Aquatic Warbler Conservation Team

Baltic Field Trip 2003 (Latvia, Lithuania, Russia/Kaliningrad Region) 5th to 11th of June

"DNA and Feather Sampling of the Lithuanian Aquatic Warbler Population and survey of Kaliningrad Region"



Photo: Oskars Keiss (?)

Final Report

written by Martin Flade, chairman

Aquatic Warbler Conservation Team

Baltic Field Trip 2003

"DNA and Feather Sampling of the Lithuanian Aquatic Warbler Population and survey of the Kaliningrad Region"

Objectives of the project:

- To study the Aquatic Warbler habitats in Lithuania and Latvia (Lake Liepaja);
- To take samples of >= 10 adult Aquatic Warblers for DNA and stable isotope studies;

Belarus

Germany

Germany

Germany

Lithuania

Lithuania

Lithuania

Lithuania

Poland

Poland

Poland

Poland

Poland

Spain

Latvia

- To survey potential AW habitats in the Kaliningrad Region (Russia)
- To exchange experience among the international Aquatic Warbler experts.

Participants:

- 1. Arcady Skuratovich
- 2. Martin Flade
- 3. Sebastian Koerner
- 4. Torsten Ryslavy
- 5. Oskars Keiss
- 6. Arunas Pranaitis
- 7. Romas Mecionis
- 8. Petras Kurlavicius
- 9. Zydrunas Preiksa
- 10. Grzegorz Kiljan
- 11. Jarek Krogulec
- 12. Janusz Kloskowski
- 13. Michal Maniakowski
- 14. Inga Koszalka
- 15. Carlos Gutierrez Exposito

Arcady, Arunas, Martin, Janusz, Zydrunas, Romas, Jarek; Carlos, Sebastian, Inga, Oskars, Torsten, Michal.

Schedule of the field trip

Date	Activities								
6 th June 2003	 Arrival and meeting of all participants at Klaipeda (Lithuania); 								
	 Travel to Lake Liepaja (Latvia), evening visit of the AW site on the 								
	southern bank; overnight stay at the Baltic coast near Lake Pape								
7 th June 2003	Bird watching at Lake Pape								
	 Travel to the Nemunas Delta Regional Park (Lithuania) and Dreverna at 								
	the Curonian Lagoon;								
	 Catching and sampling of 7 AW at Dreverna and evening count of 								
	singing males								
8 th June 2003	 Catching and sampling of 2 more AW at Dreverna; visit of adjacent 								
	suitable habitats;								
	 Travel to Sausgalviai (Nemunas floodplain polder meadows); 								
	 catching and sampling of 4 AW; 								
	 Evening count of singing males 								
9 th June 2003	 Travel to the Kaliningrad Region via Sovietsk (Tilsit); 								
	 Survey of Curonian lagoon shore habitats near Mysovka and 								
	Metrosovka								
10 th June 2003	 Travel to Gromovo (central part of Kaliningrad Region); 								
	 Survey of the Laukne valley (sedge fen) N Gromovo (Team 1) 								
	• Survey of Sesupe river valley E Sovietsk in the northern part of								
	Kaliningrad region (Team 2).								
11 th June 2003	 Visit of the raised bog 'Großes Moosbruch' near Gromovo; 								
	 Travel back via Kaliningrad to Poland; 								
	 On the way: visit of the Pregolia river valley (floodplain sedge 								
	meadows) S Kaliningrad.								

<u>Summary</u>

Latvia: We visited the southern shore of Lake Liepaya on 6th June for a sunset count. In the previous years, two singing AW were recorded there. We did not find AW, but the habitat is more or less suitable. This year, the area was nearly completely dry; this might be the reason for absence of AW. We think, the population estimate for Latvia should be kept at 0-10 singing males (dependent on changing weather and water conditions).

Lithuania: We visited some of the best AW sites at the Curonian lagoon coast and performed sunset counts. Despite the extended drought (free water was almost missing in the sedge meadows) we recorded 84 singing AW at the best site N of Dreverna and 32 singing males in a polder system in the Nemunas delta near Sausgalviai. The first figure is less than in previous years, but still very good when considering the extremely dry conditions. - We were able to catch, ring and measure 13 AW at Dreverna and Sausgalviai. We came out with feather samples from 12 birds (for study stable isotopes/wintering areas - Debbie Pain) and blood samples from 11 birds (DNA study - Benedikt Giessing), which is satisfactory.

Kaliningrad Region: There are nearly no suitable habitats. We found only a rather small, suboptimal area (ca. 100 ha) at the Curonian lagoon coast W of Mysovka (former Karkeln) (record of 2 birds in 2001), with rather high and eutrophic, but very dry sedges (due to the drought). We did not make a sunset count there because of very stormy weather, but we think that the probability to find AW was rather low in this year.

The best habitats are the sedge fen meadows in the Laukne river valley near Gromovo (supposed breeding record in 2001), which were also completely dry in this year. We made a sunset count under optimal weather conditions on 10th June, but did not find any AW (eventually due to the dry conditions). Parts (ca. 60-80 ha) were burned in 2002 and had a very good vegetation structure; other areas (150-200 ha) were recently burned in 2003 and were not suitable in this year. We think, that breeding occurrence of a few birds is possible in some years with better conditions, but that there is no stable larger population. - Finally on way back the Germans checked the more or less suitable sedge meadows in the Pregolia valley directly S of Kaliningrad, also without finding AW. This habitat might be too eutrophic and the sedge vegetation too high there - and the whole area was more or less dry again.

Altogether we think, that there is no bigger permanent breeding population in Kaliningrad region - may be 0-10 males depending on climate and water conditions. The total estimate for Russia, therefore, must not be changed.

Objectives and background

From 5 to 11 of June 2003 the AWCT had its annual field meeting in Lithuania. The meeting was targeting to study the AW habitats at the Nemunas mouth in Lithuania and to survey also the adjacent areas in Latvia (Lake Liepaja) and Kaliningrad Region/Russia. One important task of the meeting was to collect blood and feather samples for DNA and stable isotope analyses.

As explained in the AW Action Plan (p. 5), the background is as follows:

'Recent studies on genetics and on stable isotopes in Aquatic Warbler feathers show that the German/north-west Polish population is genetically separate from all other studied populations (GIESSING 2002), and that it has most probably a different, very restricted and more northerly wintering area than the other central and east European populations (PAIN *et al.* 2004). This sub-population is sharply declining, and is thought to be the last remnant of the formerly huge north German population. The west Siberian population is geographically completely separate, is most likely genetically separate too, and is probably headed for extinction. In respect of these two sub-populations therefore it is likely that there will be a partial extinction of genetic variability within the species.'

In order to protect the species and save it's genetic variability it is of essential importance to know, whether the (not-sampled until 2003) Lithuanian population is closer related to the stable Biebrza-Polessye population or to the critically endangered Pomeranian population. This could be clarified by taking blood and feather samples from 10-15 birds. Since it is satisfactory to take samples only from adult males, there is no danger to disturb or threaten any nests or broods (which are reared solely by the females). We used mist nets and tape recorders to catch the male Warblers, which is a safe standard method with very low risks for the birds. All activities were performed in close co-operation together with Lithuanian experts.

<u>Results</u>

Latvia:

We visited the southern shore of **Lake Liepaja** on 6th June for a sunset count. In the previous years, two singing AW were recorded there. We did not find AW, but the habitat is more or less suitable. There is a patch of about 10 hectares of excellent habitat (with *Menyanthes trifoliata* etc.) and in total about 150 ha of sub-optimal habitat. This year, the area was nearly completely dry; this might be the reason for absence of AW. We think, the population estimate for Latvia should be kept at 0-10 singing males (dependent on changing weather and water conditions).

Habitat description:

The sedge fen in the southern terrestrialisation zone of Lake Liepaja consisted mainly of *Carex disticha*, only a small central part of about 20 ha had a higher coverage of *Carex elata, Menyanthes trifoliata* and *Comarum palustre. Eriophorum spec., Lysimachia thyrsiflora* and green mosses were completely absent. The whole area was more or less dry; there were only a few wet patches with *Glyceria maxima, Phragmites australis* and (one place) *Stratiotes alloides.* At few patches *Carex caespitosa* occurred.

The overall habitat was classified as generally suitable for AW, but of sub-optimal quality.

<u>Breeding birds:</u>	Anthus pratensis - Emberiza schoeniclus - Acrocephalus schoenobaenus - Saxicola rubetra - Acrocephalus arundinaceus - Acrocephalus palustris - Locustella luscinioides - Locustella naevia - Crex crex -	very abundant very abundant abundant abundant only at the edge of habitat only at the edge scattered 2-4 singing m >= 2 singing m
	Luscinia Iuscinia -	very abundant in the surrounding woods
	Locustella fluviatilis - Carpodacus erythrinus -	1 sing. m bushes/woods at the edge several sing. m woods at the edge
	Circus pygargus - Vanellus vanellus - Asio flammeus -	1 pair outside the sedge meadow several outside the sedge meadow outside the sedge meadow

Lithuania:

We visited some of the best AW sites at the Curonian lagoon coast and performed sunset counts on 7th and 8th of June. Despite the extended drought (free water was almost missing in the sedge meadows) we recorded 84 singing AW at the best site N of Dreverna and 32 singing males in a polder system in the Nemunas delta near Sausgalviai. The first figure is less than in previous years, but still very good when considering the extremely dry conditions.

We were able to catch, ring and measure 13 AW at Dreverna and Sausgalviai. One AW escaped after ringing and measuring, but before taking blood and feather samples, and one AW obviously hat no blood at all, so that we came out with feather samples from 12 birds (for study stable isotopes/wintering areas - Debbie Pain) and blood samples from 11 birds (DNA study - Benedikt Giessing), which is satisfactory.

Habitat description Dreverna:

Natural inundation mire (wind floods) at the eastern coast of the Curonian lagoon (see pictures next page). The whole wetland has 510 ha, out of which 150 ha are suitable for AW. The whole area was relatively dry during our visit; only a few patches were wet, open water occurred only in ditches and small oxbows.

Carex disticha was dominant, *Carex gracilis* subdominant (dominant plant associations Caricetum distichae and Calamagrostietum neglectae, subdominant Caricetum gracilis). *Carex nigra* and *Carex hirta* were common; small islands of high *Phragmites australis*.

Further species: Caltha palustris subsp. laeta, Eriophorum angustifolium (small patches, scarce), *Filipendula ulmaria* (dense patches), *Lathyrus palustris, Stellaria uliginosum, Stellaria palustris, Deschampsia caespitosa*, one patch of *Carex hartmanni* (5 x 20 m), *Dactylorhiza baltica* on the edges of the sedge meadow; small, very dense patches of *Phalaris arundinacea*; *Lythrum salicaria, Lysimachia vulgaris, Calamagrostis canescens; Glyceria maxima* (subdominant), *Typha latifolia* and *Iris pseudacorus* (scarce); *Acorus calamus, Rorippa amphibia, Scirpus tabernaemontani, Triglochin maritima, Poa pratensis, Festuca pratensis, Festuca rubra, Comarum palustre, Lychnis flos-cuculi.*

Nearly no willow Salix spec. bushes, no Menyanthes trifoliata, no Lysimachia thyrsiflora.

<u>Breeding birds:</u>	Anthus pratensis - Emberiza schoeniclus - Motacilla flava - Acrocephalus schoenobaenus – Acrocephalus paludicola - Alauda arvensis -	most common species (c. 100 bp/km ²) second-numerous sp. (c. 90 bp/km ²) rank 3 (60-80 bp/km ²) rank 3 (60-80 bp/km ²) rank 5 (sunset count: 54 males/km ²) rank 6					
	Crex crex -	common, everywhere (village, meadows, sedge areas)					
	Circus aeruginosus -	several					
	Gallinago gallinago -	some displaying, one nest found					
	Tringa totanus -	3-4 bp					
	Limosa limosa -	1 bp					
	Calidris alpina schinzii -	1 flew off from the nest					
	Motacilla citreola -	2 bp					
	Locustella naevia -	2-3 bp					
	Acrocephalus arundinacea -	common at the edges (high reeds along the river arm and lagoon coast)					
	Locustella luscinioides -	as before					
	Acrocephalus scirpaceus -	as before, scarce.					

Surroundings (woods, shrubs): *Luscinia luscinia, Acrocephalus palustris, Hippolais icterina, Carpodacus erythrinus.*



Aquatic Warbler habitat at Dreverna (photos: M. Flade)

River arm with high reed belt at the edge of the AW habitat at Dreverna (photo: M. Flade)



Habitat description Sausgalviai:

Sedge-rich meadows in polders of the Nemunas delta which are in agricultural use (hay harvesting); mainly *Carex disticha, C. gracilis* and *C. rostrata; Caltha palustris* and *Caltha (p.) laeta*; green mosses, *Menyanthes trifoliata, Lysimachia thyrsiflora* etc. are absent. Habitat is very productive (eutrophic) and dependent on agricultural use (without cutting the habitats would not be suitable any more). Area is artificially flooded in winter; during our visit there was nearly no free water on the ground (moist to wet soil only).

We counted 32 singing AW on 8th June 2003, distributed to 5 different polders (18, 10, 2, 1, 1); density was 5-6 males/10 ha maximum, average c. 2.5 males/10 ha. One female fed three already fledged young.

<u>Breeding birds</u> :	Anthus pratensis - Emberiza schoeniclus - Crex crex - Acrocephalus paludicola - Alauda arvensis - Acrocephalus schoenobaenus - Gallinago gallinago - Circus pygargus -	most numerous species second-most numerous very abundant, 30-40 sing. males/km ² c. 25 males/km ² c. 25 bp/km ² slightly less abundant than <i>paludicola</i> several displaying 1 male, 3 females
	Locustella fluviatilis - Acrocephalus palustris - Luscinia luscinia -	surroundings/woods at the edges surroundings surroundings/woods at the edges

Kaliningrad Region:

There are nearly no suitable habitats. The Germans obviously did perfect drainage and amelioration work 60-70 years ago ... We found only a rather small, sub-optimal area (ca. 100 ha) at the Curonian lagoon coast W of Mysovka (former Karkeln) (record of 2 birds in 2001), with rather high and eutrophic, but very dry sedges (due to the drought...). We did not make a sunset count there because of very stormy weather, but we think that the probability to find AW was rather low in this year.



Mysovka (former: Karkeln), Kaliningrad Region at the Curonian Lagoon (photos: M. Flade)



Near Metrosovka, Curonian Lagoon (photo: M. Flade)

Habitat description Mysovka and S Krushtalnoye:

Very dense, homogeneous and dry *Carex gracilis* meadows with *Carex disticha* and *Comarum palustre,* which change into high Phragmites reeds at the Lagoon coast. No AW found, but there was a strong, stormy wind.

One Elk Alces alces was standing in the lagoon reed bed.

Wet meadows at a small river S Krushtalnoye: Sedge meadows with *Carex gracilis, C. disticha, C. rostrata, Comarum palustre, Lysimachia thyrsiflora, Glyceria maxima*; very eutrophic and high, but light (patchy) growth. The sedge meradow strip was not more than 100-200 m wide only and 1-2 km in length. No AW found (but strong wind).

The whole huge area E of the Curonian Lagoon and the 'Elk Forest' (German: 'Elchwald') consist of drained fen mire grasslands: highly eutrophic *Alopecurus pratensis* meadows, partly with sedges, but dry, form huge, homogeneous areas of several thousand of hectares; everywhere Corncrakes (resembles a huge 'Corncrake farm').

Habitat description at the Curonian Lagoon near Metrosovka:

Very wide, but dense and high-grown *Phalaris arundinacaea* and *Phragmites* reed beds, not suitable for AW. Bearded Tits are calling everywhere, at the lagoon coast also singing Great Reed Warblers. Only two Black Terns seen, despite of excellent habitats.

In the hinterland (inland the dike) occur some sedge-rich meadows, which are almost used for hay making and are more or less dry in this year; these areas are not very large (far less than 100 ha each). AW was absent; Meadow Pipit, Reed Bunting and some Sedge Warblers occur.

Habitat description of the Laukne valley near Gromovo:

The best habitats are the sedge fen meadows in the Laukne river valley near Gromovo (supposed breeding record in 2001), which were also completely dry in this year. We made a sunset count under optimal weather conditions on 10th June, but did not find any AW (eventually due to the dry conditions). Parts (ca. 60-80 ha) were burned in 2002 and had a very good vegetation structure, other areas (150-200 ha) were recently burned in 2003 and were not suitable in this year. We think, that breeding occurrence of a few birds is possible in some years with better conditions, but that there is no stable larger population.

Species <u>composition and structure of vegetation</u> was ideal, but the whole area was completely dry. Free water occurs only in channels and some small depressions. Scattered low willow bushes occur (height and density are optimal for AW), partly disturbed from fire. Dominant plant species: *Carex elata, C. gracilis, C. disticha, C. vesicaria*; small patches with *Eriophorum angustifolium*; scattered patches with *Glyceria maxima, Calamagrostis canescens, Lysimachia vulgaris, Thalictrum flavum*; *Stellaria palustre, Comarum palustre* and *Lythrum salicaria* are widespread. *Menyanthes trifoliata* and *Lysimachia thyrsiflora* are completely absent.

Birds:

Anthus pratensis -Saxicola rubetra -Emberiza schoeniclus -Crex crex -Locustella naevia -Acrocephalus schoenobaenus -Gallinago gallinago -Gallinago media -Motacilla flava - dominant dominant dominant fairly common fairly common fairly common several 2 ind. flew off many bp alarming along the edges

Luscinia Iuscinia, Acrocephalus palustris, Locustella fluviatilis and Crex crex occur numerously in the surrounding habitats.



Gromovo (photos: M. Flade)



Laukne meadows near Gromovo (Photos: M. Flade)



Torsten, Janusz and Sebastian (filming) in the Laukne sedge meadows near Gromovo (Photo: M. Flade)

Habitat description of Pregolia floodplain S Kaliningrad:

On the way back the Germans visited the more or less suitable sedge meadows in the Pregolia valley directly S of Kaliningrad, also without finding AW. This habitat might be too eutrophic and the sedge vegetation too high there - and the whole area was more or less dry again.

High-grown *Carex gracilis* meadows with *Phragmites* islands; *Iris pseudacorus, Equisetum fluviatile, Comarum palustre* and *Glyceria maxima* are common; large, homogeneous areas along the Pregolia river, ca. 400-500 m wide, but probably too eutrophic and high-grown for AW. Many Sedge Warblers and Reed Buntings occur; Meadow Pipit is absent; 2 bp of Marsh Harriers (reed islands).

Visit of Sesupe valley E Sovietsk (Inga, Oskars, Michal):

Short report on our drive on 10th of June 2003: We were supposed to check sites at the valley of river Sesupe (East from Sovietsk) which according to our map seemed to be wetlands (map with our route see file 'Sesupe river map.jpg'). We did our way by car with several stopovers and short walks. The general result is that the map is simply wrong - the wetlands have never been there (!). The valley is relatively deep, with rich relief and stone-sandy soils, and there is no wide marshy valley at all. So there is no chance for the Aquatic Warbler habitats within the checked area.

In Kaliningrad we bought a new map, which is different then the first one. It clearly shows the lack of marshes as they are shown at the first map. But it shows are marked nice big round marshes to the West from Krasnoznamensk (a drained raised bog?), located outside the river valley. Unfortunately, we have not been there, as it seemed not to be an interesting area when reading the first map...

Conclusion for Kaliningrad Region and Russia:

Altogether we suggest, that there is no bigger permanent breeding population of AW in the Kaliningrad region - may be 0-10 males depending on climate and water conditions. The total estimate for Russia, therefore, must not be changed.



Raised Bog 'Großes Moosbruch' near Gromovo – Golden Plover and Black Grouse calling... (Photos: M. Flade)

Aquatic Warblers Acrocephalus paludicola ringed in Lithuania by the AWCT in June 2003 for taking blood and feather samples

Ring no.	Species	Date	Location	sex	Blood	Fea-	Wing	Teilfederl.	Tarsus	Head-bill	Culmen	NaLoSpi	Weight	comments
(Lithuania)						ther	mm	mm	mm	mm	mm	mm	(g)	
VP 15 901	Acrocephalus paludicola	08.06.03	Sausgalviai	М		Х	64.0	47.0	20.9	29.6	10.0	7.1	12.6	Blood sample not possible
902	Acrocephalus paludicola	08.06.03	Sausgalviai	М	Х	Х	63.1	45.8	21.1	30.0	10.5	7.0	12.0	
903	Acrocephalus paludicola	08.06.03	Sausgalviai	М	Х	Х	61.2	46.5	20.6	30.0	10.1	7.1	11.9	
904	Acrocephalus paludicola	08.06.03	Dreverna	Μ			63.9	45.0	n.m.	29.7	9.9	6.6	n.m.	Escaped before sampling
905	Acrocephalus paludicola	08.06.03	Dreverna	F	Х	Х	61.2	43.8	n.m.	29.5	9.2	6.9	12.0	
906	Acrocephalus paludicola	07.06.03	Dreverna	Μ	Х	Х	63.0	47.5	n.m.	30.6	11.1	6.9	13.6	
907	Acrocephalus paludicola	07.06.03	Dreverna	М	Х	Х	62.2	46.2	n.m.	29.4	10.2	6.6	12.2	Problems to fly after release
908	Acrocephalus paludicola	07.06.03	Dreverna	Μ	Х	Х	64.2	45.5	n.m.	30.6	10.9	7.8	12.5	
909	Acrocephalus paludicola	07.06.03	Dreverna	Μ	Х	Х	63.0	47.1	n.m.	30.1	9.6	6.3	12.1	
910	Acrocephalus paludicola	07.06.03	Dreverna	М	Х	Х	62.9	45.0	n.m.	30.9	10.5	7.4	13.3	Problems to fly after release
911	Acrocephalus paludicola	07.06.03	Dreverna	М	Х	Х	62.5	46.0	n.m.	30.0	10.1	7.3	12.7	
912	Acrocephalus paludicola	08.06.03	Sausgalviai	Μ	Х	Х	64.0	46.5	19.8	28.8	9.9	7.1	12.3	
920	Acrocephalus paludicola	07.06.03	Dreverna	М	Х	Х	62.3	47.0	22.0	30.8	10.6	8.14	11.1	

Co-ordinates: Sausgalviai: 55° 17' N 21° 28' E

Dreverna: 55° 31' 43" N, 21° 13' 39" E

Financial Balance

1. Travel and field trip expenses

Paid to (name)	Country	Total payments (€)	Type of expenses, comments (Zt = Zloty; LT = Litas)						
Toroton Duolova	Cormony	110	$1 \angle l = 1 \lfloor l \rfloor$; $1 \equiv 3.4518 \lfloor l \rfloor$						
Schootion Koorpor	Germany	F 10	$73 \in v_{1Sa} + 37 \in tor car petrol$						
Sebastian Koemer	Germany	540	$73 \in visa, 40 \in car repair, 20 \in special$						
			common expenses (Kaliningrau						
Zudruppo Droikoo	Lithuania	1 100	border), 407 \in perior and on						
Zydrunas Preiksa	Lithuania	1,100	$191 \in \text{ bus rent, } 50 \in (1040.08 \text{ LI})$						
			petroi;						
			$\delta 0 = 10r$ field accommodation,						
			for Gragorz (border problems)						
Jarok Kroguloo Japuez	Poland	175	Detrol: 142 41 + 121 52 7t: + 67 92 LT						
Kloskowski Michal	Folariu	175	$+ 30 \neq (back way)$						
Manjakowski, Inga Koszalka			Parking: 10 T:						
Mariakowski, inga Koszaika			Lithuanian insurance: 49 00 7t						
			Green Card: 64 Zt:						
			Border crossing: 20 €						
			Russian car insurance: 24 €:						
Oskars Keiss	Latvia	197	37 € visa;						
			160 € field accommodation in Latvia;						
Arcady Skuratovitch	Belarus	200	Travel and visa expenses						
Grzegorz Kiljan	Poland	150	Travel and visa expenses						
		300	Accomodation at Gromovo (Jürgen						
			Leiste)						
		618	Travel (petrol etc.) and field						
			accommodation expenses directly						
			paid by M. flade						
Total expenses		3.390							

Total AWCT budget in 2003: 4.400 €

- Field Trip (see above) Film Sebastian Koerner 3390€
- 670€
- 340 € Lithuanian AW Leaflet