

Extraordinary winter activity  
of the Green Lizard  
*Lacerta viridis* (LAURENTI, 1768)  
in southwestern Slovakia

Seasonal activity of reptiles is principally influenced by climatic fluctuations (ZUG et al. 2001). Hibernation as a behavioral response to seasonal change is most likely a direct response to cold temperatures and secondarily to changes in resource availability (GREGORY 1982). However, the influence of the photoperiod on seasonal acclimation seems to be significant as well (RISMILLER & HELDMAIER 1988).

The Green Lizard *Lacerta viridis* (LAURENTI, 1768) is reported to end the hibernation and to commence the activity at mean air temperatures exceeding 15°C (SAINT-GIRONS & SAINT-GIRONS 1956; HOLEC & KMINIAK 1970), or 18°C (RISMILLER & HELDMAIER 1982). In Central Europe, the activity starts usually in March or April (LÁC 1968; HOLEC & KMINIAK 1970; NETTMANN & RYKENA 1984; KMINIAK 1992).

On 25 January 2007 a freshly dead specimen of *L. viridis* (male, SVL = 88.20 mm) was found in Bratislava, southwestern Slovakia (48°08'59"N/17°04'30"E). The locality is southerly exposed and covered with ruderal vegetation. The morning (7:00) air temperatures in Bratislava during January 2007 reached -5.5 to +12.3°C, the mean daily air temperatures fluctuated between -3.1 to +12.4°C. However, during the first and second January decade the mean daily air temperatures did not drop under 0°C and prevailing sunny weather provided suitable conditions for basking (*Podarcis muralis*, *Salamandra salamandra* and *Rana temporaria* were also observed to be active during this warm period). The Green Lizard specimen was presumably not able to find a refuge and thus died due to freezing during a short period of a rapid temperature decrease that occurred in the third January decade.

According to RISMILLER & HELDMAIER (1982, 1988), the activity of *L. viridis* is more dependent on the photoperiod than on the temperature of the environment. Under semi-natural conditions, the specimens persisted in the state of dormancy during the whole short photophase period (January,

February), regardless of high temperatures available. The lizards did not commence their activity until a longer photophase period occurred in March (RISMILLER & HELDMAIER 1988). In contrary to this, we recorded that the abovementioned specimen, despite of a short photophase, started to activate in the first or second January decade, when the mean daily air temperatures often exceeded 8-10°C. We assume that the activity was triggered by high temperature.

ACKNOWLEDGMENTS: We would like to thank the Slovak Hydrometeorological Institute (Bratislava) for the meteorological data.

REFERENCES: GREGORY, P. T. (1982): Reptilian hibernation; pp. 53-154. In: GANS, C. & POUGH, F. H. (Eds.): Biology of the reptilia. Volume 13, Physiology D, Physiological ecology. Academic Press; New York. HOLEC, P. & KMINIAK, M. (1970): Zur Ökologie der Art *Lacerta viridis viridis* (LAUR., 1768) auf dem Gebiet der Devínska Kobyla (bei Bratislava). - Biológia, Bratislava; 25 (11): 805-810. KMINIAK, M. (1992): *Lacerta viridis* (LAURENTI, 1768) - Ješterka zelená; pp. 87-92. In: BARUŠ V. & OLIVA, O. (Eds.): Fauna ČSFR 26. Plazy - Reptilia. Academia; Praha. LÁC, J. (1968): Jašterica zelená - *Lacerta viridis* (LAURENTUS, 1768); pp. 332-335. In: OLIVA O. & HRABÉ S. & LÁC J. (eds.): Stavovce Slovenska I. Ryby, obojživelníky a plazy. Vyd. SAV; Bratislava. NETTMANN, H.-K. & RYKENA, S. (1984): *Lacerta viridis* (LAURENTI, 1768) - Smaragdeidechse; pp. 129-180. In: BÖHME, W. (ed.): Handbuch der Reptilien und Amphibien Europas; Vol. 2/1, Echsen (Sauria) II. Aula-Verlag; Wiesbaden. RISMILLER, P. D. & HELDMAIER, G. (1982): The effect of photoperiod on temperature selection in the European green lizard, *Lacerta viridis*. - Oecologia, Berlin; 53: 222-226. RISMILLER, P. D. & HELDMAIER, G. (1988): How photoperiod influences body temperature selection in *Lacerta viridis*. - Oecologia, Berlin; 75: 125-131. SAINT-GIRONS, H. & SAINT-GIRONS, M. C. (1956): Cycle d'activité et thermorégulation chez les reptiles (lézards et serpents). - Vie et Milieu, Paris; 7: 133-226. ZUG, G. R. & VITT, L. J. & CALDWELL, J. P. (2001): Herpetology. 2nd Edition. San Diego (Academic Press), 630 pp.

KEY WORDS: Reptilia: Squamata: Sauria: Lacertidae: *Lacerta viridis*, seasonal activity, winter activity, hibernation, overwintering, activity, physiology

SUBMITTED: June 28, 2007

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Artikel/Article: [Extraordinary winter activity of the Green Lizard \*Lacerta viridis\* \(Laurenti, 1768\) in southwestern Slovakia 173](#)