

REPRODUCTIVE DATA ON THE CHELID TURTLE *Chelodina siebenrocki* FROM NEW GUINEA

Chelodina siebenrocki Werner 1901 is a poorly-known snakeneck chelid turtle that occurs only in the southern coastal swamps of the island of New Guinea. It is most closely related to the northern Australian species *Chelodina rugosa* (Rhodin and Mittermeier 1976). The only information available on the morphology, natural history, and reproduction of *C. siebenrocki* is presented in Rhodin and Mittermeier (1976). They document the only recorded data on clutch and egg size for the species. Data were reported from two egg clutches, comprising 4 and 17 eggs, with egg size averaging 36.1 x 28.9 mm in the smaller clutch, and 35.0 x 28.3 mm in the larger clutch. Since then, we have observed four more egg clutches laid in captivity by two female *C. siebenrocki*. These observations were made in our respective collections of turtles kept in indoor facilities in northeastern United States (see Table 1 for summary).

One female (carapace length 255 mm, body mass 2.5 kg) from the vicinity of Daru, Western Province, Papua New Guinea laid a single clutch of 11 eggs (see Table 1 - Clutch 1). These eggs had an average mass of 20.5 ± 0.47 gm (mean ± S.D.). The 11 eggs were deposited over 19 days and were laid at the following intervals (day number:eggs laid): 1:2, 2:2, 5:1, 8:1, 10:1, 11:1, 15:2, 19:1. Egg-laying occurred in late June through early July 1977, after obtaining the specimen from the wild in April 1977. No hatchlings resulted.

A second female (carapace length 261 mm) from the vicinity of Merauke, Irian Jaya, Indonesian New Guinea laid three clutches of 16, 19, and 14 eggs respectively (see Table 1 - Clutches 2, 3, and 4). The clutch of 16 was laid in April 1988, 2 eggs hatched 6 months later in October after incubation at 29°C in damp vermiculite. The clutch of 19 was laid in April 1989, of which 2 eggs hatched 5 months later

(measurements of one hatchling at age ca. 1 month with egg caruncle still present: carapace length 37.5 mm, width 27.0, depth 13.7, head width 11.3). The clutch of 14 was laid in September 1989, suggesting the potential of a two-clutch laying season, and 10 hatchlings resulted only 3 months later.

Egg sizes of the various species of *Chelodina* have not previously been compared, except for the work by Legler (1985) where he compares *C. "expansa"* (a generic grouping including *C. expansa*, *C. rugosa*, and *C. oblonga*) with *C. "longicollis"* (a generic grouping including *C. longicollis*, *C. novaeguineae*, and *C. steindachneri*). We have compared our data on egg length and width for *C. siebenrocki* with data from the literature for other species of *Chelodina* (Table 2 and Figure 1). Of note is that *C. siebenrocki* eggs fall at the upper end of the size spectrum, most similar in size to the other large species *C. expansa* and *C. rugosa*. Also of interest is the separate clustering of smaller eggs in the smaller species *C. longicollis* and *C. steindachneri*. The eggs of *C. parkeri* and *C. oblonga* are somewhat intermediate-sized between Legler's two "generic" groupings, with *C. parkeri* also being differentiated by having slightly more spherical eggs than all the other *Chelodina* species.

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Table 1. Clutches of eggs laid by *Chelodina siebenrocki* in captivity. Sizes in mm - Mean ± Standard Deviation (Range).

Clutch	Eggs _n	Length	Width
1	11	37.7 ± 0.67 (36.3 - 38.3)	31.0 ± 0.29 (30.7 - 31.7)
2	16	—	—
3	19	35.6 ± 1.05 (33.8 - 37.4)	28.3 ± 0.52 (27.4 - 29.3)
4	14	32.9 ± 0.76 (31.6 - 34.3)	27.9 ± 0.47 (27.2 - 29.0)

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Table 2. Average length and width of eggs for various species of *Chelodina*. CL_{Max} = Maximum carapace length (mm). Values: Mean \pm Standard Deviation (Range) (mm).

Species	CL_{Max}	Eggs _n	Length	Width	Reference
<i>C. siebenrocki</i>	290	64	35.2 \pm 1.70 (31.6 - 38.3)	28.7 \pm 1.10 (27.2 - 31.7)	Present Study, Rhodin and Mittermeier 1976
<i>C. parkeri</i>	267	13	28.7 \pm 3.20 (25.5 - 32.0)	26.2 \pm 0.80 (24.0 - 27.0)	Ewert 1985, Fritz and Jauch 1989
<i>C. oblonga</i>	247	80	33.0 \pm 1.30 (30.8 - 35.7)	22.2 \pm 1.57 (18.1 - 24.0)	Clay 1981, Kuchling 1988
<i>C. rugosa</i>	304	14	35.0	25.0	Cann 1978
<i>C. expansa</i>	375	46	38.3 \pm 0.30 (33.5 - 41.9)	26.8 \pm 0.40 (22.2 - 30.1)	Georges 1986
<i>C. "expansa"</i>	375	304	39.2 \pm 3.40 (30.7 - 46.9)	27.6 \pm 2.41 (19.5 - 31.0)	Legler 1985
<i>C. steindachneri</i>	193	30	29.0 \pm 0.94 (27.5 - 31.0)	18.4 \pm 0.80 (17.0 - 19.5)	Kuchling 1988
<i>C. longicollis</i>	240	154	30.3 \pm 0.83 (21.0 - 33.8)	19.6 \pm 0.27 (12.5 - 21.3)	Vestjens 1969, Legler and Cann 1980
<i>C. "longicollis"</i>	279	282	30.9 \pm 2.88 (20.2 - 42.5)	20.0 \pm 1.86 (15.8 - 29.1)	Legler 1985

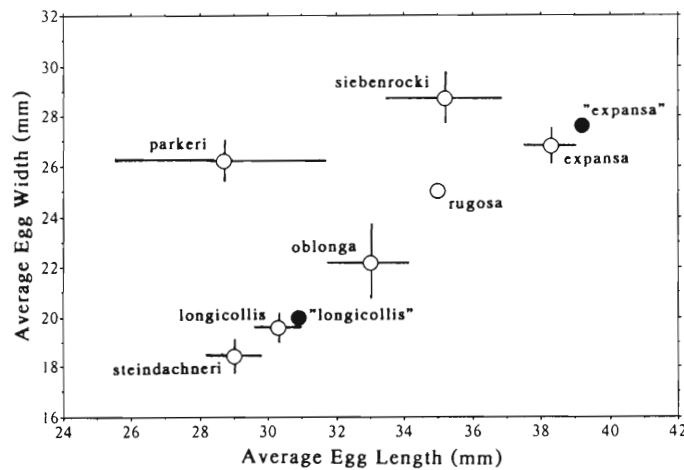


Figure 1. Scattergram based on data in Table 2, showing average egg length and width (bars represent 1 standard deviation) for seven species of *Chelodina*. Black dots represent "generic" groupings of Legler (1985).