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SHORT PAPER

Bufo regularis, a twenty-chromosome toad*

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In applying short-term tissue culture methods as described by Beckert & Doyle (1967) to a study of Anuran karyotypes, the diploid number of chromosomes for *Bufo regularis* has been determined to be twenty.

Six male *Bufo*, collected at Stoney Athi, 20 miles along Mombasa Road from Nairobi, were identified as *Bufo regularis regularis* Reuss by James Ashe, the Curator of Herpetology for the National Museum, Nairobi, Kenya. According to Webb (1966) this species is widely distributed throughout Africa south of the Sahara and is particularly common in regions with a high annual rainfall. Poynton (1964) extends the range upward to the Nile delta.

Goin & Goin (1962) listed the diploid number for *B. regularis* as twenty-two chromosomes. This is in agreement with the observation by Manna & Bhunya (1966) that the diploid chromosome number for almost all reported *Bufo* species has not deviated from that of twenty-two chromosomes. Sanders & Cross (1963), who stated that the males of *B. houstonensis* had a chromosome constitution of twenty-one, and King (1907), who reported *B. lentiginosus* with a diploid number of twenty-four, took exception to this chromosome number pattern for *Bufo*. A pictorial analysis of a typical metaphase spread from the male *B. regularis regularis* Reuss (Fig. 1) indicated that it too was an exception to this pattern. Our results graphically show that *B. regularis regularis* Reuss has a diploid number of twenty, four metacentric and six submetacentric pairs. The four metacentric pairs are two, six, seven and eight. The six submetacentric pairs are one, three, four, five, nine and ten.

The most unique characteristic of this karyotype is a double achromatic region found on the fifth pair of chromosomes. Here, close to the kinetochore, a secondary constriction is found on both arms. Single achromatic regions have been reported in other investigations with *Bufo* (Ullerich, 1966; Beckert & Doyle, 1967) and tend to encourage their use as markers within the karyotype.

It has been suggested (Poynton, 1964) that a revision of the nomenclature is needed in order to clarify the taxonomic position of six distinctive forms of toads that have been referred to as *B. regularis* to subspecies thereof. Since Goin & Goin (1962) listed all the chromosomes as being metacentric, in addition to having a different diploid number, it is possible that their sample was taken from one other than *B. regularis regularis* Reuss, possibly from the subgroup composed of *garmani*, *rangeri* or *pardalis*, which have been reported (Poynton, 1964) as being more closely associated to one another than to *B. regularis regularis* Reuss.

An extension of this study analysing the possible karyotypic differences within the *B. regularis* toads should contribute evidence to assist in their classification.

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