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Diet of Gurney's Buzzard in the Puna of Northernmost Chile.—Gurney's, or Red-naped, Buzzard (*Buteo poecilochrous*), is confined to the Puna zone at elevations above 3500 m along the Andean range, from Colombia south through Ecuador and Peru, to northernmost Chile and adjacent regions of Bolivia and Argentina (Vaurie 1962, Brown and Amadon 1968). According to Johnson (1965) "Very little is known of its habits," except for scant behavioral information reported on a pair breeding in southwestern Peru (Johnson 1967). Little is known about its population status (Jaksić and Jiménez 1986), and we found no studies of its diet in the specialized literature. Herein we report quantitative information on the diet of Gurney's Buzzard in the high Andean plateau (Puna) of northernmost Chile.

On 1 March 1988 we found a recently abandoned nest of Gurney's Buzzard (some of its feathers were inside) on a cliff ca 4800 m elevation at Choquelimpie (18°19'S, 69°18'W, see Paynter 1988 for more information on this locality). The date corresponds to the end of both the breeding season and the warm/rainy season in the Puna, when air temperatures average 12°C. The vegetation is that of a cold steppe dominated by dwarf shrubs (e.g., *Adesmia spinosissima*, *Baccharis incarum*) and bunchgrasses (e.g., *Festuca orthopylla*, *Stipa* sp.). In areas where the watertable emerges, swampy vegetation prevails, dominated by cushion plants (e.g., *Distichia muscoides*, *Oxychloe andina*). We collected regurgitated pellets below the nest and prey remains from inside it. The state of pellets and of remains implied that they represent the diet of Gurney's Buzzard during the breeding season. We analyzed pellets using standard procedures described by Marti (1987). To gauge prey contents against prey availability in the field, we recorded the presence of all vertebrates in the area. We collected anurans by hand, lizards by snaring, and small mammals by trapping. We assessed small mammal abundance with an average of 150 medium-sized Sherman traps, operated for five nights, totalling 800 trap-nights, and with three gopher coil spring traps, operated during two nights.

Mammals made up a numerically small part of the diet of Gurney's Buzzard (Table 1). The only instance of carrion consumption was represented by the hooves of either a domestic goat or a sheep found among nest remains. All other prey likely was taken alive. By live-trapping we collected 16 rodents of five species in the area: eight Puna vesper-mouse (*Calomys cf. sorellus*), three Puna tucotuco (*Ctenomys opimus*), two Puna greater mouse (*Auliscomys sublimis*), two Leaf-eared mouse (*Phyllotis* sp.), and one White-bellied field mouse (*Akodon albiventer*). The most abundant rodent in the area (vesper mouse) was not among the prey of Gurney's Buzzard. Conversely, Tschudi's cavy (*Cavia tschudii*) and Andean field mouse (*Akodon andinus*) were among its prey but were not captured in the traps.

Birds contributed a minor component of the diet, mainly with thinocorids and fringillids (Table 1). We identified 34 species of birds in the area, among them two Tinochoridae, Gay's Seed-snipe (*Attagis gayi*) and D'orbigny's Seed-snipe (*Thinocorus orbignyianus*), and seven Fringillidae: Plumbeous Sierra-finch (*Phrygilus unicolor*), White-throated Sierra-finch (*P. erythronotus*), Ash-breasted Sierra-finch (*P. plebejus*), Grey-hooded Sierra-finch (*P. gayi*), White-winged Diuca-finch (*Diuca speculifera*), Yellow-rumped Siskin (*Carduelis uropygialis*), and Black Siskin (*C. atrata*).

Reptiles were represented in the diet only by lizards (Table 1). In the area we collected three, or possibly four, *Liolaemus* species: striped lizard (*L. alticolor*), James' lizard (*L. jamesi*), variable lizard (*L. multiformis*), and *Liolaemus* sp. (this latter may be a juvenile stage of variable lizard). Of these species, the two former were the most abundant and were represented accordingly among the Buzzard's prey. Only a single amphibian, a frog or toad, was found among prey remains in the nest (Table 1). In the area we collected the spiny toad (*Bufo spinulosus*) and two leptodactylids, rufous frog (*Pleurodema marmorata*) and Peruvian

TABLE 1
PREY OF GURNEY'S BUZZARD IN THE PUNA OF NORTHERNMOST CHILE, BASED ON PELLETS
AND NEST REMAINS COLLECTED AT THE END OF THE BREEDING SEASON

Prey	Percent of individual prey	
	Pellets	Nest remains
Mammals	8.3	4.4
White-bellied field mouse	0.7	0.0
Andean field mouse	0.7	0.0
Leaf-eared mouse	0.4	0.0
Tschudi's cavy	0.4	0.0
Puna tuco-tuco	1.4	0.0
Cricetidae	2.5	2.2
Rodent	2.2	0.0
Goat or Sheep	0.0	2.2
Birds	4.0	2.2
Thinocoridae	0.7	0.0
Fringillidae	0.7	0.0
Passerine	1.4	0.0
Bird	1.2	2.2
Reptiles	7.6	8.9
James' lizard	4.7	8.9
Striped lizard	0.7	0.0
<i>Liolaemus</i> lizard	2.2	0.0
Amphibians	0.0	2.2
Anuran	0.0	2.2
Insects	80.1	82.3
Tenebrionidae	3.3	4.4
Scarabaeidae	1.8	0.0
Curculionidae	14.1	6.7
Coccinellidae	0.4	0.0
Coleoptera adult	59.4	66.8
Coleoptera larva	0.0	4.4
Hymenoptera adult	0.4	0.0
Lepidoptera larva	0.7	0.0
Total prey	276	45
Total pellets/remains	27	45

frog (*Telmatobius peruvianus*). Insects were the most frequent prey in the diet of Gurney's Buzzard, most of them being coleopterans (Table 1). Wasps and caterpillars made up a small proportion of its diet. All these insects were small, probably weighing less than 1 g, and thus their contribution to the total biomass of the diet seems negligible.

A comparison between prey in the pellets and that among nest remains (Table 1) does not reveal any significant difference between these two ways of sampling the food habits of Gurney's Buzzard. In sum, its diet numerically is dominated by insects, but by biomass it

appears that vertebrates (particularly rodents and lizards) constitute the staple prey of Gurney's Buzzard during the breeding season in the Chilean Puna.

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LITERATURE CITED

- BROWN, L. AND D. AMADON. 1968. Eagles, hawks and falcons of the World. Two volumes. Country Life Books, Feltham, Middlesex, England.
- JAKSIĆ, F. M. AND J. E. JIMÉNEZ. 1986. The conservation status of raptors in Chile. *Birds Prey Bull.* 3:95–104.
- JOHNSON, A. W. 1965. The birds of Chile and adjacent regions of Argentina, Bolivia and Peru, I. Platt Establecimientos Gráficos, Buenos Aires, Argentina.
- . 1967. The birds of Chile and adjacent regions of Argentina, Bolivia and Peru, II. Platt Establecimientos Gráficos, Buenos Aires, Argentina.
- MARTI, C. D. 1987. Raptor food habits studies. Pp. 67–80 in *Raptor management techniques manual* (B. A. Giron Pendleton, B. A. Millsap, K. W. Cline, and D. M. Bird, eds.). National Wildlife Federation, Washington, D.C.
- PAYNTER, R. A. 1988. Ornithological gazetteer of Chile. Cambridge, Massachusetts.
- VAURIE, C. 1962. A systematic study of the Red-backed Hawks of South America. *Condor* 64:277–290.

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Nest, eggs, and young of the Green-and-Gold Tanager, with notes on timing of breeding.—Little or nothing is known of the breeding biology of half of the 50 species of tanagers in the genus *Tangara* (Isler and Isler, *The Tanagers*, Smithsonian Institution Press, Washington, D.C., 1987). One such species, the Green-and-Gold Tanager (*Tangara schrankii*), is a common bird of the canopy of terra firme rainforest in western Amazonia, from the base of the eastern Andes in s.e. Columbia south to n. Bolivia and s.w. Brazil (Isler and Isler 1987). Isler and Isler (1987) gave a brief description of a nest and eggs of *T. schrankii* found in southeastern Peru by T. S. Schulenberg. Herein, I provide a detailed description of a nest found by myself, the nest found by T. S. Schulenberg, and of a third nest found by Phyllis Isler. To investigate the timing of breeding, gonad data from specimen labels were analyzed.

In 1987, a field party from Louisiana State University Museum of Natural Science conducted an ornithological survey in a previously unexplored area of Peru ca 65 km ENE of Pucallpa, Dpto. Ucayali. On 31 July, I flushed an adult *Tangara schrankii* from an understory sapling 3 m in height in tall rainforest. On the sapling, I found a cup-shaped nest composed of and lined predominately with dried leaves, but also mixed with rootlets and lichens. It was built at the base of a branch 75 cm above the ground and concealed by an overhanging fern frond woven to the sapling. Other live and dead fronds and leaves of a *Philodendron* sp. also concealed the nest. The dimensions of the nest were 12.2 cm from top to bottom, 10.2 cm from outer side to outer side, and 6.6 cm deep. It contained two pale reddish brown eggs densely speckled with darker red. Three days later, both young had hatched. The chicks were sparsely covered in downy feathers and had a whitish gape and a Spectrum Red (Ridgway, *Color Standards and Nomenclature*, Washington D.C., 1912) mouth-lining. The adult (18 g, ovary 10 × 7 mm, oviduct 2 mm wide, and all ova under 1 mm), young and