

FIG. 1. A male *Chiropterotriton multidentatus* (top) courting a female *C. multidentatus* (below) in San Luis Potosí, Mexico.

(Raffaëlli 2022. *Salamanders and Newts of the World*. Penclen Edition, Plumelec, France. 1120 pp.).

During an expedition in the Sierra de Álvarez, San Luis Potosí, on 19 May 2025, we encountered ca. 20 adult *C. multidentatus* within ca. 45 m of the entrance of a limestone cave on private property (exact locality withheld because this species is listed as 'Endangered' and 'Pr' by IUCN and SEMARNAT, respectively). Two individuals were engaged in courtship behavior, as an adult male was observed attempting gular amplexus with an adult female. The male was apparently restricting the female's attempts at ambulation by positioning his front limbs in front of hers and pushing his head down on top of hers to restrain her movements (Fig. 1). The behavior was observed for ca. two min, but we ceased observations thereafter to avoid disrupting their behavior with the light from our headlights. To our knowledge, this is the first reported observation of courtship behavior in any species of *Chiropterotriton*.

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HEMIDACTYLIUM SCUTATUM (Four-toed Salamander). COLORATION. Variable coloration is widely reported in plethodontid salamanders, including but not limited to, albinism (e.g., Hill et al. 2012. *Herpetol. Rev.* 43:116–117), amelanism (e.g., Williams et al. 2013. *Herpetol. Rev.* 44:114–115), anerythrism (e.g., Hartzell 2020. *Herpetol. Rev.* 51:558–559), leucism (e.g., Barry 2021. *Herpetol. Rev.* 52:108), melanism (e.g., Moore and Ouellet 2014. *Can. Field. Nat.* 128:250–259), partial leucism (e.g., Wyman and Tattoni 2020. *Herpetol. Rev.* 51:806), and xanthism (e.g., Williams et al. 2013, *op. cit.*). Within plethodontids, color variability is arguably most thoroughly documented within *Plethodon cinereus* (Eastern Red-backed Salamander), where red-striped/lead-back color polymorphism is reinforced through assortative mating (Acord et al. 2013. *Copeia* 2013:676–683) and associated with differences in habitat choice (Straub et al. 2024. *Ecol. Evol.* 14:e10978) and anti-predator behavior (Venesky and Anthony

2007. *Herpetologica* 63:450–485). Furthermore, *P. cinereus* also displays a wide range of aberrant colorations (e.g., albino, amelanism, erythrism, iridism, leucism, and melanism; Moore and Ouellet 2014, *op. cit.*). In contrast to *P. cinereus*, *Hemidactylium scutatum* has garnered far less attention with respect to differences in color and pattern.

Hemidactylium scutatum is characterized as having a rusty brown to black dorsal surface and a grey lateral surface, both of which may contain black, white, and/or bluish spots and flecks. The species also typically has a rusty orange tail (Petranka 1998. *Salamanders of the United States and Canada*. Smithsonian Books, Washington D.C. 587 pp.; Powell et al. 2016. *Peterson Field Guide to the Reptiles and Amphibians of Eastern and Central North America*. Fourth Edition. Houghton Mifflin Harcourt Publishing, New York, New York. 494 pp.). The ventral surface, however, has a simpler composition. The bright, enamel-like, white ventral surface has bold black spots or blotches, which is often a key identifying feature (Gilhen 1984. *Amphibians and Reptiles of Nova Scotia*, Nova Scotia Museum, Halifax, Nova Scotia. 162 pp.; Petranka 1998, *op. cit.*; Powell et al. 2016, *op. cit.*). To the best of our knowledge, the only previous account of aberrant coloration for this species was based on two partially-melanistic individuals that exhibited white chin patches but no ventral black spotting, with relatively solid dark reddish-brown venters instead (Duffy and Hamed 2023. *Herpetol. Rev.* 54:259). Here, we present another observation of altered ventral coloration of *H. scutatum*.

During the summer and fall of 2024, while conducting surveys for a recently described *H. scutatum* population in Riverview, New Brunswick, Canada (46.055°N, 64.801°W; WGS 84; Christiansen et al. 2025. *Can. Field. Nat.*, *in press*), we observed four individuals (N = 4/41) with a black or grey granulated pattern between the larger black spots on the ventral side. The first individual was a juvenile (19 mm SVL) found on 14 September 2024 with clear black pigmentation speckled through a white matrix of the ventral surface between the typical black spots and blotches (Fig. 1A). Subsequently, three more salamanders were observed with similar but less intense coloration. On 30 October 2024, a juvenile (18 mm SVL) was observed with dark grey granules in the white matrix of the ventral surface (Fig. 1B). An adult male (34.5 mm SVL) was found on 18 September 2024 with lighter grey granulated coloring in the white matrix of the venter (Fig. 1C), and another adult male (35 mm SVL) with similar pigmentation was caught on 2 November 2024 (Fig. 1D). These variations in darkened pigment expression on the white matrix of the venters, as seen across these four individuals (Fig. 1A–D), may suggest this coloration varies along a spectrum. This variation is made clearer when it is contrasted with the typical plain, bright white coloration (Fig. 1E) that is typically thought to be emblematic of this species (Gilhen 1984, *op. cit.*; Petranka 1998, *op. cit.*; Powell et al. 2016, *op. cit.*). In all cases of individuals that deviated from the perceived emblematic coloration, the seemingly ubiquitous minuscule speckles throughout the white venter coloration gave a grayed appearance akin to artistic techniques such as stippling or pointillism. Unlike the theorized adaptive nature of some altered colorations (e.g., red-striped and lead-back *P. cinereus*; Moore and Ouellet 2014, *op. cit.*), we presume that the observations we present here are either aberrations or nuanced color variations that may be more common in populations of this species than previously documented. We hope these findings can prompt more investigations into some of the subtle, potentially more nuanced variations in the color and patterns of *H. scutatum*.

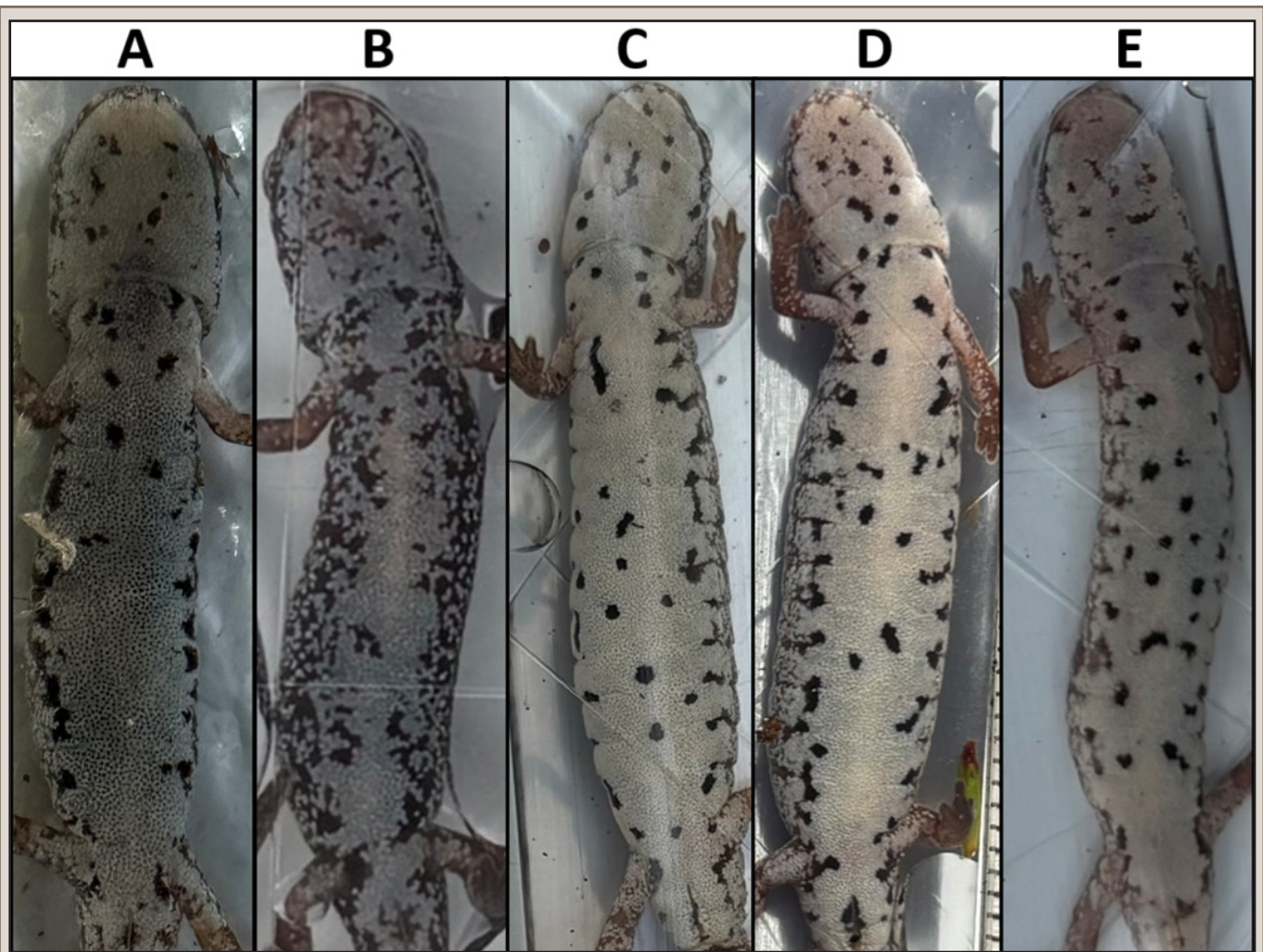


FIG. 1. *Hemidactylium scutatum* from Riverview, New Brunswick, Canada, with a black or grey granulated pattern between the larger black spots on their ventral side. Individuals ordered from the darkest to the lightest granules (A-D). For contrast, the fifth individual (E) does not have this granulated pattern, the lack of which is considered typical for this species.

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HYNOBIUS KIMURAE (Hida Salamander). ABERRANT COLORATION. Axanthism, albinism, and leucism are forms of aberrant coloration that are widely observed in amphibians and reptiles. Although several cases of albinism have been reported in Japanese salamanders (Nishikawa 2000. Bull. Herpetol. Soc. Jpn. 2000:112–114; Takeuchi et al. 2021. Bull. Herpetol. Soc. Jpn. 2021:189–191; Nakatsu et al. 2023. Bull. Herpetol. Soc. Jpn.

2023:56–61), there have been no previous reports of axanthic individuals.

Here, we report three cases of axanthic *Hynobius kimurae* based on specimens and photographs. *Hynobius kimurae* is a species of lotic-breeding salamander found on Honshu, the main island of Japan. The coloration of *H. kimurae* typically features yellow spots scattered over a purplish dark brown background (Sato 1943. Japanese Tailed Amphibians. Nippon Publishing Company. Osaka, Japan. 410 pp.), but the coloration of *H. kimurae* can be highly diverse, with some individuals exhibiting yellow patches covering most of their dorsal surfaces, while some individuals have none at all (Matsui et al. 2021. Amphibians and Reptiles of Japan. Sunrise Press. Tokyo, Japan. 234 pp.).

We observed an adult *H. kimurae* (male; 64.4 mm SVL; 52.0 mm tail length; 8.8 g; Graduate School of Human and Environmental Studies, Kyoto University [KUHE] 66457) under a rock in a stream on 15 March 2025 in Mt. Rokko, Nishinomiya City, Hyogo Prefecture, Kinki district (GPS coordinate information is withheld because of conservation concerns). The individual lacked yellow spots and instead had silvery-white spots (Fig. 1A–C). One of the authors, YT, also discovered an axanthic-like adult with pale yellow pigmentation at the same