population density, distribution and habitat preferences can also give information on how to protect this endangered species in the future Biebrza Park, and elsewhere.

### Faecal analyses: an efficient method to study the dietary of small birds.

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There are different methods to study the dietary of small insectivorous birds. Each of them has its own quality and its special fault. Acceptable representativity, good availability of faeces to every season, the possibility to analyse the diet of adult birds as well as of nestlings with the same method, low time-consuming in the field, the possibility to collect a large number of droppings for individual examination are aspects to choose this method.

To study the dietary composition of Aquatic Warbler in Poland and of the Marsh Warbler in West Germany the method could be proved successfully.

I will give a short survey how I realized collecting, storing and preparing of faecal droppings.

1. Each dropping was kept separate in a little paperbag well signed with the essential informations about date, daytime, place and number.

2. The faeces were stored frozen also for longer time without alteration.

3. The droppings were dispersed by soaking in water for hours.

4. The solution was to filter. It can be forced by using a vacuum pump.

5. For examination of the ground matrix I used a binocular microscope at 20x and/or 60x magnification as well as two super fine forceps for handling the invertebrate remains.

6. Then identification could start.

7. Calculation of the number of recognised individuals could be found by using the stated number of fragments per individual.

# Zur Bedeutung flußbegleitender Schilf-/ Brennessel- und Gebüschstreifen für die Vogelwelt und deren Gefährdung durch Mahd.

# Reproductive success of the Marsh Warbler (Acrocephalus palustris) along riversides.

# D. Franz

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In 1988 the ecological importance of narrow riparian verges of reed, nettles and bushes was evaluated at the river Schwarzbach, Bavaria. Within a study area of 2100 m length 17 bird species with about 88 breeding pairs were detected. The Marsh Warbler (Acrocephalus palustris) was the most common species, although the breeding success in the examined region

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