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NOTES ON THE WALL-LIZARD, *LACERTA MURALIS* (Laurenti) 1768, IN THE NETHERLANDS

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Just over the southern most border of the Netherlands the Wall-Lizard reaches its most northern point of distribution. Formerly this species could be found in many places in the southern part of the province of Limburg. In older publications (Schlegel 1862, Willemse 1917) even Nijmegen is mentioned, a town 135 kilometers north of the present points of occurrence. Nowadays the only localities in the Netherlands where the animals still live are three small places in the neighbourhood of the town Maastricht. And even in these places the animals are rather rare. The biotopes are old walls of limestone with holes and crevices in which the lizards can hide and hibernate. All walls are facing south or south-eastwards.

Ecologically the region in which the town Maastricht is situated differs in many respects from the rest of the Netherlands (Mörzner Bruyns & Westhof 1951). For instance, it is the warmest part of the country. Air temperature for January: mean daily maximum for the whole country in degrees Centigrade 1.0, Maastricht 5.0; mean daily air temperature for July, whole country 16.5, Maastricht region 23.0. In many aspects this part is more or less related to Central-Europe, the centre of distribution of the Wall-Lizard.

The finding-places in the Netherlands are connected with the region in Belgium where *Lacerta muralis* lives. This is on cretaceous and jurassic hills, roughly in the triangle Maastricht-Aachen-Namur (de Witte 1942). There also is a population of Wall-Lizards in West-Germany, especially along the middle part of the river Rhine and its tributary rivers the Neckar and the Nahe (Mertens 1947). It is not known whether the Belgium-Netherlands population and the West-German one are in contact and whether these two populations are in contact with the Central-European one.

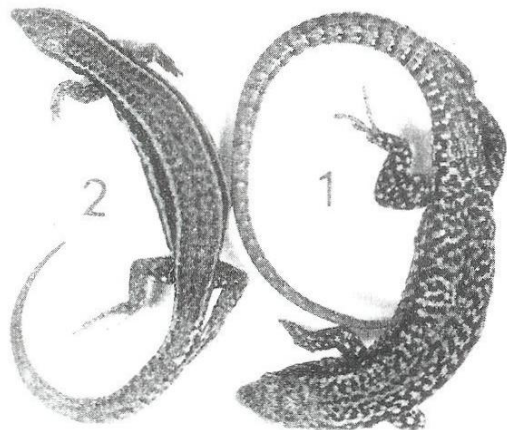
In view of the possibility that the Netherlands Wall-Lizards may die out (f.i., through loss of biotopes by repair of the walls with

concrete), it is useful to give a short description of these animals regardless of the success of the efforts by organisations for nature-protection to preserve at least one of the biotopes.

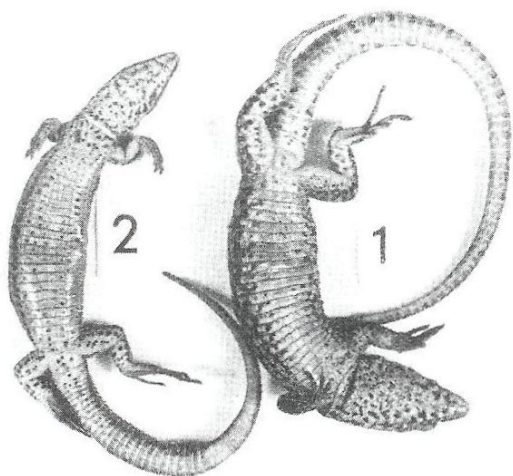
For this short study all the native specimens in the collections of the zoological museums in the Netherlands have been used. That is 14 animals (2 lots, No 9604 & 9315) of the Rijksmuseum van Natuurlijke Historie (State Museum of Natural History) at Leiden, 3 animals (one doubtful) of the Zoological Museum in Amsterdam and one specimen from the Museum of Natural History at Maastricht. Apart from the preserved animals, one living male *Lacerta muralis* was caught to be used for making notes on the colouration. Besides I received on loan 10 animals (Edenkoben, Pfalz; West-Germany) from the Senckenberg Museum at Frankfurt a. M. for comparison (No 43564-73). I am very grateful to the directors of the aforementioned museums for their help and their permission to study the animals from their collections.

For the general description of the animals I may refer to Boulenger (1912) and Angel (1946). *Lacerta muralis* from the Netherlands differs from the same species in Central France mainly in the measurements and number of scales and plates, and slightly in the markings and colouration. The measurements were taken directly with callipers to millimeters, except in cases where the tail was strongly twisted. Then a wet thread was laid on the tail and the length of the thread was measured afterwards. Fixed points for measurements were the tip of the snout, the edge of the median collar plate, the anterior rim of the cloaca and the end of the tail. Breadth and depth of the head were measured on the head itself, not on the somewhat bigger neck. The length of the hindleg was measured from the tip of the longest digit to the posterior implantation of the extended leg. Measurements are given of 8 fullgrown specimens and 2 juveniles, viz. table I. The animal from the Museum at Maastricht had a forked tail.

Gular scales stands for the scales and granules that were counted in a straight line between symphysis of the chin-shields and median collar plate. Ventral plates were counted on the central two rows from the first



Phot. 1. Upperside of male (1) and female (2) of *Lacerta muralis* from the Netherlands. Collection Rijksmuseum van Nat. Historie, Leiden: Nr 9604-A & 9604-B.



Phot. 2. Underside of the same lizards as on photograph nr 1.

ventral plates near the preanal scales till the point at the shoulder where they deviate from each other. By labials is meant the upper labials anterior of the subocular; by body scales the scales across the middle of the body. For results of the counts see table II. Both in males and females 3 or 4 scales across the middle of the body correspond in length to one ventral plate next to them. Both sexes had a collar without any trace of serration.

A distinct difference between males and females is to be noted in the distance between snout and collar, breadth and depth of the head, relative length of the hindleg, number of ventral plates. Sexual dimorphism is very clearly demonstrated in the markings on the body. All males from the Netherlands are entirely marbled or reticulate; in fullgrown specimens the markings form wavy transverse bands; see photograph 1. The juveniles and the females are striated. Only males have blue ocular spots on the sides. Males seem to keep the juvenile relations between the different lengths, females the juvenile markings. For the markings see photographs.

From the living male specimen the following colour notes could be made. Upper side of head fuscous brown with very small black dots. Upper side of the body black markings on a background of fuscous brown, shading to cinnamon. Tail same colours as on the body. Underside of head, body and tail markedly brownish red with some black dots. Subocular plates cream with a tinge of green. Side of the neck cinnamon stripes with a greenish hue. On the most lateral ventral plates torquoise ocular spots. It is a pity that only one animal could be used, but in view of the size of the population I did not feel justified in using more lizards for this purpose.

Compared with specimens of the same species from Central France for example, we can say that the animals from the Netherlands are rather short and broad. This can be observed from the length of the tail, the distance from the tip of the snout to the cloaca and the length of the hind leg. Compared with animals from Edenkoben (Pfalz, West-Germany) the differences are less marked, this was however to be expected.

At this moment, I think that, whatever the differences, there is still no reason to give

	Leiden Mus. Nr 9604-A	Leiden Mus. Nr 9604-C	Leiden Mus. Nr 9604-D	Maastricht Museum	Leiden Mus. Nr 9604-B	Leiden Mus. Nr 9604-E	Leiden Mus. Nr 9604-F	Leiden Mus. Nr 9604-G	Leiden Mus. Nr 9604-H	Leiden Mus. Nr 9604-I
Sex	♂	♂	♂	♂	♀	♀	♀	♀	juv.	juv.
Distance snout-cloaca	64.6	61.5	59.5	56.6	58.4	64.2	58.5	65.1	34.0	35.3
Distance snout-collar	21.3 (33.0)	21.6 (35.1)	20.5 (34.5)	20.2 (35.7)	17.9 (30.7)	18.7 (29.1)	18.0 (30.8)	18.7 (28.7)	13.0 (38.2)	13.0 (36.8)
Length tail	103.2 (159.8)	101.0 (164.2)	*	*	67.0 (114.7)	*	65.0 (111.1)	*	63.6 (187.1)	55.5 (157.2)
Total length	167.8 (259.8)	162.5 (264.2)	*	*	125.4 (214.7)	*	123.5 (211.1)	*	97.6 (287.1)	90.8 (257.2)
Breadth of head	11.0 (17.0)	10.0 (16.2)	10.0 (16.8)	9.5 (16.8)	8.1 (13.9)	8.5 (13.2)	8.4 (14.4)	9.0 (13.8)	5.8 (17.1)	6.0 (17.0)
Depth of head	8.6 (13.3)	7.6 (12.4)	7.7 (12.9)	8.3 (14.7)	(12.7) 7.4	7.6 (11.8)	7.0 (12.0)	6.0 (9.2)	4.4 (12.9)	4.4 (12.5)
Length hindleg	31.0 (48.0)	30.2 (49.1)	28.4 (47.7)		22.7 (38.9)	20.5 (31.9)	20.5 (35.0)	24.7 (37.9)	16.5 (48.5)	17.5 (49.6)
Body length	43.3	39.9	39.0	36.4	35.4	45.5	40.5	46.4	21.0	22.3
Body length/hindleg	1.4	1.32	1.37		1.56	2.22	2.0	1.88	1.27	1.26

TABLE I. Lengths and dimensions in millimeters of *Lacerta muralis* from the Netherlands. * Tail damaged, broken off or regenerated. The numbers between brackets are percentages of the distance snout-cloaca.

	Leiden Mus. Nr 9604-A	Leiden Mus. Nr 9604-C	Leiden Mus. Nr 9604-D	Maastricht Museum	Leiden Mus. Nr 9604-B	Leiden Mus. Nr 9604-E	Leiden Mus. Nr 9604-F	Leiden Mus. Nr 9604-G	Leiden Mus. Nr 9604-H	Leiden Mus. Nr 9604-I
Sex	♂	♂	♂	♂	♂	♂	♂	♂	juv.	juv.
Ventral plates	21	22	22	22	25	24	25	24	19	20
Labials	4+4	4+4	4+4	4+4	4+4	4+4	4+4	4+4	4+4	4+4
Body scales	55	53	57	—	61	55	48	57	—	—
Femoral pores	18	19	20	22	19	18	19	18	20	20
Collar plates	8	8	8	7	8	9	9	9	8	8
Gular scales	27	27	26	—	29	26	25	27	—	—

TABLE II. Number of scales, plates and femoral pores of *Lacerta muralis* from the Netherlands.

animals belonging to the Netherlands population a distinct systematic position. Moreover in view of the possibility that a gradual transition exists between the type of animals found in the Netherlands and that found in France. I sincerely hope that everything will be done to preserve this interesting species for the fauna of the Netherlands.

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