

Notes on morphology, reproduction and medical importance of the poorly known Small-eyed Lancehead, *Bothrops microphthalmus* COPE, 1876, in Ecuador (Squamata: Serpentes: Viperidae)

Bemerkungen zur Morphologie, Fortpflanzung und medizinischen Bedeutung des wenig bekannten *Bothrops microphthalmus* COPE, 1876 in Ecuador (Squamata: Serpentes: Viperidae)

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KURZFASSUNG

Bothrops microphthalmus COPE, 1876 ist eine kleine Grubenotter, die im unteren feuchten Bergwald und Nebelwald entlang der Cordillera Oriental der Anden von Kolumbien bis Peru vorkommt. Ein weibliches Exemplar (882 mm Gesamtlänge) aus der Umgebung von Zamora (1000-1500 m ü. NN), Provinz Zamora-Chinchiipe, Ecuador, wird beschrieben. Es enthielt 36 weit entwickelte Embryonen. Über die medizinische Bedeutung von *Bothrops microphthalmus* in Ecuador sind keine sicheren Angaben verfügbar.

ABSTRACT

Bothrops microphthalmus COPE, 1876, the Small-eyed Lancehead, is a small pitviper which lives in lower montane wet forest and cloud forest along the Cordillera Oriental of the Andes from Colombia to Peru. A female specimen (882 mm in total length) from near Zamora (1000-1500 m a.s.l.), province of Zamora-Chinchiipe, Ecuador, is described. It was found to contain 36 well developed embryos. Reliable data on the medical importance of *Bothrops microphthalmus* in Ecuador are not available.

KEYWORDS

Bothrops microphthalmus, morphology, reproduction, snakebite; Ecuador

Bothrops microphthalmus COPE, 1876, the Small-eyed Lancehead, is a terrestrial, slightly heavy-bodied South American pitviper species. It is found along the Amazonian slopes of the Andes in Colombia, Ecuador, Peru and possibly in adjacent Bolivia and Brazil (CAMPBELL & LAMAR 1989).

This species appears to be poorly known and rarely encountered in the field, although it may prove to be common locally. We have not been able to find published data regarding its life history, except for the fact that it occurs in lower montane wet forest and cloud forest habitats up to an altitude of at least 2350 m a.s.l., averages 400 to 700 mm in total length and is not known to exceed 941 mm (CAMPBELL & LAMAR 1989). The following brief note, although of preliminary

character, may therefore be of interest.

A few years ago, the Snake Department of the Instituto Nacional de Higiene y Medicina Tropical (INHMT) received a female *B. microphthalmus* (INHMT 1408) which had been killed and preserved in alcohol by a local between El Limón and La Fragancia, two or three kilometres northwest of the city of Zamora, Province of Zamora - Chinchiipe, Ecuador (4°3' S, 78°58' W). The area lies at an altitude between 1000 and 1500 m a.s.l. in the eastern (= Amazonian) slopes of the Cordillera Oriental of the Andes. Suitable lower montane wet forest habitats exist nearby.

The snake has 8 slightly keeled intersupraoculars; 7/7 supralabials, the second discrete from the prelacunal; 9/10 infra-labials; 27/21/19 dorsal scale rows; 150

ventrals; and 56 subcaudals plus a 2.8 mm tail tip. All subcaudals except numbers 48-51 are divided. The total length of the specimen is 882 mm (head: 42 mm; body: 708 mm; tail: 132 mm). Due to an artefact, most probably caused by extreme sunlight exposure of the preserved specimen, many parts of the snake are without distinguishable pattern or colouration. There was no visible dorsal head pattern, but a postocular stripe possibly extended over the upper angle of the jaw and the last supralabial onto the throat where it fusions with the first dark dorso-lateral blotch. There are about 15 dark bands or blotches on the body which are usually complete and only sometimes, especially in the anterior part of the body, slightly juxtaposed. These dorsolateral blotches are trapezoidal and dark brown to black, with a light triangular center. The interspaces between the blotches are light. The latter appear to be indistinct in the anterior half of the body where only thin dark lines are distinguishable. They reach from the second row above the paraventrals to the back of the snake in a trapezoidal shape and are broadest laterally and smallest vertebrally. In the posterior half of the body, the blotches become much broader and more distinct; the light interspaces are narrower and there is a dark banded pattern in which the dark elements do reach the paraventral row. On the tail, there are about 12 dark blotches which are bordered by ca. 12 to 13 light narrow bands. The ventral colour was probably dark (dark brown to black) in life, with very small light spots; and the tail was presumably light ventrally. The ventral side of the head was creamy; the dorsal ground colour grey, light grey, dark yellow to light brown or light beige. The strongly curved fangs measure about 15 mm.

The specimen appeared gravid, and dissection revealed that it contained 36 well developed embryos (fig. 1). Several of them which were removed from the egg membrane had a total length of 181-203 mm (head: 9-11 mm; body: 140-160 mm; tail: 31-33 mm).

The case of the above mentioned *B. microphthalmus* demonstrates that this pitviper species may be quite prolific. It is interesting to note that the reproductive potential of this large adult female *B. microphthalmus* was greater than that of large adult *B. atrox* (LINNAEUS, 1758) from different populations, as far as reported in the literature (BEEBE 1946; HOGE & FEDERSONI 1977; DUELLMAN 1978; FEDERSONI 1981). It even approaches that of large specimens of *B. asper* (GARMAN, 1883) from the Pacific population in Costa Rica (SOLORZANO & CERDAS 1989).

B. microphthalmus is suspected of considerably contributing to the problem of snake venom poisoning along the Cordillera Oriental of the Andes in Ecuador where necrosis and amputation are said to be more common than in areas inhabited by *B. asper* (Pacific coastal lowlands of Ecuador - FREIRE & KUCH 1994) and where snakebite mortality also appears to be higher. However, the factors resulting in this situation have not been well studied so far, and it is not clear to which extent *B. microphthalmus* or the common *B. atrox* are responsible for it. Both species occur sympatrically at least in some areas and are often confused by the local population who may give both of them the name 'hoja podrida' (= rotten leaf), usually applied to *B. microphthalmus*. These species, however, can be easily distinguished by the character of their prelacunals, which are fused with the second supralabials in *B. atrox*, and separate from the supralabials in *B. microphthalmus*.

Preliminary investigations carried out at the INHMT indicated that *B. microphthalmus* venom is relatively poorly neutralized by different commercially-available antisera (JORDAN & FREIRE, unpublished), an opinion shared by local physicians.

Regarding the lack of knowledge about *B. microphthalmus* it appears necessary to perform detailed studies on this pitviper species in order to gain a better understanding of its natural history, venom characteristics, and medical importance.

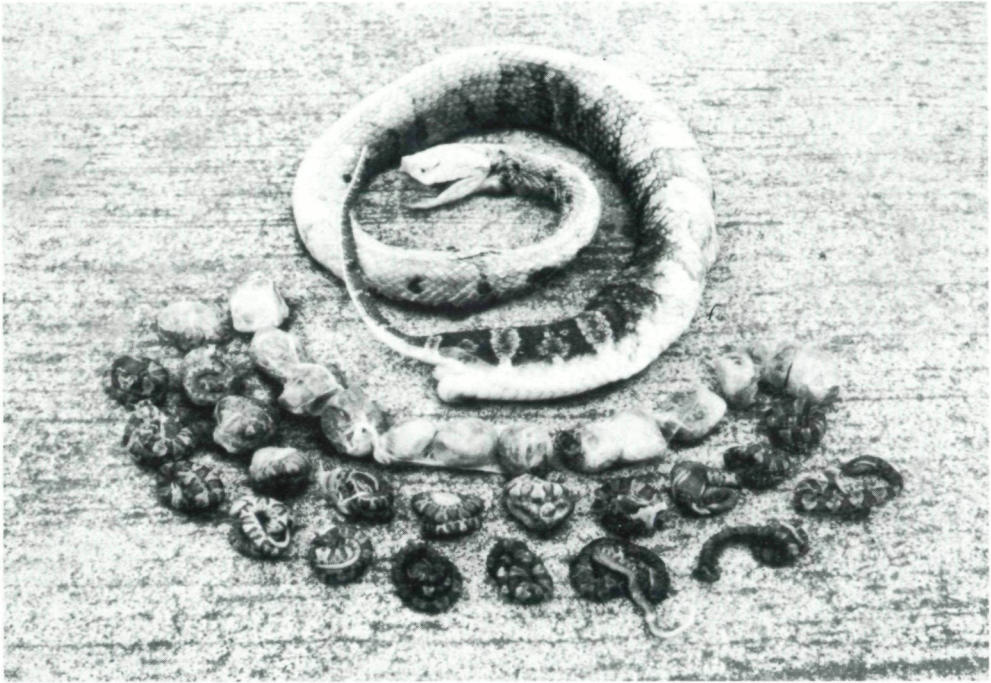


Fig. 1: *Bothrops microphthalmus* COPE, 1876 with embryos.
Abb. 1: *Bothrops microphthalmus* COPE, 1876 mit Embryonen.

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