

**Morphologisch-morphometrische und genetische  
Untersuchungen an Wasserfröschen (*Pelophylax* spp.)  
im Müritz-Nationalpark (Mecklenburg-Vorpommern) unter  
besonderer Berücksichtigung des Kleinen Wasserfroschs  
(*Pelophylax lessonae*)**

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**Morphological-morphometric and genetic studies on water frogs  
(*Pelophylax* spp.) in the Müritz National Park (Mecklenburg-Western  
Pomerania) with special consideration of the pool frog (*Pelophylax lessonae*)**

The Müritz National Park (MNP), with its abundance of forests and water bodies, is one of the most important nature reserves in the federal state of Mecklenburg-Western Pomerania (M-V) and in the wider Federal Republic of Germany. The very numerous small water bodies and near-natural, extensively managed terrestrial ecosystems provide ideal conditions for amphibians, including water frogs, about which, however, hardly any data have been published so far. In 2021, the genomic structure of a water frog metapopulation system, inhabiting a structurally rich area of about 650 ha in the southern part of the MNP was investigated as part of the FFH monitoring of the pool frog (*Pelophylax lessonae*) in M-V. Among 247 water frogs, only six (2.4%) were *P. lessonae*; the other individuals were diploid (36%) or polyploid (61%) hybrids (*Pelophylax esculentus*). Among the polyploids, genotypes with two *lessonae* genomes and one *ridibundus* genome (LLR) dominated (94.7%), only seven individuals (4.7%) had two *ridibundus* genomes and one *lessonae* genome (RRL); one animal was probably tetraploid (LLLR). Using univariate and multivariate statistics, based on morphometric data, all *P. lessonae* and triploid RRL genotypes could be correctly determined. Problems arose in distinguishing between *P. lessonae* and individual LLR genotypes, as the latter sometimes exhibited *lessonae*-like phenotypes because of gene dosage effects. Furthermore, an error-free differentiation between diploid (LR) and triploid LLR genotypes based on only morphological and/or morphometric characteristics was not possible, but required genetic methods. The data collected confirm the presence of *P. lessonae* in the MNP, although its origin and population dynamics in the study area remain unclear. Irrespective of this, the MNP bears special importance for the protection of so-called *lessonae-esculentus* populations simply because of its habitat configuration, especially the numerous, semi-natural small water bodies.

**Key words:** Amphibia, *Pelophylax lessonae*, *P. esculentus*, morphology, morphometry, genetics, Müritz National Park, Germany.

**Zusammenfassung**

Der Müritz-Nationalpark (MNP) ist mit seinem Wald- und Gewässerreichtum eines der bedeutendsten Schutzgebiete im Bundesland Mecklenburg-Vorpommern (M-V)