

NOTES

FOODS FOUND IN 103 RED-NECKED PHALAROPES

PATTI POWERS BROWN, 560 Wolf Creek, Bigfork, Montana 59911

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The Red-necked Phalarope (*Phalaropus lobatus*) is a common spring migrant along the northern California coast (Yocom and Harris 1975), where it commonly feeds along drift lines at sea and on sheltered coastal waters such as sewage oxidation ponds (Gerstenberg 1979) and rainwater ponds in coastal woodlands and fields. On 6 May 1969, 103 dead Red-necked Phalaropes were recovered at Trinidad, Humboldt County, California, where they had struck power lines stretched between the shoreline and a coastal headland. The gizzards of these birds were stored in formalin until they could be examined. Food items were identified by means of Borror and Delong (1976), Barnes (1974), and reference collections. We are grateful to Dr. R. L. Hurley for helping to identify unknown samples.

Nearly 90% of the total gizzard contents consisted of animal remains, mostly carpenter ants (*Campanotus* sp.) (47%), larvae of the cancer crab (*Cancer* sp.) (21%), and beetles (18.5%) (Table 1). Sixty of the gizzards contained only terrestrial insects, 11 contained only marine organisms, and 32 contained both freshwater and marine forms, showing that many birds had fed in both fresh and salt or estuarine waters. Thirty-eight of the 103 gizzards were densely packed with ant fragments, including wings, suggesting that the phalaropes had fed on emerging or mating adult ants. Because of the high concentration of carpenter ants and bark beetles in this sample, it seems likely that this flock had fed together in a coastal woodland pond or in a pond containing woody debris.

Table 1 Foods of 103 Red-necked Phalaropes, Trinidad, Humboldt Co., California, 6 May 1969

Item		Percent of total volume	Percent frequency
Insects			
Formicidae	Ants	47.0	63
Scolytidae	Bark beetles	12.9	74
Carabidae	Ground beetles	5.4	37
Elateridae	Click beetles	0.2	7
Other	(Eight families)	trace	30
Crustacea			
Canceridae	Crab larvae	21.0	36
Amphipods	(Two families)	trace	3
Arachnida			
Arthropodidae		trace	2
Unidentified animal remains		3.4	42
Total animal remains		89.9	
Seeds		6.6	16
Rocks		3.5	9

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Previous workers have emphasized the importance of insects, crustaceans, and mollusks in phalarope diets (Wetmore 1925, Bent, 1927, Michael 1938, Stout 1967, Baker 1977, Jehl 1986). Although most phalarope foods are probably picked from the surface, Red-necked and Wilson's (*Phalaropus tricolor*) phalaropes have been observed rising several feet above the water in pursuit of flying insects (Bent 1927, Michael 1938). Wetmore (1925) found hymenopterans in 12 of 155 phalarope stomachs and thought that they were taken by chance, although it is generally thought that formic acid may make ants unpalatable to birds. Brooks (1967) reported ants in Lesser Golden Plovers (*Pluvialis dominica*), Least Sandpipers (*Calidris minutilla*), and Wilson's Phalaropes. He concluded the ants taken by shorebirds probably represented insects living on shoreline vegetation or individuals that become trapped on the pond surface. Our samples suggest that phalaropes will take foods opportunistically.

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