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## Notes on Chameleons II

*Chamaeleo laevigularis* (L. Müller, 1926),  
a synonym of *Chamaeleo johnstoni* (Boulenger, 1901)

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In 1926 LORENZ MÜLLER described a new chameleon, labelled "East London, Kapland". MÜLLER remarked on the terra typica: "Ich erhielt dieses Chamäleon mit einem anderen, der Gruppe des *Ch. pumilus* angehörigen, von meinem Freund Prof. Dr. Fr. Werner in Wien, der die beiden Chamäleons vor einigen Jahren von der Naturalienhandlung Boettcher in Berlin gekauft hatte. Wie mir Prof. Werner schrieb, zweifelte er die Richtigkeit des Fundortes für das hier neu beschriebene Chamäleon an."

In "The Lizards of South Africa" FITZSIMONS (1943) mentioned *Chamaeleon laevigularis* as a "species auctorum", of which he remarked (p. 174): "The above description, based on a young specimen supposedly from East London, is certainly not applicable to any of the known species of South African chameleons, while the feebly marked dorsal ridge and the absence of a gular crest preclude its inclusion with the Cape chameleons of the Lophosaura group, which are all characterized by a more or less distinct dorsal and gular crest. It is thus extremely doubtful if the type locality (East London) given is correct and until such time as the contrary is proved by further collecting, *laevigularis* cannot with any certainty be regarded as a South African form."

Striking characters, discriminating the type-specimen from known species are according to MÜLLER: "der Rücken ist mit einer Reihe langgestreckter, mit einer medianen Längsfurche versehener und durch kleine Abstände von einander getrennter Schuppen versehen, die sich in etwas verkleinertem Maszstab auch bis zur zweiten Schwanzhälfte erstrecken"; and: "sehr auffallend ist die Beschuppung der Kehle. Auf der Innenseite des mit grossen

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Schuppen bedeckten Unterkiefers befindet sich eine schmale Zone grösserer, länglicher und stark gewölbter Schuppen. Diese Zone ist scharf von der breiten Mittelzone der Kehle abgegrenzt, die mit wesentlich kleineren Körperschuppen bekleidet ist."

During a stay at the Senckenberg Museum at Frankfurt a.M., Prof. Dr. R. Mertens showed me the type-specimen which happened to be there for a short time (it belongs to the Zoologische Staatssammlung, München). The general appearance, form of head and crests on the head, the heterogeneous squamation with approximately 4 rows of larger scales on the flanks, points to *Chamaeleo johnstoni ituriensis* (K. P. SCHMIDT, 1919), the hornless subspecies of *Chamaeleo johnstoni* from the Ituri forest, Kongo. (In agreement with LOVERIDGE, 1942, I consider *Ch. ituriensis* to be a subspecies of *Ch. johnstoni*; cf. HILLENUS, 1963). Especially the two characters mentioned above (oblong scales on the back with a longitudinal cut and the pattern of smaller scales on the middle of the throat, surrounded by larger scales) completely resemble those of *Chamaeleo j. johnstoni* and *Chamaeleo johnstoni ituriensis*. As to the first character, the oblong scales on the back with a longitudinal cut on it, this is not present in all specimens. After close examination it is clear that this is not a natural character, but an artefact. In fact there is no question of an oblong scale with a cut, but of a damaged part of the skin of the back. In specimens with protruding spines of the dorsal vertebrae, the protruding parts are easily damaged. In some specimens of *Chamaeleo johnstoni ituriensis* and even *Chamaeleo laevigatus* the skin was only partly damaged, so we could see how the character "oblong scale with longitudinal cut on it" originated. Between these damaged parts of the skin the type specimen of *Chamaeleo laevigularis* shows clearly a double row of scales on the dorsal keel, this also in conformity with *Chamaeleo johnstoni*. The only known subspecies of *Chamaeleo johnstoni* in which the male (as in *Chamaeleo laevigularis*) does not show the slightest traces of cranial horns is *Chamaeleo johnstoni ituriensis*. But as the locality of the type specimen of *Chamaeleo laevigularis* is not known — East London being probably false — we cannot with certainty consider this specimen to belong to *Chamaeleo johnstoni ituriensis*.

Moreover this specimen possesses one character in which it deviates from all specimens of *Chamaeleo j. johnstoni* and *Chamaeleo j. ituriensis* examined by me: 8—9 scales are counted between the orbital ridges in the type specimen of *Chamaeleo laevigularis*. In 6 specimens of *Chamaeleo johnstoni ituriensis* the following numbers of scales between the orbital ridges occur: 13—14, 12, 15, 12, 12, 12. And in *Chamaeleo j. johnstoni*: 12, 10—12, 12, 13, 12 (see table I).

In the original description by L. MÜLLER the following measurements are given: total 108 mm, head and body 48 mm, tail 60 mm. These do not agree with my findings: total 108 mm, head and body 55 mm, tail 53 mm. Though body and tail of chameleons are particularly elastic, I think that this cannot be the cause of this difference. At my request Dr. W. Hellmich of the Zoologische Sammlung des Bayerischen Staates was so kind as to check the

TABLE I. Comparison of the type specimen of *Chamaeleo laevigularis* with some specimens of *Chamaeleo j. johnstoni* and *Chamaeleo j. turtensis* from the collection of the Senckenberg Museum, Frankfurt.

|   | <i>Ch. laevigularis</i> | <i>Ch. j. turtensis</i> |                 |                 |    |     |     | <i>Ch. j. johnstoni</i> |                  |     |     |                  |   |   |   |
|---|-------------------------|-------------------------|-----------------|-----------------|----|-----|-----|-------------------------|------------------|-----|-----|------------------|---|---|---|
|   |                         | 54140-3                 |                 |                 |    |     |     | 21464-5                 |                  |     |     |                  |   |   |   |
| sex                                     | ♂                       | ♀                       | ♀               | ♀               | ♀  | ♂   | ♂   | ♀                       | ♀                | ♀   | ♀   | ♂                | ♂ | ♂ | ♂ |
| length of head and body in mm           | 55                      | 97                      | 116             | 100             | 93 | 114 | 102 | 105                     | 112              | 100 | 117 | 124              |   |   |   |
| length of tail in mm                    | 53                      | 84                      | 95              | 91              | 88 | 105 | 90  | 95                      | 78 <sup>3)</sup> | 108 | 132 | .. <sup>3)</sup> |   |   |   |
| number of scales between orbital ridges | 8—9                     | 13—14                   | 12              | 15              | 12 | 12  | 12  | 12                      | 10—12            | 12  | 13  | 12               |   |   |   |
| white midventral line                   | ±                       | +                       | +               | +               | ±  | ±   | ±   | +                       | —                | —   | ±   | —                |   |   |   |
| horns                                   | —                       | —                       | — <sup>1)</sup> | — <sup>2)</sup> | —  | —   | —   | —                       | —                | +   | +   | +                | + | + |   |

54140-3 loc. Mont Hoyoy, 30 km south of Isumu (former Belgian Congo).

21464-5 loc. Medje (former Belgian Congo).

55675 loc. Irangi, N.W. of Luiro (Kivu) (former Belgian Congo).

16446-7 loc. Nyundo, Kivu-Lake (Ruanda).

51031 loc. Goma, Kivu-Lake, altitude 1460 m (Ruanda).

26356 loc. Nganda (Ruanda).

1) the position of the horns is indicated by higher cones

2) instead of horns one higher cone

3) damaged

measurements on the type specimen. His findings were: head and body 54 mm, tail 53 mm. Our measurements at least resemble those taken from specimens of *Chamaeleo johnstoni ituriensis* and *Chamaeleo j. johnstoni* (see table I).

A deviating character is that — though the animal is rather small — the base of the tail is already swollen, which is a sign of maturity. Together with the deviating number of scales between the orbital ridges this may point to the existence of still another race of hornless *Chamaeleo johnstoni* besides *ituriensis*, of which the range is not yet known.

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