

Short Notes

Vocalization in *Podarcis sicula salffi*

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Most reptiles are unable to vocalize. Crocodiles, snakes and some turtles and lizards are able to hiss. Other vocalizations occur as a regular trait only in the Crocodylidae and Alligatoridae, Sphenodontidae, Gekkonidae, Chamaeleonidae (see reviews by Mertens (1946) and Vogel (1976)) and Pygopodidae (Weber and Werner, 1977). In addition, vocalization occurs in some members of other lizard families. In the Lacertidae it is mentioned for members of the genera *Gallotia*, *Ichnotropis*, *Lacerta*, *Psammotromus* and a single species of *Podarcis* (see also Mertens (1946) and Vogel (1976)).

In 1874 Eimer described *Lacerta muralis coerulea* (now *Podarcis sicula coerulea*) from the Faraglioni-rocks (Capri, Italy) and mentioned that this lizard was able to produce sounds, a kind of squeaking. Until now these observations have always been doubted, by numerous authors beginning with Bedriaga (1876). Mertens (1946) ascribed the sounds heard by Eimer to a cold-like infection of the specimens. Henle and Klaver (1986) never heard a squeak in *P. sicula* and therefore doubted Eimer's observations as well. In this context it seems important to publish observations on the vocalization of a nearby relative of *P. s. coerulea*, *P. s. salffi*. This subspecies lives on the small rock Vivaro di Nerano, 12 km east of the Faraglioni-rocks. During research into the ecology of this lizard (Ouboter, 1981) it was noticed that it occasionally produced squeaking sounds.

One squeak was recorded using an Uher 4200 taperecorder and Sennheiser MKE 802 microphone and made visible by Kay Electric sonagraph (fig. 1). It lasted for about 0.07 sec. and its frequency was between 200 and 2200 Hz. Squeaking occurred usually when the lizards were handled, but it was also observed in free-ranging lizards. Since squeaks were uttered quite suddenly and their duration was short, it was not always easy to observe in what context they were produced. I had the impression that it was usually a reaction of sudden fright, caused by meeting a researcher or a large

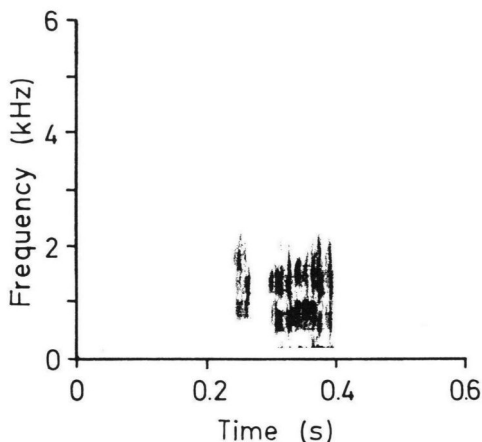


Figure 1. Sonagram of a squeak of *Podarcis sicula salfii*.

male lizard. Squeaking was carried out by males as well as females. The behaviour seemed to have no influence on the reaction of dominant lizards, since subordinates were chased in spite of squeaking.

Examination of the larynx of a few specimens of *P. s. salfii* showed no thickening of epithelium in the cavity of the larynx ("Stimmklappen") as found in *Gallotia galloti* (Vogel, 1976), but the larynx seemed more compact in structure than that of *P. s. sicula*. More extensive studies could be rewarding.

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References

- Bedriaga, J. v. (1876): Die Faraglioni-Eidechse und die Entstehung der Farben bei den Eidechsen, eine Erwiderung an Herrn Prof. Dr. Th. Eimer. Heidelberg.
- Eimer, T. (1874): Zoologische Studien auf Capri. II. *Lacerta muralis coerulea*. Leipzig.
- Henle, K., Klaver, Ch.J.J. (1986): *Podarcis sicula* (Rafinesque-Schmaltz, 1810) — Ruineidechse. In: Handbuch der Reptilien und Amphibien Europas, Band 2/II, Echsen (Sauria) III (Lacertidae III: *Podarcis*), p. 254-342. Böhm, W., Ed., Wiesbaden, Aula-Verlag.
- Mertens, R. (1946): Die Warn- und Drohreaktionen der Reptilien. Abh. senckenb. Naturf. Ges. **471**: 1-108.
- Ouboter, P.E. (1981): The ecology of the island-lizard *Podarcis sicula salfii*: Correlation of microdistribution with vegetation coverage, thermal environment and food-size. *Amphibia-Reptilia* **2**: 243-257.

- Vogel, P. (1976): Der Stimmapparat der Reptilien, mit besonderer Berücksichtigung von *Lacerta galloti*. Verhandl. naturf. Ges. Basel **85**: 135-153.
- Weber, E., Werner, Y.L. (1977): Vocalizations of two snake-lizards (Reptilia: Sauria: Pygopodidae). Herpetologica **33**: 353-363.

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Range expansion by an introduced anole: *Anolis porcatus* in the Dominican Republic

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Anolis porcatus Gray has an islandwide distribution on Cuba and populations on many satellite islands (Schwartz and Henderson, 1988). It appears to fill a niche similar to that of *A. carolinensis* in the southeastern United States and the *A. chlorocyanus/coelestinus* complex on Hispaniola. In 1970 E.E. Williams, R. Thomas, and A. Schoener discovered *A. porcatus* in the exposition area at La Feria, Santo Domingo, República Dominicana (Williams, 1977). This introduction may very well have occurred during the "World's Fair" of 1955, as many of the exposition's facilities, including the Cuban exhibit, were situated in the Centro de los Heroes of the La Feria district (I. Incháustequi, 1986, pers. comm.). Haneline (1977) reported the capture of a single specimen approximately 9 km northwest of La Feria in a lizard market. Williams (1977) noted the Haneline specimen, but stated that the species' "minute" range had neither expanded nor contracted since its discovery. Schwartz and Thomas (1975) and Schwartz and Henderson (1985) included the Dominican population in their checklist and guide, respectively. Henderson and Schwartz (1984) listed *A. porcatus* in their guide to Hispaniolan amphibians and reptiles and noted its range as the "vicinity of Santo Domingo." Schwartz and Henderson (1988) described the range in Santo Domingo as La Feria and 5.4 km north (on the Carretera Duarte) of Avenida Abraham Lincoln (the Haneline specimen). A. Schwartz (1989, pers. comm.) indicated that the species may be extending its range along the Avenida George Washington eastward from the Centro de los Heroes.

A. porcatus were found in sympatry with *A. chlorocyanus* in the Parque Mirador del Sur (fig. 1) during trips in 1986, 1987, 1988, and 1989. In 1989 a single specimen of *A. porcatus* was collected from a palm along the ocean front near the intersection of Calle Cambronal and Avenida George Washington. In March 1990 we set out to