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A Study on the Movements of Small Sized Grass Lizard, *Takydromus wolteri*, in Saebyeol-reum, Jeju-do, Korea

Min-Ho Chang[1,2] · Byoung-Soo Kim[1,2,3] · Hidethosi Ota[4] · Hong-Shik Oh[5]

[1]Department of LifeScience, Cheju National University,
[2]Educational Science Research Institute, Jeju National University,
[3]Shinsung Girl's High School
[4]Institute of Natural and Environmental Sciences, University of Hyogo, Japan
[5]Department of ScienceEducation, Cheju National University

Introduction

Increasing numbers of people require more land and increase the demand for natural products, therefore many habitat of amphibian and reptiles are shrinking or disappearing at an accelerating pace (Pough *et al*., 2004). Conservation study is increasing in the world of today because of decrease of amphibian and reptiles. Conservation options for species cannot be determined when the ecological information, such as movements, habitats use and home range, by wild populations are unknown. However, we intensively know about ecological information for some species of amphibians and reptiles that are important factor of conservation and management. Patterns of movement in amphibian and reptile population also have major conservation implications. Most recent studies on movements in lizards have focused on species whose body sizes are large enough for radio-telemetory (Neilson et al., 2006; Schorr and Lambert, 2006). Therefore, information for smaller-sized lizards is still poor, imposing some difficulties on their conservation and management.

The genus Takydromus Daudin 1802 consists of 19 species widely distributed in eastern Asia (Lue and Lin, 2002). Species of the genus Takydromus are chiefly found in the grasslands, but some species prefer dense bush or forest environments (Ziegler et al., 1998; Ziegler and Bischoff, 1999). The white-striped grass lizard, Takydromus wolteri, is a small lizard that occurs in China, Russia and Korea (Zhao and Adler, 1993).

This study was aimed to determine a movement of the white-striped grass lizard. Implications of our results for the management of this tiny lizard is briefly discussed

Materials and Methods

The study was conducted around the Saebyeol-oreum (33º 21' 49" N, 126º 21' 27" E) on Jeju Island between April 2007 and November 2009 (Figure 1).

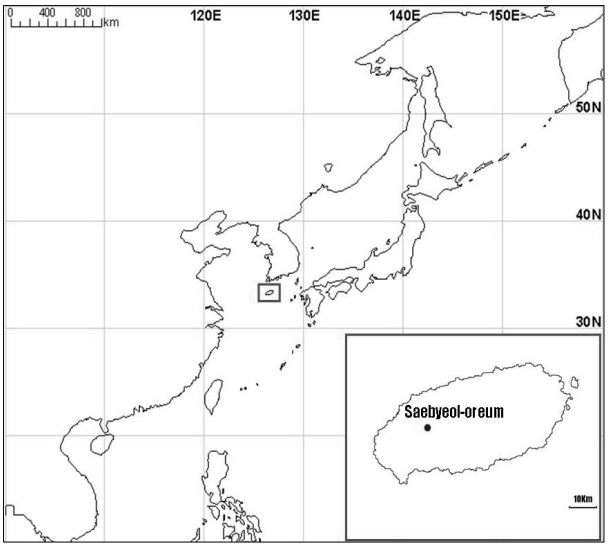

Figure 1. Map showing location of Jeju island, Korea, and of Saebyeol-oreum (insert)

Table 2. The captured date, interval, movement distance and body size of *Takydromus wolteri*

No.	Sex	dates of			interval(day)	movement	Initial		increase of Size	
		1st	2nd	3rd		distance(m)	SVL	TL(mm)	SVL	TL(mm)
002	F	Apr. 12, 2007	Jul. 31, 2009		841	20	39.56	98.64	17.18	44.40
003	F	Apr. 12, 2007	May 4, 2007	-	22	13	43.36	98.08	2.81	17.90
004	F	Apr. 12, 2007	Apr. 15, 2009	-	734	583	41.81	90.45	14.58	?
008	F	Apr. 12, 2007	May 28, 2007	-	46	32	44.35	111.11	5.91	19.41
010	M	Apr. 12, 2007	Jul. 4, 2007	-	83	538	42.52	106.47	5.04	10.24
018	M	Apr. 19, 2007	May 4, 2007	-	15	15	39.39	82.67+	1.26	?
020	F	Apr. 19, 2007	Jun. 20, 2007	-	62	41	41.17	91.00	16.57	?
024	M	Apr. 19, 2007	May 4, 2007	-	15	6	40.63	103.27	0.66	?
027	M	Apr. 19, 2007	May 4, 2007	-	15	3	37.84	90.01	×	×
034	M	May 3, 2007	Jun. 5, 2007	-	33	10	44.50	115.38	7.82	10.01
035*	F	May 3, 2007	May 4, 2007	-	1	24	54.55	144.00	-	-
037*	M	May 3, 2007	May 4, 2007	-	1	11	40.86	101.59	-	-
039*	M	May 3, 2007	May 5, 2007	-	2	8	43.87	116.37	-	-
042*	F	May 3, 2007	May 4, 2007	-	1	3	56.40	24.66+	-	-
050	M	May 3, 2007	Jun. 13, 2008	-	407	143	41.41	96.29	6.17	28.29
055	F	May 5, 2007	Oct. 19, 2007	-	169	3	43.66	100.22	12.13	46.51
063	F	May 4, 2007	Jun. 30, 2007	-	57	32	54.93	142.54	4.44	4.38
076*	F	May 4, 2007	May 5, 2007	-	1	8	45.67	32.86+	-	-
123*	M	May 5, 2007	May 5, 2007	-	0(3H)	8	51.76	20.71+	-	-
134	M	May 5, 2007	Jun. 20, 2007	-	46	243	38.24	96.48	10.98	?
140*	F	May 3, 2007	May 4, 2007	May. 5, 2007	1, 1	6	49.14	122.59	-	-
150	M	May 17, 2007	Jul. 4, 2007	-	48	17	43.44	94.86	1.34	6.62
164*	F	May 28, 2007	May 28, 2007	-	0(3.5H)	3	57.31	84.56+	-	-
204	F	Aug. 16, 2007	May 08, 2008	-	266	28	24.49	43.17	21.62	?
227	M	Oct. 19, 2007	May 06, 2009	-	565	33	51.94	149.76	2.12	?
301	M	Apr. 8, 2008	Apr. 28, 2008	-	20	4	48.81	71.13+	2.06	?
313	F	Apr. 28, 2008	May 21, 2008	-	23	18	44.82	43.77+	2.89	?
314	F	Apr. 28, 2008	May 8, 2008	-	10	97	41.96	89.90+	4.07	?
320	F	Apr. 28, 2008	May 8, 2008	-	10	12	56.38	99.27	0.04	0.01
325	F	May 8, 2008	May 14, 2008	-	6	56	53.10	119.28	0.25	?
329	M	May 8, 2008	May 14, 2008	-	6	14	44.75	112.23	2.20	20.03
330	F	May 8, 2008	May 8, 2008	-	0(6H)	3	-	-	-	-
332	F	May 8, 2008	May 14, 2008	-	6	11	43.76	36.23+	0.90	?
355	F	May 14, 2008	May 30, 2008	-	16	101	44.13	110.87	5.47	?
357	M	May 14, 2008	May 21, 2008	-	7	4	44.74	131.59	0.99	3.18
360	M	May 21, 2008	Jul. 09, 2008	-	49	11	46.99	128.77	1.92	8.66
368	F	May 21, 2008	May 30, 2008	-	9	4	48.52	79.88+	0.91	?
398	F	Jul. 29, 2008	Apr. 8, 2009	-	253	13	58.18	143.61	0.10	5.92
416	M	Sep. 25, 2008	Apr. 8, 2009	Apr. 29, 2009	195, 21	16㎡	34.69	89.93	5.47, 3.13	15.43, 8.27
437	M	Apr. 8, 2009	May 6, 2009	-	28	33	36.01	35.88+	4.70	?
440	F	Apr. 8, 2009	May 6, 2009	-	28	7	52.62	63.03+	0	?
461	M	Apr. 15, 2009	Apr. 29, 2009	-	14	11	45.10	116.29	1.14	2.89
479	M	Apr. 29, 2009	May 6, 2009	-	7	120	35.57	38.23+	0.62	?
480	F	Apr. 29, 2009	May 6, 2009	-	7	6	49.70	142.16	0.95	4.32
481	M	Apr. 29, 2009	May 6, 2009	-	7	4	44.18	117.57	1.38	3.44
485	F	Apr. 29, 2009	May 6, 2009	-	7	3	42.36	54.14+	0.40	?
509	F	May 6, 2009	May 27, 2009	-	21	3	58.05	107.60	0.31	?

*** We do not measured body size of lizards recaptured between 3 days; A plus mean autotomized tail; A question mark mean that we do not know the variation of tail length because of autotomy.**