

CONTRIBUTIONS TO THE KNOWLEDGE OF *LACERTA*  
*MURALIS* LAUR. VAR. *BOCAGEI* SEOANE.

By Baron G. J. DE FEJÉRVÁRY.

(Plates I—III.)

It is to the kindness of Mr. J. DE BETHENCOURT-FERREIRA at the Bocage-Museum of Lisbon, that I owe the ten specimens of a *muralis*-like lizard which I determined as *Lacerta muralis* LAUR. var. *Bocagei* SEOANE. However, to remove any possible doubt regarding the exactitude of my determination I sent the specimens to Mr. G. A. BOULENGER in London, who, after having kindly undertaken their examination, agrees to my conclusions on the subject.

Not knowing of the existence of any detailed description of this form, it may not be superfluous to publish one of its external morphological markings as well as of the skull.

In my description I follow the rules of the excellent system introduced by the eminent herpetologist, Prof. Dr. L. DE MÉHELY, in his recent work (9).<sup>1</sup>

As I do not wish to enter into any detailed systematic or phylogenetic considerations, I maintain provisionally the form's denomination employed by Don V. L. SEOANE (13, p. 18—19.) and BOULENGER (4, p. 361 and 415.), i. e.: *Lacerta muralis* LAUR. var. *Bocagei* SEOANE, not emitting any definitive opinion as to its systematical justness.

I cannot omit expressing my very sincerest thanks to Prof. Dr. J. DE BETHENCOURT-FERREIRA at Lisbon, for the most obliging donation of the material, as well as to Mr. G. A. BOULENGER in London, for his extreme amiability in examining the specimens in question and directing my attention to certain interesting characters. I am also very much indebted to Prof. Dr. MÉHELY, who with great cordiality put at my disposal the material received from Prof. Dr. SCHREIBER.

\*

<sup>1</sup> The numbers refer to those given in the bibliographical index at the end of this treatise.

*Lacerta muralis* LAUR. var. *Bocagei* SEOANE.

*Podarcis muralis* LAUR., SEOANE, 12, p. 352. (1877).

*Lacerta muralis* LAUR. var. *Bocagei*, SEOANE, 13, p. 18–19. (1884.) — BEDRIAGA, 1, p. 255–256. (1886.) — BOULENGER, 2, p. 29. (1887) and 3, p. 361–363 and 415–418, Pl. XXIV, fig. 6–8, Pl. XXV, fig. 10. (1905). — SCHREIBER, 11, p. 412, 424–425, 428 (1912).

*Lacerta muralis* LAUR., BOULENGER, 3, p. 75–77, Pl. II, fig. 2. (1905).

*Lacerta muralis* var. *bocagei*, BOULENGER, 5, p. 144–145, Pl. XVI, fig. 11–13. (1913.)

## MATERIAL EXAMINED.

(Fifteen specimens.)

1. A younger adult, and three adult ♂♂ from Lisbon. (Coll. FEJÉRVÁRY, No. 202.)

2. A semiadult (almost adult), and two adult ♀♀ from Lisbon. (Coll. FEJÉRVÁRY, No. 202.)

3. Three adult ♂♂ from Alcochêta (Portugal). (Coll. FEJÉRVÁRY, No. 203.)

4. Two senil ♂♂ (the one decapitated), a semiad. ♂, a senil and an adult ♀ from La Coruña (Spain), collected by Don V. L. SEOANE. (Hungarian National Museum.)

## FORM AND PROPORTIONS.

Proportions resembling those of *Lacerta muralis* LAUR.<sup>1</sup>

Head moderately large, 1·5–1·7-times<sup>2</sup> as long as broad; upper surface of head tolerably flattened, temporal region in old ♂ rather swollen; the height in the middle of temporal region<sup>3</sup> varies between the distance from the anterior corner<sup>4</sup> of the eye to the middle of the frenal up to the middle of the nasofrenal shield; its length is contained 3·6–4 times in the ♂, and 4·2–4·5 (4·7 in the semiad.) times in the ♀ in the length of body (head + trunk). Snout moderately long, and moderately slender, with a slightly

<sup>1</sup> I do not see Prof. SCHREIBER's reason for saying «Die Grösse des erwachsenen Tieres beträgt etwa 16 cm, *Bocagei* ist also unter den *muralis*-Varietäten die kleinste Form. (11, p. 425.) Taking also BOULENGER's observations into consideration we may state that the adult and old specimens measur about 53–65 mm from snout to vent; but the specimens of *Lac. muralis* LAUR. present also about the same dimensions (see BOULENGER, 4, p. 356, and FEJÉRVÁRY, 6, p. 43), and only some southern forms, as for instance *Brueggemanni* BEDR. and *nigriventris* BP., are generally of larger size than the average of the *Bocagei*.

<sup>2</sup> The proportions are counted always until 1 decimal.

<sup>3</sup> Measured on an imaginary line drawn in the middle of temporal region, from the under border of the respective sublabial to the outer border of the parietal.

<sup>4</sup> From the point where the upper and lower eyelid join.

convex upper profile, as long as, or a little shorter than, the distance between the posterior corner of eye and the middle or the hind border of the tympanum. N o s t r i l slightly oval, limited by the supranasale, the nasofrenale and the 1-st supralabiale. Split of m o u t h very slightly S-shaped. N e c k moderately broad, even in old ♂♂ not broader than the head measured in the middle of the temporal region. B o d y moderately depressed; in the ♂ robuster, and perhaps owing to this, a little less depressed than in the ♀.<sup>1</sup> T a i l tolerably strong, diminishing in its last third in a whip-like manner, and in both sexes shorter than the double length of body (head + trunk).<sup>2</sup> F o u r t h f i n g e r o n p o s t e r i o r e x t r e m i t y o f ♂ reaches, or extends more or less beyond the axil, that of the ♀ reaching the elbow of the adpressed fore limb.

### SCALING.<sup>3</sup>

(See Plate I.)

R o s t r a l shield does not touch the nostril in any of examined specimens, remaining separated from it by the under part of supranasal; rostral and internasal are widely separated. F r o n t a l in both sexes same length as, slightly shorter, somewhat or visibly longer than the distance between anterior corner of frontal and the tip of snout. The shape of the frontal's anterior borders is variable; sometimes presenting a convex arch turned towards the tip of snout, and at others remaining straight on both sides. We meet however with individuals in which those borders represent two arches, each of which are concave towards their middle point; but transitory formations can also be found in which the character of these lines cannot be clearly established. I nevertheless noticed that in the specimens in which these anterior borders take the form of concave arches, the lines may be observed on both sides in the region of the anterior corner of the frontal shield following a more or less visible convex direction, and adopting thus a shape somewhat resembling a Bourbon-lily.<sup>4</sup> Frontal and I.

<sup>1</sup> This character could not be fully examined the specimens having been defigured by the slit made in their stomach.

<sup>2</sup> The tails are almost all reproduced, and so this character has not been observable in an accurate manner.

<sup>3</sup> For precise details regarding the slight modifications or aberrations (split scales, intercalary scales) in each specimen see the «Tabellaric survey of the main characters of pholidosis in each specimen».

<sup>4</sup> There is an interesting phenomenon to be noticed on the semiad. ♀ from Lisbon: the anterior corner of frontal and the posterior one of internasal are not widely separated by the supranasalia suture, but these four shields meet all in one point. (Pl. I. fig. 4.)

| Measurements in mm.   | L i s b o n       |          |          |          |          |          |          | Alcochête |          |          | La Coruña (Spain) |           |                   |           |          |       |
|---|-------------------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|-------------------|-----------|-------------------|-----------|----------|-------|
|   | se-<br>miad.<br>♀ | ad.<br>♀ | ad.<br>♀ | ad.<br>♂ | ad.<br>♂ | ad.<br>♂ | ad.<br>♂ | ad.<br>♂  | ad.<br>♂ | ad.<br>♂ | sen.<br>♂         | sen.<br>♂ | so-<br>miad.<br>♂ | sen.<br>♀ | ad.<br>♀ |       |
| Total length  | 126·9             | 146·5    | 91       |          |          |          | 158·3    | 143·4     | 138·7    | —        | 160·8             | 162·9     | —                 | 127·1     | 161      | 149·7 |
| Length of head <sup>1</sup>   | 10·5              | 12·9     | 13·5     | 12·4     | 14·1     | 14·6     | 14·8     | 14        | 14·6     | 15       | 15·6              | —         | 11·5              | 14·4      | 13       |       |
| Width of head <sup>2</sup>  | 6·5               | 7·9      | 7·9      | 7·5      | 8·5      | 8·9      | 8·9      | 8·6       | 8·9      | 9·5      | 9·9               | —         | 7                 | 8·5       | 8        |       |
| From snout to vent <sup>3</sup>   | 48·4              | 58·5     | 59·5     | 47·1     | 53       | 56       | 58·4     | 51·7      | 53       | 56·5     | 62·6              | —         | 43                | 60·6      | 56·1     |       |
| Tail (*reproduced) <sup>4</sup>   | 78·5              | 88*      | 31·5*    | —        | —        | 102·3*   | 85*      | 87*       | —        | 104·3    | 100·3*            | 107·5*    | 81·1*             | 100·4*    | 93·6*    |       |
| Fore limb   | 14·5              | 17·2     | 17·7     | 16·6     | 18·9     | 19·9     | 19·1     | 18        | 20       | 20·9     | 20·3              | 22·4      | 15·1              | 18·9      | 18       |       |
| Hind limb   | 23·3              | 25·5     | 28       | 26·5     | 28·7     | 30       | 29·5     | 26·6      | 31·4     | 32       | 31·7              | 34·2      | 23·4              | 30·7      | 27·1     |       |
| Foot <sup>5</sup>   | 12                | 12·5     | 13·1     | 12·6     | 15·1     | 15·5     | 13·8     | 14·5      | 16       | 16       | 14                | 16·4      | 11·1              | 14·8      | 13·2     |       |
| Designation of each specimen, corresponding to that on the table containing the main characters of scaling. | α                 | β        | γ        | δ        | ε        | ζ        | η        | ς         | ι        | κ        | λ                 | μ         | ν                 | ξ         | ο        |       |

<sup>1</sup> Measured at the side, from tip of snout to posterior border of tympanum.

<sup>2</sup> Greatest width in temporal region.

<sup>3</sup> From tip of snout to posterior border of anale.

<sup>4</sup> From posterior border of anale.

<sup>5</sup> From inner side of joint between tibia and tarsus to end of 4-th finger.

supraocular always broadly separated. Series of granules between supraocularia and supraciliaria in part of examined material complete, in the other part incomplete or interrupted, containing 9—18 granules. 4—7 supraciliaria; the first being always the largest; the second longer than broad; the others sometimes broader than long, or longer than broad, varying without system in one and the same row. Parietal large, strongly developed; in the ♂ always longer than the distance between the anterior corner of frontale and the tip of snout; in the ♀ this length measured from the frontale's anterior corner reaches, or exceeds as in ♂♂, the tip of snout; its outer border generally convex (Pl. I. fig. 2.) or straight, rarely very slightly concave (Pl. I. fig. 1.) at the beginning; in the first case its outer border corresponds approximately to that of the outer post frontal bone,<sup>1</sup> whilst in the second case the parietal's outer edge more or less adapts itself to the suture existing between the inner and outer post frontal bone.<sup>2</sup> The parietal is generally more or less extensively connected on both sides with the 1-st postocular. Occipital and interparietal vary in size and shape; interparietal longer than occipital, the length of which equals or generally exceeds, the distance between its anterior border and the foramen interparietale,<sup>3</sup> whilst occipital at its base is always broader than the interparietal (measured at its broadest place).<sup>4</sup>

A single nasofrenale rests on the supralabiale I.; its lower posterior corner reaches, nearly reaches or slightly extends beyond, the hind border of the I. supralabiale. (In an adult ♀ specimen I observed a small intercalary shield, on both sides, bordered by the nasofrenale, frenale, supranasale, internasale and the frontanasale). Frenal inclining slightly forwards; generally higher than long; not in contact with the supranasal. Frenoculare the largest of loreal shields; measured in its middle-line in both sexes its length equal to, perceptibly longer<sup>5</sup> or somewhat shorter than the distance between its anterior border in the middle-line and the lower anterior corner (or the anterior border) of nasofrenal. A well developed

<sup>1</sup> According to MÉHELY this can be regarded in general as characteristic for the *Neolacertae*.

<sup>2</sup> According to MÉHELY this formation can generally be observed in the *Archaeolacertae*.

<sup>3</sup> A ♀ from Lisbon excepted in which the length of the occipital exceeds that of the interparietal.

<sup>4</sup> Except the semiad. ♂ from Coruña in which occipital is as long as interparietal and the latter broader than the occipital.

<sup>5</sup> Its length may attain or very slightly exceed the distance between its anterior border and the upper lateral corner of rostral.

praecocular (the more or less accentuated shields forming the continuation of those on the under border of lower eyelid are not taken into consideration). Before the subocular generally four (rarely 3) supralabials; behind the subocular generally 3, (rarely 2 or 4) supralabials. Temporal region covered by small, tolerably equal-sized, polygonal, slightly convex shields, the smallest of which form the series round the well developed<sup>1</sup> masseteric shield, latter sometimes split in two or more parts, yet present in all individuals examined; it is separated by 1—3 rows<sup>2</sup> of temporal shields from the supratemporalia, rarely meeting with them directly in a suture of varying length; in the examined specimens the massetericum is separated by 2—5 scale-rows from the tympanale, by 1—4 rows from the supralabialia and by 2—4 rows from the postocularia. Five to eight supratemporal shields; first supratemporal<sup>3</sup> longest, or at least generally broadest (highest) amongst other supratemporalia; these greatly vary in size, even on right and left side of the same specimen; they sometimes diminish in size towards the back or appear tolerably equal sized or again alternate in circumference; the first one's length generally exceeding its height. Tympanale usually strongly developed, at times split yet present in all specimens. (Pl. I. fig. 3.)

54—68 scales across middle of trunk.<sup>4</sup> Scales of trunk (Pl. I. fig. 5.) smooth, or but very faintly keeled at the top,<sup>5</sup> (Coruña specimens) rather small sized, moderately convex, generally rather rounded (slightly rhomboidal in several places of trunk), sometimes oval (in several places of trunk slightly elongate-hexagonal); in both sexes these scales increase in size towards the flanks, flattening and acquiring a more rhomboidal shape. Three to four rows of flank-scales correspond to the outer margin of one ventral. Scales on upper surface of tail more-or less distinctly keeled; their hind border very variable in shape; widely rounded, somewhat pointed and nearly straight, or more or less distinctly pointed. No median row of larger scales; larger ones are however here and there present on the median line of the tail, but these do not form a continual row, and cannot be compared to the well developed median scale rows on the tail of the

<sup>1</sup> Excepting the Lisbon semiad. ♀ and the Coruña ad. ♀ which present very weakly developed masseteric shields.

<sup>2</sup> Counted always in a straight line, and if configuration of scale-rows is not equal in respect to number, the smaller one is taken.

<sup>3</sup> All shields, large and smaller, bordering the parietal until its hind border are reckoned as supratemporalia.

<sup>4</sup> The supplementary rows of ventralia are here included, ventralia not reckoned.

<sup>5</sup> Pl. I. fig. 5b. — According to BOULENGER (4, p. 362.) the dorsal scales are sometimes distinctly keeled.

*Archaeolacertae* MÉH. They are ranged in more or less equal whirls. Traces of apical pits, placed one by one at the end of the caudal scales may be found in most specimens. These traces of apical pits are more or less well developed, sometimes but very feebly and hardly discernible. As regards their disposition we may note that they are generally found only on a part, — sometimes on the larger one, — of the caudal scales; sometimes again we find very few such caudal scales or scale groups which present marks of an apical pit. In some cases however we find these pits present on almost each scale. They may also be noticed on regenerated tails. I must here observe that these (concave) apical pits, — compared to the (projecting) apical knobs described and figured by MÉHELY (9) in some *Archaeolacertae*, as for instance in *Lac. graeca* BEDR. — are very faintly marked, as if mere traces of those to be seen in the former. (Pl. I. fig. 6—7.) Scales on upper surface of tibia not very much smaller than those of back, sometimes equal to them; 6—8 dorsal scales<sup>1</sup> corresponding to 8 tibian; more or less, yet keeled at their top.

Gular scales in the median line between 23 and 32 in number. Sulcus gularis well marked. Collar presenting a straight border, formed by 10—14 scales, which are somewhat broader than deep, sometimes nearly as deep as broad. Ventrals generally in 6 rows;<sup>2</sup> 26—29 in length (to axis of body) on the ♂, 28—33 in the ♀. The supplementary row of ventralia («Oberschildchen», MÉHELY) vary very much in size; formula: 1+1, 1+2, or 1+1+1.<sup>3</sup> Anal large, 1·3—1·8-times as long as broad, bordered by two<sup>4</sup> arch-like rows of shields, from which the inner and larger one contains 5—8 shields, whilst the outer and smaller one is composed by 11—19 shields. The inner one of these two arch-like rows contains at the middle generally 2 preanals, which are considerably smaller than the anal. (Pl. I. fig. 8.) On hind border of anal no scales. On lower surface of thighs (Pl. I. fig. 9.), between the row of larger plates and the femoral pores 4—6 shield-rows. Femoral pores 13—20 in number. Formula of tibial plates: 1+1+1, sometimes 1+1+1+1; it is very characteristic that the third shields in the first and second row are always melt with each other forming a single large plate. (Pl. I.  $\alpha_1$  on fig. 9.)

<sup>1</sup> Dorsal scales measured in middle of trunk, those only counted, which are entirely comprised in mentioned space.

<sup>2</sup> In a ♂ from Lisbon the supplementary rows of ventral plates are so strongly developed as to form two series more of ventral plates, the number of the latter thus amounting to 8.

<sup>3</sup> In the ♂ specimen before mentioned, presenting 8 rows of ventralia, they fail.

<sup>4</sup> See footnote <sup>3</sup> on p. 202.

Tabellaric survey of the main characters of pholi-

| Origin                               | L i s -                   |                                |                           |   |   |  |
|--------------------------------------|---------------------------|--------------------------------|---------------------------|---|---|--|
|                                      | semiad.<br>♀              | ad.<br>♀                       | ad.<br>♀                  | ad.<br>♂  | ad.<br>♂                                  | ad.<br>♂                                     |
| Hight of head <sup>1</sup>           | anterior third of frenal  | anterior third of frenal       | middle of frenal          | nearly anterior border of frenal                | somewhat behind anterior border of frenal | slightly exceeding hind border of nasofrenal |
| Length of snout <sup>2</sup>         | about middle of tympanum  | nearly hind border of tympanum | hind border of tympanum   | somewhat longer as middle of tympanum           | middle of tympanum                        | middle of tympanum                           |
| Length of head                       | 10·5                      | 12·9                           | 13·5                      | 12·4  | 14·1                                      | 14·6   |
| Width of head                        | 6·5                       | 7·9                            | 7·9                       | 7·5   | 8·5                                       | 8·9  |
| Rostral in contact with nostril ?    | no                        | no                             | no                        | no  | no  | no   |
| Rostral in contact with internasal ? | no                        | no                             | no                        | no  | no  | no   |
| Length of frontale <sup>5</sup>      | visibly longer            | anterior corner of rostral     | as long as                | somewhat longer than anterior corner of rostral | hardly tip of snout                       | anterior corner of rostral                   |
| Supraciliarian granules <sup>6</sup> | 12-12 (compl.)            | 11 (interr.) -11 (compl.)      | 10-11 (inc. and interr.)  | 15-14 (interr.)                                 | 13 (interr.) -10 (inc.)                   | 9-9 (inc.)                                   |
| Length of parietal <sup>7</sup>      | visibly longer            | reaching tip of snout          | visibly longer            | visibly longer                                  | visibly longer                            | visibly longer                               |
| Parietal and postocular in contact ? | yes                       | yes                            | no <sup>8</sup>           | yes   | yes                                       | yes  |
| Supranasal and frenal in contact ?   | no                        | no <sup>10</sup>               | no                        | no  | no  | no   |
| Length of frenooculare <sup>11</sup> | anterior border of frenal | anterior border of frenal      | lateral corner of rostral | lower hind corner of supranasal                 | middle of nasofrenal                      | lower hind corner of supranasal              |
|                                      | α                         | β                              | γ                         | δ   | ε   | ζ  |

<sup>1</sup> In middle of temporal region, from outer border of parietal to lower border of supra-labials; comparing it to the distance between anterior corner of eyelid and the frenal's region.

<sup>2</sup> From anterior corner of eyelid, compared to the distance between posterior corner of eyelid and the tympanum's region.

<sup>3</sup> On the left side a little «subnasal» on edge of nostril, situated on the lateral corner of rostral.

<sup>4</sup> A small intercalary shield between the rostral and internasal and the two supranasals.

<sup>5</sup> Comparing it to the distance between anterior corner of frontal and tip of snout.

<sup>6</sup> The first number representing the right, the second the left side granules; the designations «compl.» (=complete), «inc.» (=incomplete), and «interr.» (=interrupted) in parenthesis after each number indicate the mode of succession of granules on the respective side; placed after

dosis in each specimen. (Prof. MÉHELY's system.)

| bon   | Alcochête                                       |                |                                     | La Coruña   |           |                           |                           |                            |
|---|---|----------------|-------------------------------------|---|-----------|---------------------------|---------------------------|----------------------------|
|   | ad.<br>♂  | ad.<br>♂       | ad.<br>♂                            | sen.<br>♂   | sen.<br>♂ | semiad.<br>♂              | sen.<br>♀                 | ad.<br>♀                   |
| first fourth of frenal                        | exceeding middle of frenal                      | —              | anterior border of frenal           | somewhat beyond hind border of nasofrenal           | —         | hind border of nasofrenal | hind border of nasofrenal | middle of nasofrenal       |
| middle of tympanum                            | middle of tympanum                              | —              | middle of tympanum                  | hind border of tympanum                             | —         | hind border of tympanum   | hind border of tympanum   | hind border of tympanum    |
| 14·8  | 14  | 14·6           | 15                                  | 15·6  | —         | 11·5                      | 14·4                      | 13                         |
| 8·9   | 8·6   | 8·9            | 9·5                                 | 9·9   | —         | 7                         | 8·5                       | 8                          |
| no  | no  | —              | no                                  | no <sup>3</sup>                                     | —         | no                        | no                        | no                         |
| no  | no  | —              | no                                  | no  | —         | no                        | no <sup>4</sup>           | no                         |
| somewhat exceeding anterior corner of rostral | somewhat longer than anterior corner of rostral | —              | hardly tip of snout                 | as long as  | —         | somewhat longer           | somewhat shorter          | visibly longer             |
| 14—14 (interr.)                               | 14—17 (compl.)                                  | 15—16 (compl.) | 18 15 (compl.)                      | 14 (interr.) — ?                                    | —         | 11—12 (interr.)           | 11 (interr.) — 11 (inc.)  | 10 (interr.) — 11 (compl.) |
| visibly longer                                | visibly longer                                  | —              | visibly longer                      | visibly longer                                      | —         | visibly longer            | slightly longer           | visibly longer             |
| yes   | no  | —              | on left side not                    | yes   | —         | yes <sup>9</sup>          | yes                       | yes                        |
| no  | no  | —              | no                                  | no  | —         | no                        | no                        | no                         |
| lower hind corner of supranasal               | lower hind corner of supranasal                 | —              | lower anterior corner of nasofrenal | extending somewhat beyond lateral corner of rostral | —         | anterior border of frenal | anterior border of frenal | anterior border of frenal  |
| γ   | δ   | ε              | ζ                                   | λ   | μ         | ν                         | ξ                         | ο                          |

both numbers refer to both. The series is complete if beginning on hind border of sc. supraoculare I. and ending on anterior border of supraoculare IV.; incomplete if beginning or terminating sooner, or if the successive series of granules is shorter on both ends; interrupted if although disconnected, beginning and terminating as in the complete series.

<sup>7</sup> Compared to the distance between anterior corner of frontal and tip of snout.

<sup>8</sup> On right side just meeting in a point.

<sup>9</sup> On the left side first postocular horizontally split.

<sup>10</sup> Between internasal, nasofrenal, frenal and frontonasal a little intercalary shield on both sides.

<sup>11</sup> Comparing the greatest length of frenoocular to the distance between its anterior border and the nostril's region.

| Origin  | Lis -   |  |  |  |  |  |
|---|---|--|--|--|--|--|
| Sex and age   | semiad.<br>♀  | ad.<br>♀   | ad.<br>♀   | ad.<br>♂   | ad.<br>♂   | ad.<br>♂   |
| Supralabialia anterior and posterior to subocular               | 3   | 3; 3-3-4 <sup>1</sup> ; 2-2  | 4-4; 3-3-4   | 4; 4-4-4-4; 3-3  | 4-4; 3-3   | 4-4; 4-4   |
| Supraciliaria   | 5-5   | 5-5  | 6-6  | 6-6  | 5-4  | 5-5  |
| Supratemporalia <sup>4</sup>                                    | 8-8   | 5-6  | 7-8  | 8-9  | 7-6  | 5-5  |
| Scale-rows <sup>5</sup> between masseterium and supratemporalia | 2-2 <sup>3</sup>  | meeting each other in a short suture                                   | 1-1  | 1-2  | 1-1  | 1-1  |
| Scale-rows between masseterium and tympanale                    | 5-5   | 2-2  | 4-4  | 4-4  | 4-4  | 3-4  |
| Scale-rows between masseterium and supralabialia                | 4-4   | 1-2  | 3-3  | 3-4  | 3-3  | 3-3  |
| Scale-rows between the masseterium and postocularia             | 3-3   | 2-2  | 2-3  | 3-3  | 3-3  | 3-3  |
| Scales across body <sup>11</sup>                                | 60  | 55   | 57   | 57   | 56   | 62   |
| Dorsal scales corresponding to one ventral plate <sup>12</sup>  | 3   | 3  | 3  | 4-(3)  | 3  | 3-4  |
| Scales on back  | smooth  | smooth   | smooth   | smooth   | smooth   | smooth   |
| Scales on upper surface of tail (surface and hind border)       | slightly keeled, broadly rounded, traces of apical pits | slightly keeled, nearly smooth; bluntly pointed, traces of apical pits | slightly keeled, nearly smooth; adly rounded, traces of apical pits become regenerate part of tail | slightly keeled, nearly smooth; broadly rounded, traces of apical pits in a few scales | slightly keeled, nearly smooth; bluntly pointed, traces of apical pits | slightly keeled, nearly smooth; bluntly pointed, traces of apical pits |
| Scales on tibia   | keeled at the top                                       | keeled at the top  | keeled at the top  | keeled at the top  | keeled at the top  | keeled at the top  |
| Scales on tibia > or < as dorsal scales                         | about equal sized                                       | smaller  | smaller  | smaller  | smaller  | smaller  |
|   | α   | β  | γ  | δ  | ε  | ζ  |

<sup>1</sup> The second right supralabial is somewhat split in its upper part.

<sup>2</sup> A small intercalary shield on the right side, between the lower border of loreal shields and the upper one of second and third supralabial.

<sup>3</sup> The last one separating on both sides the IV. supraocular from the I. postocular and meeting with the I. supratemporal.

<sup>4</sup> All shields, large and smaller bordering the parietal until its very hind border are reckoned as supratemporalia.

<sup>5</sup> Counted always in a straight line, and if configuration not equal in respect to number, the smaller one is taken.

| don   | Alcochête   |   |  |   | La Cornuãa   |   |   |   |          |
|---|---|---|--|---|--|---|---|---|----------|
|   | ad.<br>♂  | ad.<br>♂  | ad.<br>♂   | ad.<br>♂  | sen.<br>♂  | sen.<br>♂   | semiad.<br>♂                                      | sen.<br>♀   | ad.<br>♀ |
| 4-4; 4-4  | 4-4; 3-3  | —   | 4-4; 4-3   | 4-4; 3-3  | —  | 4-4; 3-3  | 4-3-3   | 4-3-2   |          |
| 6-6   | 7-7 <sup>3</sup>  | 6-6   | 6-7  | 6-7   | —  | 6-5   | 5-6   | 5-5   |          |
| 7-7   | 6-6   | —   | 6-5  | 8-8   | —  | 6-6   | 6-6   | 4-5   |          |
| 2-1   | 1-1   | —   | 2-2 <sup>7</sup>   | 3-3 <sup>8</sup>                                  | —  | 3-3   | 1-1 <sup>9</sup>                                  | 2-2 <sup>10</sup>   |          |
| 4-4   | 4-5   | —   | 4-5  | 4-5   | —  | 3-3   | 3-3   | 3-3   |          |
| 3-3   | 2-3   | —   | 3-3  | 3-3   | —  | 2-2   | 3-3   | 3-2   |          |
| 4-3   | 3-3   | —   | 2-3  | 3-3   | —  | 4-4   | 3-3   | 4-4   |          |
| 55  | 65  | 63  | 68   | 58  | 54   | 62  | 60  | 54  |          |
| 3 (4)   | 3   | 3-(4)   | 3-(4)  | 4-(3)   | 3-(4)  | 3-(4)   | 3   | 3   |          |
| smooth  | smooth  | smooth  | smooth   | smooth, or with traces of a faint keel at the top | smooth, or with traces of a faint keel at the top                            | smooth, or with traces of a faint keel at the top | smooth, or with traces of a faint keel at the top | smooth, or with traces of a faint keel at the top         |          |
| slightly keeled, nearly smooth; broadly rounded | slightly keeled; bluntly pointed, nearly straight, distinct traces of apical pits | slightly keeled; bluntly pointed, nearly straight, indistinct traces of apical pits | slightly keeled; bluntly pointed, nearly straight, traces of apical pits | slightly keeled; pointed                          | slightly keeled; somewhat pointed, or broadly rounded, traces of apical pits | distinctly keeled; distinctly pointed             | distinctly keeled; distinctly pointed             | distinctly keeled; bluntly pointed, traces of apical pits |          |
| keeled at the top                               | keeled at the top   | keeled at the top   | keeled at the top  | keeled at the top                                 | keeled at the top  | keeled at the top                                 | keeled at the top                                 | keeled at the top   |          |
| smaller   | about equal sized   | about equal sized   | about equal sized  | smaller   | smaller  | smaller   | smaller   | smaller   |          |
| τ   | σ   | ι   | κ  | λ   | μ  | ν   | ξ   | ο   |          |

<sup>6</sup> Massetericum split on right side.<sup>7</sup> Massetericum split on both sides.<sup>8</sup> Massetericum split on right side.<sup>9</sup> Massetericum split on right side.<sup>10</sup> Massetericum very small on both sides.<sup>11</sup> Reckoned with in the supplementary row of ventral shields («Oberschildchen»).<sup>12</sup> Considering only the small dorsal scales and not the supplementary ventral shield-row.

| Origin  | L i s -      |              |              |              |              |              |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Sex and age   | semiad.<br>♀ | ad.<br>♀     | ad.<br>♀     | ad.<br>♂     | ad.<br>♂     | ad.<br>♂     |
| How many dorsal scales correspond to 8 tibian scales <sup>1</sup> | 8            | 7            | 6            | 7            | 7            | 7            |
| Number of gular scales  | 31           | 23           | 27           | 31           | 28           | 30           |
| Number of collar scales   | 12           | 11           | 11           | 13           | 11           | 12           |
| Ventrals in length and transversally                              | 6; 32        | 6; 28        | 6; 32        | 6; 26        | 6; 29        | 8; 29        |
| Supplementary ventral plates corresp. to one ventral plate        | 1+2 or 1-1+1 | 1+2 or 1-1+1 | 1+1 or 1+1-1 | 1-1-1        | 1-1 or 1-2   | none         |
| Anale how much wider than long <sup>2</sup>                       | 1.4          | 1.4          | 1.4          | 1.5          | 1.5          | 1.7          |
| Anal plate surrounding scales <sup>3</sup> (rows and number)      | 2 rows; 5-14 | 2 rows; 7-17 | 2 rows; 6-16 | 2 rows; 7-17 | 2 rows; 6-16 | 2 rows; 6-16 |
| Praeanalia > or < than anal plate                                 | 1; consid. < | 2; consid. < | not distinct | not distinct | 2; consid. < | 2; consid. < |
| Femoral plates between fem. pores and largest fem. plates         | 5            | 4            | 5            | 4            | 5            | 5            |
| Tibial plates <sup>4</sup>  | 1+1+1        | 1+1+1        | 1-1-1        | 1-1-1        | 1+1+1        | 1+1+1        |
| Number of femoral pores   | 16-16        | 14-15        | 17-15        | 20-19        | 16-17        | 17-17        |
| Hind limbs fourth finger reaching                                 | elbow        | elbow        | elbow        | axil         | axil         | axil         |
| Designation of each specimen corresp. to preceding tabularies     | α            | β            | γ            | δ            | ε            | ζ            |

<sup>1</sup> Dorsal scales measured on middle of trunk, those alone counted which are entirely comprised in mentioned space.

<sup>2</sup> Considering its greatest width and greatest length.

<sup>3</sup> The outer row of those is sometimes very small and almost similar to the other small scales round it; former however always distinguishable by the regular disposition of component scales.

| bon                          | Alcochête       |                 |                 | La Coruña       |                 |                 |                 |                 |
|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                              | ad.<br>♂        | ad.<br>♂        | ad.<br>♂        | sen.<br>♂       | sen.<br>♂       | semiad.<br>♂    | sen.<br>♀       | ad.<br>♀        |
| 7                            | 8               | 8               | 8               | 7               | 6               | 7               | 7               | 6               |
| 27                           | 30              | 31              | 32              | 28              | —               | 25              | 26              | 26              |
| 11                           | 12              | 14              | 13              | 11              | —               | 12              | 11              | 10              |
| 6; 29                        | 6; 26           | 6; 27           | 6; 28           | 6; 27           | 6; 27           | 6; 28           | 6; 33           | 6; 31           |
| 1+1 or<br>1+1+1              | 1+1 or<br>1+1+1 | 1-1             | 1+1 or<br>1+2   | 1+1 or<br>1+2   | 1+1 or<br>1+2   | 1+1 or<br>1+1+1 | 1+1 or<br>1+1+1 | 1+2 or<br>1+1+1 |
| 1·5                          | 1·4             | 1·4             | 1·4             | 1·6             | 1·8             | 1·3             | 1·5             | 1·5             |
| 2 rows;<br>6-15              | 2 rows;<br>8-18 | 2 rows;<br>6-15 | 2 rows;<br>6-14 | 2 rows;<br>6-11 | 2 rows;<br>8-16 | 2 rows;<br>8-19 | 2 rows;<br>7-15 | 2 rows;<br>6-13 |
| 2; consid.<br><              | 2; consid.<br>< | 2; consid.<br>< | 2; consid.<br>< | 2; consid.<br>< | 2; consid.<br>< | not<br>present  | 2; consid.<br>< | 2; consid.<br>< |
| 5                            | 5               | 5               | 6               | 5               | 5               | 5               | 4               | 4               |
| 1+1+1                        | 1+1+1           | 1-1+<br>1+1     | 1+1+1           | 1+1+<br>1+1     | 1+1+1           | 1+1+1           | 1+1+<br>1+1     | 1+1+1           |
| 14-15                        | 17-18           | 15-15           | 16-16           | 16-17           | 16-16           | 16-17           | 17-18           | 14-13           |
| slightly ex-<br>ceeding axil | axil            | beyond axil     | beyond axil     | axil            | axil            | axil            | elbow           | elbow           |
| η                            | θ               | ι               | κ               | λ               | μ               | ν               | ξ               | ο               |

<sup>4</sup> Counting here only the plates (even the very small-ones) and not the scales, which sometimes may be seen on the lower surface of inner side. If we place the tibia so that its outer ridge be formed by the outer border of the first row of large plates, the visible surface will be represented by the plates alone and the scales which happen to fall within its region, cannot lead to errors.

Lamellae subdigitales flat, with a straight border. Palmar and plantar scales granule-like, rounded. Subcaudal scales keeled, more or less pointed, rounded or straight, ranged in rather equal whirls.

#### COLORATION.<sup>1</sup>

As regards the coloration this form presents two principal types. The one represented by the Portuguese, and the other by the Northspanish (and African) specimens. The former is more like *Lacerta muralis* LAUR., the latter especially the ♀♀ and younger ♂♂ more like *Lacerta taurica* PALL., whilst senil ♂♂ sometimes strikingly resemble those of *Lacerta muralis* var. *quadrilineata* GENÉ to which fact Prof. MÉHELY kindly directed my attention.

The difference between the two types lies in the phenomenon, of the portuguese individuals being in both sexes dotted or reticulated to a greater degree, whilst the Coruña specimens are sharply striped, and even in old ♂♂ the two supraciliar striæ are clearly visible.

I purpose to first describe the portuguese specimens, then notifying the differences existing between the Coruña ones and the former.

Pileus brownish, with more or less densely strewn dark sepia brown or blackish spots and dots. Region between the two vittae temporales bearing a lighter or darker olive-brown hue, sometimes with a very slight reddish-brown tone in it. The living animals might have shown a somewhat greenish-brown colour in some individuals; however the colour hardly could be considered as a distinct «green», not even in the Galicia specimens, thus SEOANE's description (13, p. 18.) «el dorso es de color verde» might appear somewhat exaggerated. The two whitish striae supraciliares are very weakly developed; in the ♀♀ they are somewhat more apparent without always being continual in their course, or again we find them disappearing gradually and almost completely vanishing towards the middle of the trunk; the stripes in question may however also be found under a more clearly developed form. In the ♂♂ the supraciliar stripes are very feebly marked, generally in form of closely connected, superposed, somewhat lighter ocellæ,<sup>2</sup> or may also almost quite disappear.

The dark-sepia or blackish parietal vittae are present in all specimens examined, in the ♀♀ more or less continual, or formed of well

<sup>1</sup> In alcohol specimens.

<sup>2</sup> Slightly resembling the respective designs of *Lacerta anatolica* WERN. (MÉHELY, 9, p. 447.) on which they are however considerably larger, and not superposed.

developed longitudinal spots. In the ♂♂ these vittæ may be as well or nearly as well developed as in the ♀♀, or very weakly visible, almost disappearing; they are composed of very diversely shaped markings, forming widely separated large spots, more or less disconnected zigzag lines, or fine vermiculated designs. In examined specimens no *striae dorsales* present. *Vitta occipitalis* not present, or but very feebly marked by very small vermiculated spots on some parts of the back, or a few somewhat larger dots on the neck-region; here and there somewhat more clearly expressed, in form of some larger spots in the region of the vertebral column. *Temporal vittæ* consisting in a dark sepia or blackish network («*los flancos son pardos*» SEOANE, l. c.); the interspaces in this network permit us to perceive the groundcolour in form of roundish spots; this ground colour seems to be the same as that of the region between the vittæ temporales. On the ♀♀ these temporal vittæ present a somewhat narrower and more continual aspect, which in older specimens may also become somewhat reticulated; in the former individuals a feebly marked *subocular stripe* can be observed along the sides of the body. One or more shoulder-spots, which in living specimens might have been of a greenish colour, are to be observed in some individuals. Some dark bordered lighter ocellæ are also present on hind part of thighs. The *striae suboculares* are not visible on the body of the ♂♂, we may however meet with well marked ones on the tail, where the elements of all striae and vittæ described above are generally clearly discernible in both sexes. Ground colour of *vitta maxillaris* same as in temporal one, bearing blackish spots and designs.

The portuguese specimens here described present, as stated above, mostly a reticulated or spotted aspect even more so than the Central-European *Lacerta muralis* LAUR. We can however distinguish in them the striae and vittæ already mentioned, the degree of development in which is an individual and sexual peculiarity. BOULENGER (4, Pl. XXIV, fig. 8.) figures a ♂ from the Serra de Gerez being as reticulated as some individuals of *L. oxycephala* D. et B. The Coruña individuals are in the ♀♀ and in the younger ♂ of a decidedly striped form, and even the old ♂♂ present some clearly distinguishable stripes. The two specimens figured by BOULENGER (l. c., fig. 6—7.) also from Coruña seem to agree with those here in question. BOULENGER writes as follows «Specimens from Lisbon agree with those from Galicia, except that the caudal scales are less strongly keeled» (4, p. 362.), although this latter character, sometimes present, seems to me much less striking than the coloration in the local variation of this form. Comparing them with the previously described specimens the principal markings in the coloration of the Galician ones are as follows:

♀ (very like *L. taurica* PALL.): The ground colour of temporal vittæ of a deeper brown, on the upper and lower border of which we find a nearly continual series of sepia brown spots. No distinguishable shoulder-spots neither ocellae-like markings. The supraciliary stripes are very sharply developed, yellowish, and might be somewhat greenish-iridescent in living specimens. Parietal vittæ consisting of large sepia-brown spots, forming a nearly continual and regular series; region between them of a lighter brown or greenish colour. Traces of occipital vitta in form of a narrow sepia-brown line on nuchal region. Subocular stripe sufficiently apparent.

Semiad. ♂ (very like *L. taurica* PALL.): Resembling the ♀♀, however spots in vittæ less confluent, more reticulated.

Senil ♂<sup>1</sup> (resembling var. *quadrilineata* GENÉ): Supraciliary stripes as distinctly, or somewhat less marked as in semiad. ♂. Subocular stripe almost disappearing. Spots much larger, less confluent, ranged in reticulated designs. Occipital vitta visible in form of very small spots. Ground colour of region between temporal vittæ more or less greenish.

The Morocco specimens figured by BOULENGER (3, Pl. II. and 4, Pl. XXIX.) seem also to belong to the striped form.

Lower surfaces in all individuals (portuguese and spanish) whitish, uniform or more or less spotted with black.

## SKULL.<sup>2</sup>

(Plate II.)

Skull of moderate size, elongate, twice as long<sup>3</sup> as broad.<sup>4</sup> The skull of the larger ♂ measures about 15 mm in length, 7.5 mm in width, and 3.7 mm in height.<sup>5</sup> The measurements of the second skull are: length: 14.6 mm, width: 7 mm, height: 3.5. Snout tolerably long and slender. Nostrils wide, oblong, thus turbinalia clearly apparent. The process-

<sup>1</sup> In not mentioned characters agreeing with the semiad. ♂.

<sup>2</sup> I prepared 3 skulls, all ♂♂; two from Alcochête are whole, and one from Lisbon is disjoined (by macerating), for examination of its single parts. The description of the skull is based on these three specimens. Some parts, to a certain degree externally attainable (fontanelle, supraciliaries, retrociliary, temporal region) have also been examined on unprepared heads.

<sup>3</sup> Its length measured from tip of snout to middle of oondylus occipitalis.

<sup>4</sup> Measured the space between the two points of jugalia.

<sup>5</sup> Measured from roof of skull (in region corresp. to occipital shield) to middle point of the convex basioccipital.

ius nasalis of intermaxillary is narrow, not incrustated, its hind point wedged in between the ossa nasalia is thus well visible. Ossa nasalia long, becoming more or less narrower towards their posterior part, they are but very feebly or not incrustated, their sutures are therefore clearly discernable. The roof of the skull is but feebly incrustated, some of the bones being thus more or less transparent in several places, especially so the II. and III. supraocularia, as well as the median and lateral parts of the os parietale and the ossa postfrontalia interna. In the older specimens parietal bone towards the processi parietales distinctly, in the somewhat younger ones less clearly, defined by a crusta calcarea. The processi parietales form a large, moderately flat arch, between which a part of the membranous cranium may be seen; the greatest part of the cranium ossaeum appears free, thus the supraoccipitalia's two arch-like ridges continuing on the pleurooccipitalia, are widely separated from the edge of the parietal processes. Supraoccipital and parietal joining on a considerable extension. No well developed processus ascendens, this one is only marked by a minute elevation which appears still smaller than in *Lacerta muralis* LAUR. (Pl. II. fig. 3.). Praefrontalia<sup>1</sup> in their anterior part short and large, cuneiform, backwards bearing a long point nearly reaching the middle of the supraoculare II. Four distinct supraoculars; the first small, the third presenting a large fontanelle (*pars membranacea laminae supraciliaris*), which extends also somewhat to the hind part or border of the second; this fontanelle is present in all specimens of examined material, except some individuals from Coruña being senil or approaching the limit of senility, in which I found an entirely ossified lamina supraciliaris;<sup>2</sup> in younger individuals the fontanelle is larger. Regarding therefore the presence of this membranous part on the supraoculary bones, I think I may emit the supposition that the skull of var. *Bocagei* presents it still in adult specimens, the membrane in question appears however fully ossified in both sexes when the individuals approach the limit of senility (Pl. II. fig. 6.); this supposition might

<sup>1</sup> Considering their upper view on the complete skull.

<sup>2</sup> I am nearly sure, that the other decapitated senil ♂ in the collection of the Hungarian National Museum also presented the portion in question as entirely ossified.

be supported by the fact of finding ossified granules in the fontanelle of somewhat older individuals (Pl. II. fig. 1.). Only one large supra-ciliary (*supracil. principale*) beginning at the first supraocular's anterior part and ending in the middle of second supraocular; it completely covers the supraorbital on the upper surface, the latter bone can thus be observed in the side view of the skull, reaching with its outer border that of the supra-ciliary (Pl. II. fig. 4.). Supraorbital somewhat elongate-triangular, from its lateral corners the outer one being the longer (Pl. II. fig. 5.). Retro-ciliary may be present. Jugale slender, its hind point very short and slightly blunt. In the examined specimens the suture between the two postfrontalia (Pl. II. fig. 7.) is visible; both but feebly incrustated, the outer one more feebly still than the inner one; both long and narrow, the outer cuneiform, considerably narrower than the inner, ending in a long and narrow point, which somewhat exceeds the inner postfrontale's hind border, thus both limiting the foramen supratemporale. Foramen supratemporale of an elongate-triangular shape in the older specimen examined, larger in the somewhat younger one. I could find no bones on temporal region. Pterygoid bones gracile, slightly diverging; the space between them is narrow, before the basisphenoid bilaterally enlarging in a slight curve; no teeth on pterygoids (Pl. II. fig. 2.). Basisphenoid tolerably narrow, processipterygoidei tolerably slender. Quadrates not strongly diverging, thus pterygoid bones almost invisible from above. In the intermaxillary about 6—7, in the maxillary on one side 16—17, and in the mandible on one side 21—22 teeth. The intermaxillary teeth are one pointed, the maxillary ones bicuspid, whilst the front teeth of the mandible are one pointed, the following ones bicuspid the back ones approaching the tricuspid type (Pl. III. fig. 1.).

**Turbinalia.** The importance of this small bone was justly recognized by Prof. MÉHELY, who was the first in designating it as a good criterium in the systematic and phylogenetical study of the Lizards (and Snakes). He published his observations regarding this subject in the VIII-th volume of the *Ann. Mus. Nat. Hung.* (p. 217—230, Pl. VI.) under the title of «Weitere Beiträge zur Kenntniss der Archæo- und Neolacerten». In the present description I follow the nomenclature which he established in the same paper.

Prof. MÉHELY chose three positions in which the turbinalia should be viewed and in which they can stand by themselves, so as to enable us at each occasion to examine these bones under the microscope in the same natural positions. Considering the practical worth of this method I shall make use of it in the present treatise. Before describing the bones in ques-

tion I must however explain the three principal positions mentioned above.

*a*) position: turbinale laid on the microscope's stand in its dorsal view, its lower plain in contact with the stand. (Horizontal position).

*β*) position: same position as in *a*), but outer border of lamina posterior somewhat raised up, thus resting in an oblique position.

*γ*) position: The turbinale is laid on its backside, presenting a horizontal position its lower surface turned upwards.

I will first describe the turbinalia of the var. *Bocagei*, adding at the end of this description a comparative tabulary containing the main differences existing between the *Lacerta muralis* LAUR. (from Budapest), *Lac. muralis* subsp. *nigriventris* Bp. (from the surroundings of Florence) and the var. *Bocagei*.

Size somewhat smaller than in *L. muralis* LAUR., and rather robust. Lamina anterior rounded-triangular. Trabeculum tolerably short, processus lateralis anterior short and blunt, however well distinguishable; processus lateralis posterior present in form of a small blunt angle. Lamina posterior large, in *a*) and *γ*) position appearing as broadly rounded, in *β*) position subtriangular; its border in *γ*) position, after the trabeculum, is straight, forms a blunt angle then broadly rounded, presents again a slight blunt angle before the proc. medialis posterior, reaching this latter one in a short straight line. Processus medialis posterior short and tolerably broad, bluntly pointed. On the inner side of the turbinalia we find a bony crest, clearly seen in *β*) position; in *a*) position this crest disappears more or less, its plane being vertically situated; if we put the two turbinalia in the *a*) position — which corresponds to their natural one — and approach them to each other, then the two crests meet with their plane in the median line. In the examined individual of *Bocagei* this crest is short, strongly developed, ellipsoid, presenting a small point on both ends. As this crest is not named in Prof. MEHELY's article, I propose to call it *crista medialis*. The anterior opening of the covered nerve canal is situated at the base of the anterior point of *crista medialis*, whereas the posterior opening lies at the base of the posterior point.

The following table sets forth the differences of the three above mentioned forms, regarding the main characters of each of them.<sup>1</sup>

<sup>1</sup> The stability and thus the value of the following characteristics will only be determinable when sufficient material will be forthcoming.

| <i>L. muralis</i> LAUR.  | subsp. <i>nigriventris</i> BP.   | var. <i>Bocagei</i> SEOANE.   |
|--|--|---|
| 1. Turbinalia more slender.  | 1. Turbinalia more robust.   | 1. Turbinalia robust.   |
| 2. Size moderate.  | 2. Size larger.  | 2. Smaller sized.   |
| 3. Lamina posterior broad and comparatively long.                            | 3. Lam. post. broad and comparatively long.  | 3. Lam. post. comparatively same breadth, but considerably shorter.                                       |
| 4. Trabeculum (examined in $\alpha$ ) position) longer.                      | 4. Trabeculum (exam. in $\alpha$ ) pos.) longer.                                   | 4. Trabeculum (exam. in $\alpha$ ) pos.) shorter.   |
| 5. Anterior hole of nerve-canal on lamina anterior, not far from trabeculum. | 5. Anterior hole of nerve canal on lam. ant., not far from trabeculum.             | 5. Anterior hole of nerve canal on edge of lam. ant., at the base of the crista medialis' anterior point. |
| 6. Nerve canal open.   | 6. Nerve canal closed.   | 6. Nerve canal closed.  |
| 7. Crista medialis less strongly developed.                                  | 7. Crista medialis elongate, strongly developed.                                   | 7. Crista medialis short and robust, strongly developed.  |
| 8. A slight curve towards processus lateralis posterior.                     | 8. A somewhat deeper curve towards proc. lat. post.                                | 8. A deep curve towards proc. lat. post.  |
| 9. Proc. med. posterior long and slender.                                    | 9. Proc. med. post. long and slender.  | 9. Proc. med. post. short and broader.  |
| 10. Anterior corner of lamina anterior forming a wide angle.                 | 10. Anterior corner of lam. ant. forming a closer angle.                           | 10. Anterior corner of lam. ant. forming a closer angle.  |
| 11. Outer end of trabeculum narrow, no proc. lateralis anterior.             | 11. Outer end of trabeculum slightly wider, bearing a short robust proc. lat. ant. | 11. Outer end of trabeculum wider, bearing a short robust proc. lat. ant.                                 |

## GEOGRAPHICAL DISTRIBUTION.

This form occurs in Spain, from where SEOANE mentions it as «Comunísima en toda Galicia». (13, p. 18.). BOULENGER (4, p. 361—362.) records some individuals from Asturias between Galicia and León, from Pontevedra, from the Lozoya Valley<sup>1</sup> near Madrid, and from Escorial.<sup>2</sup> In Portugal Oporto, Lisbon, Alcochête, the Serra de Gerez, Cintra and Coimbra are stated up to now as being inhabited by the form in question. I think that some of the localities mentioned by DE B. FERREIRA (7, p. 10—11.) regarding «*Lacerta muralis* var. *fusca* BEDR.» (= *Lac. muralis*

<sup>1</sup> BOULENGER (5, p. 144.) mentions a «Loroya Valley»; a Valley of this name being to me unknown, there seems to be an error, BOULENGER most likely referring to the Lozoya Valley near Madrid.

<sup>2</sup> Its geographical distribution appears to be somewhat more extended than could be understood from SCHREIBER's (11, p. 428.) description according to which var. *Bocagei* would be limited: «. . . auf den Westen des Festlandes, namentlich auf Portugal und Galizien».

LAUR.) — which does not seem likely to be found in Portugal — are also inhabited by the var. *Bocagei* SEOANE; however the accurate statement of this would necessitate a detailed examination of the material on which FERREIRA based his description, for *monticola*, *Vaucheri* and *Bocagei* appear to be confused in the said publication under the synonyms of *L. muralis* LAUR. and *L. muralis* var. *fusca* BEDR.

This form was also collected in numerous places of North - Africa (BOULENGER, 4, p. 415.), viz. from: Tamaruth Valley in the Atlas of Morocco (by RIGGENBACH), Tlemsen near Oran (by J. ANDERSON), Mascara, and in the Algerian localities: Plateau de Sersou, Aumale, Setif, Daya and Tebesa.

From what has been here stated, we may see that the geographical distribution of the var. *Bocagei* SEOANE is fairly extended, and an accurate statement of it would be most desirable.

\*

Having but a limited number of specimens at my disposal I shall not venture to emit here an opinion as to the systematic or phylogenetic relations of the form treated. Besides a detailed study of the *muralis*-like lizards inhabiting the Iberian Peninsula and the Northern parts of Africa would be an important postulatium to such considerations, as the *Bocagei* probably is much closer related to those forms than to the central european *Lacerta muralis* LAUR. or other *muralis*-like lizards of its adjacent territory.<sup>1</sup>

The description given here above founded on the 15 specimens and 3 skulls examined, could thus only offer a mere basis to a more complete knowledge of this interesting form, which presents in several respects a mixture of *Archaeo*- and *Neolacerta*-like characters. It will belong to future outer morphological and anatomical investigations based on vast material of all the lizards to be taken into consideration regarding this question, to determine to which of the two groups above mentioned the *Bocagei* belongs, to which form it may be related, and which systematic rank it may claim.

<sup>1</sup> It may not be impossible that more ample investigation based on a larger material, would prove that the Portuguese *Bocagei* here described as well as those originating from certain other localities of Portugal, might differ from the spanish specimens in yet more important characteristics than those mentioned here above.

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## EXPLANATION OF THE PLATES.

## Plate I.

- Fig. 1. Pileus. — (Outer border of scuta parietalia presents here the somewhat concave type, corresponding more or less to the suture in which the inner and outer postfrontal bones meet). — ad. ♂ from Lisbon. — 5·95 × nat. size.
- Fig. 2. Hind part of pileus, presenting the convex formation of the parietal shield's outer border; this latter one corresponds in this case to the outer border of the outer postfrontal bone. — sen. ♂ from La Coruña. — 5·85 × nat. size.
- Fig. 3. Side view of head. (A small intercalary shield is designated by a +). — ad. ♀ from Lisbon. — 6·34 + nat. size.
- Fig. 4. Abnormal formation of internasal and frontal shields, joining in this specimen. — semiad. ♀ from Lisbon. — 5·39 × nat. size.
- Fig. 5. Scale-group from middle region of trunk. (a: in region of vitta occipi.

*talis*; *b*: in region of *vitta parietalis*, directly under *stria supra-ciliaris* showing faint keels at their top.) — sen. ♀ from La Coruña. — *a*: about 14 ×, and *b*: about 13.18 × nat. size.

- Fig. 6. Scales of tail, bearing distinct traces of apical pits.<sup>1</sup> — ad. ♂ from Alcochête. — About 8.42 × nat. size.
- Fig. 7. Scales of tail, most of them without traces of apical pits. — ad. ♀ from Coruña. — About 6.5 × nat. size.
- Fig. 8. Plates and scales of anal region. (*a* = sc. anale; *pa* = sc. prae-analia; outer row of scales bordering the anale, shaded). — ad. ♂ from Alcochête. — 6.85 × nat. size.
- Fig. 9. Lower surface of tibia presenting the plates. (*abc* = the three rows of plates (formula: 1 + 1 + 1); *a*<sub>1</sub> = the characteristic large plate, formed by fusion of *a* and *b* row, *b*<sub>1</sub> corresponding to the row of *c*; small scales not counted are shaded). — ad. ♂ from Alcochête. — 7.76 × nat. size.

## Plate II.

(Fig. 1. del. SZOMBATHY, figs. 2–7 del. FEJÉRVÁRY.)

- Fig. 1. Upper view of skull.<sup>2</sup> — ad. ♂ from Alcochête. — About 6.06 × nat. size.
- Fig. 2. Lower view of skull.<sup>3</sup> — ad. ♂ from Alcochête. — 5.93 × nat. size.
- Fig. 3. Hind view of skull. — ad. ♂ from Alcochête. — 6.02 × nat. size.
- Fig. 4. Side view of skull.<sup>4</sup> — ad. ♂ from Alcochête. — About 6.11 × nat. size.
- Fig. 5. Upper view of right supraorbitale.<sup>5</sup> — ad. ♂ from Alcochête. — 13.57 × nat. size.
- Fig. 6. Second and third fully ossified supraocular of an old ♂. (The II. and III. supra-ocular bones are cleanly prepared, whilst the surrounding ones, still covered with scales, are designated by dots). — Coruña. — 9.35 × nat. size.
- Fig. 7. Postfrontalia; *a*: outer, *b*: inner one. — ad. ♂ from Lisbon. — *a*: 10 × and *b*: 9.91 × nat. size.

## Plate III.

- Fig. 1. Inner view of right mandible.<sup>6</sup> — ad. ♂ from Alcochête. — 7.12 × nat. size.
- Fig. 2. Right turbinale in *α*) position. — 15.4 × nat. size.
- Fig. 3. Right turbinale in *β*) position. — 16.33 × nat. size.

<sup>1</sup> A lateral furrow caused by the tail somewhat dried up, may be seen especially on the right side, and is shaded in order to prevent on the figure an unusual aspect of the scales.

<sup>2</sup> As the condylus occipitalis of this specimen broke, it has been duly reconstructed according to the other specimen visible on fig. 2.

<sup>3</sup> The teeth which have fallen out, have been reconstructed also, for clearness' and neatness' sake.

<sup>4</sup> Condylus and missing teeth reconstructed.

<sup>5</sup> The small transparent plate, marked with dots on the figure, lies in the foreground, on the posterior part of the supraorbitale, while the line produced by the limit of the thicker part of the bone visible above it, extends on the lower surface of the bone, and is only visible through the transparency of the plate.

<sup>6</sup> One tooth has fallen out.

Fig. 4. Right turbinale in  $\gamma$ ) position. —  $14.4 \times$  nat. size.

var. *Bocagei* SEOANE, ad. ♂ from  
Lisbon.

Fig. 5. Right turbinale in  $\alpha$ ) position. —  $16.84 \times$  nat. size.

Fig. 6. Right turbinale in  $\beta$ ) position. —  $15.25 \times$  nat. size.

subsp. *nigriventris* BONAP., ad. ♂  
from the surroundings of Florence  
(leg. TARTAGLI).

*la* = Lamina anterior,  
*pla* = Processus lateralis anterior,  
*plp* = Processus lateralis posterior,  
*lp* = Lamina posterior,  
*pmp* = Processus medialis posterior,  
*n* = Nerve-canal,<sup>1</sup>  
*cm* = Crista medialis (mihi).

Fig. 7. Right turbinale in  $\gamma$ ) position. — subsp. *nigriventris* BONAP., same ad. ♂ from  
the surroundings of Florence (TARTAGLI leg.) —  $16.57 \times$  nat. size.

Fig. 8. Right turbinale in  $\alpha$ ) position. —  $15 \times$  nat. size.

Fig. 9. Right turbinale in  $\beta$ ) position. —  $16.66 \times$  nat. size.

Fig. 10. Right turbinale in  $\gamma$ ) position. —  $15.5 \times$  nat. size.

*Lacerta muralis* LAUR., ad. ♂ from  
Budapest (leg. FEJÉRVÁRY).

<sup>1</sup> This canal is covered in the figured *Bocagei* and *nigriventris*, and open in the  
*L. muralis* LAUR. drawn here.