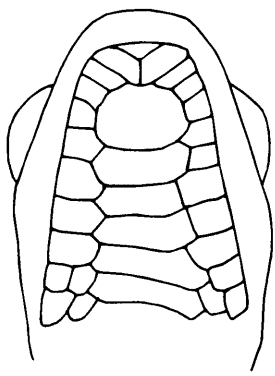

Fig. 2: *Dipsas articulata* (SMF 81010). Ventral head (unpaired chin shields shaded).

Jay SAVAGE (in litt. 8 June, 2001) informed us that he had received from Jaime VILLA a specimen of *D. articulata* that supposedly had been collected in Nicaragua. VILLA had exact locality data of this snake but he never provided this information. The specimen was later sent to Los Angeles County Museum (Los Angeles, California) by SAVAGE. As presently understood, two species of *Dipsas*, *D. articulata* and *D. bicolor* (GÜNTHER, 1895) occur in southeastern Nicaragua which is the only instance of documented overlapping geographic distributions in species of *Dipsas* in Central America (PETERS 1960).

ACKNOWLEDGEMENTS: Collecting and exportation permits were provided by M. FONSECA CUEVAS, M. G. CAMACHO, and Carlos RIVAS LECLAIR, Ministerio del Ambiente y los Recursos Naturales (MARENA), Managua, Nicaragua.

REFERENCES: PETERS, J. A. (1960): The snakes of the subfamily Dipsadinae.- Misc. Publ. Mus. Zool. Univ. Michigan, Ann Arbor; 114: 1-224. SMITHE, F. B. (1975-1981): Naturalist's colour Guide. Part I. colour Guide. 182 colour swatches. New York (American Museum of Natural History), pp. 23.

KEY WORDS: Reptilia: Serpentes: Colubridae; *Dipsas articulata*, morphology, new record, Nicaragua

SUBMITTED: September 19, 2001

AUTHORS: Dr. Gunther KÖHLER, Forschungsinstitut und Naturmuseum Senckenberg, Senckenberganlage 25, D-60325 Frankfurt a. M., Germany [email: gkoehler@sng.uni-frankfurt.de]; Eva VIELMETTER, 495 E. Alameda St., Altadena, CA 91001, USA.

Notes on *Phyllobates lugubris* O. SCHMIDT, 1857 in Nicaragua

Phyllobates lugubris O. SCHMIDT, 1857 is distributed from extreme SE Nicaragua to W Panama (SIVERSTONE 1976; CALDWELL 1994). Its occurrence in Nicaragua was mentioned by CALDWELL (1994), a reference overlooked by KOEHLER (1999). During a herpetofaunal survey (24 April - 10 May 2001) at Refugio Bartola (10° 58.37'N, 84°20.35'W; 30 m a.s.l.; ca. 50 airline km WSW San Carlos) in SE Nicaragua, *P. lugubris* was documented (fig. 1).

Individuals of this frog were located along a small rainforest stream in tall primary forest at the Refugio, in a gully cut by the stream in otherwise fairly level terrain. The forest is typical lowland Caribbean rainforest with about 4 m of annual precipitation, and is minimally disturbed. The uneven canopy is around 30 - 40 m tall, with emergent trees to nearly 50 m. The vegetation is uniformly dense to the canopy, but reasonably open at ground level and with high plant species diversity; the estimated floral diversity of the two square kilometres of the Refugio is about 1,100 species, with lianas, epiphytes and subcanopy palms well represented. The subdominant canopy tree *Dipteryx panamensis* is more common here than is *Pentaclethra*, the reverse of their abundances at the La Selva Station in Costa Rica, some 70 km SSW (MCDADE et al. 1994).

At trail marker "Red-dot 18" five calling males were located in a 27 m stretch of the stream, here 1 - 2 m wide, and these were quite regularly spaced at 5.5, 6, 5.5 and 10 m intervals. Calling locations were on the banks, and averaged 1.3 m from the edge of the stream (range 0.7 - 2 m) and 0.5 m above stream level (range 0.23 - 0.9 m). Males were heard subsequently calling at this location over several days, at all hours of the day, and also at other streamside locations (e.g., Red-dot 12, Orange 15). Apparently the frog is reasonably common in the narrow gully bottoms along small streams throughout the forest. Both males captured carried tadpoles, one a single large tadpole and the other many small tadpoles. Calling frogs were located 4 May 2001 shortly after rain

Fig. 1: *Phyllobates lugubris* (SMF 80992) from Bartola, Nicaragua.

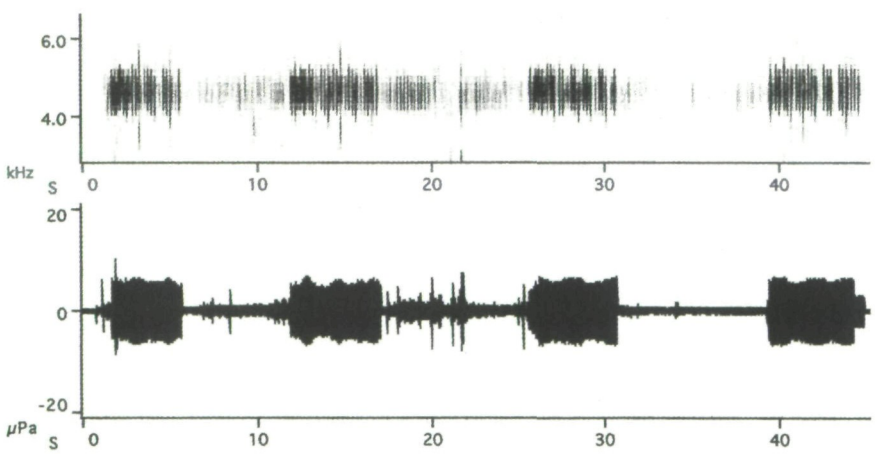

Fig. 2: Sonogram (top) and oscillogram (bottom) of four calls of *Phyllobates lugubris* at Bartola, Nicaragua.

showers that followed a dry week in a generally severe dry season; only 8 mm of precipitation fell during our 15 day visit to the site. Calls of 4 males were recorded with a Marantz™ tape-recorder with Bionic Ear™ parabolic microphone attachment. Playbacks to frogs elicited calls from more distant frogs; playbacks within 1 - 2 m of suspected frog locations results in the frog's approach to within 0.5 m of the recorder placed on the ground, making capture easy. Figure 2 illustrates the sonogram (top) and oscillogram (bottom) of four *Phyllobates* calls generated with Canary™ software. The song frequency lies between around 4.2 and 5.2 kHz, call duration is around 5 s, and interval between calls in this sequence is around 8 - 10 s. Three males (SMF 80992-93, 80995; snout-vent length 18.7 - 19.5 mm) and one female (SMF 80994; snout-vent length 21.3 mm) of *P. lugubris* were collected and deposited in the collection of the Forschungsinstitut und Naturmuseum Senckenberg (SMF), Germany. The coloration in life (capitalized names of colours and colour codes [the latter in parentheses] are those of SMITHE 1975 - 1981) of a male (SMF 80992) was recorded as follows: Dorsal ground colour Jet Black (90) with a pair of Orange-Yellow (18) dorsolateral longitudinal stripes; ventral surfaces Jet Black (90) with Pratt's Payne's Gray (88) reticulation; limbs Jet Black (90) with Paris Green (63) to Pratt's Payne's Gray (88) mottling.

ACKNOWLEDGEMENTS: Collecting and exportation permits were provided by M. FONSECA CUEVAS, M. G. CAMACHO, and Carlos RIVAS LECLAIR, Ministerio del Ambiente y los Recursos Naturales (MARENA), Managua, Nicaragua.

REFERENCES: CALDWELL, J. P. (1994): Natural history and survival of eggs and early larval stages of *Agalychnis calcarifer* (Anura: Hylidae).- Herpetol. Nat. Hist., Riverside; 2: 57-66. KOEHLER, G. (1999): The amphibians and reptiles of Nicaragua - a distributional checklist with keys. - Courier Forschungsinstitut Senckenberg; Frankfurt a. M.; 213: 1-121. MCDADE, L. A. & BAWA, K .S. & HESPENHEIDE, H. A. & HARTSHORN, G. S. (eds.) (1994): La Selva. Ecology and natural history of a Neotropical rain forest. Chicago, London (Univ. Chicago Press), 486 pp. SILVERSTONE, P. A. (1976): A revision of the poison-arrow frogs of the genus *Phyllobates* BIBRON in SAGRA (family Dendrobatidae).- Nat. Hist. Mus. Los Angeles County Sci. Bull., Los Angeles; 27: 1-53. SMITHE, F. B. (1975-1981): Naturalist's colour Guide. Part I. colour Guide. 182 colour swatches. New York (American Museum of Natural History), pp. 23.

KEY WORDS: Amphibia: Anura: Dendrobatidae; *Phyllobates lugubris*, biology, bioacoustics, colour-pattern, Nicaragua

SUBMITTED: September 19, 2001

AUTHORS: Dr. Martin L. CODY, Department of Biology, University of California, Los Angeles, CA 90024, USA; Dr. Gunther KÖHLER, Forschungsinstitut und Naturmuseum Senckenberg, Senckenberganlage 25, D-60325 Frankfurt a. M., Germany [email: gkoehler@ sng.uni-frankfurt.de].

On the distribution of *Telescopus fallax*. Discussion of a record locality

The authors point to the incorrect mention of a record locality in the article on *Telescopus fallax* (FLEISCHMANN, 1831) within the handbook "Handbuch der Reptilien und Amphibien Europas" (GRILLITSCH & GRILLITSCH 1999). As is explained on page 769, dot number 42 in map number 131 (eastern Balkans, page 766) represents a place named Tetovo. However, this record locality refers to the following labelling of a specimen at the Natural History Museum in Vienna (NMW 7090): "Teovo, Dalmatien, Coll. VEITH, VIII. 1908, Nr. 228".

Teovo (41°34' N / 21°34' E, 693 m asl) is situated about 75 km south-east of Tetovo (about halfway between Titov Veles and Prilep). In that the record locality Tetovo turns out to be incorrect, Skopje (dot number 43 in map 131) becomes the northernmost record locality of *T. fallax* in Macedonia. Teovo lies within the distribution area of *T. fallax*, yet not in Dalmatia as is said on the label. In the south of Dalmatia (south of Dubrovnik) there is a place named Tivat (formerly Teodo, 42°24' N / 18°44' E, 0 m asl) in the area of the Bay of Kotor (between dot number 26 and 28 in map 130). This place lies in the distribution area of *T. fallax* as well.

It remains unclear whether either of these places (Teovo or Teodo) is meant by the label inscription "Teovo, Dalmatien". However, none of these potential record locations would substantially contribute to our knowledge on the taxon's distribution.

LITERATURE: GRILLITSCH, H. & GRILLITSCH, B. (1999): *Telescopus fallax* (FLEISCHMANN, 1831) - Europäische Katzennatter; pp. 757 - 788. In: BÖHME, W. (Ed.): Handbuch der Reptilien und Amphibien Eu-