

Clarification Regarding the Holotype of *Caecilia volceni* (Amphibia: Gymnophiona)

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We resolve a minor confusion regarding the holotype of *Caecilia volceni*. The animal figured in the original description is not the one from which the measurements for the description were taken. The photographs are of a paratype at the Field Museum of Natural History (FMNH 189208). The holotype has had the wrong field number associated with it and is in the collection of the University of Kansas Natural History Museum (UKMNH 203035).

IN the catalog of his personal collection, Taylor (1969) described collecting the type series of nine *Caecilia volceni*, with Charles Myers, from the soft mud bank of a swampy area draining into a small stream in Panama. The series was given EHT-HMS catalog numbers (4689–4697). We were unable to locate the holotype and in looking for it discovered a confusing case of mismatched tags and incorrectly labeled photographs.

Despite assigning catalog numbers to only nine specimens, in the formal description of *C. volceni* Taylor (1969) mentions 10: the holotype (EHT-HMS 4689), and a paratypic series (EHT-HMS 4690–4697 and 4697A) of nine other animals. The additional specimen appears to be a juvenile, and the posterior part of the body is missing.

The Field Museum of Natural History (FMNH) has nine specimens of *C. volceni* in their collection (FMNH 189206–13 and 189348). The first eight specimens have EHT-HMS numbers 4690–4697 tied to them, and although 189348 is assigned to EHT-HMS 4697A in the FMNH catalog, there is no EHT-HMS tag tied to it. The University of Kansas Museum of Natural History (UKMNH) has one specimen of *C. volceni* (UKMNH 203035), thought to be paratypic material, specifically EHT-HMS 4694. We did not find any reference to EHT-HMS 4689, the holotype, in either museum, or at the Illinois Natural History Survey, which also has some Taylor material.

The first issue is that both a FMNH specimen and the Kansas specimen are believed to be EHT-HMS 4694. Investigation showed that the Kansas specimen is in fact the holotype (EHT-HMS 4689). FMNH 189210 has Taylor's catalog tag "4694" tied to it. The only tag on the Kansas specimen is "UKMNH 203035." The total length of the Kansas specimen is 312 mm, just 8 mm shorter than the length of EHT-HMS 4689 given in Taylor (1969). Only one other specimen in the type series is close to this

length: EHT-HMS 4693 (324 mm). Table 1 of Taylor (1969) gives annular counts and measurements that distinguish the Kansas specimen from EHT-HMS 4693. From Taylor's catalog notes, it is clear that he intended to designate this specimen as the holotype.

This would seem to resolve the problem, except that the photographs of the holotype in Taylor (1969) are not of the Kansas specimen. Instead, FMNH 189208 (labeled EHT-HMS 4692) is the specimen photographed for Taylor (1969), called EHT-HMS 4689 in the figure legend, and referred to as the holotype. There are six photographs that purport to be of EHT-HMS 4689; all six are actually of FMNH 189208. In the two photographs showing the dorsal and ventral surface of the whole animal there are at least five distinctive marks, associated with specimen damage and folding, that correspond to marks and folds on EHT-HMS 4692 (FMNH 189208). The four close-ups, three views of the head and one of the vent, all reveal distinctive marks that match EHT-HMS 4692. Interestingly, the folds of the vent, which would normally be diagnostic in a photograph, evidently were overexposed and appear to have been drawn in pencil on the original plates. There are similar pencil additions to photographs of the skull. There are other marks on the head of the specimen that are not in the photographs. These are associated with the jaw adductors having been cut to open the mouth after preservation, which was done after the photographs were taken.

Redescription of the holotype.—A female with fully yolked eggs (3.5 mm in diameter), total length 312 mm, head width 7.3 mm, head length 13 mm, body width 10.0 mm, length/width 31.2, eye to tentacle 3.6 mm, and tentacle to nostril 1.35 mm, 122 primary folds, 28 secondary folds, eight premaxillary/maxillary teeth on each side, seven vomer/palatine teeth on each side, eight teeth on each dentary, and two splenial teeth on each side. Our tooth counts differ rad-

ically from those in Taylor (1969) because he counted potential tooth growth fields as well as any visible teeth. We have followed current practice and counted only those teeth that are fully erupted.

Referred material.—Institutional abbreviations are from Leviton et al. (1985). PANAMA: *Bocas del Toro*: USNM 339787. *Chiriquí*: Fortuna: SIUC H-5716 and H-6909. *Coclé*: CHP 1435, and CHP 3375.

Material examined.—The holotype: UKMNH 203035, TL 312 mm; paratypes FMNH 189208, female with previtellogenic eggs, TL 297 mm and FMNH 189210, TL 289 mm; and referred material including MVUP 884, TL 350 mm; CHP 1435, 268 mm, ZFMK 47729, 357 mm; USNM 339787. The remaining paratypic material: FMNH 189206, TL 268 mm; FMNH 189207, TL 245 mm; FMNH 189209, TL 310 mm; FMNH 189211, TL 303 mm; FMNH 189212, TL 273 mm; FMNH 189212, TL 273 mm, head removed and skeletonized; FMNH 189213, TL 236 mm, posterior missing; and FMNH 189206, TL 82 mm, posterior missing,

was remeasured by A. Resetar for comparison to Taylor's data at our request.

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LITERATURE CITED

- LEVITON, A. E., R. H. GIBBS JR., E. HEAL AND C. E. DAWSON. 1985. Standards in herpetology and ichthyology. Part I. Standard symbolic codes for institutional resource collections in herpetology and ichthyology. *Copeia* 1985:802–821.
- TAYLOR, E. H. 1969. A new Panamanian caecilian. *Univ. Kans. Sci. Bull.* 48:315–323.

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