

# THE NESTING OF THE LITTLE TERN *Sterna albifrons* ON THE DRAVA RIVER IN CROATIA AND HUNGARY

## Gnezdjenje male čigre *Sterna albifrons* na reki Dravi na Hrvaškem in Madžarskem

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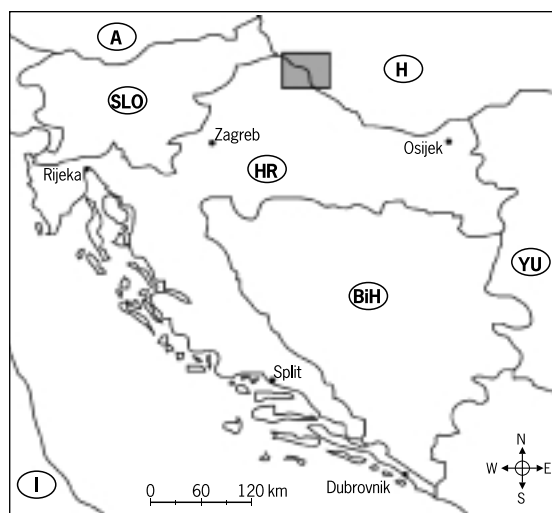
### 1. Introduction

In former times, the Little Tern *Sterna albifrons* was a typical breeding bird of the natural Drava river in Slovenia, Croatia and Hungary. Due to the construction of dams, the braided river zone of the Drava has nearly been destroyed. Thus the Little Tern's extinct as a breeding bird in the early 80's from the Slovenian Drava (ŠTUMBERGER 1981, SCHNEIDER-JACOBY 1996). Today only the 50 km long border section between Croatia and Hungary downstream the Mura confluence offers appropriate gravel and sand banks and feeding grounds (both the river and its backwaters) for this European widely endangered species. Pictures of the dynamic landscape can be found in the overview of the state of the biological and landscape diversity in Croatia (RADOVIĆ 2000). The area is part of the most threatened ecosystem in Croatia, and in Hungary already preserved as National Park Danube–Drava. The area was part of the Iron Curtain and little had been known about it until 1990 (SCHNEIDER-JACOBY 1996). Since the first observations of the Little Tern have been made in the breeding period of 1992 in the Hungarian part of the Drava near Vízvár (FENYÖSI *et al.* 1992), several records in the following years are proof of a steady occurrence of this bird in this area (BÉCSY 1994, 1995, FENYÖSI & HORVÁTH 1995, RADOVIĆ 1996).

Subsequent investigations by the author resulted in the discovery of two further breeding sites in this area.

### 2. Method and Area

The records were made during the author's thesis work "Investigation of the landscape and hydro-morphological structure of the Drava river between Legrad and Ferdinandovac" in the years between 1994 and 1999 (e.g. MOHL & SCHWARZ 1997C, 1998A,B). Birds nesting on suitable gravel banks during the breeding season were recorded in the area between Legrad and Ferdinandovac (Figure 1 & 2).



**Figure 1:** The area of investigation and occurrence of the Little Tern *Sterna albifrons* – study area in the square presented on satellite picture – Figure 2 (map credit: Mohl & Schwarz)



**Slika 1:** Območje raziskave in pojavljanja male čigre *Sterna albifrons* – izrez območja raziskave je predstavljen na satelitskem posnetku na sliki 2 (priprava karte: Mohl & Schwarz)

### 3. Results

#### 3.1 Breeding

Two further breeding sites on the Drava were discovered. The 10–15 pairs of the Little Tern were breeding in three mixed colonies together with Common Terns.

– In July 1994, the author recorded between 30–35 pairs of Common Terns and 4 pairs of Little Terns in the border stretch near Vízvár. At the same time 30–35 pairs of Common Terns were recorded near Legrad.

– In July 1997, the author recorded 5 pairs of Little Terns in the company of 40–45 pairs of Common Terns on a gravel bank near the Croatian village of

Repaš. At the same time, further observations of several Little Terns together with Common Terns in the border stretch near Legrad and Vízvár were made.

– In 1998, M. Zeugin (personal comm.) found 3 pairs of Little Terns in the company of Common Terns in the border stretch near Vízvár.

– In June 1999, the author observed 5–8 Little Terns in the braided river zone of the border stretch near Legrad. A colony of Common Terns was also present on a gravel bank.

### 3.2 Feeding habitat

The dynamic and diverse riverine landscape is important for the survival of the Little Tern. Feeding habitats are shallow water zones and branches of the

Drava River, but also oxbows with stagnant water and reed beds. Adults fly six kilometres and more to search for food in sites with clear water and plenty of young fish. On July 17 1997, for example, one or two Little Terns and few Common Terns were always present at noontime in oxbow Djambina at the Croatian-Hungarian border, approaching and leaving the site over some 40 m high Repas forest (SCHNEIDER-JACOBY in lit.).

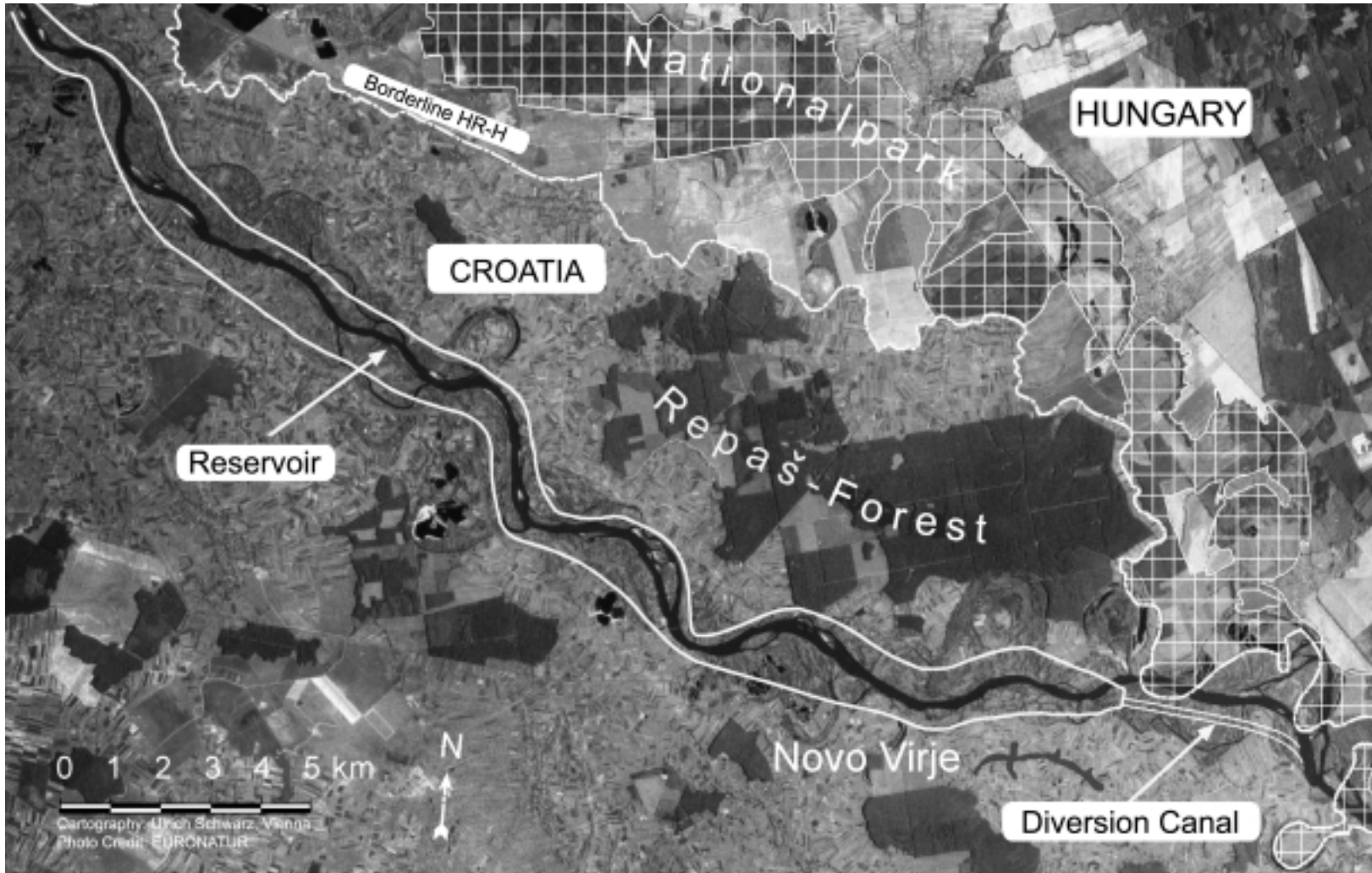
### 4. Conclusions

The 50 km river section between Legrad and Ferdinandovac is the best preserved section with extended gravel and sand islands and banks on the Drava River. It is therefore the most valuable area for

**Table 1:** Occurrence of the Little Tern *Sterna albifrons* and Common Tern *Sterna hirundo* on the Drava between Legrad and Ferdinandovac

**Tabela 1:** Pojavljanje male čigre *Sterna albifrons* in navadne čigre *Sterna hirundo* na Dravi med Legradom in Ferdinandovcem

Site / Kraj	Breeding pairs or individuals/ Št. gnezdečih parov ali osebkov		Year / Leto	Source / Vir
	<i>Sterna albifrons</i>	<i>Sterna hirundo</i>		
Vízvár	2 indiv. / os.	several indiv. / nekaj os.	August / avgust 1992	L. Fenyösi, Z. Horváth, J. Stix
Vízvár	8 indiv. / os.	-	July / julij 1994	L. Bécsy
Vízvár	4 pairs / pari	30-35 pairs / parov	July / julij 1994	A. Mohl
Legrad	-	30-35 pairs / parov	July / julij 1994	A. Mohl
Vízvár	4 pairs / pari	32 pairs / parov	July / julij 1995	L. Bécsy
Vízvár	10–15 indiv. (adult & juv.)/ os. (odrasli in mladi)	100–120 indiv. (adult & juv.)/ os. (odrasli in mladi)	August / avgust 1995	L. Fenyösi, Z. Horváth
?	5-6 pairs / parov	50 pairs / parov	1996	D. Radović
Legrad	several indiv. / nekaj os.	several indiv. / nekaj os.	July / julij 1997	A. Mohl
Repaš, downwards the bridge	5 pairs / parov	40-45 pairs / parov	July / julij 1997	A. Mohl
Repaš, upwards the bridge	2 pairs / para	-	July / julij 1997	M. Schneider- Jacoby
Vízvár	several indiv. / nekaj os.	several indiv. / nekaj os.	July / julij 1997	A. Mohl
Vízvár	3 pairs / pari		1998	M. Zeugin
Legrad	5-8 indiv. / os.	several indiv. / nekaj os.	June / junij 1999	A. Mohl



**Figure 2:** Satellite picture of the Drava river with the planned Novo Virje dam (KFA 1000 satellite image sponsored by Dornier through Euronatur. Map credit: Mohl/Schwarz)



**Slika 2:** Satelitski posnetek reke Drave z načrtovano zaježitvijo Novo Virje (satelitski posnetek KFA 1000 je sponzoriral Dornier prek Fondacije Euronatur; priprava karte: Mohl & Schwarz)

nearly the entire ensemble of the riverine pioneer bird species: the Little Tern, the Common Tern *Sterna hirundo*, the Little Ringed Plover *Charadrius dubius* and the Common Sandpiper *Actitis hypoleucos*. Especially the occurrence of the Little Tern, which is currently one of the few in the entire Pannonian basin, underlines the high ecological value and the international importance of this area. Hungary has already protected the habitat at the Drava along the Croatian border as a National Park. Furthermore, the Strategy and Action Plan for Landscape and Biodiversity has adopted the protection of the natural river banks of Mura and Drava as a high priority in Croatia (RADOVIĆ 2000).

Nevertheless, the fact is that all remaining colonies of the Little Tern are faced with serious problems (MOHL & SCHWARZ 1997C, 1998A,B, SCHNEIDER-JACOBY 1994, 1996, 1998):

1. The most important threat is habitat loss due to alterations of the natural dynamic processes by the ongoing river regulation activities, e.g. recently in the specially protected area of the Mura confluence "Veliki Pazut". Further regulations have been planned.

2. Excavation of sand and gravel even from the active colonies and destruction of breeding sites in Croatian territory and at the border (e.g. between Botovo and the specially protected area Veliki Pazut).

3. After the fall of the Iron Curtain, human disturbance of the colonies on the gravel and sand banks (water sport tourism, anglers, swimmers) is an increasing threat.

4. The Croatian hydropower plant "Novo Virje" (HEP 1997), which would have a negative impact on the entire breeding area, is still planned and the Environmental Assessment Study has been recently approved by the responsible commission in Croatia (pre-release 22.2.2001 of the Ministry of Environment and Spatial Planning "HE Novo Virje").

A middle- to long-term disappearance of the Little Tern can be expected if the ongoing impact of the water management in Croatia is not stopped and no appropriate nature conservation efforts including river restoration measures and visitor regulation are carried out. The concept of a transboundary protected area (e.g. the proposed "Biosphere Reserve Drava-Mura" (e.g. EURONATURE 1998, SCHNEIDER-JACOBY 1996, 1998) for the survival of the dynamic river landscape and the occurrence of the Little Tern in future would be an important step. As the site is registered as an IBA –Croatia 011, Hungary 007– (HEATH & EVANS 2000) and the preservation is a priority in Croatia and Hungary, the impact on the habitat and the colonies of this European widely endangered

species (TUCKER & HEATH 1994) should be immediately stopped by the responsible authorities, e.g. Ministry of Environment – HR and HU, State Directorate for Water – HR.

### Summary

The article gives an overview of the last remaining breeding sites of the Little Tern *Sterna albifrons* on the Drava river in the border section between Legrad and Ferdinandovac. These are the last breeding populations that regularly occur in the Pannonian basin. Due to habitat loss, only 10–15 pairs in three colonies have survived on the gravel and sand banks of the river. All pairs were found in mixed colonies together with Common Terns *Sterna hirundo*. Their survival on the Drava is very unsure. Particularly habitat loss, caused by still ongoing river regulation activities and human disturbance, is seriously threatening the existence of this European highly endangered species.

### Povzetek

Članek obravnava zadnja še obstoječa gnezdišča male čigre *Sterna albifrons* na reki Dravi v mejnem območju med Hrvaško in Madžarsko med Legradom in Ferdinandovcem. Gre za zadnjo populacije ptic, ki redno gnezdiijo v Panonski nižini. Zaradi izgube habitata je na prodnato-peščenih otokih Drave preživelo le 10 do 15 parov male čigre v treh ločenih kolonijah. Vsi pari so bili odkriti v mešanih kolonijah, in sicer skupaj z navadno čigro *Sterna hirundo*. Obstanek male čigre na Dravi je nadvse negotov, saj izguba habitata – kot posledica nezmanjšanega reguliranja reke in drugih človekov posegov – resno ogroža obstoj te v Evropi močno ogrožene vrste.

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