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FURTHER DATA ON THE DISTRIBUTION OF TRANSYLVANIAN SMOOTH NEWT (*LISSOTRITON VULGARIS AMPELENSIS* FUHN 1951) IN ROMANIA

Key words: Transylvanian smooth newt, *Lissotriton vulgaris ampeleensis*, distribution, southern distribution limit, Transylvania, Romania

Introduction

„The Transylvanian smooth newt, *Lissotriton vulgaris ampeleensis* Fuhn, 1951, is endemic to the Transylvanian region of Romania (Fuhn, 1960).”¹ The subspecies was recorded from the north of the Western Romanian Carpathians (Apuseni Mountains), Transylvanian Plateau and the depressions of the Eastern Carpathians.² Its distribution is still inadequately known due to its imperfect recognition in the field, a factor that affects the protection of the subspecies in the country, as this subspecies is listed in Annex II of the EU Habitats Directive,³ and thus its conservation requires designation of Special Areas of Conservation (SACs). Here I present new data on the distribution of the subspecies, mostly in the central, north-eastern and southern part of its distribution area.

Material and methods

New field investigations were carried out mostly in 2014 and 2015 in the Călimani Mountains, Dealurile Târnavelor Subcarpathians, Făgăraş Depression and Mountains and Dacian Plateau areas. Additional data have been compiled from the Mediaş and Vânători Plateau and Homoroadelor Subcarpathians (Hartel Tibor, pers. com.).

Newts were captured with a dip net and released at the point of capture, and several were photographed in a water-filled aquarium. I consider that these specimens, captured between March and May, were encountered at the peak of their nuptial activities. According to Sos & Hegyeli⁴ the smooth, waved to straight, relatively low dorsal crest, its consistent starting point from the occipital region, and the accentuated steepness of the dorsal crest in larger crested newts, are the most reliable characteristics by which to distinguish *L. v. ampeleensis* from the other indigenous subspecies *L. v. vulgaris* Linnaeus 1758, so I used the same characters for identification.

Spatial data were recorded using a GPS receiver (Garmin GPSMap 60CSx) and processed using the QGIS software (version 2.2.0).

Results

The compiled new distribution data filled out 26 new UTM-squares of 10 × 10 km (FR66, FR75, FR74, FR83, LN32, LN42, LN21, LM47, LM45, LM65, LM34, LM44, LM42, LM01, LM21, LM41, LM51, LM00, LM10, LM20, LM30, LM40, LL19, LL29, LL06, LL05; Fig. 1). Thus here I extend the known distribution of *Lissotriton v. ampeleensis* in the north-eastern limits of its range, in the Căliman Mountains, and also in the south, into the territory of the Făgăraş Mountains.

According to our 370 records of distribution data (Milvus Group database) the Transylvanian smooth newt has an altitudinal range from a minimum of 173 m to a maximum of 1358 m altitude (average 557 m, median 522 m). The highest altitudes are now reported at 1358 and 1292 m in the Şureanu Mountains.

Discussion

Although the Transylvanian smooth newt shows a wide altitudinal distribution (173–1358 m) there is no proven wide low-altitude distribution, as in the nominate subspecies *L. v. vulgaris*. Its distribution has no records outside the hilly and mountainous area of the Carpathians, even it appears at the limits.⁵ This distribution could be the result of its restricted ecological optimum, competition with the nominate subspecies or just the result of its spreading history.⁶

The subspecies reaches the Făgăraş Mountains in south, where it has been identified at 707 m altitude. I consider that the subspecies was not found here at higher altitudes due the lack of favourable aquatic habitats. Interestingly, in the southern part

¹ FUHN, Ion E. 1960.

² SOS Tibor – HEGYELI Zsolt 2014.

³ COGĂLNICEANU, Dan – ROZYLOWICZ, Laurențiu 2014.

⁴ SOS Tibor – HEGYELI Zsolt 2014.

⁵ SOS Tibor – HEGYELI Zsolt 2014.

⁶ RAFIŃSKI, Jan et alii, 2001.

of the Făgăraș Mountains, in the Toplog River valley, the nominate *L. v. vulgaris* appears; thus the Făgăraș Mountains are the geographical limits of overlap between the subspecies. Here *L. v. vulgaris* lives up to 950 m altitude.

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References

- COGĂLNICEANU, Dan – ROZYLOWICZ, Laurentiu
2014 Amphibian Conservation and Decline in Romania, *Amphibian Biology*, Editors Heatwole, H., Wilkinson, J.W., 11, 49, 4 (Southern Europe and Turkey), Pelagic Publishing, 87–98.
- FUHN, Ion E.
1960 *Fauna R. P. Române*, Amphibia, XIV, 1, Ed. Acad. R.P.R., București.
- RAFINSKY, Jan – COGĂLNICEANU, Dan – BABIK, Wieslaw
2001 Genetic differentiation of the two subspecies of the Smooth Newt inhabiting Romania, *Triturus vulgaris vulgaris* and *T. v. ampelensis* (Urodela, Salamandridae) as revealed by enzyme electrophoresis, *Folia Biologica* 49, 239–245.
- SOS Tibor – HEGYELI Zsolt
2014 Characteristic morphotype distribution predicts the extended range of the "Transylvanian" smooth newt, *Lissotriton vulgaris ampelensis* Fuhn, 1951, in Romania, *North-Western Journal of Zoology* 11(1), 34–40.

További adatok az erdélyi pettyes göte (*Lissotriton vulgaris ampelensis* Fuhn 1951) elterjedéséről Romániában

(Kivonat)

Az erdélyi pettyes göte, *Lissotriton vulgaris ampelensis*, elterjedése még mindig pontatlanul ismert. Az alfaj elterjedésének ismerete nélkülözhetetlen a megőrzésére szükséges védett Natura 2000-es területek kijelöléséhez. Jelen munkában újabb elterjedési adatokat közlök, ugyanakkor az alfaj legmagasabb elterjedési pontját is jelzem 1358 m-ről, a Kudzsiri-havasok területéről. Az újabb adatok fényében az alfaj déli elterjedési határa a Fogarasi hegvek vonalán húzódik.

Noi date privind distribuția tritonului transilvănean (*Lissotriton vulgaris ampelensis* Fuhn 1951) în România

(Rezumat)

Distribuția subspeciei endemice, tritonul comun transilvănean *Lissotriton vulgaris ampelensis*, este momentan inexact cunoscută. Fiind un taxon pentru a cărei conservare desemnarea a noi situri Natura 2000 este obligatorie, delimitarea distribuției este de o importanță majoră. În această lucrare sunt prezentate noi date de prezență a subspeciei. Cel mai înalt punct altitudinal a fost identificat în Munții Șureanu, la altitudinea de 1358 m. Pe baza noilor date distribuția subspeciei este limitată în sud de Munții Făgăraș.

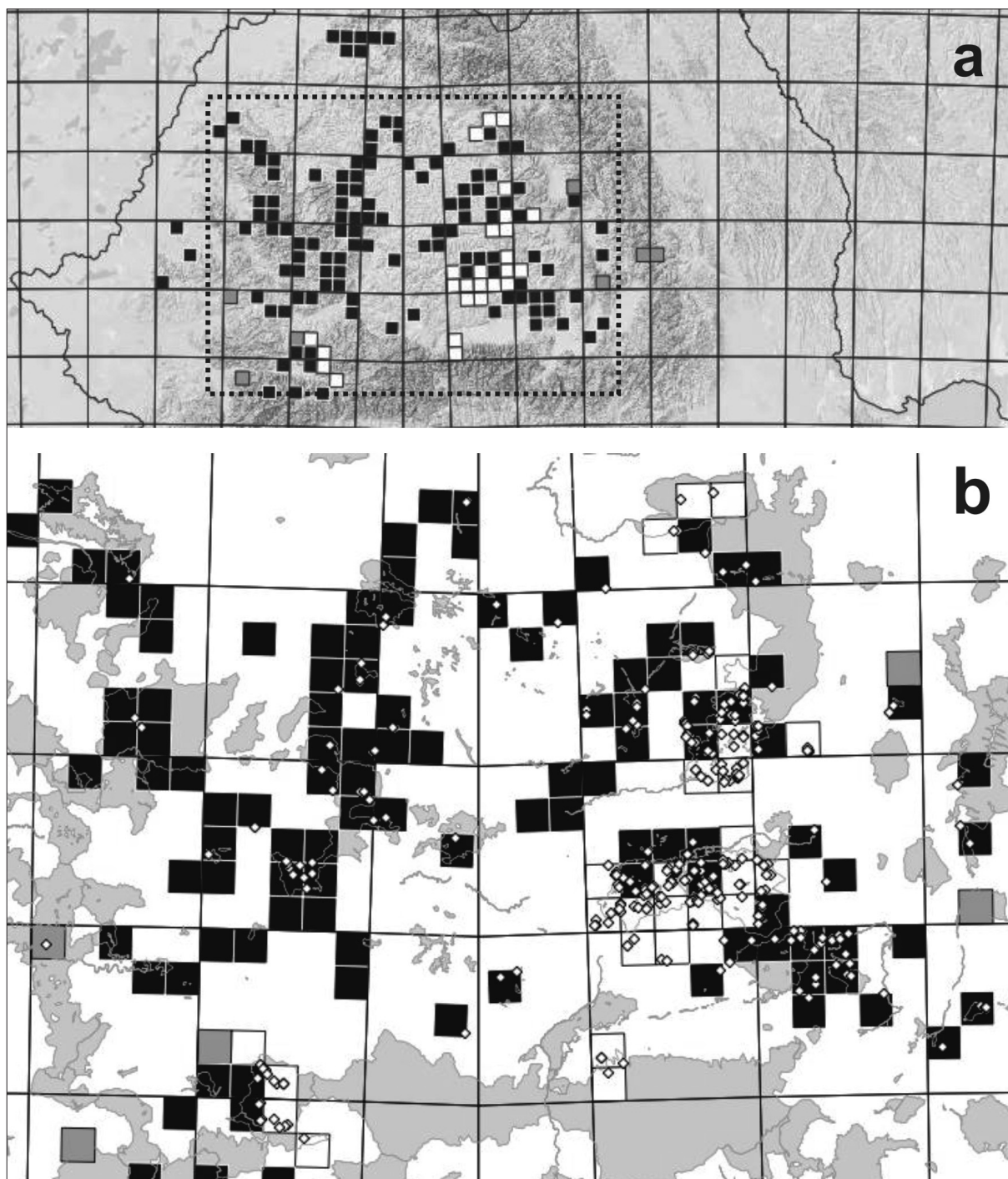


Figure 1a. New distribution data of the Transylvanian smooth newt: new presence data in 10×10 km UTM squares (white squares), old and literature data (black squares) and presence of hybrids (grey squares). The broken lines delimit the second map.

Figure 1b. The rhombs represent the original GPS data of newt distribution from our database (Milvus Group). The grey layer displays the territory of Natura 2000 sites (Sites of Community Importance, SCI) in the area. Squares denoted as on the first map.

1a. ábra. Új adatok az erdélyi pettyes göte elterjedéséhez: új jelzések a 10×10 km-es négyzetekben (fehér négyzetek), régi és irodalmi adatok (fekete négyzetek) és átmeneti alakok elterjedése (szürke négyzetek). A szaggatott vonal a második térkép határait jelzi.

1b. ábra A rombuszok a valós GPS elterjedési pontokat jelzik (Milvus Csoport adatbázisa).
A szürke területek a jelenlegi Natura 2000-es területeket (SCI) jelölik.

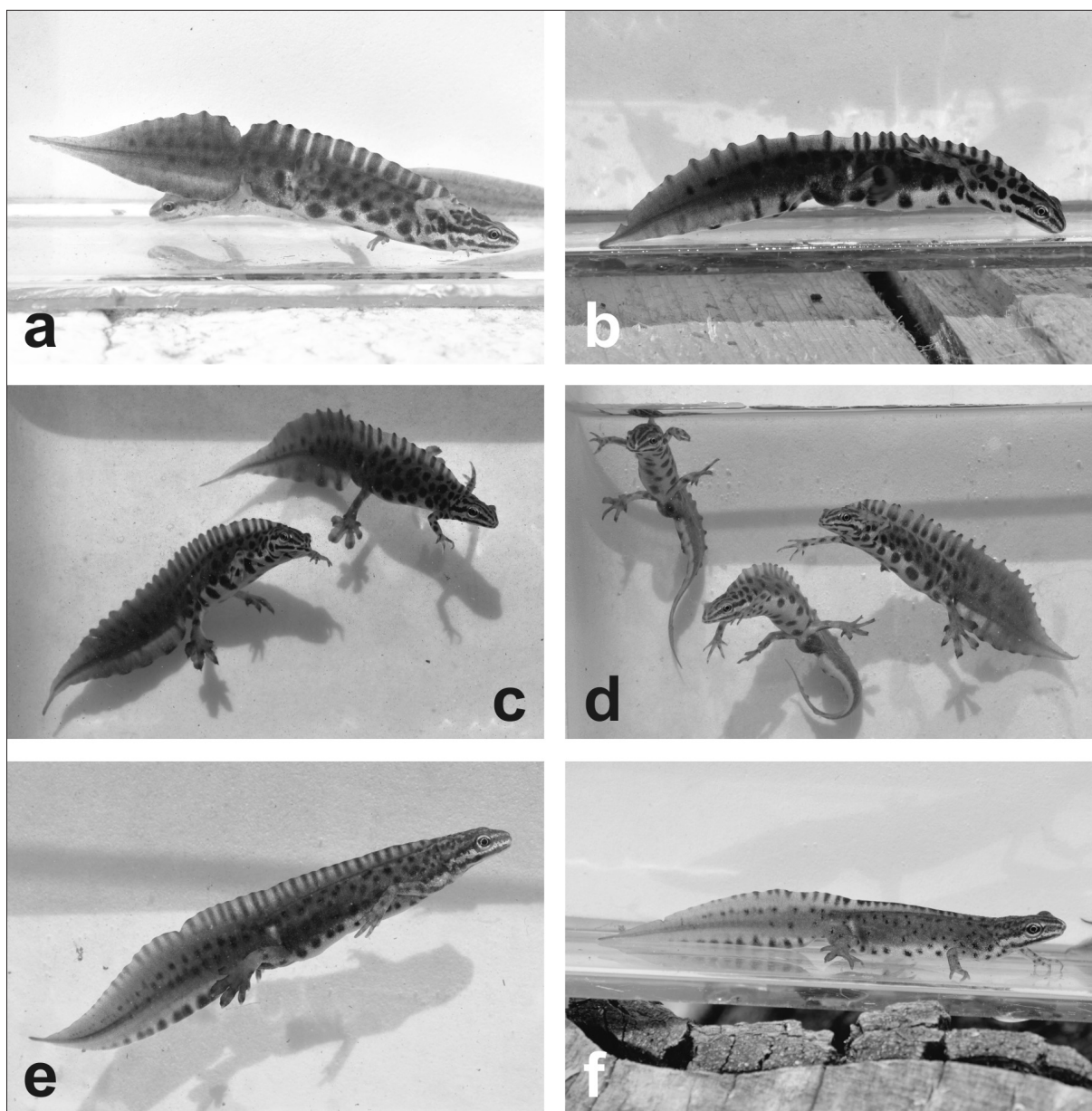


Figure 2. Transylvanian smooth newts from the Şureanu (a-d) and the Călimani Mountains (e-f).
Note the high-crested examples (c-d) from Şureanu Mountains.

2. ábra Erdélyi pettyes göte példányok a Kudzsiri-havasok (a-d) és a Kelemen-havasok (e-f) területéről.
Figyelemreméltóak a magas tarajú Kudzsiri-havasokbeli gőtéek példányai (c-d).