



Rediscovery of the holotype of *Ditaxodon taeniatus* (Peters in Hensel, 1868) (Serpentes: Colubridae) and invalidation of the neotype designation

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Ditaxodon taeniatus is a striped, racer-like colubrid snake inhabiting grassland savannas in southern Brazil. This species was described as *Philodryas taeniatus* by the then curator of the Museum für Naturkunde der Humboldt-Universität zu Berlin (formerly Zoologisches Museum Berlin, ZMB), Wilhelm Peters, from a single specimen collected by Reinhold Hensel in Porto Alegre, Rio Grande do Sul. Peters' description was published in a paper by Hensel (1868: 331) and, according to the International Code of Zoological Nomenclature (ICZN, 1999: Article 50.1, Recommendation 51E), the correct citation is *Ditaxodon taeniatus* (Peters in Hensel, 1868). Later, George A. Boulenger (1896: 124) transferred *Philodryas taeniatus* to the genus *Conophis*, and Alphonse R. Hoge (1958: 54) created for it the new genus *Ditaxodon*, which remains monotypic today.

Recently, Robert A. Thomas and two authors of this note (RSB and JCML) presented the results of an examination of the 17 known specimens of *D. taeniatus*, in order to summarize all information available on taxonomic status, natural history, and distribution of this rarely collected species (Thomas *et al.*, 2006). Based on information that the holotype collected by Hensel was missing in the ZMB collection, the authors designated a specimen housed at the *Instituto Butantan*, in São Paulo, Brazil, as the neotype. However, Thomas *et al.*'s (2006) belief that the holotype was lost was based on information obtained more than 20 years ago, when the curator of herpetology in the Berlin collection was Günther Peters. Since 1985, the ZMB collection was under the care of Rainer Günther (recently retired), and most of Hensel's missing type specimens have been relocated, including (in good condition) the holotype of *Philodryas taeniatus* (ZMB 5980). The holotype had also been examined by Hoge (1958) almost 90 years after its description.

Not unusual in the 19th century, the description published by Peters (in Hensel, 1868) presented few data on scale counts and other features of the holotype, and its sex was not stated. Moreover, this description was based solely on the holotype and no other specimens were examined. Re-examination of the holotype allows us to present photographs and a partial redescription of this specimen.

Paramedian characters are given as left/right, where they differ; ventral counts and dorsal scale row reductions follow Dowling (1951a; 1951b). Notable differences between the original description and our re-examination are highlighted. Sex was not identified by incision, but the specimen is probably a male, based on body shape and comparison with scale counts presented by Thomas *et al.* (2006).

Hypapophyses on posterior vertebrae are absent, as determined through direct observation through older ventral incisions into the posteriormost quarter of the body. Snout-vent length 47.3 cm (46.5 in Peters' description); tail length 14.1 cm (15 in Peters); head length 19.9 mm (20 in Peters); head width 8.3 mm (7.5 in Peters).

Supralabials 7 (3 and 4 contact the eye), as stated in the original description, but there are 8 infralabials (4 contact anterior chin shields), with the first pair in contact behind mental. Peters reported 9 infralabials, but the ninth scale reaches beyond the posterior most supralabial and was not considered an infralabial here. Nasal divided, contacting first and second supralabials, in broad contact with prefrontal; majority of the nostril in anterior nasal; prenasal about same

size as postnasal. Loreal single, trapezoidal, barely longer than high, contacting second supralabial but failing to reach internasals. Preocular single, not contacting frontal, contacting second and third supralabials, and barely reaching dorsal surface of head. Two subequal postoculars; upper postocular contacts parietal and supraocular; lower postocular contacts parietal, anterior temporal, and fourth and fifth supralabials. Temporal formula 1+2+3. Rostral nearly as high as broad, visible from above. One pair of trapezoid internasals, nearly as long as broad. One pair of prefrontals, larger than internasals, and nearly as long as broad. Frontal unpaired (length 6 mm, width 2.5 mm), hexagonal, longer than supraoculars, and longer than its distance from the rostral (3.3 mm). One pair of parietals, longer than broad, a little longer than the frontal, and extending broadly onto the side of the head. Three occipital shields. Two pairs of inframaxillaries, posterior pair larger than the anterior pair, and not divided by gulars.

Dorsal scales smooth, without apical pits, with row reduction from 19 to 15, in the formula:

2+3(6)	3+4(126)	
19 -----	17 -----	15 (167)
2+3(7)	3+4(122)	

In the original description, Peters mentions only 17 rows of dorsal scales (smooth and without apical pits).

Caudal reduction as follows:

3+4(13)	2+3(33)	1+2(62)	
8(6) -----	6 -----	4 -----	2
3+4(15)	2+3(31)	1+2(65)	

Ventral plates 2+168 (170 in Peters), wide, without keels. Anal shield divided; subcaudals 76/73 (74 pairs in Peters); tail tip is lost obliquely.

Body and tail laterally compressed; head elongate, little pointed, barely distinct from neck. We cannot provide information on tooth counts from the holotype since both maxillary bones and the right mandibular bone have been removed, and the left mandibular bone is incomplete. However, tooth counts and illustrations were presented by Hoge (1958).

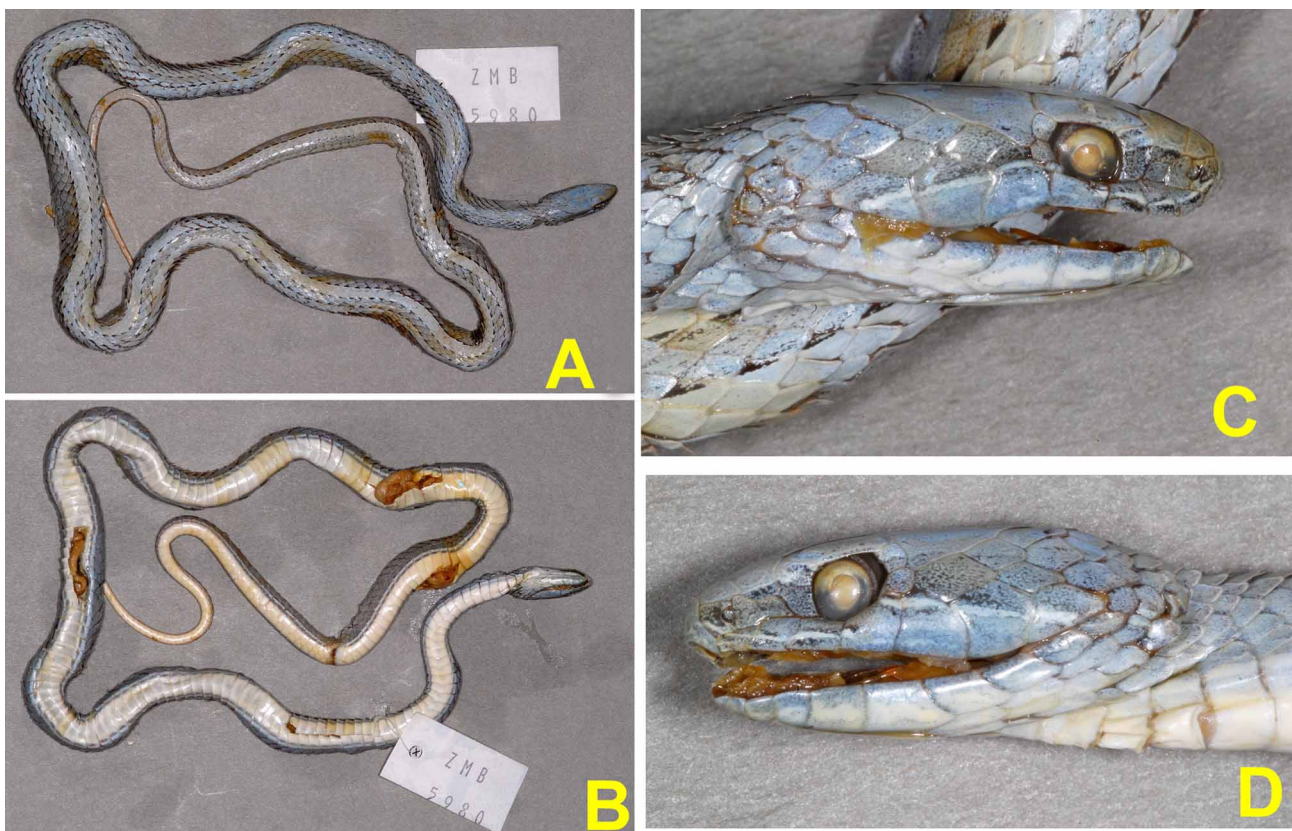


FIGURE 1. Holotype of *Ditaxodon taeniatus* in dorsal (A) and ventral views (B); head in right (C) and left (D) lateral views. Photos by Frank Tillack.

Figure 1 shows the current appearance of the preserved holotype. Colouration in life is provided in the original description (Hensel, 1868) in an excellent plate drawn by Robert Kleyer also presented in Amaral (1978). A photograph of a living specimen was published by Thomas *et al.* (2006).

The rediscovery of the holotype of *Philodryas taeniatus* forces us to invalidate the neotype designation proposed by Thomas *et al.* (2006). Additionally, there is doubt about the validity of Thomas *et al.*'s (2006) previous neotype designation because, although the holotype was considered lost, there was no outstanding concern regarding the taxonomic status of *D. taeniatus* (see ICZN, 1999: Article 75). The rediscovered holotype increases the total number of currently known specimens of *Ditaxodon taeniatus* to 18.

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References

- Amaral, A. (1978) *Serpentes do Brasil. Iconografia Colorida*. Edições Melhoramentos, São Paulo, 247 pp.
- Boulenger, G.A. (1896) *Catalogue of the Snakes in the British Museum (Natural History)*. Vol. 3. British Museum (Natural History), London, xiv + 727 pp.
- Dowling, H.G. (1951a) A proposed standard system of counting ventrals in snakes. *British Journal of Herpetology* 1, 97–99.
- Dowling, H.G. (1951b) A proposed method of expressing scale reductions in snakes. *Copeia* 1951(4), 131–134.
- Hensel, R. (1868) Beiträge zur Kenntniss der Wirbelthiere Südbrasilien. *Archiv für Naturgeschichte* 34(1), 323–375.
- Hoge, A.R. (1958) Die systematische Stellung von *Xenodon punctatus* Peters, 1880 und *Philodryas taeniatus* Hensel, 1868. *Mitteilungen aus dem Zoologischen Museum in Berlin* 34, 49–56.
- ICZN (1999) *International Code of Zoological Nomenclature*. International Trust for Zoological Nomenclature, London. Available from: <http://www.iczn.org/iczn/index.jsp>, (12 September 2007).
- Thomas, R.A., Bérnils, R.S., Moura-Leite J.C. & Morato S.A.A. (2006) Redescription of *Ditaxodon taeniatus* (Hensel, 1868) (Serpentes, Colubridae, Xenodontinae): variation, relationships, and distribution. *South American Journal of Herpetology* 1(2), 94–101.