

Salamander using its prehensile tail - *Bolitoglossa* cf. *nympha* (Plethodontidae; sub-genus *Nanotriton*), Honduras

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Bolitoglossa nympha Campbell, Smith, Streicher, Acevedo, & Brodie 2010 is a diminutive salamander; snout-vent-length <43 mm, tail-length/SVL ratio 0.70–0.95 (Kohler, 2011). It occurs at low-to-mid elevations (275 to 1165 m asl) from Huehuetenango and Baja Verapaz provinces in Guatemala, through to Copán, Cortés, and Yoro in Honduras (Frost, 2020). The species belongs to a complex of four closely related bolitoglossine salamanders in the *Bolitoglossa rufescens* group (subgenus *Nanotriton*; Parra-Olea et al., 2004). In north-western Honduras, in-situ identification of *Bolitoglossa* (*Nanotriton*) is tentative given the occurrence of at least two cryptic taxa (*B. nympha* & *B. rufescens*) in microsympatry; both these species being morphologically indistinguishable in the field (Hess et al., 2017). Species of *Bolitoglossa* (*Nanotriton*) primarily inhabit lowland tropical rainforest habitats, but are also associated with agricultural habitats such as banana plantations (Rovito et al., 2012 a&b). They are primarily nocturnal and semi-arboreal, frequently climbing moist vegetation to use leaf-axil refugia and bromeliads (Rovito et al., 2012b). Unlike other *Bolitoglossa*, species of the subgenus *Nanotriton* are unique in having small robust bodies, with a tail length usually shorter than their SVL, and underdeveloped feet with extensive webbing (Parra-Olea et al., 2004; Kohler, 2011).

Previously, the tail of *Bolitoglossa* (*Nanotriton*) spp. has been linked to defensive strategies such as raising, posturing and autotomy (Arrivillaga & Brown, 2018). However, the following note details *B. cf. nympha* using its tail to grasp and assist climbing following a flip and fall defensive manoeuvre. On 14 July 2016, c. 19.40 h, I encountered an adult *Bolitoglossa* (*Nanotriton* sp. - assumed to be *B. nympha*) active on streamside vegetation bordering agricultural land, in the lowland buffer region of Parque Nacional El Cusuco (PNC), Santo Tomas, Cortés, Honduras. The individual was climbing c. 2m above ground, but when approached, flipped and dropped from its perch, then caught itself using the tail like a hook to grasp a stem c. 1 m below (Fig 1A). After dangling motionless for c. 1 minute, the tail was used to lever the body upwards and prevent the salamander from falling (Fig 1B). Such a mechanism might not only protect the salamander from an injurious fall, but could also fool a predator as to its whereabouts, assuming it to have fallen completely to the ground.

Long prehensile tails are a widespread adaptation among arboreal plethodontid salamanders (Duellman & Trueb, 1986), but evidence of their use in assisted climbing, escape



Figure 1. *Nanotriton* (*B. cf. nympha*) exhibiting caudal prehensility following a flip and fall escape, **A.** The salamander hanging momentarily after having caught itself using the tail to grasp a stem, **B.** The salamander leveraging itself back up onto the stem

and/or defence remains rare. Phillips & Nicholson (2013) coined the term ‘caudal prehensility’ to define this behaviour in salamanders, reporting an observation of *Bolitoglossa lignicolor* using its tail in a hook-like fashion to catch itself following a flipping escape. Until now, *B. lignicolor* remained the only *Bolitoglossa* species in which this behaviour was reported definitively. The present observation demonstrates prehensility in *B. cf. nympha*, suggesting that even short tails like those of sub-genus *Nanotriton* are practical for locomotion and defence in an arboreal setting. Our collective studies call for more field observations in order to determine whether prehensility is widespread in bolitoglossine species.

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