

First record of symmetrical red stripes on a Common European Toad, *Bufo bufo* (Linnaeus, 1758), from Germany

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The colouration of *Bufo bufo* is generally described as a variation of brown to grey or olive up to reddish (DGHT, 2012). Reddish colour morphs of *Bufo bufo* have been described and are known for at least 200 years. Even Linnaeus (1758) described *Rana rubeta* with “corpore verucoso”, referring by the name to a reddish coloration and in the description to a warty body, while Risso (1826) described *B. ferruginosus* and explicitly mentioned that “cette espèce présente un corps d’un rouge ferrugineux [= this species has a rust-like red body]”. Both taxa are currently synonyms of *B. bufo*.

General descriptions of the Common European Toad sometimes refer to reddish colouration and, for example, Günter and Geiger (1996) mentioned that the top of the warts of adult individuals often showed a red coloration, while especially juvenile specimens often had completely reddish dorsal colouration. Sinsch et al. (2009) mentioned that “einige Weibchen und vor allem Juvenile können einen fast ziegelroten Farbton aufweisen [= some females and especially juveniles can have an almost brick-red colour]”. However, those descriptions always refer to a patternless reddish colouration without any spots, stripes, or bands. In general, descriptions of *B. bufo* with patterned colouration are relatively rare. Most authors mention only dark speckling on a brown upper body. Weddelling and Geiger (2011) reported an individual with white lateral bands, reaching from the parotoid glands along the flanks to the hindlimb insertions. Bright stripes between lines of dark spots appear to be rare (DGHT, 2012). Kolenda et al. (2017)

documented a Common European Toad with a very dark dorsal colouration and beige stripes, and with brownish to reddish warts, in Poland.

The first author observed an atypically coloured *Bufo bufo* (Fig. 1) in the late morning of 22 May 2025 in the Ammertal [= Ammer Valley], Weilheim-Schongau District, Germany (47.7779°N, 10.9499°E, elevation 850 m; only approximate coordinates are provided, and details can be requested from the authors). This was a rainy day with rather high precipitation and an air temperature of about 15°C. The locality in the Ammertal is completely wooded and faces west, while the south-facing slope is crisscrossed by smaller rifts. At the place of discovery, the forest is relatively young (ca. 30-year-old trees) and dominated by deciduous trees. The forest floor is dominated by temperate forest soil (“Braunerde”) and shallow, lime-rich clay (pararentzina, marls), moist at the bottom with waterlogged swampy areas. The next standing waterbodies are an aerial distance of 200–300 m away, and the next running water (the Ammer River) is approximately 150 m away. Other than a forest road, there is no human infrastructure at this location.

The toad emerged from a leaf-covered hole on the lower slope of the Ammertal, situated on the west-facing side of a ditch, where the ground cover is a partly young glacial sediment (a moraine) and partly a sandstone-shale conglomerate (molasse) with nutrient-rich soil and a generally good supply of water. This was the first *B. bufo* found at the specific locality, where *Rana temporaria* are common and *Bombina variegata* are found nearby in open sunny habitats.

The toad had a dark brown to nearly black dorsal colouration, covering almost the entire dorsum, and it had four orange-red longitudinal stripes. Two of the stripes began just behind the head and ran parallel to the midline of the body to the leg insertion area (Fig. 1C). The other two stripes began on the snout and ran above the eyes and across the parotoid glands before deviating to a more lateral position along the body, reaching the groin.

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Figure 1. A rare *Bufo bufo* with reddish stripes from the Ammertal, Germany. Photos by Anika Sander.

In addition, the tip of the snout, the fore- and hind legs, as well as the dorsal area above the cloaca showed an orange-red colouration. As this was an unexpected find, no equipment was available to obtain measurements.

To our knowledge, this is the first report of *B. bufo* in Germany showing red, symmetrical, contrasting stripes

on a dark, nearly black-coloured body. However, this is not the first time an individual like this was found. Images on social media sites show at least two individuals, from [Switzerland](#) and the [United Kingdom](#) (UK), without providing specific localities. The individual from Switzerland shows a reddish-brown

body colouration with bright orange-red stripes, with the stripes of the UK toad even more strongly red than of the Swiss toad. A toad from Poland (Kolenda et al., 2017) showed the exact same pattern as our individual, only the colour contrast was not as pronounced. Genetic studies of unusually coloured individuals could be considered to analyse these observations in more detail.

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References

- DGHT [Deutsche Gesellschaft für Herpetologie und Terrarienkunde] (2012): Die Erdkröte – Lurch des Jahres 2012. Available [here](#). Accessed on 21 January 2026.
- Günther, R., Geiger, A. (1996): Die Erdkröte. In: Die Amphibien und Reptilien Deutschlands, p. 274–302. Günther, R., Ed., Jena, Germany, Gustav Fischer Verlag. 825 pp.
- Kolenda, K., Najbar, B., Najbar, A., Kaczmarek, P., Kaczmarski, M., Skawiński, T. (2017): Rare colour aberrations and anomalies of amphibians and reptiles recorded in Poland. *Herpetology Notes* **10**: 103–109.
- Linnaeus, C. (1758): *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis*. 10th Edition. Volume 1. Stockholm, Sweden, L. Salvii. 532 pp.
- Risso, A. (1826): *Histoire Naturelle des Principales Productions de l'Europe Meridionale et Particulierement de Celles des Environs de Nice et des Alpes Maritimes*. Volume 3. Paris, France, Levrault. 480 pp.
- Sinsch, U., Schneider, H., Tarkhnishvili, D.N. (2009): *Bufo bufo* Superspezies – Erdkröten-Artenkreis – taxon *bufo* (Linnaeus, 1758) – Erdkröte – taxon *gredosicola* L. Müller und Hellmich 1935 – Gredoserdkröte – taxon *spinosus* Daudin, 1803 – Riesenerdkröte – taxon *verrucosissimus* (Pallas, 1811) – Kolchische Erdkröte. In: *Handbuch der Reptilien und Amphibien Europas*, Band 5/II Froschlurche (Anura) II (Hylidae, Bufonidae), p. 191–335. Grossenbacher, K., Ed., Wiebelsheim, Germany, Aula Verlag. 503 pp.
- Weddeling, K., Geiger, A. (2011): Erdkröte – *Bufo bufo*. In: *Handbuch der Amphibien und Reptilien Nordrhein-Westfalens*. Volume 1, p. 583–622. Hachtel, M., Schlüpmann, M., Weddeling, K., Thiesmeier, B., Geiger, A., Willigalla, C., Eds., Bielefeld, Germany, Laurenti-Verlag. 896 pp.