

Determination of newly metamorphosed froglets of the brown frogs *Rana arvalis*, *R. temporaria* and *R. dalmatina*

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Bestimmung frisch metamorphosierter Jungfrösche der Braunfroscharten *Rana arvalis*, *R. temporaria* und *R. dalmatina*

Nach Untersuchungen in Dänemark können frisch metamorphosierte Jungfrösche der drei Braunfroscharten *Rana arvalis*, *R. temporaria* und *R. dalmatina* auf Grund der relativen Länge (aber nicht Höhe) des Fersenhöckers (Callus internus) bestimmt werden. Zusätzlich können Moor- und Grasfrosch durch die Form der Gesichtsmaske hinter dem Trommelfell sowie durch die Mundlänge bestimmt werden. Springfrösche sind durch die Länge der Tibia bestimmbar.

Schlüsselbegriffe: Amphibia, Anura, Ranidae, *Rana arvalis*, *R. temporaria*, *R. dalmatina*, frisch metamorphosierte Jungfrösche, Bestimmung.

Abstract

According to studies in Denmark, newly metamorphosed froglets of the three species of brown frogs *Rana arvalis*, *R. temporaria* and *R. dalmatina* can be determined from the relative length (but not the height) of the callus internus. In addition, *R. arvalis* and *R. temporaria* may be determined by certain features in the shape of the facial mask behind the tympanum, and the length of the mouth. *Rana dalmatina* can be determined by the length of the tibia.

Key words: Amphibia, Anura, Ranidae, *Rana arvalis*, *R. temporaria*, *R. dalmatina*, newly metamorphosed froglets, determination.

Newly metamorphosed specimens of European brown frogs (genus *Rana*) have the same general appearance as the adults, and approximately the same pattern of colouration. However, the diagnostic characters separating the species *Rana arvalis*, *R. temporaria* and *R. dalmatina* at the juvenile stage are not yet fully developed described. Their determination is therefore not always straightforward, and useful diagnostic features seem to be described nowhere in the literature; some authors forgo the determination altogether. BÜCHS (1987) writes (in translation) that »differentiation of unstriped moor frogs from grass frogs in this developmental stage according to the present stage of knowledge (especially in the field) is not unequivocally possible.«

There may be a number of situations where the determination of newly metamorphosed brown frogs is needed, especially in ecological studies. I will therefore here report my experience on their determination.

The present report is mainly based on studies of *R. arvalis* and *R. temporaria* on Sjælland, Denmark, where both species breed abundantly. The study site »Dømmes Mose« is situated just north of Svogerslev west of Roskilde. I studied the migration of froglets away from the breeding site in July 1998 and 1999. On the 12th of July 1998, I inspected