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Description of a hybrid of *Rana esculenta* L. and *Rana ridibunda* Pall.

By Dr. S. J. Bolkay.

On the 17th May 1907 I found at Budapest, (on the Lágymányos) a frog, which at first sight I took for a *Rana esculenta* L. Until quite recently I regarded this specimen as an Edible Frog, but as I examined it more closely it became clear to me that I had to do with a hybrid of the *R. esculenta* L. and *R. ridibunda* Pall. Considering the fact that the *R. esculenta* and *R. ridibunda* live together on the Lágymányos, my supposition of the mentioned specimen being no other than a hybrid of these two species seems quite natural.

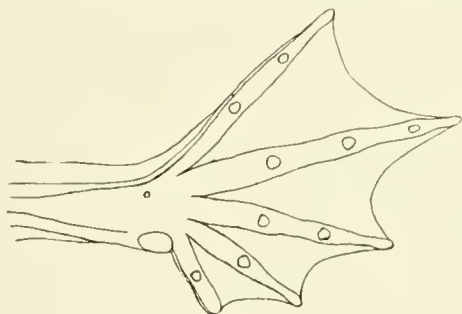


Fig. 1.



Fig. 1a.

This supposition of mine has been thoroughly justified by a more attentive examination the result of which I find all the more necessary to communicate as the Hungarian zoological literature, up to now, does not mention any such a case of a hybrid of *R. esculenta* and *R. ridibunda*.

My specimens figure on the whole, greatly resembles that of the Edible Frog; the tip of its snout is however more pointed; the inter-orbitale space is equal to the two thirds of an upper eyelid, and two thirds of the distance between the nostrils. The glandular lateral folds are comparatively very broad and a little wider than the diameter of an upper eyelid. The tibio-tarsal joint reaches the middle of the tympanum. Heels do not meet when hind limbs are bent at right angles to the axis of the body.

The inner metatarsal tubercle (fig. 1 and 1a) is small, oval, soft and a little shorter than the distance between it and the first subarticular tubercle on the hallux, it is surprisingly similar to the inner metatarsal tubercle of the *Rana agilis* Thom.

The subarticular tubercles are well developed, and strongly projecting.

On the base of the fourth (longest) toe there is a small but strongly projecting outer metatarsal tubercle.

As regards the colouring of this hybrid specimen it approaches that of *R. ridibunda*, inasmuch as the dark spots on the back are very large, and edged by a greyish white border.

The dark marbling of the hind part of the limbs was filled — on the living specimen — by a soiled white colour.

Finally it is worth remarking that the whole belly is covered with large smoke grey spots which are, as is well known mostly characteristic of the typical *Rana ridibunda* Pall.

Dimensions in mm.			
From snout to vent	75	Diameter of tympanum	5.5
Length of head	23	Fore limb	38
Width of head	26	Hind limb	115
Diameter of eye	8	Tibia	35
Interorbital width	3.5	Foot	39
From eye to nostril	5	Inner toe (from tubercle)	9
From eye to end of snout	11	Inner metatarsal tubercle	4

Similar hybrids have been long known in the literature, without any positive expression as to their hybrid nature. This is however clearly expressed by WOLTERSTORFF in the remarks¹ he wrote about an article of mine and in which he says that formerly when meeting with a frog bearing mixed characters he was never sure whether he ought to consider it as a hybrid or as some connecting form.

In one of his earlier articles² WOLTERSTORFF has already described a dubious Edible Frog with long tibiae but with enormous inner metatarsal tubercle, which according to him most probably is a hybrid of *R. esc. rid.* and *R. esc. typ. Lessonae*.

In the same article he also mentions a *R. esculenta* from the Lake of Sadworn, with comparatively weakly developed inner metatarsal tubercle, but having a bright yellow colour on the hind part of the thighs, and which — as he says — probably is a hybrid between *R. esc. typ.* and *R. rid.*

He remarks in parenthesis, having found no *R. ridibunda* in that part of the country.

To-day however, WOLTERSTORFF is also of the opinion³ that these frogs are hybrids.

Artificially bred hybrid frogs are known in the literature.

Professor L. v. MÉHELY has described hybrids of *Bombinator igneus* Lanr. and *B. pachypus* Bonap. which originated in the natural way, in the open air.⁴

I wished to contribute by this small article to the statements already published about the frog hybrids originated in the natural way.

¹ Wolterstorff W., Bemerkungen zu Bolkay: Über die Artberechtigung des Flussfrosches. «Lacerta» Nr. 14, «Wochenschrift», V. Jahrg., 1908.

² Wolterstorff, Schriften d. Naturforsch. Ges. in Danzig, N. F. XI. 1904, p. 50.

³ Wolterstorff W., Bemerkungen zu Bolkay: Über die Artberechtigung des Flussfrosches. «Lacerta» Nr. 14, «Wochenschrift», V. Jahrg., 1908.

⁴ Méhely Lajos: A Mecsekhegység és a Kárpát herpetológiai viszonyai. Állattani Közlemények, III. 1904, p. 244. (Also in the German language: Die herpetologischen Verhältnisse des Mecsek-Gebirges und der Kárpát. Ann. Mus. Nat. Hung., III. 1905, p. 259.).

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