

Energy expenditures of caged postmigrants in Panama.—Information concerning the energy requirements of small insectivorous birds is scanty. Perhaps one of the best approaches to studying the energy expended by these organisms is to determine weight losses, and to assign caloric values to these losses. An exact caloric value to be applied to weight losses is still an unanswered question. However, there are two lines of evidence that weight losses under some circumstances may be considered to consist of fat only. The first evidence is that trans-Gulf migrants in the spring show no loss of fat-free weight when compared to premigrants (Odum *et al.*, *Science*, **143**: 1037-1039, 1964). Probably the best direct evidence comes from the comparison of fat loss with metabolic determinations based on isotopic turnover of D_2O_{18} (LeFebvre, *Auk*, **81**: 403-416, 1964).

During the fall of 1963, several fat postmigrants were caged for 24 hours in western Panama and their weight losses were calculated. The data are given in Table 1. The conversions of weight losses to energy expenditures were based on the assumptions that the losses consisted of pure fat and that the caloric value of the fat was 9.0 Kcal/g (Odum *et al.*, *Ecology*, **46**: 901-904, 1965). Since the cage was rather large, 3 m. x 4.5 m x 3 m high, these data may very nearly approach

TABLE 1. ENERGY EXPENDITURES OF CAGED MIGRANTS BASED ON TWENTY-FOUR WEIGHT CHANGES. REPUBLIC OF PANAMA.

Species	First wgt	Second wgt	Caloric* Value of weight loss Kcal	Kcal/g** of bird per hour
Red-eyed Vireo	16.37	14.51	16.74	.05
<i>Vireo olivaceus</i>	18.28	16.34	17.46	.04
	17.30	15.42	16.92	.04
	16.31	13.92	21.51	.06
	21.64	18.72	26.28	.05
	17.47	14.78	24.21	.06
	16.67	14.53	19.26	.05
	16.19	14.01	19.62	.05
	17.41	15.42	17.91	.05
	15.76	14.23	13.77	.04
	16.06	13.96	18.90	.05
	15.72	13.17	22.95	.05
	15.06	12.80	20.34	.06
	15.97	14.45	13.68	.04
	17.15	15.56	14.31	.04
Canada Warbler	9.57	8.31	11.34	.05
<i>Wilsonia canadensis</i>	9.12	7.99	10.17	.05
	9.49	7.80	15.21	.07
	9.83	8.61	10.98	.05
Black and White Warbler	11.19	9.51	15.21	.06
<i>Mniotilta varia</i>	10.75	9.47	11.52	.05
Mourning Warbler	13.53	11.38	19.35	.07
<i>Oporornis philadelphia</i>				
Kentucky Warbler	11.81	10.51	11.70	.04
<i>Oporornis formosus</i>				

*Kcal based on 9.0 Kcal/g of weight lost.

**Mean of first and second weights used as the weight to arrive at energy expended per gram of bird.

what one might find in the field. Temperature data for this location are not available, but the mean daily temperature of about 27° C. with a daily range of 21° C - 32° C, which is found at the same latitude in Panama City, is probably correct. Indeed these temperature conditions are monotonously similar throughout coastal areas of the lower half of Central America.—David T. Rogers, Jr., Dept. of Biology, Univ. of Alabama, P. O. Box 1927, University, Ala. 35486.

Apparent Homing in the Red-tailed Hawk.—While banding Red-tailed Hawks (*Buteo jamaicensis*) with the aid of a balchatri trap described by Berger and Mueller (1958, *Ring*, 17: 86-88), I trapped an adult male which was kept as a prospective bird for breeding experiments. The bird was trapped three miles south of Lawrence, Douglas County, Kansas, and transported inside the city limits. The bird was tethered using the system of jesses or leg straps adopted by falconers. On 16 February 1967, five days after trapping, the bird broke loose with leg straps still attached. A thorough search was made but the bird was not relocated.

On 21 February 1967 I was trapping in the area where I originally captured the male. I attempted to capture a Red-tailed Hawk there, but it did not seem to pay any attention to my trap and bait (hamster). The bird flushed at the approach of my car and, with the aid of binoculars, I identified the bird as the original missing red-tail by means of the leg straps. The straps did not appear to hinder the bird.

Several things are worthy of note in this report. The bird returned to its original territory over an air distance of 4.25 miles after an absence of five days. The red-tail was "still-hunting" from the same perch when relocated as when first spotted and trapped. The bird's reluctance to respond to the same trap twice may indicate a retention of past experiences. Similar reactions have been noted on other red-tails exposed to the same trap a number of times.—Bruce R. Wolhuter, Museum of Natural History, University of Kansas, Lawrence, Kansas

RECENT LITERATURE

BANDING

(See also 8, 29)

1. The Wandering Albatross (*Diomedea exulans*): Results of Banding and Observations in New South Wales Coastal Waters and the Tasman Sea. J. D. Gibson. *Notornis*, 14(2): 47-57. This paper includes several noteworthy features—measurements of live birds, recoveries of banded birds, and plumage patterns.

For 108 birds, not segregated to sex or age, the mean weight was 8.3 kg (5.9 to 11.3, although a single bird from another area weighed 12.2 kg or 27 lb.). The wingspans of 119 birds ranged between 272 and 323 cm (that is, 9-10.5 ft).

About 50 birds banded at New South Wales have been recorded 90 times at South Georgia, 7000 miles away, and 12 are known to have made the trip both ways. At the breeding grounds on South Georgia, some 6000 Wandering Albatrosses have been banded, and since 1959 thirteen of these have been caught off New South Wales. Other recoveries of New South Wales birds have been from New Zealand, Kerguelen Is., and Auckland Is. From these and other records, the author concludes that the large number of wintering Wandering Albatrosses off New South Wales includes birds from all the nesting colonies.

Plumage patterns in this and other species of albatrosses have been a source of perplexity for some time, chiefly because a given pattern could not always be associated with a specific sex or age. Whereas these problems are still not entirely solved in the present paper, the handling of 600 birds has permitted at least a categorization of plumage types, figures for which are presented to show the order of gradual changes. Unfortunately, the patterns are not adequately related to sex or age.—David W. Johnston.