

belly and underwing, with a striking white lower belly. It was clearly an adult. At least one female Great Frigatebird was identified in the group. Several females with white spurs on the axillary feathers were also observed, however I could not determine whether they were Lesser Frigatebird *Fregata ariel* or Christmas Island Frigatebird (possibly both were present).

Frigatebirds are regular along the coast near Dili with observations of small numbers every few days in the period March–May 2003. A large group of up to 150 individuals was frequently seen at Manatutu. The only other record of Christmas Island Frigatebird for Timor was also of a single adult male, observed along the coast near Kupang on 26 June 1986 (McKean 1987).

The Christmas Island Frigatebird is considered a vagrant to the Lesser Sundas (BirdLife International 2001). However it should be emphasised that limited and highly sporadic effort has been expended by ornithologists along the coasts of these islands. Further, this ornithological note is the first based on direct observations in Timor-Leste since 1973 (McKean *et al.* 1975, see also Trainor and Soares 2004, this issue).

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Diet of Houbara Bustard *Chlamydotis undulata* in Punjab, Pakistan

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Houbara Bustard *Chlamydotis undulata* (taxonomic treatment follows BirdLife International 2004) ranges from North Africa, through the Middle East to Mongolia. In Pakistan, where the present study was carried out, it is largely a winter visitor (Cramp 1980, Roberts 1991–1992). The species is omnivorous, eating fruit, seeds, shoots, leaves and flowers, with animal prey including locusts, grasshoppers, mole-crickets, and beetles (Cramp 1980). Here we describe gizzard contents of Houbara Bustards collected in Punjab, Pakistan.

METHODS

A total of 34 Houbara Bustard gizzards were collected during 1999–2000 from hunting parties and local trappers in Rajanpur/Rojhan, Thal and Cholistan regions, Punjab, to determine the food preferences. Samples were immediately fixed in 10% formaldehyde. Unfortunately it was not possible to record mass, age and sex of the birds. Plant and animal matter of contents were separated, weighed and identified in the Botany and Zoology Departments, University of the Punjab, Lahore.

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RESULTS

Most of the matter found in the Houbara Bustard gizzards was plant material (78% by mass). Parts of seeds, leaves, flowers and young shoots of 19 plant species belonging to 11 families were identified (Table 1). The most frequent included *Dipterygium glaucum* (91% of samples and 40% of total dry mass), *Capparis decidua* (65% and 2.7% respectively), *Haloxylon salicornicum* (35% and 1.7%) and *Farsetia hamiltonii* (32% and 11%). Among the animal matter, the most frequent species was *Adesmia aenescens* (94% of samples and 11% of total dry mass), *Pimelia indica* (24% and 2.2% respectively), and *Arthrodisia* sp. (21% and 2.5%). The proportion of animal matter appeared to increase from October to February (Table 2).

DISCUSSION

The results presented here accord well with other studies of Houbara Bustard diet. In Pakistan, Mirza (1971) analysed gizzard contents of 100 individuals, and reported that 88% of samples contained both plant matter (including the genera *Haloxylon*, *Farsetia*, *Fagonia*, *Tribulus*, *Zygophyllum*, and *Crotalaria*) and animal matter (including insects such as grasshoppers

Table 1. Gizzard contents from Houbara Bustards.

Family	Species	Common name	Mass (g)	% total mass	% freq.
<i>Plant matter</i>					
Capparidaceae	<i>Dipterygium glaucum</i>	Phel	602	40	91
	<i>Capparis decidua</i>	Daila	40	2.7	65
Cruciferae	<i>Farsetia hamiltonii</i>	Lathia	161	11	32
	<i>Brassica</i> sp.	Mustard	13	0.9	5.9
Zygophyllaceae	<i>Fagonia indica</i>	Dharman	88	5.8	26
	<i>Tribulus longipetalus</i>	Bakhra	15	1.0	21
Leguminosae	<i>Cicer arietinum</i>	Chickpea	33	2.2	5.9
	<i>Indigofera</i> sp.	Syian	7.9	0.5	15
Chenopodiaceae	<i>Haloxylon salicornicum</i>	Lana	25	1.7	35
	<i>Salsola baryosma</i>	Gora Lana	24	1.6	21
	<i>Suaeda fruticosa</i>	Kali Lani	18	1.2	12
Rhamnaceae	<i>Ziziphus nummularia</i>	Beri	14	0.9	5.9
	<i>Ziziphus mauritiana</i>	Beri	2.4	0.2	2.9
Boraginaceae	<i>Heliotropium</i> sp.		11	0.7	21
Oleaceae	<i>Oligochaeta ramosa</i>		4.2	0.3	8.8
Euphorbiaceae	<i>Euphorbia prostrata</i>	Dhodhial	3.1	0.2	5.9
Cucurbitaceae	<i>Citrullus colocynthis</i>	Tuman	2	0.1	5.9
Gramineae	<i>Sorghum bicolor</i>	Jawar	1.6	0.1	2.9
	<i>Panicum turgidum</i>	Moruth	7.4	0.5	21
Unidentified			90	6.0	
<i>Animal matter</i>					
Tenebrionidae	<i>Adesmia aenescens</i>		165	11	94
	<i>Arthrodisia</i> sp.		38	2.5	21
	<i>Pimelia inexpectata</i>		36	2.4	8.8
	<i>Pimelia indica</i>		33	2.2	24
	<i>Blaps macronata</i>	Darkling beetle	7.5	0.5	8.8
	<i>Trachyderma</i> sp.		2.2	0.1	8.8
	Unidentified beetle		1.6	0.1	5.9
Formicidae	<i>Formica rufa</i>	Desert ant	8	0.5	12
Scarabaeidae	<i>Scarabaeus cateratus</i>	Dung roller	3.5	0.2	5.9
Tetrigidae	<i>Tetrix subulata</i>	Groundhopper	0.1	0.0	2.9
Unidentified			40	2.7	
Stones			7	0.5	5.9

and beetles). The remainder were comprised solely of plant material. Fox (1988) examined 52 gizzards of Houbara Bustard from Balochistan, Layyah and Rajanpur regions of the Punjab. Plants made up of 63% of dry weight, and the most frequently recorded species were *Farsetia jacquemontii*, *Capparis* spp. and *Tribulus terrestris*. The most frequently recorded tenebrionid beetles included *Adesmia aenescens* (23%), *Pimelia indica* and *Pimelia inexpectata* (20% together), and *Arthrodisia* sp. (10%). Unidentified beetles and

weevils were found in 68% of samples, and grasshoppers were found in 16% of samples. Gubin (1995) found that beetle remains were present in 50% of faecal samples.

Roberts (1991–1992) noted that the proportion of animal matter increased from 17% in early winter to 51% by late winter. This was thought to reflect the increased need for protein prior to breeding. We also recorded a gradual increase in the proportion of animal matter through the winter, with a sharp increase to 94% dry mass in March, although the sample size was small.

Table 2. Seasonal variation in % mass of animal and plant matter from Houbara Bustard gizzards.

Month	No. samples	% mass animal matter	% mass plant matter
Oct	5	1.9	98
Nov	1	3.0	97
Dec	3	8.2	92
Jan	10	19	81
Febr	13	16	84
Mar	2	94	5.6
Total	34	18	82

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Moustached Warbler *Acrocephalus melanopogon*: first record for Nepal

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While carrying out an ornithological survey of Royal Sukla Phanta Wildlife Reserve, Nepal, on 22 December 2002, we heard an unusual bird call by the edge of Rani Tal marshes (28°51'N 80°11'E). We located the bird moving low just above the water at the edge of tall (1 m high) *Phragmites karka* and *Saccharum arundinaceum* grasses. We had several clear views to within 5 m at 10h35 for 15 minutes, using 10x50 and 8x42 binoculars. The weather was cool and foggy with a light wind.

In the field, the bird appeared to be same size as Paddyfield Warbler *Acrocephalus agricola* but slightly more plump. It had a distinct broad white supercilium, a darker eye-stripe, dark ear-coverts, whitish throat, light rufous and unstreaked rump, and a streaked head and back. The call appeared to be distinctly different from any other *Acrocephalus* spp. warblers occurring at this site. We immediately identified the species as Moustached Warbler *Acrocephalus melanopogon* using Grimmett *et al.* (1999). HSB and TG were familiar with the species from Keoladeo National Park, Rajasthan, India.

We visited the site again on 24 and 25 December and made further observations of at least three individuals to as close as two metres. One individual was trapped, measured, photographed and released. In the hand, the supercilium was almost white, and terminated rather broadly behind eye. The crown, lores and moustachial area were dark grey-brown. The mandible was dark grey except for the base of lower mandible which was fleshy pink. The mantle and head were streaked with dark brown. The tarsi and feet were dark grey, with pale yellow soles. The call was a muffled, 'throaty' and thick *treck* as described in Mullarney *et al.* (1999). The following measurements were taken: wing: 60 mm; tarsus: 20.6 mm; bill length: 10.5 mm; weight 10 g.

These field notes and the photographs were checked with Grimmett *et al.* (1998, 1999) and Svensson (1992) and confirmed the identification as Moustached Warbler. This constitutes the first record for Nepal.

Within the Indian subcontinent, this species has been reported in India and Pakistan, where it is described as a winter visitor, possibly breeding in small numbers in northern areas (Ali and Ripley 1987, Roberts 1992, Grimmett *et al.* 1998). It is interesting to note that Inskipp and Inskipp (1991) had predicted the species to occur in west Nepal. We suspect this species to be either a passage migrant, or winter visitor, to Nepal in small numbers.

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