

**AMERICAN BURYING BEETLE MONITORING  
TRIPP COUNTY, SOUTH DAKOTA  
AUGUST 14-16, 2006**



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Monitoring the American burying beetle (ABB), *Nicrophorus americanus* population in South Dakota continued in 2006. Thirty pitfall traps baited with ripe beef kidney were set in southern Tripp County on August 14<sup>th</sup> and checked on August 15<sup>th</sup> and 16<sup>th</sup>. Pitfalls were set at the same locations as in 2004, which has been the standard sampling route since 2001. Weather conditions were close to optimal. The low temperature taken with a maximum/minimum thermometer at Rahn Lake on August 15 was 64° F and a low of 63° F was recorded on August 16.

Eighty-two ABB were captured in 57 trap nights. The bait was taken from the trap at site #18 on both nights by a vertebrate scavenger and bait was also stolen from site #5 on August 15<sup>th</sup>. Five adults and seventy-seven teneral were sampled. Thirty-eight ABB were males and forty-four were females.

This population has been monitored almost annually since it was discovered in 1995 (Backlund and Marrone, 1997). Distribution has remained unchanged over this time period, the population center remains in southern Tripp County and extends into southwestern Gregory County and just barely into eastern Todd County. Little change in abundance has occurred since 1995 until this year. The catch per trap night of ABB this year was over 3 times the previous highest catch rate reported in 2000 (Table 3). The adult to teneral ratio was 1:15.4, nearly three times the previous high reached in 2000. This year's record abundance (catch per trap night) of teneral ABB's may be contributed to extreme heat and drought conditions causing abnormally high mortality of vertebrates; thus providing a large number of food items (carrion) for a very successful brood rearing and survival year.

**Table 1. ABB Captured in 2006**

Trap Site	Date	Age	Sex	Number
1	8/15/2006	T	M	3
1	8/15/2006	T	F	3
2	8/15/2006	T	M	2
2	8/15/2006	T	F	4
2	8/15/2006	A	M	1
3	8/15/2006	T	M	1
3	8/15/2006	T	F	3
6	8/15/2006	A	F	1
7	8/15/2006	T	M	1
7	8/15/2006	T	F	1
8	8/15/2006	A	F	1
9	8/15/2006	T	M	2
9	8/15/2006	T	F	1
9	8/15/2006	A	M	1
9	8/15/2006	A	F	1
10	8/15/2006	T	M	5
12	8/15/2006	T	M	2
14	8/15/2006	T	M	1
17	8/15/2006	T	M	1
17	8/15/2006	T	F	1
20	8/15/2006	T	F	1
21	8/15/2006	T	M	3
22	8/15/2006	T	M	1
23	8/15/2006	T	M	3
23	8/15/2006	T	F	7
26	8/15/2006	T	M	1
26	8/15/2006	T	F	1
27	8/15/2006	T	F	2
28	8/15/2006	T	M	1
30	8/15/2006	T	M	1
30	8/15/2006	T	F	1

**Table 1. (contd)**

1	8/16/2006	T	F	1
6	8/16/2006	T	F	2
8	8/16/2006	T	F	1
9	8/16/2006	T	F	1
10	8/16/2006	T	F	2
14	8/16/2006	T	M	1
14	8/16/2006	T	F	1
15	8/16/2006	T	F	1
16	8/16/2006	T	M	1
19	8/16/2006	T	M	2
21	8/16/2006	T	F	2
22	8/16/2006	T	F	2
23	8/16/2006	T	F	1
26	8/16/2006	T	M	2
27	8/16/2006	T	F	1
29	8/16/2006	T	M	2
30	8/16/2006	T	F	1
Total ABB caught on 8/15/2006		A	M	2
		A	F	3
		T	M	28
		T	F	25
Total ABB caught on 8/16/2006		A	M	0
		A	F	0
		T	M	8
		T	F	16

**Table 2. Total catch of Silphids and catch per trap night for August 15 and 16, 2006.**

Species	Number caught	Catch per trap night (TN)	Relative abundance
<i>Nicrophorus marginatus</i>	556	9.75	0.486
<i>Thanatophilus laponicus</i>	321	5.63	0.281
<i>Nicrophorus carolinus</i>	88	1.54	0.077
<b><i>Nicrophorus americanus</i></b>	82	1.44	0.072
<i>Necrophilia americana</i>	67	1.18	0.059
<i>Nicrophorus orbicollis</i>	19	0.33	0.017
<i>Nicrophorus tomentosus</i>	5	0.09	0.004
<i>Nicrophorus pustulatus</i>	4	0.07	0.004
<i>Oiceoptoma novaboracense</i>	2	0.04	0.002
Total	1144	20.07	1.002

**Table 3. Sex and Adult/Teneral ratios 1998-2006**

Year	Total	Per TN catch for ABB	Adult male	Adult female	Teneral male	Teneral female	Adult M:F	Teneral M:F	Adult: Teneral
2006	82	1.44	2	3	36	41	1:1.5	1:1.14	1:15.4
2004	27	.300	3	10	4	10	1:3.3	1:2.5	1:1.1
2003	54	.386	5	6	22	21	1:1.2	1: 0.95	1:3.9
2002	7	.110	0	2	1	4	na	1:4	1:2.5
2001	18	.300	0	3	6	9	na	1:1.5	1:5
2000	53	.440	3	5	24	21	1:1.7	1: 0.88	1:5.6
1999	22	.200	1	3	7	11	1:3	1:1.6	1:4.5
1998	21	.240	4	4	10	3	1:1	1:0.3	1:1.6

**Table 4. Coordinates for 2006 trap sites.**

1	43.1692	-99.8768
2	43.1692	-99.8739
3	43.1692	-99.8716
4	43.1104	-99.8325
5	43.1089	-99.8337
6	43.1076	-99.8359
7	43.1082	-99.8501
8	43.0489	-99.8499
9	43.0522	-99.8500
10	43.0647	-99.8500
11	43.0487	-99.8106
12	43.0242	-99.8028
13	43.0244	-99.7924
14	43.0128	-99.7907
15	43.0315	-99.7826

16	43.1545	-99.7318
17	43.1545	-99.7803
18	43.1546	-99.8157
19	43.1546	-99.8239
20	43.1451	-99.8106
21	43.1476	-99.8106
22	43.1547	-99.8342
23	43.1763	-99.9091
24	43.1693	-99.9089
25	43.1631	-99.9096
26	43.1586	-99.9095
27	43.1505	-99.9096
28	43.1424	-99.9095
29	43.1353	-99.9095
30	43.1278	-99.9095

Figure 1. Trap site locations

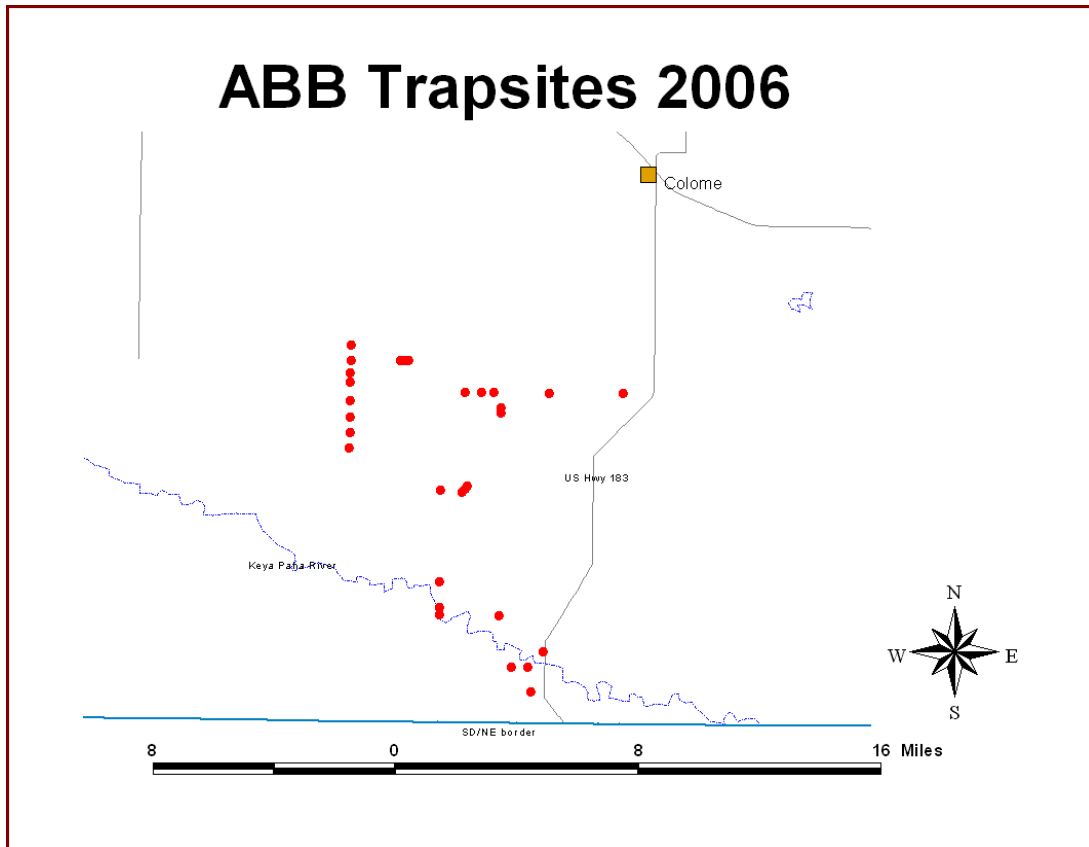
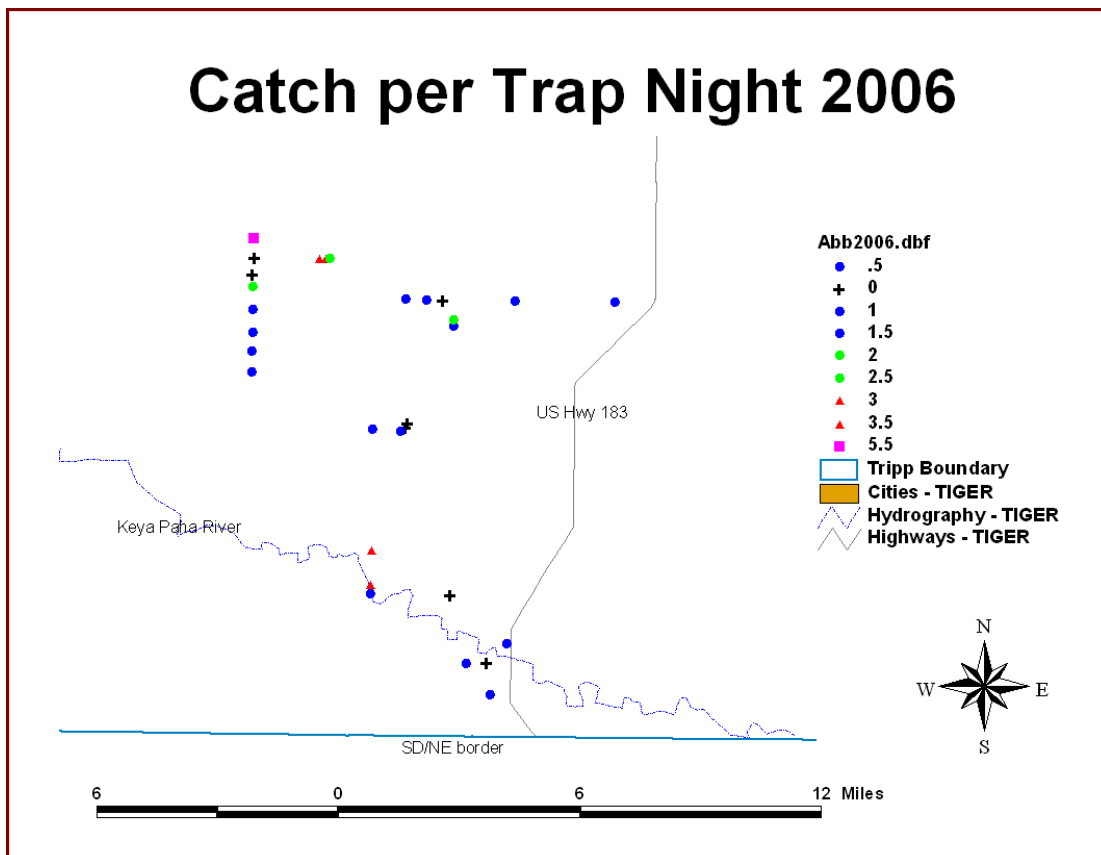


Figure 2. Catch per trap night rates



**Literature Cited:**

Backlund, D.C. and G.M Marrone. 1997. New Records of the Endangered American Burying Beetle, *Nicrophorus americanus* Olivier, (Coleoptera: Silphidae) in South Dakota. The Coleopterists Bulletin 51(1):53-58.

Backlund, D. and G. Marrone. 2003. Monitoring Surveys for the American Burying Beetle (*Nicrophorus Americanus*) in Tripp and Gregory County, South Dakota.

Cover Photo: Photo by Gary Marrone

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