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## SHORT COMMUNICATION

LONGEVITY OF FREE-LIVING *HOPLODACTYLUS MACULATUS* (REPTILIA: GEKKONIDAE)

**Summary:** Recapture of marked *Hoplodactylus maculatus* individuals gave estimates of minimum longevity in the field ranging from 7 to 17 years with a mean of 12.7.

An investigation of the homing ability of the common gecko, *Hoplodactylus maculatus*, at Turakirae Head, 20 km south of Wellington, in 1983 (Marshall, 1983), used the same study area in which Whitaker (1982) examined the ecology of *H. maculatus* between 1967-1976. During the course of the more recent study some of the geckos marked by Whitaker were recaptured, thus providing a rare opportunity to calculate the minimum ages of free-living geckos.

Data on the longevity of free-living New Zealand geckos are scarce. Barwick (1982) recorded an adult female *Hoplodactylus duvauceli* recaptured after 12 years, giving a minimum age of 19 years; Whitaker (1982) reported two known-age *H. maculatus* at 10 and 11 years, and noted that 12 of 21 *H. maculatus* marked in February 1967 were recaptured in March 1975. Records of longevity in captivity for New Zealand geckos are few and variable (Table 1).

Table 1: Longevity of New Zealand geckos in captivity.

Species	Age in Years	Source
<i>Hoplodactylus duvauceli</i>	20	Anon 1974
	25	Rowlands 1981
<i>Hoplodactylus granulatus</i>	8-9	Rowlands 1981
<i>Hoplodactylus maculatus</i>	8-9	Rowlands 1981
	37	Newman 1982 (p393)
<i>Hoplodactylus pacificus</i>	3	Bowler 1977
<i>Naultinus elegans</i>	10	Soderstrom 1977
	20	Rowlands 1981
<i>Naultinus elegans</i>	23	Robb 1986 (p43)
<i>Heteropholis stellatus</i>	6	Soderstrom 1977
	10	Mainwaring 1979

In 198360 geckos marked by Whitaker were recaptured, but only 36 could be unequivocally identified by their toe-clip combinations, because subsequent natural toe loss in the intervening years had obscured their identity (Marshall, 1983). For the purpose of calculating longevity, geckos originally marked as juveniles are regarded as being in their first year, subadults in their third year, and adults in their fifth year (Whitaker, 1982). The minimum age of the geckos recaptured in 1983 has, therefore, been calculated by taking the time interval between the first

and last capture for juveniles, adding two years to this time interval for subadults, and adding four years for adults (Fig. 1).

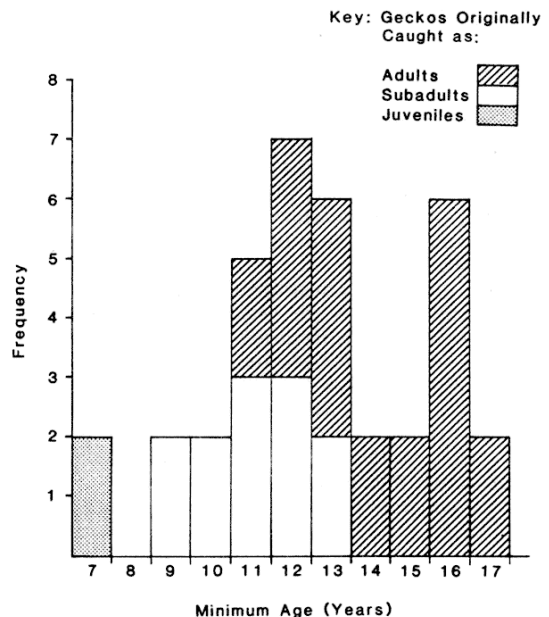


Figure 1: The minimum ages of 36 *Hoplodactylus maculatus* recaptured at Turakirae Head in 1983.

The oldest individuals recaptured in 1983 (a male and a female) were originally caught and marked as adults in 1970, so were a minimum of 17 years old. New Zealand geckos thus have remarkably long life-spans compared to other small, free-living lizard species (e.g. Fitch, 1940; Tinkle, 1967; Tinkle and Dunham, 1983).

Whitaker (1982) used life-tables to calculate that at Turakirae Head some *H. maculatus* would live to at least 15 years of age. The recaptures in 1983 reveal that the estimate of 15 years is clearly conservative

and many *H. maculatus* at Turakirae head probably live longer than 20 years.

Longevity of this magnitude would be necessary for the survival of this species, as *H. maculatus* matures late and has a low reproductive capacity (Whitaker, 1982).

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