

Bonn. zool. Beitr.	Bd. 45	H. 2	S. 125—128	Bonn, Oktober 1994
--------------------	--------	------	------------	--------------------

**A record of *Dimorphognathus africanus* from Bioko,  
Equatorial Guinea, and deletion of *Phrynodon sandersoni*  
from the faunal list of this island (Anura: Ranidae:  
Petropedetinae**

Wolfgang Böhme

Abstract. The record of *Phrynodon sandersoni* from Fernando Poo (= Bioko), Equatorial Guinea, by Mertens (1968, see also Amiet 1981) was based on misidentified specimens of *Dimorphognathus africanus*, which were not recorded before from that island.

Key words. Anura, Ranidae, *Dimorphognathus*, *Phrynodon*, Equatorial Guinea, Bioko, new record and deletion.

*Dimorphognathus africanus* (Hallowell, 1857) and *Phrynodon sandersoni* Parker, 1935 are two species of formally monotypic petropedetine ranid genera each (Frost 1986), although Amiet (1978: 7) listed another unnamed species for the former and two further unnamed species for the latter genus. In their general habitus, they both resemble *Phrynobatrachus*, a taxonomically most difficult, closely related genus. They are distinguished, however, by the possession of enlarged “teeth” in the lower jaw (to which both generic names are referring) being confined to the male in *Phrynodon*, but present in both sexes in *Dimorphognathus*. Moreover, these enlarged “teeth” are followed by smaller mandibular teeth in the latter, whereas they are isolated on an otherwise toothless lower jaw in the former. *Phrynodon*, in addition, has femoral glands in both sexes, well developed, trapezoid digital undivided disks (divided in the likewise related *Petropedetes*), T-shaped terminal phalangeae and a body size of only 22–26 mm (Perret 1966: 367f.). In contrast, *Dimorphognathus* lacks femoral glands and T-shaped terminal phalangeae, but has a peculiar suprametacarpal gland in the male. It reaches 25–28 mm body length in males and 28–30 mm in females (Perret 1966). Geographically, it is confined to South Cameroon, Gabun and adjacent Congo, whereas *Phrynodon* has an even more restricted distribution area, viz. Kribi and Efulen in southern Cameroon, and Nsoug in the Manengouba Mts belonging to the West Cameroon volcanic system (Perret 1966: 367, Amiet 1981: 1, Frost 1985: 451).

Two years after Perret's (1966) monumental work on the amphibians of Cameroon, Mertens (1968: 81) recorded *Phrynodon sandersoni* for the first time from Fernando Poo (now Bioko, Equatorial Guinea), based on 4 specimens collected by M. Eisen- traut in 1966 (see also Eisen- traut 1973: 301). Of these, two are catalogued under ZFMK 5885 (Parador above Musola, 800 m) and ZFMK 5886 (Bonyoma, 450 m). The two remaining specimens have been retained by Mertens (1968) in the course of his work on Eisen- traut's material and are now catalogued under SMF 64988–989, both being from the Parador above Musola, as ZFMK 5885.

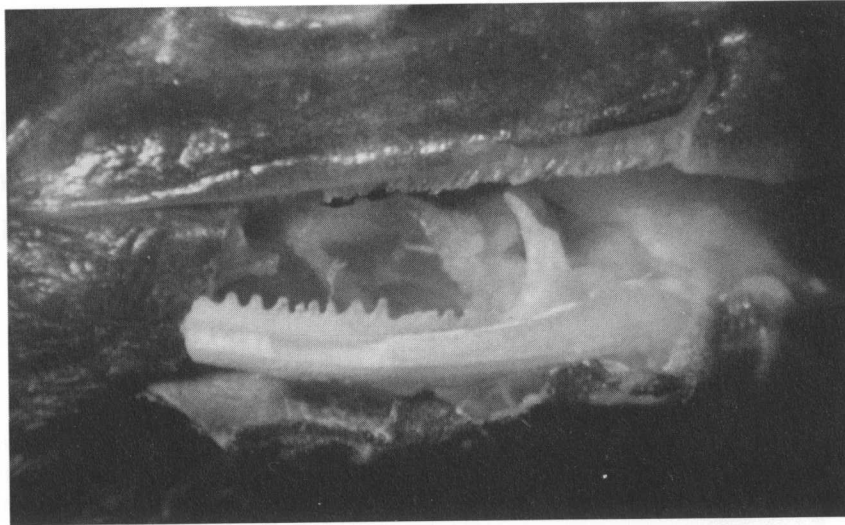


Fig. 1: Right lower jaw of *Dimorphognathus africanus* from Fernando Poo (= Bioko): male ZFMK 5886. phot. C. Esch (ZFMK).



Fig. 2: Right lower jaw of *D. africanus* from Fernando Poo (= Bioko): female ZFMK 5885. phot. C. Esch (ZFMK).

The two ZFMK specimens are a couple, the female being from Parador and the male being from Bonyoma. With 29 resp. 27 mm SVL they are bigger than the dimensions recorded for this species (see Perret 1966: 369). They both have enlarged mandibular “teeth” followed by smaller ones (Fig. 1 and 2), they lack femoral glands, but the male has very distinct metacarpal glands (Fig. 3). The terminal phalangeae are neither trapezoid nor T-shaped. The two SMF specimens are both males and agree with the ZFMK male in the above mentioned characters. Therefore, the frogs fit the definition of *Dimorphognathus* and not of *Phrynodon*, both by their size and their diagnostic characters. Whereas the three specimens from the Parador above Musola (800 m: ZFMK 5885 and SMF 64988–989) agree well also in their outer

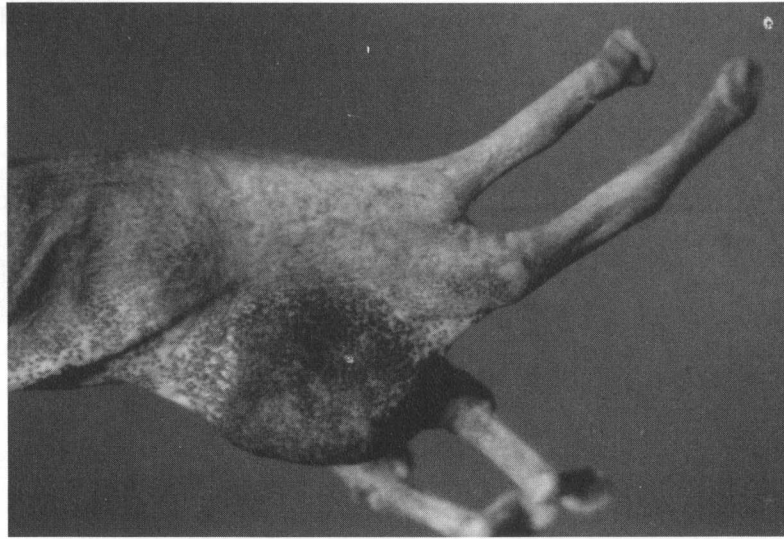


Fig. 3: Suprametacarpal gland on left manus of *D. africanus* from Fernando Poo (= Bioko): male ZFMK 5886. phot. C. Esch (ZFMK).

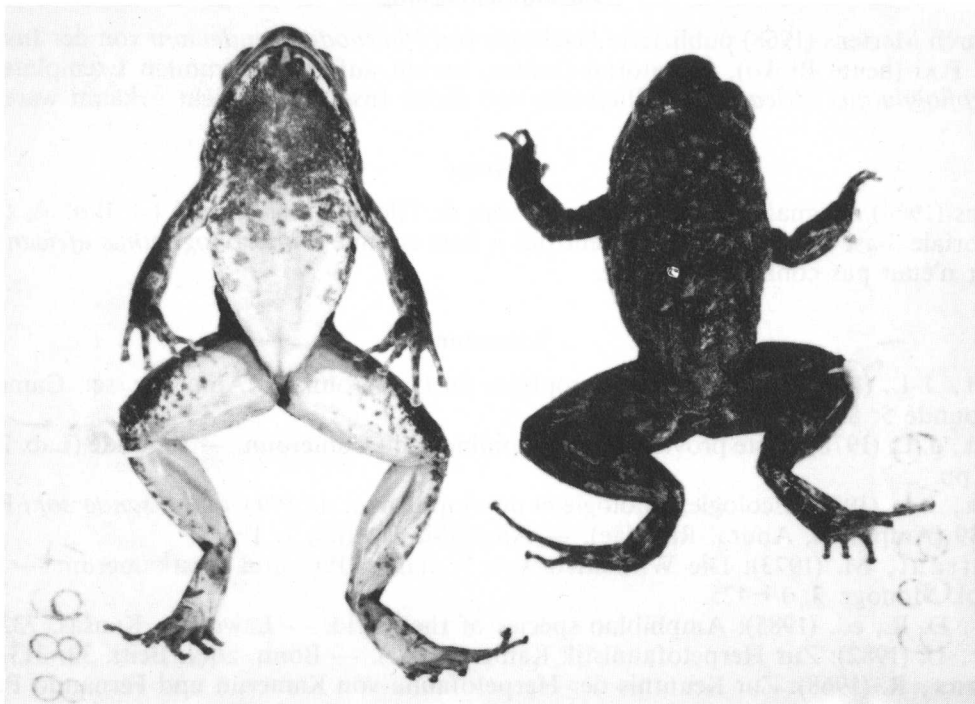


Fig. 4: Ventral and dorsal view of two males (SMF 64988—989) of *D. africanus* from Fernando Poo (= Bioko). phot. H. Meurer (ZFMK).

appearance (as shown in Fig. 4), the male ZFMK 5886 from Bonyoma has a more slender habitus, a less rugose skin and a light vertebral line, but otherwise shows clearly the diagnostic features of *Dimorphognathus*. It seems, thus, clear that the Fernando Poo specimens have been misidentified by Mertens (1968). Consequently,

*Phrynodon sandersoni* has to be deleted from the list of the amphibian species known from Bioko. It has to be replaced by *Dimorphognathus africanus*, which is recorded here from Bioko for the first time.

Also in the case of *Dimorphognathus africanus* a ZFMK record has to be corrected. The voucher specimens, collected and recorded by Joger (1982:321) from NE of Buea at Mt Cameroon (1100 m) were "habitually identified after Perret (1966)" (Joger 1982). They have some resemblance with the photograph in Perret (1966: 367, fig. 35), but lack enlarged mandibular teeth and suprametacarpal glands in the males. They are clearly representatives of *Phrynobatrachus*. On the basis of their reduced webs on the hindfeet and the montaneous locality they could tentatively be assigned to *Phrynobatrachus manengoubensis* (sensu Amiet 1970: 93), which was, however, subsequently placed into the synonymy of *P. wernerii* (see Amiet 1978: 6).

#### Acknowledgements

I thank Dr. Konrad Klemmer, Frankfurt, for loaning me the SMF specimens in his care. Further help was provided by Thomas Wilms, Bad Dürkheim. Photographic assistance by Christoph Esch and Horst Meurer (both ZFMK) is also gratefully acknowledged.

#### Zusammenfassung

Der durch Mertens (1968) publizierte Nachweis von *Phrynodon sandersoni* von der Insel Fernando Poo (heute Bioko), Äquatorial-Guinea, beruht auf fehlbestimmten Exemplaren von *Dimorphognathus africanus*, die ihrerseits von dieser Insel bisher nicht bekannt waren.

#### Résumé

Mertens (1968) a signalé *Phrynodon sandersoni* de l'île de Fernando Pô (= Bioko), Guinée Équatoriale, basé sur les individus identifiés à faux comme *Dimorphognathus africanus*. Ce dernier n'était pas connu de cette île.

#### Literatur

- Amiet, J.-L. (1970): Les batraciens orophiles du Cameroun. — Ann. Fac. sci. Cameroun, Yaoundé 5: 83–102.
- Amiet, J.-L. (1978): Liste provisoire des amphibiens du Cameroun. — Yaoundé (Lab. Zool.), 20 pp.
- Amiet, J.-L. (1981): Écologie, éthologie et développement de *Phrynodon sandersoni* Parker, 1939 (Amphibia, Anura, Ranidae). — Amphibia-Reptilia 2: 1–13.
- Eisentraut, M. (1973): Die Wirbeltiere von Fernando Poo und Westkamerun. — Bonn. zool. Monogr. 3: 1–425.
- Frost, D. R., ed. (1985): Amphibian species of the world. — Lawrence, Kansas, 732 pp.
- Joger, U. (1982): Zur Herpetofaunistik Kameruns (II). — Bonn. zool. Beitr. 33: 313–342.
- Mertens, R. (1968): Zur Kenntnis der Herpetofauna von Kamerun und Fernando Poo. — Bonn. zool. Beitr. 19: 69–84.
- Perret, J.-L. (1966): Les amphibiens du Cameroun. — Zool. Jahrb. Syst. 8: 289–464.

Priv.-Doz. Dr. Wolfgang Böhme, Zoologisches Forschungsinstitut und Museum Alexander Koenig, Adenauerallee 160, D-53113 Bonn, F. R. Germany.