



## First Record of the Tibetan Rock Agama (*Laudakia papenfussi* Zhao 1998) from India and a New Low Elevational Record

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Five species of Rock Agamas in the genus *Laudakia* Gray 1845 have been recorded in India (Baig et al. 2012; Khan et al. 2012): *Laudakia agorensis* (Stoliczka 1872), *Laudakia dayana* (Stoliczka 1871), *Laudakia melanura* Blyth 1854, *Laudakia pakistanica* (Baig 1989), and *Laudakia tuberculata* (Gray 1827). We herein confirm the presence of a sixth species, *Laudakia papenfussi* Zhao 1998 from the state of Himachal Pradesh. Until now, this species was known only from the male type specimen (Zhao 1998) and three recently documented female specimens (Zou et al. 2016), all of which were in the Mayang River Valley, Zanda County, Tibet.

*Laudakia papenfussi* is a dorsoventrally compressed, saxicolous lizard of high elevation (3,050–3,300 m asl) rocky river valleys of the southwestern Tibetan Plateau (Zou et al. 2016; Huang 2019). It is omnivorous and often seems to exist as the sole reptilian species in its habitat (Zou et al. 2016). Despite its restricted range and some threat from practitioners of traditional medicine and dam construction in its previously known range, this lizard has been listed as being of Least Concern (LC) on the IUCN Red List of Threatened Species due to the relatively low human presence and impact in these inaccessible habitats (Huang 2019).

We observed and captured (permit number FFE-FB-F(10)-3/2017) a male rock agama in Reckong Peo, Kinnaur District, Himachal Pradesh, India, at (31.530, 78.268; elev. 2,373 m asl) (Fig. 1) the lowest elevation recorded for this species. *Laudakia tuberculata* is widely distributed across Himachal Pradesh and we differentiated our captured specimen from previously recorded species using diagnostic features in Zhao's (1998) original description and Zou et al. (2016), ultimately identifying it as *L. papenfussi*. A photograph of the specimen was deposited in the University of Kansas Digital Archive, Lawrence, Kansas, USA (KUDA



**Figure 1.** An adult male Tibetan Rock Agama (*Laudakia papenfussi*) perched on a rock wall in Reckon Peo, Kinnaur District, Himachal Pradesh, India. Photograph by John Benjamin Owens.





**Figure 2.** The head of an adult male Tibetan Rock Agama (*Laudakia papenfussi*) from Himachal Pradesh, India, showing defining nostril shape and supranasal scales; note also that the iris is primarily brown with some blue; some variation, however, is expected due to the small number of individuals that have been examined (top). Yellow spots on clusters of small, keeled or on single, larger conical scales on the dorsum (middle). The orange venter and the abdominal callus indicating that this individual was a male (bottom). Photographs by John Benjamin Owens.

14688) and the identity of the species was independently verified by Maya Master.

The primary defining traits were nostrils pointing outward posteriorly and situated in the middle of elliptical nasal scales, single supranasal scales, blunt superciliary ridges that are poorly developed, primarily brown irises, and many small, pale spots on the dorsum arranged in small clusters of 3–8 keeled scales or on single, larger conical scales (Zhao 1998). Additionally, this lizard had an orange venter with a prominent abdominal callus, confirming its sex as male (Zou et al. 2016) (Fig. 2).

Habitat where this individual was captured consisted of exposed rocky outcrops sparsely surrounded by pine trees on an open slope, which broadly conforms to that described at the type locality. In addition to the captured male, within a radius of ~100 m, we observed approximately 30 individuals in a single afternoon perched on rocks and on rock walls bordering human settlements, suggesting some tolerance of anthropocentric environments, similar to that of other species of *Laudakia* (Baig et al. 2012).

Our observations highlight the need for further exploratory surveys in the Himalayan regions of India to increase not only our knowledge of the biodiversity in these regions but also to generate a greater understanding of geographic and elevational ranges of the species that occur there.

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