A new locality for *Lacerta bedriagae* (Camerano) in northern Sardinia with data on reproduction

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Lacerta bedriagae ferrerae was concisely described by Stemmler in 1962 from Batteria Ferrera, Punta Falcone. No original publication on this form then appeared until 1971 when Schneider presented meristic data on one preserved specimen. Lanza et al (1984) list in detail the distribution of *Lacerta bedriagae* (Camerano) on the small islands north-east of Sardinia (localities 5-12 on fig. 1). Bruno (1986) mentions an unsubstantiated area between Ciuchesu, P. Falcone, M. Altura, P. Martino and M. Moro (421 m), and the occurrence of the species, without reference, on the same islands Rázolli, S. Maria, Budelli, Spargi, Maddalena, Giardinelli, Caprera and S. Stéfano as in Lanza et al. (1984). He further suggests that *L. bedriagae* might occur in the Costa Paradiso between Serra Tamburu and M. Tinnari. This has never been corroborated. The distribution map in Puddu et al. (1988) is even more liberal, showing the whole

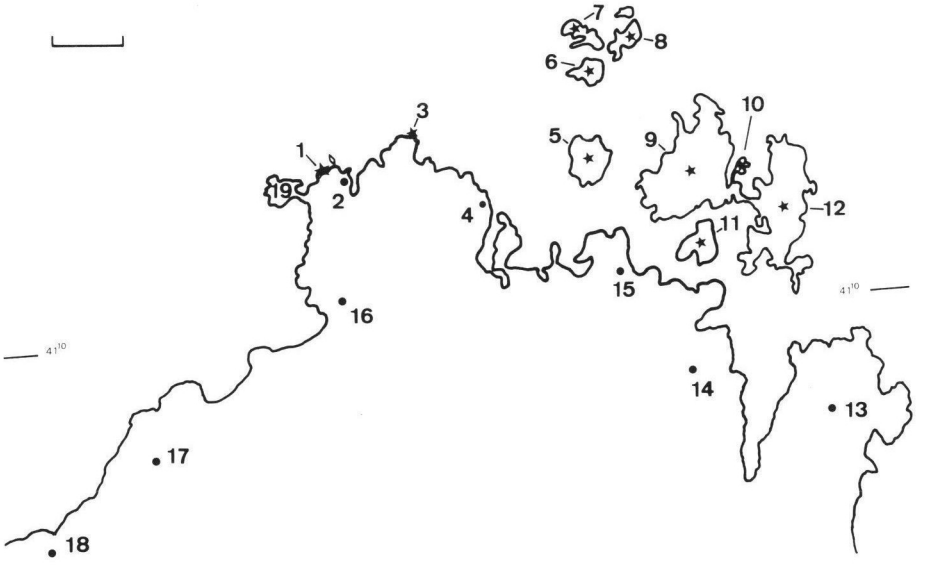

Figure 1. Distribution map of *Lacerta bedriagae ferrerae*, northern Sardinia.
Large star: new record; small stars: known records; solid circles: other localities mentioned in the text. 1 = new record, 2 = Sta. Teresa-Gallura, 3 = P. Falcone, 4 = Valle Erica, 5 = I. Spargi, 6 = I. Budelli, 7 = I. Rázzoli, 8 = I. Sta. Maria, 9 = I. Maddalena, 10 = I. S. Stéfano, 11 = I. Giardinelli, 12 = I. Caprera, 13 = M. Moro, 14 = P. Martino, 15 = M. Altura, 16 = Ciuchesu, 17 = Serra Tamburu, 18 = M. Tinnari, 19 = Capo Testa. Scale: 2 kilometers.

Table 1. Measurements on *Lacerta bedriagae ferrerae* from Batteria Ferrera.

sex	head-body + tail + reg. (mm)	weight (g)	dorsalia	gularia	femoral pores l/r	scales under 4th toe l/r
male	75 + 32 + 98	11.7	70	31	27/24	29/27
female	80 + 18 + 80	11.4	71	34	26/25	29/28
female	80 + 20 + 70	9.3	72	33	26/27	28/29
female	69 + 55 + 60	9.3	72	35	25/26	29/28
range			70-72	31-35	24-27	27-29
average			71.3	33.2	25.8	28.4
range (Stemmler, 1962) (n = 8)			66-79	30-36	24-28	26-30
average (Ibid.)			76.4	32.8	26	28.5

northern area of Sardinia as depicted in fig. 1, and is not based on original research. Since the species seems linked to granite (Schneider, pers. comm.; my own observations on three of the four described forms) or, more generally, to lithologic substrates (Lanza et al., 1984), a dot map is more realistic in all respects.

At the end of June 1989 I checked the coast of northern Sardinia for *L. bedriagae ferrerae* between Capo Testa in the west and Valle Erica in the east. In this paper a small but significant extension of the range to the west is reported.

The presence of the subspecies in the terra typica on a completely bare, small granite plateau reaching into the sea could be confirmed. Seventeen specimens, including two subadults, were sighted. During the morning and late afternoon one male and three females were collected for ethological studies. Details of sizes and scales are given in table 1. The shiny black animals have a regular pattern of small (3-7 scales) yellow/turquoise spots dorsally. On the body especially these are arranged in 15-20 bars, each consisting of 12-17 spots. The head may be somewhat lighter: darkbrown. The throat is whitish with a grey reticulation, as are the ventral parts of the front legs. The outer rows of the ventrals show one or more patches of a bright blue colour. The anterior one third or more of each ventral scale is black, the posterior part is off-white with a greenish tinge. The same pattern is found on the underside of the tail. The regenerated tail is completely black. The iris is dark brown with a silvery outline.

A total of 5 animals was recorded in two small inlets on the coast, about two kilometres northwest of Santa Teresa di Gallura between the peninsula I. Monica and a rocky promontory bordering the eastern edge of the Báia di S. Reparata (fig. 2). A female caught at 9.15 a.m. was still cold to the touch; she was probably recently out of her shelter. Between 10.45 and 11.30 a male and a female were collected (another male was sighted only), and one female at 16.50 about 300 m east of the previous ones. No *L. bedriagae* were found in the midday heat. These lizards are separated by approximately ten kilometres of coast from those at Batteria Ferrera. The busy natural har-

Table 2. Measurements on *Lacerta bedriagae ferrerae* west of Santa Teresa di Gallura.

sex	head-body + tail + reg. (mm)	weight (g)	dorsalia	gularia	femoral pores l/r	scales under 4th toe l/r
male	80 + 44 + 81	13.5	74	39	28/29	28/28
female***	74 + 115	10.6	70	38	28/18**	28/28
female	62 + 40 + 49	7.1	68	34	28/30*	29/30
female	74 + 37 + 67	10.4	70	36	28/27	29/29
range			68-74	34-39	27-30	28-30
average			70.5	36.8	28.3	28.6

* Some double pores.
** Large scar on right femur.
*** ZFMK 52028

bour of Sta. Teresa di Gallura, as well as the town itself, in my opinion form an effective reproductive barrier between the two populations. This might be a recent phenomenon; although the number of gularia and femoral pores is slightly higher, the characteristics of the new population (table 2) as compared to the animals from Batteria Ferrera (table 1 and Stemmler's (1962) data), fall well within those of *L. bedriagae ferrerae*.

The dorsal counts in my sample of the second of the three Sardinian subspecies, *L. b. paessleri*, are considerably lower than those for the Limbara mountains mentioned in Schneider (1984), and are nearer to those of *L. b. sardoa*, underlining much better the relation between the two groups.

The *L. b. ferrerae* are restricted to the absolutely bare rocks, literally from sea level to about 20 metres upwards. An erosion pattern on the granite forms longitudinal black patches of several square centimeters, which from some distance have a peculiar resemblance to black lizards. Where the coastal vegetation begins, *Podarcis tiliguerta* takes over.

Although its seems likely that other populations exist along the coast, none were found. Many suitable habitats are intensively used by bathers, minimizing the survival chances of this shy lizard, which moreover appears to occur at low densities. Many of the local people were well aware of *Podarcis tiliguerta* and some even pointed out *Phyllodactylus europaeus* on a rocky outcrop north of Valle Erica. None, however, had ever seen the black *L. bedriagae*.

Most of the female *L. b. ferrerae* were visibly gravid. Two females from Batteria Ferrera oviposited on 16 July and 19 July 1989 respectively; clutches were of three and six eggs. Mean egg measurements were 9.9 × 15.8 mm and they weighed 0.94 g at oviposition, and grew to 14.4 × 20.1 mm and 2.4 g before hatching. Juveniles of 33 + 62 mm (SVL + tail) and 0.99 g emerged after 48-51 days at 25°C. Two batches (three and five eggs) laid by two females from the new locality west of Santa Teresa di Gallura yielded similar data. These juveniles hatched after 37 days at 29°C. The

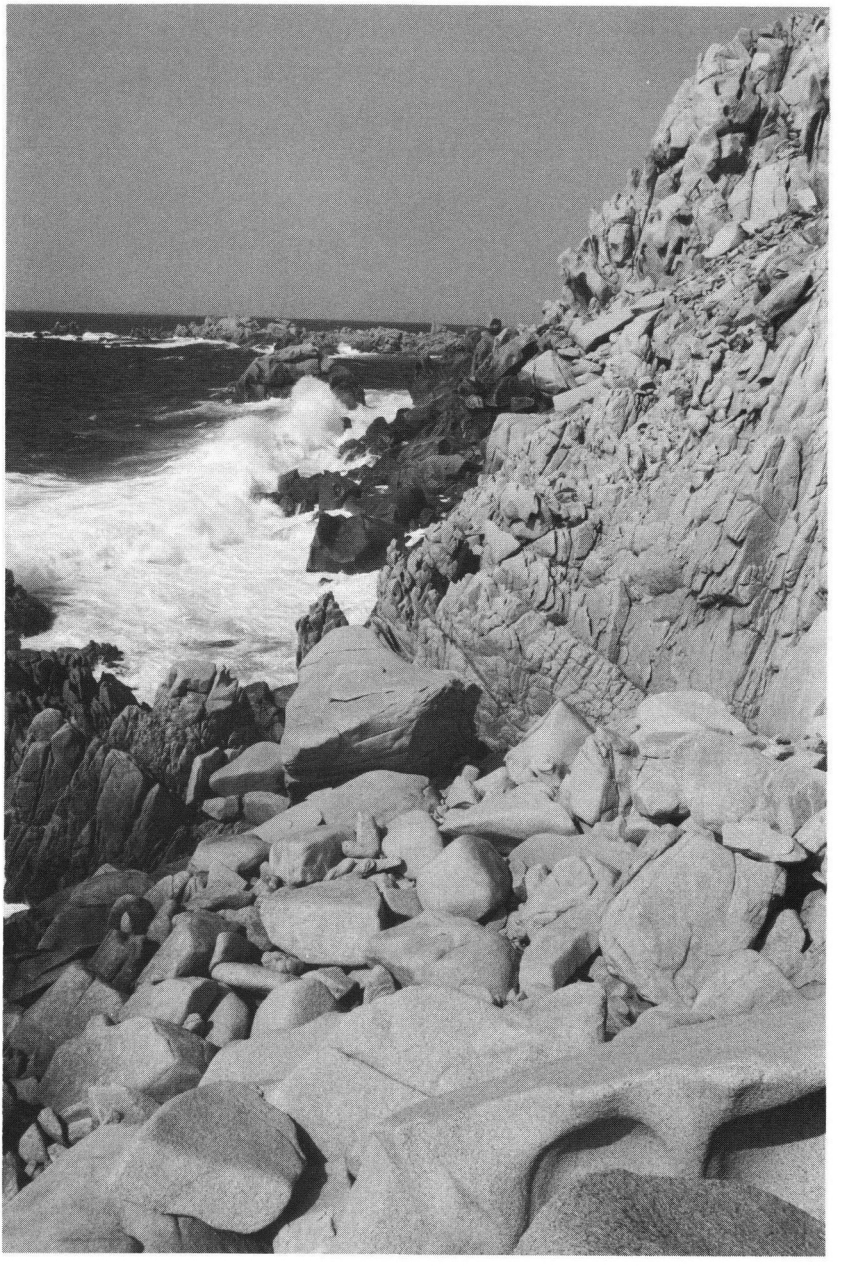

Figure 2. The new locality of *Lacerta bedriagae ferrerae* west of Sta. Teresa di Gallura.

Table 3. Measurements on *Lacerta bedriagae paessleri* from Monte Limbara (950-1000 m).

sex	head-body + tail + reg. (mm)	weight (g)	dorsalia	gularia	femoral pores l/r	scales under 4th toe l/r
juv	40 + 74	1.5	66	36	30/28*	27/30
female?	67 + 136	8.6	63	33	23/21	27/28
female	65 + 105	7.7	68	32	23/26	28/27
female?	55 + 105	5.1	65	31	29**/26*	29/30
range			63-68	31-36	21-30	27-30
average			65.4	33	25.7	25.1
range (Schneider, 1984)			69-84	33-44	24-33	30-38

* some double pores.
** an additional series of pores in a row of 7 + 1 + 1 + 1.

colouration of the juveniles is similar to that of the adults; the head is a shade lighter and the small longitudinal turquoise spots on the tail are brighter. Remarkably, *L. b. bedriagae* juveniles from Forêt d'Ospedale, Corsica (850 m) are almost identical; later the lighter green grey prevails. In May of the next year the subadults measure 50 + 101 mm and weigh 3.28 g. They do not reproduce in their first year. In later years in captivity, one annual egglaying per adult female was recorded.

Lacerta b. bedriagae and *L. b. ferrerae* behave conformably in their courtship. This information has yet to be obtained for the other forms.

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