

# New data on the distribution of the Italian agile frog *Rana latastei* Boulenger, 1879 in Slovenian Istra

David STANKOVIĆ<sup>1,2</sup>, Katja POBOLJŠAJ<sup>2,3</sup>

<sup>1</sup> Department of Animal Science, Biotechnical Faculty, University of Ljubljana, Groblje 3, SI-1230 Domžale, Slovenia;  
E-mail: david.stankovic@bf.uni-lj.si

<sup>2</sup> Herpetološko društvo – Societas herpetologica slovenica, Večna pot 111, SI-1000 Ljubljana

<sup>3</sup> Center za kartografijo favne in flore, Antoličičeva 1, SI-2204 Miklavž na Dravskem polju, Slovenia;  
E-mail: katja.poboljsaj@ckff.si

**Abstract.** After the first confirmed record of the Italian agile frog in the Dragonja River Valley, a herpetological field survey was organized in 2012 to estimate the species range in this area. We confirmed its reproduction in the Slovenian part of the watersheds of the rivers Dragonja, Mirna and upper part of Rižana. Here we present a preliminary report on the presence of this amphibian in the Slovenian part of Istra.

Key words: *Rana latastei*, Slovenia, Istra, breeding sites, distribution, Natura 2000, SCI SI3000212 Slovenska Istra

**Izvleček.** Novi podatki o razširjenosti laške žabe (*Rana latastei* Boulenger, 1879) v slovenski Istri – Na območju slovenske Istre je bil po prvi potrjeni najdbi laške žabe v dolini reke Dragonje v letu 2012 organiziran herpetološki popis tega območja. Popis je potrdil razširjenost in razmnoževanje te dvoživke v slovenskem delu povodij rek Dragonje in Mirne ter v zgornjem delu Rižane. V pričujoči znanstveni vesti so opisani preliminarni rezultati o razširjenosti laške žabe v Slovenski Istri.

Ključne besede: *Rana latastei*, laška žaba, Slovenija, Istra, mrestišča, razširjenost, Natura 2000, SCI SI3000212 Slovenska Istra

## Introduction

The Italian agile frog (*Rana latastei* Boulenger, 1879) is an endemic species of the wider Padano Venetian plain area (Grossenbacher 1997, Poboljšaj & Lešnik 2003, Barbieri & Mazzotti 2006, Sindaco et al. 2009, Kuljerić 2011). The species' eastern distribution range was inadequately understood until recently. Until the late 1990s, this species had been known only from the Panovec forest near Nova Gorica in Slovenia (Poboljšaj 1998, Poboljšaj & Lešnik 2003) and from a few localities in the Croatian part of Istra – forests near Pazin, Motovunska Šuma and three small valleys near the Slovenian border (Kuljerić 2011). Due to Natura 2000 implementation, extensive field surveys both in Slovenia and Croatia have been carried out;

results showed that the species' range is much wider (Kuljerić 2009, 2011, Lešnik et al. 2011). In Slovenia, *Rana latastei* is abundant in the Vipava River Valley, along the Branica River and in Goriška Brda (Poboljšaj & Lešnik 2005, Lešnik et al. 2011). However, there are also a few records from the Idrija River, which runs along the Italian border (Cipot 2005a, Lešnik et al. 2011). The Italian agile frog has also been searched for in the Dragonja River Valley, where it was confirmed just recently (Cipot 2005b, Poboljšaj 2007, Glasnović 2012). Glasnović (2012) reported the finding from the woodland slopes of Suje along the left bank of the Dragonja. The occurrence of *R. latastei* in this area is primarily associated with populations in the Croatian part of Istra. In Croatia, it is most abundant along the Butoniga River and its tributaries, and in the middle part of the Mirna River Valley, from where its distribution spreads southwards and northwards. In the south it crosses into the Pazinčica watershed north of Pazin, while in the north it reaches the Slovenian border, where it can be found in the right bank tributaries of the Mirna River (Kuljerić 2009, 2011).

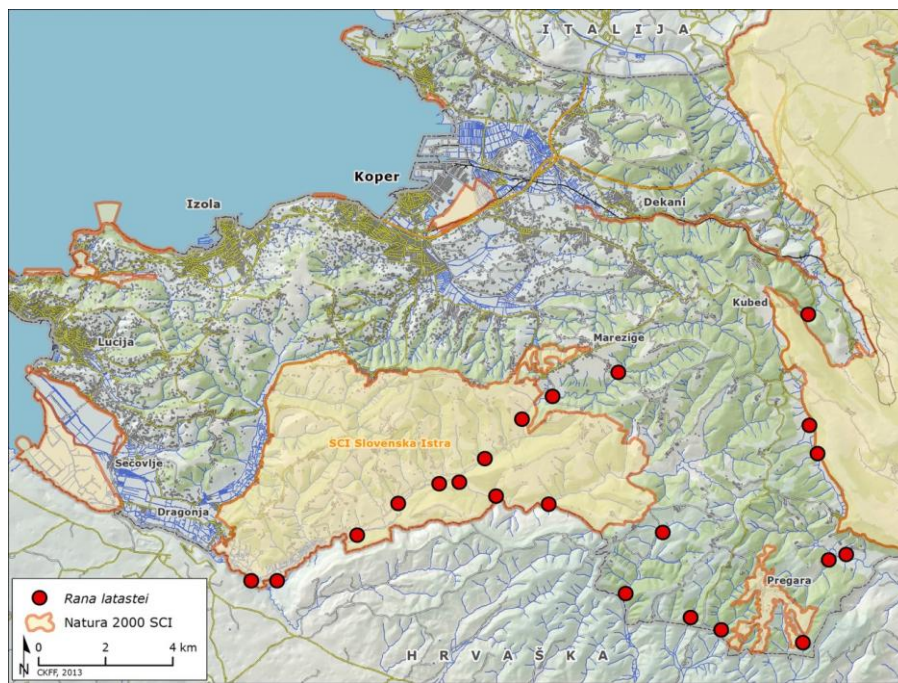
Due to the species discovery in the Dragonja River Valley and new data on its distribution in Croatia (Kuljerić 2009, 2011), a herpetological field survey in the Slovenian part of Istra was organized in 2012. The aim of this contribution is to present preliminary results on the occurrence of the Italian agile frog in the Slovenian part of Istra. Most of the results presented here were collected during a herpetological survey conducted by »Societas herpetologica slovenica« and »Centre for Cartography of Fauna and Flora«; we also present other findings from 2012.

## Material and methods

The survey took place on 31. 3. 2012. Eight participants were divided into four groups in order to cover as much ground as possible in such a short time. The survey area was limited to the middle and upper Dragonja River Valley, the Rokava stream and to the tributaries of the Mirna River. The potential breeding sites to be surveyed were selected in accordance with the breeding ecology of *R. latastei* in hilly parts of Slovenia and Croatia: clean, small and shaded streams with slow flow and small river-pools with submerged branches as well as the River Dragonja itself (Kuljerić 2011, Lešnik et al. 2011). The teams (consisting of two people) examined the streams by walking along them and searching for egg clutches. The locations with *R. latastei* spawn were noted with a GPS, photographed and the number of clumps was recorded. Even though egg clutches of *R. latastei* and *R. dalmatina* are similar, they can be distinguished by the characteristic manner of egg deposition. Females of *R. latastei* usually deposit their eggs in groups and attach them to diagonally submerged branches or roots. In most cases, clutches stay submerged and attached even after embryonic development finishes. By way of comparison, females of *R. dalmatina* deposit somewhat bigger clutches that are usually more uniformly dispersed throughout the water body and are individually attached to vertical vegetation. In most cases, older clutches detach from the submerged vegetation and float on the surface (Baumgartner 1996, Brstilo & Skaberne 2005, Poboljšaj & Lešnik 2005, Ficetola 2005, Veenvliet & Kus Veenvliet 2008).

## Results and discussion

Reproduction of *R. latastei* was confirmed in the middle part of the Dragonja River, in the lower and middle parts of its tributary the Rokava vala, in the Lukinska vala, in the Rakovec stream (a tributary of the Rižana) and in Malinska, Miklinica, Pregon, Mlaka and Reka streams – all tributaries to the Mirna River in Croatia (Fig. 1).



**Figure 1.** Known breeding sites of the Italian agile frog *Rana latastei* in the Slovenian part of Istra.

**Slika 1.** Poznana mrestišča laške žabe *Rana latastei* v slovenski Istri.

The Italian agile frog is one of Europe's most endangered amphibians; it is a strictly protected species under the Bern convention (Appendix II) and listed as globally vulnerable (VU) by the IUCN (Sindaco et al. 2009). In Slovenia, it is legally protected by the Decree on Protected Wild Animal Species (Ur. l. RS 2004a,) and listed as an endangered species (E) in the »Slovenian Red Data List« (Ur. l. RS 2002). Moreover, it is also protected by the EU Habitats Directive 92/43/EEC (listed in Annexes II and IV).

In Slovenia, three Natura 2000 sites where *R. latastei* was included as a qualification species were designated by the Decree on special protection areas (Ur. l. RS 2004b): SCI SI3000226 Dolina Vipave, SCI SI3000225 Dolina Branice and SCI SI3000255 Trnovski gozd – Nanos. The last change of the Decree (Ur. l. RS 2013) also includes the findings presented here; *R. latastei* is therefore now a qualification species for SCI SI3000212

Slovenska Istra (Fig. 1) as well. This area covers most of the breeding sites recorded during this study – the Dragonja River Valley and the lower course of the Rokava stream with its tributaries. Furthermore, *R. latastei* populations along the Miklinica, Pregon and Mlaka tributaries to the Mirna River are also protected on the Croatian side of the border, where they are included in the proposed SCI HR200105 Pregon, with *R. latastei* also a qualification species (Marković et al. 2012).

This communication does not yet present a complete picture of the distribution and status of *R. latastei* in Northern Istra. Future efforts should be focused on both monitoring the abundance of this species in known breeding areas and on searching for new localities where this species occurs. Only additional research can provide us with an accurate insight into the distribution and status of the Italian agile frog in the Slovenian part of Istra, on the basis of which adequate protection measures can be implemented.

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