

New findings in the biology of the Aquatic Warbler

Andrzej Dyrzcz

University of Wrocław, Dept. Avian Ecology

Out of 287 offspring, 146 (51%) were females and 141 males (proportion of females was 0.509)

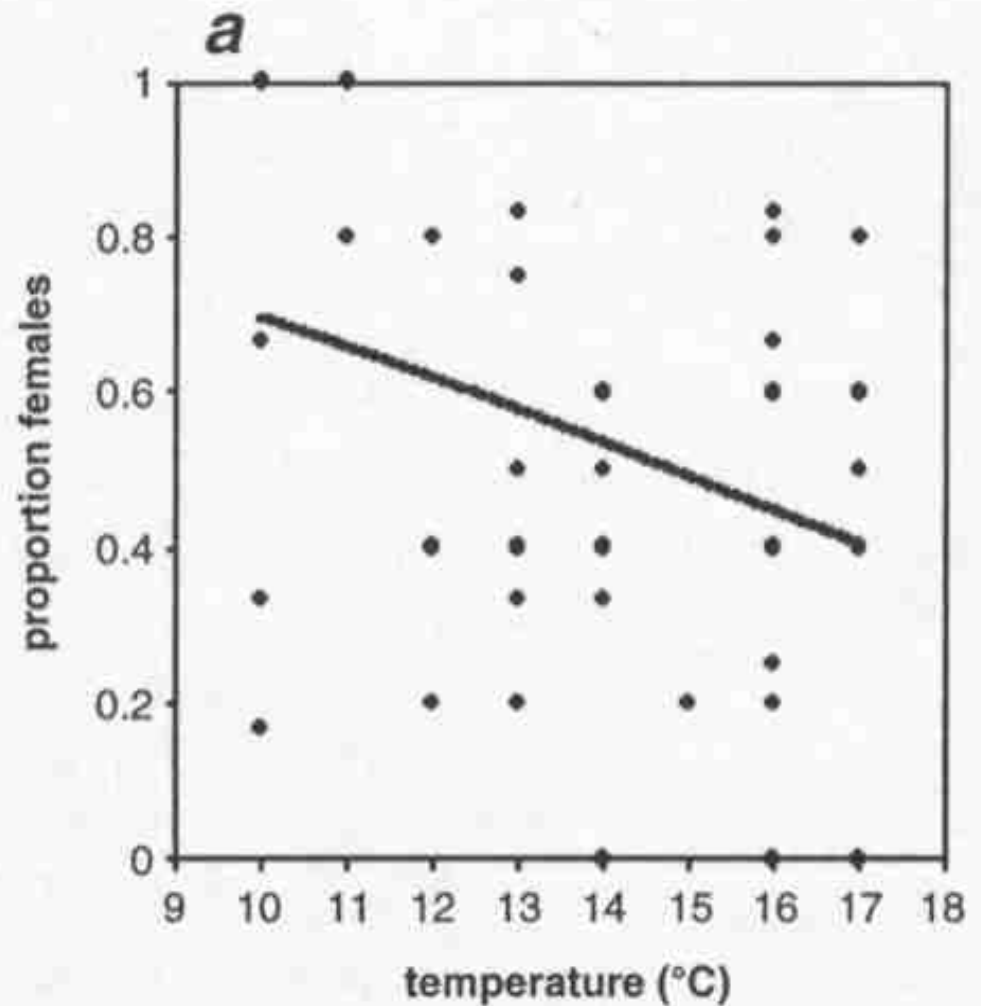
. Sex ratios did vary among broods

. There was diverging sex ratio between complete and partial broods

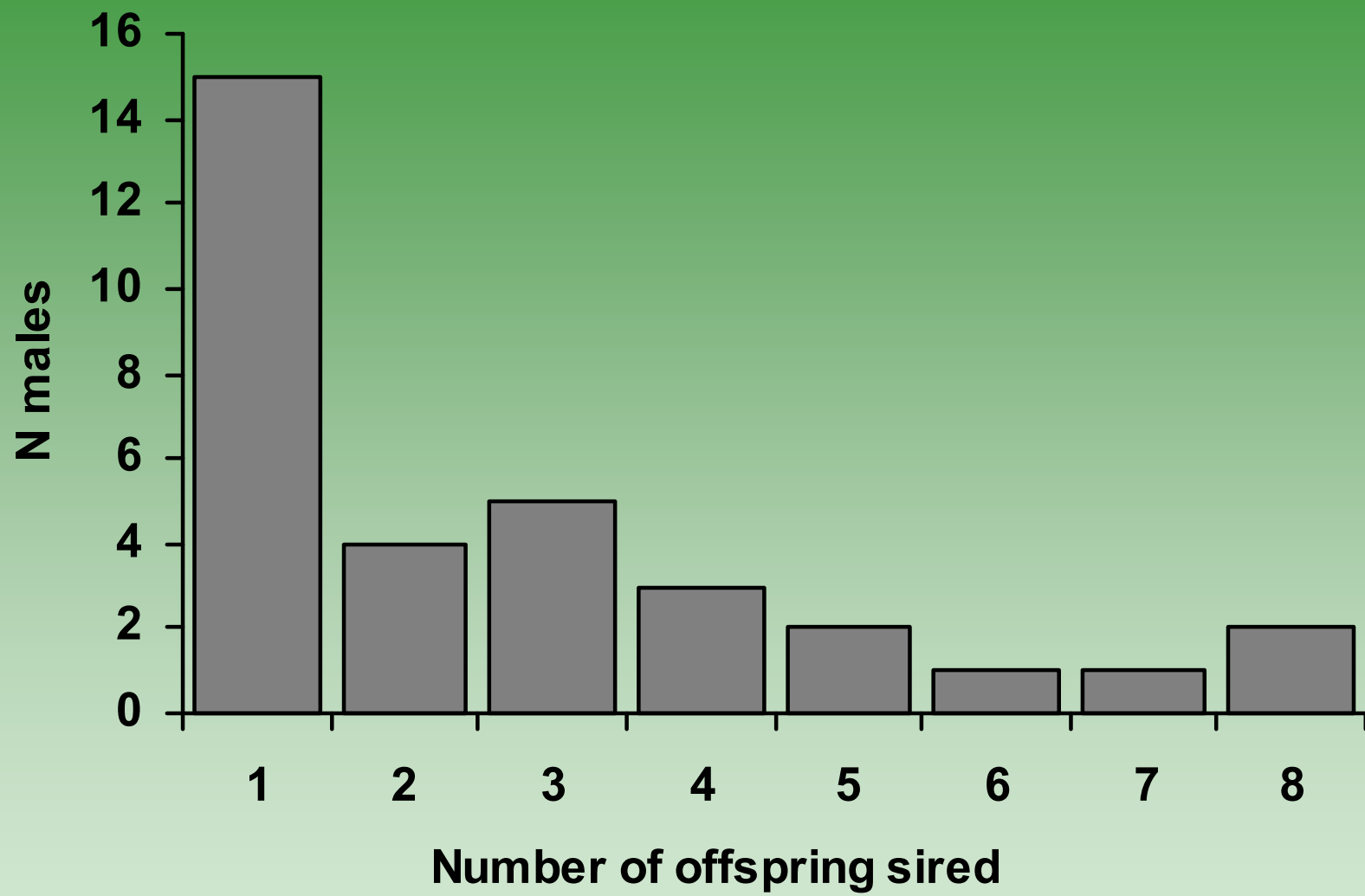
. Large broods tend to be female-biased and small broods male-biased

Low ambient temperature prior to the laying period seemed to increase the proportion of female offspring in complete broods but had no effect in partial broods

Figure 2. Sex ratios in complete (a) and partial broods (b) as observed (dots) and predicted by GLMM (curves) relative to ambient temperature. The fixed part of the model incorporates brood completeness, temperature and their interaction. Year of the study is included as a random effect.



In previous study with molecular methods we found that 78% (n=64) of broods were sired by two or more males and in four broods (7.8 %) five fathers were detected.



Correlation between fitness characters and trypanosome infection
(statistics: Mann-Whitney U-test, one-tailed)

Character	Uninfected			Infected			P
	x	SD	N	x	SD	N	
Number of sired nestlings	3.60	2.59	15	2.06	1.44	16	0.040
Mass (g)	12.70	0.80	14	11.98	0.47	16	0.004
Date of first egg laid by female	5.90 (May)	4.28	15	10.70 (May)	6.62	15	0.016

Other characters: fat, wing (mm), wing asymmetry, bill (mm), tarsus (mm), tarsus asymmetry, tail (mm) and tail asymmetry - not significantly correlated

Dyrcz et al. 2005

Males infected with *Trypanosomes* appear to sire fewer offspring, weighed less and arrived later at the breeding grounds

Correlation between number of sired nestlings and variables describing morphological traits of males

Variable	r	N	P
Fat	0.377	33	0.031
Wing	0.366	33	0.036
Date of first egg	-0.533	32	0.002

Other characters: mass, wing asymmetry, bill, tarsus, tarsus asymmetry, tail and tail asymmetry - not significantly correlated

Dyrzcz et al. 2005

Number of nestlings sired by a single male correlated significantly with its fat deposits, wing length and the date of the first egg laid

Dyrcz A., Sauer-Gürth H., Tkadlec E., Wink M. 2004. Offspring sex ratio variation in relation to brood size and mortality in a promiscuous species: the Aquatic Warbler *Acrocephalus paludicola*. Ibis 146: 269-280.

Dyrcz A., Wink M., Kruszewicz A., Leisler B. 2005. Male reproductive success is correlated with blood parasite levels and body condition in the promiscuous Aquatic Warbler (*Acrocephalus paludicola*). The Auk 122: 558-565.