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Research note

New localities and altitudinal records for the snakes *Oxyrhopus petolarius, Spilotes pullatus*, and *Urotheca fulviceps* in Talamanca, Costa Rica

Nuevas localidades y registros de elevación de las serpientes *Oxyrhopus petolarius, Spilotes pullatus* y *Urotheca fulviceps* en Talamanca, Costa Rica

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Abstract. Distribution records are the basis for conservation planning and species conservation assessments. New locality and elevation records are reported for 2 dipsadid snakes (*Oxyrhopus petolarius* and *Urotheca fulviceps)* and 1 colubrid (*Spilotes pullatus*) from the Talamanca mountain range of Costa Rica as established by direct sightings. These new records represent important additions to the knowledge of the species and more generally for the Talamanca ecoregion.

Key words: Calico, Colubridae, Dipsadidae, Glasstail, La Amistad, rat-snake.

Resumen. Los registros de distribución de especies son la base para la planificación y evaluación del estado de conservación de éstas y los ecosistemas en que habitan. Se presentan 3 nuevas localidades y registros de elevación de 2 especies de dipsádidos (*Oxyrhopus petolarius* y *Urotheca fulviceps*) y 1 especie de colúbrido (*Spilotes pullatus*) en la cordillera de Talamanca, con base en observaciones directas. Estos registros representan importantes adiciones tanto para la ecoregión de Talamanca, como para el aumento significativo en el conocimiento de estas especies.

Palabras clave: Calico, Colubridae, Dipsadidae, Glasstail, La Amistad, serpiente ratonera.

Distribution records are the basis for species status assessment and conservation planning, and accurate information about species' ranges is necessary for understanding assemblages, biogeography and natural history (Anderson et al., 2003, Drechslera et al., 2007). Snake species in the tropics are, in general, poorly known due to the low research interest in the group, particularly their ecology, distribution, and conservation (Wasko and Sasa, 2008); therefore, there are important gaps in the information necessary to better understand the real conservation status of these reptiles.

The family Colubridae is comprised of 234 genera globally (J. Craig Venter Institute, 2010) and 19 in Costa Rica, with 39 species confirmed in the country (Bolaños et al., 2009). The family Dipsadidae includes 700 species distributed in 92 genera globally (Vidal et al., 2010) and 65 species in 24 genera for Costa Rica (Bolaños et al., 2009). *Oxyrhopus petolarius* is an uncommon, terrestrial, oviparous snake distributed from Veracruz, México to Brazil, Perú, Bolivia, and Argentina (Solórzano, 2004). In Costa Rica, it inhabits the Caribbean and Pacific lowlands with most confirmed records from the Northeastern Caribbean slope (Savage, 2002). *Urotheca fulviceps* is a rare and patchily distributed species ranging from Costa Rica to western Ecuador and northwestern Venezuela; in Costa Rica, it is only known from few localities on the Central Pacific slope, the Osa Peninsula (Savage, 2002), and the Tilarán Mountains (Solórzano, 2004). *Spilotes pullatus* is a large snake distributed from Tamaulipas, México, to Bolivia, Ecuador, Paraguay, and Argentina (Solórzano, 2004); in Costa Rica, it is present on both the Pacific and Caribbean slopes, mainly in the lowlands and driest portions of the northwestern region (Savage, 2002) with some color differences for the few specimens known from the humid portions of the country (Solórzano, 2004). The geographic ranges of *O. petolarius* and *S. pullatus*

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are relatively well known in Costa Rica with multiple confirmed records in several localities, while there is little information and few records of *U. fulviceps* in the country. Information on the altitudinal distribution of the 3 species is scarce; however, on the basis of location records and the literature, it is inferred that *O. petolarius* is distributed from sea-level to 1 200 m and *S. pullatus* from sea-level to 1 500 m (Solorzano, 2004). There is variable information on the altitudinal range of *U. fulviceps* with records at 20 and 80 m in Costa Rica, 0-600 m in Venezuela, and unconfirmed records in pre-montane zones (800-2 023 m) of Colombia (Myers, 1974).

All 3 species are relatively easy to identify in the field because they have prominent identifying characteristics. *S. pullatus* is a large snake (total maximum length of 260 cm) with a typical color that is unique to the species; in Costa Rica, it can only be confused with larger species (i.e. *Chironius grandisquamis, Clelia clelia, Drymarchon melanurus, Lampropeltis triangulum*, and *Pseustes poecilonotus*; Solorzano, 2004), but its distinctive coloration makes for easy field identification. *O. petolarius* is a medium-sized snake (total maximum length of 120 cm) with similar coloration to false coral snakes (i.e. *Erythrolampus bizona, E. mimus, Liophis ephinephalus, Rhinobothryum bovallii, Scaphiodontophis annulatus, Siphlophis compressus, Tantilla supracincta*, and *Urotheca euryzona*; Solorzano, 2004); however, its distinct color pattern, size, and scale configuration make it difficult to confuse with similar species. Lastly, *U. fulviceps* is a small snake (maximum total length 65 cm) only confused with other species in the same genus; however, it has a distinctively striped dorsum and head cap extended from 3 to 4 scales onto the neck and presents temporal 1+2 (Solórzano, 2004).

The Talamanca mountain range, or Talamanca eco-region, ranging from 0 to 3 280 m a.s.l., is located in southeastern Costa Rica and western Panama, and it separates the Pacific and Caribbean sides of both countries. The area, also known as La Amistad (the name of both a National Park and a Biosphere Reserve in Costa Rica), encompasses the largest remaining area of montane rainforest in southern Mesoamerica and is on several global conservation priority lists, including UNESCO World Natural Heritage, UNESCO Man and the Biosphere Reserve, WWF Global 200 Ecoregions, among others (González-Maya and Mata-Lorenzen, 2008).

During extensive conservation planning field work in the Talamanca mountain range from 2006 to 2010, *O. petolarius* and *U. fulviceps* were each seen once, while individuals of *S. pullatus* were seen twice on the Pacific slope. An adult male *O. petolarius* was captured in 2006 in Altamira, Buenos Aires, Puntarenas at 9° 1' 45.71" N and 83° 0' 29.82" W at 1 334 m a.s.l. (Figs. 1, 2c). An adult female of *U. fulviceps* was captured in 2008 at Finca Las Alturas del Bosque Verde, Sector La Escuadra, near Las Alturas, Coto Brus, Puntarenas at 9° 0' 13.43" N and 82° 56' 6.19" W at 1 578 m a.s.l. (Figs. 1, 2b). Lastly, 2 male adults of *S. pullatus* were captured at Finca Las Alturas

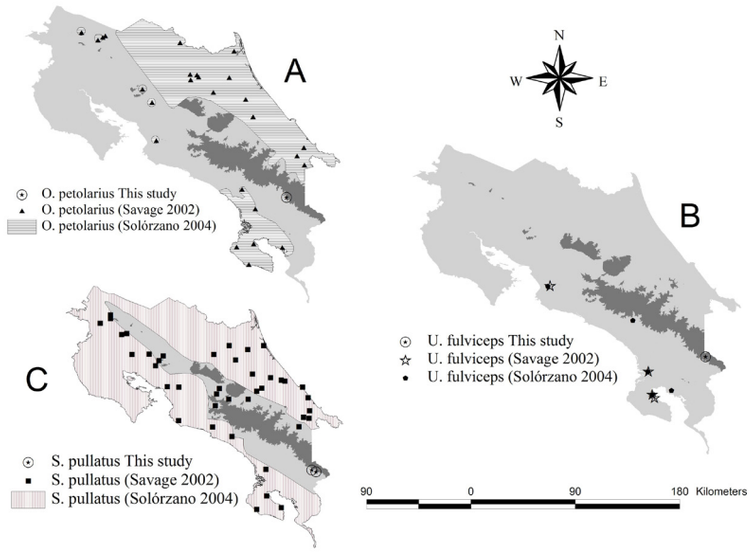

Figure 1. Maps of Costa Rica showing previously recorded locations and new localities from this article for *S. pullatus*, *U. fulviceps*, and *O. petolarius.*

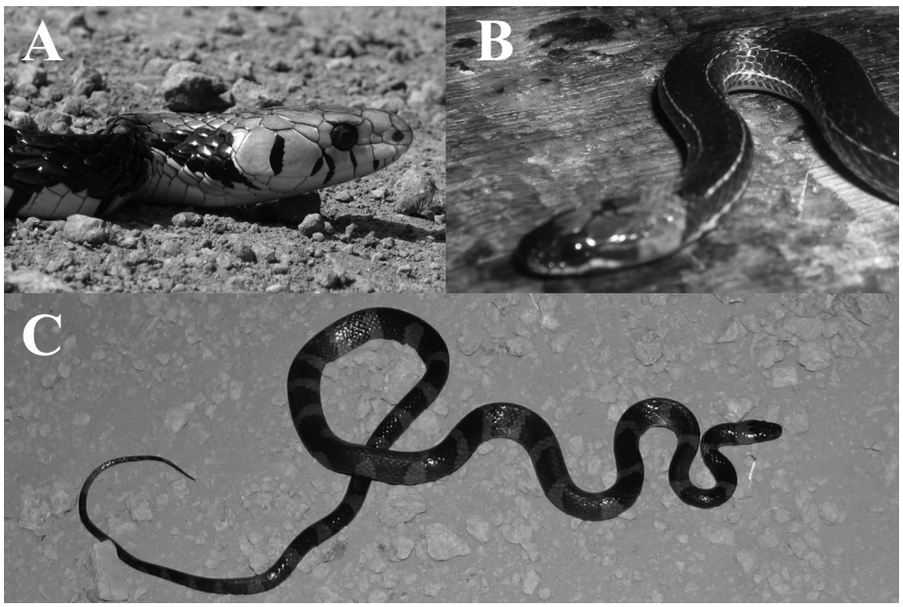

Figure 2. Specimens of *S. pullatus* (A), *U. fulviceps* (B), and *O. petolarius* (C) from Finca Las Alturas (A, B) and Altamira (C).

del Bosque Verde, Las Alturas, Coto Brus, Puntarenas; the first specimen was captured in 2008 at 8° 56' 28.86" N and 82° 50' 17.42" W at 1 372 m a.s.l., and another was captured in 2010 at 8° 56' 8.96" N and 82° 49' 28.36" W at 1 370 m a.s.l. (Figs. 1, 2a).

These records add 3 new species to the known herpetofauna of the Talamanca eco-region. In addition to increasing the known geographic range of these species for Costa Rica, the records for *U. fulviceps* and *O. petolarius* represent new altitudinal records, expanding the altitudinal range of these 2 species in the country to 1 498 m a.s.l and 636 m a.s.l., respectively.

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