



Department of Defense Legacy Resource Management Program

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Enhancement of Reference Collections for Birdstrike Identification – Phase II

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Smithsonian Institution – DoD Legacy Expeditions
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“Enhancement of Reference Collections for Birdstrike Identification – Phase II”

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Introduction:

This is the final report for the Legacy Resource Management Program Grant awarded to the Smithsonian Institution (May 2003). The grant was awarded to enhance and improve the research collections in the Division of Birds for the identification of foreign

military birdstrike cases. Phase I of this project was completed in September 2001 and concentrated on improving the research collections for North American bird species. Due to the increased number of birdstrike cases received from overseas bases, Phase II of the project focused on the accession of new bird material into the research collections from foreign air bases that are now encountering increased birdstrike activity.

The collections at the Smithsonian Institution have been used for more than forty years to provide positive identifications of species of birds that cause millions of dollars of damage to military aircraft worldwide. If “problem” bird species are accurately identified, measures can be taken to avoid future strikes of those species (e.g. habitat management, aircraft design, bird avoidance models, etc.) The reference collections that are used for these identifications have been suffering from lack of species diversity, plumage variations, age, wear, and the specimens are not prepared in a way that facilitates the feather identification method. The primary intent of this grant is to initiate refurbishing of these collections for more efficient use in birdstrike identifications, especially those received from foreign air bases. Secondly, species lists and dietary habits of the birds obtained from each expedition are provided to the Safety Office and/or Natural Resources Division of each participating military base. These goals are accomplished by the judicious collecting of bird specimens, and the recording of scientific data of birds that are commonly involved in birdstrikes on multiple Air Force bases.

Although the short-term benefits of this grant greatly facilitate the bird strike identification program, the broader implications of this project provide vast amounts of scientific data and new materials for long-term research projects. Tissue samples from all

specimens are stored cryogenically and will be used for future DNA identification studies. New projects have been initiated to study bird viruses that affect human populations. This “store-housing” of data and information provides the fundamental resources needed for long-term future studies of birds. We hope to continue these projects as we request continued support from the Legacy Program for an additional foreign expedition in 2006. A Phase III project is also planned for 2006 to conduct genetic ‘barcoding’ of the species of birds collected in Phase I (North America) and Phase II (Foreign) and will be used to aid in the identification of blood and tissue samples that are increasingly becoming the primary type of remains received from birdstrike events.

Summary of Activities

For this phase of the project, expeditions were conducted at two (2) foreign military bases in the Fall of 2004 and included Osan and Kunsan Air Bases in the Republic of Korea. Locations were selected based on bird migration routes and habitat diversity to produce maximum species diversity, travel logistics between bases, and underlying birdstrike problems. Due to the complications and expenses of organizing expeditions in foreign countries, we selected two different bases in the same country (South Korea). Field teams consisted of personnel from the Smithsonian Institution, U.S. Geological Survey - Patuxent Wildlife Research Center, and U.S. Air Force. In addition to specimen collecting/acquisition, military personnel traveling with the Smithsonian Team conducted BASH presentations and provided consultation to Safety Offices upon request

at each base (see Appendix I). This combined visit was beneficial to all parties and greatly raised awareness of BASH (Bird Aircraft Strike Hazard) issues and the importance of birdstrike identification.

This project was very successful in many ways. A total of 294 specimens of 58 species were collected on this expeditions (Appendix II) and represent different age classes, plumages, and geographic locations of many of the species involved in birdstrikes. These specimens will serve as the primary comparative samples for bird strike identifications far into the future. The specimens collected on this expedition have been specifically prepared with spread wings and as flattened skins to better facilitate feather identification. Each specimen has complete scientific data (sex, age, soft part colors, stomach contents, habitat, and location coordinates) for future research needs and will be used for ornithological research by scientists and artists worldwide. Some of the duplicate specimens may be used in permanent exhibits and for educational outreach at the Smithsonian Institution. All specimens have been prepared and are ready for cataloguing and installation into the Smithsonian collections. A subset of the tissue specimens collected on this expedition were submitted to the Department of Virology, Erasums MC University Medical Center, Rotterdam, The Netherlands, for Influenza A virus testing (results pending). All of the tissue samples obtained on this expedition will be screened by Smithsonian researchers as part of a worldwide study on the spread of avian viruses.

A new product for dna tissue storage was also tested on this expedition. In addition to maintaining the traditional storage method (liquid nitrogen), we also began testing Whatman® FTA (Fast Technology Analysis) dna collecting cards. These cards have

potential benefits for field use because they are less cumbersome, lightweight, space efficient, and do not require permanent freezer storage space. Future studies will compare the results of dna extractions from FTA cards to those of frozen tissue to determine if this type of storage is suitable for natural history specimens. Also, the cards may be included in dna collecting kits that will be used for birdstrike sample collection.

Major Findings:

The following points represent major findings for this project:

- addition of 294 specimens of 58 species to the scientific research collections
- addition of *many* new species to the frozen tissue cryogenic collection
- a total of eight unique species added to the Smithsonian alcohol or skeletal collections: Grey Heron (*Ardea cinerea*), Intermediate Egret (*Egretta intermedia*), Spot-billed Duck (*Anas poecilorhyncha*), Far Eastern Curlew (*Numenius madagascariensis*), Black-tailed Gull (*Larus crassirostris*), Bull-headed Shrike (*Lanius bucephalus*), Mugimaki Flycatcher (*Ficedula mugimaki*).
- established on-going research projects with : 1) Erasmus University Rotterdam, The Netherlands (Dr. Ron Fouchier) 2) Smithsonian Institution, National Zoological Park, Washington, DC (Dr. Rob Fleischer)

Acknowledgements

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Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	116	F	S. Korea, Jeollabuk Province	W of Rwy18, fence line, 2000' Marker	ants, beetle wing, insect parts
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	128	F	S. Korea, Jeollabuk Province	W of Rwy18, fence line, 2000' Marker	ants, insect parts
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	128	M	S. Korea, Jeollabuk Province	W of Rwy18, fence line, 2000' Marker	grit
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	142	M	S. Korea, Jeollabuk Province	W of Rwy18, fence line, midfield	ants, earwig, many beetle larvae
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	146	M	S. Korea, Jeollabuk Province	W of Rwy18, fence line, midfield	not recorded
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	128	F	S. Korea, Jeollabuk Province	W of Rwy18, fence line, 2000' Marker	not recorded
Kunsan	3-Oct-04	Garrulus	glandarius	Jay	146	M	S. Korea, Jeollabuk Province	W of Rwy18, outside perimeter rd, 2000' Mkr	nuts, grit
Kunsan	3-Oct-04	Garrulus	glandarius	Jay	144	F	S. Korea, Jeollabuk Province	W of Rwy18, outside perimeter rd, 2000' Mkr	grit, seed pulp
Kunsan	3-Oct-04	Gallinago	gallinago	Common Snipe	108	F	S. Korea, Jeollabuk Province	Btwn Rwy 18/perim rd, midfield	grit
Kunsan	3-Oct-04	Anas	platyrhynchos	Mallard	1240	M	S. Korea, Jeollabuk Province	W of Rwy18, outside perimeter rd, 2000' Mkr	grit, small black seeds
Kunsan	3-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1126	M	S. Korea, Jeollabuk Province	App end Rwy36, east side	
Kunsan	3-Oct-04	Picus	canus	Gray-headed Woodpecker	124	F	S. Korea, Jeollabuk Province	south end of airstrip	female by plumage
Kunsan	3-Oct-04	Ficedula	mugimaki	Mugimaki Flycatcher	10.5	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	3-Oct-04	Egretta	intermedia	Intermediate Egret	514	?	S. Korea, Jeollabuk Province		
Kunsan	3-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1134	?	S. Korea, Jeollabuk Province		
Kunsan	10-Aug-04	Charadrius	alexandrinus	Kentish Plover	42	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	4-Aug-04	Ardea	cinerea	Gray Heron	920	F	S. Korea, Jeollabuk Province		
Kunsan	4-Oct-04	Gallinago	gallinago	Common Snipe	110	F	S. Korea, Jeollabuk Province	Infield, W of Rwy 18, btwn 2000'/3000' markers	grit, black mush
Kunsan	4-Oct-04	Gallinago	gallinago	Common Snipe	92	M	S. Korea, Jeollabuk Province	Infield, W of Rwy 18, btwn 2000'/3000' markers	grit
Kunsan	4-Oct-04	Gallinago	gallinago	Common Snipe	136	F	S. Korea, Jeollabuk Province	Infield, W of Rwy 18, btwn 2000'/3000' markers	grit, black mush
Kunsan	4-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	748	F	S. Korea, Jeollabuk Province	Infield, W of Rwy 18, btwn 2000'/3000' markers	grass seeds
Kunsan	4-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1094	M	S. Korea, Jeollabuk Province	Infield, W of Rwy 18, dept end	grit and mashed seeds
Kunsan	4-Oct-04	Phoenicurus	auroreus	Daurian Redstart	15	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	4-Oct-04	Cyanoptila	cyanomelana	Blue and White Flycatcher	23.5	F	S. Korea, Jeollabuk Province	south end of airstrip	seeds, vegetation

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	4-Oct-04	Lanius	bucephalus	Bull-headed Shrike	42	M	S. Korea, Jeollabuk Province	south end of airstrip	beetle fragments
Kunsan	4-Oct-04	Phylloscopus	inornatus	Yellow-browed Warbler	5.5	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	4-Oct-04	Emberiza	spodocephala	Black-faced Bunting	16.6	M	S. Korea, Jeollabuk Province	south end of airstrip	grit, plant
Kunsan	4-Oct-04	Emberiza	spodocephala	Black-faced Bunting	14.5	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	4-Oct-04	Parus	varius	Varied Tit	15.7	M	S. Korea, Jeollabuk Province	south end of airstrip	plant material
Kunsan	4-Oct-04	Parus	varius	Varied Tit	15.5	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	4-Oct-04	Lanius	bucephalus	Bull-headed Shrike	40	F	S. Korea, Jeollabuk Province	south end of airstrip	beetle fragments
Kunsan	4-Oct-04	Parus	major	Great Tit	12.5	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	4-Oct-04	Larus	crassirostris	Black-tailed Gull	482	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	4-Oct-04	Carpodacus	erythrinus	Common Rose Finch	25	M	S. Korea, Jeollabuk Province	south end of airstrip	grit, white matter
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9.8	F	S. Korea, Jeollabuk Province	south end of airstrip	vegetation, seeds
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9.2	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	10.2		S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	10.1	M	S. Korea, Jeollabuk Province	south end of airstrip	grit
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	10	M	S. Korea, Jeollabuk Province	south end of airstrip	grit and green mush
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9.4	M	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9.6	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9	M	S. Korea, Jeollabuk Province	south end of airstrip	seeds, green matter
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	9.4	F	S. Korea, Jeollabuk Province	south end of airstrip	grit, plant matter
Kunsan	4-Oct-04	Parus	major	Great Tit	13.2	M	S. Korea, Jeollabuk Province	south end of airstrip	green mush
Kunsan	4-Oct-04	Phylloscopus	sp.	Warbler	11	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Larus	crassirostris	Black-tailed Gull	534	F	S. Korea, Jeollabuk Province	west shoreline	fish bones bits of shell
Kunsan	5-Oct-04	Larus	crassirostris	Black-tailed Gull	566		S. Korea, Jeollabuk Province	west shoreline	
Kunsan	5-Oct-04	Larus	crassirostris	Black-tailed Gull	760	F	S. Korea, Jeollabuk Province	west shoreline	fish bones, ants, insect parts, shell

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	5-Oct-04	Parus	major	Great Tit	none	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Egretta	intermedia	Intermediate Egret	510	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	5-Oct-04	Anas	platyrhynchos	Mallard	1004	F	S. Korea, Jeollabuk Province	midfield of infield	grass seed
Kunsan	5-Oct-04	Phylloscopus	sp.	Warbler	8.2	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.8	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15	M	S. Korea, Jeollabuk Province	south end of airstrip	small black, yellow seeds
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	16.2	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.4	F	S. Korea, Jeollabuk Province	south end of airstrip	empty
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.3	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Lanius	bucephalus	Bull-headed Shrike	40	M	S. Korea, Jeollabuk Province	south end of airstrip	empty
Kunsan	5-Oct-04	Emberiza	spodocephala	Black-faced Bunting	14.4	F	S. Korea, Jeollabuk Province	south end of airstrip	empty
Kunsan	5-Oct-04	Phylloscopus	sp.	Warbler	8.2	M	S. Korea, Jeollabuk Province	south end of airstrip	small seeds
Kunsan	4-Oct-04	Paradoxornis	webbianus	Vinous-throated Parrotbill	none	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Phylloscopus	borealis(?)	Arctic Warbler	8	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	5-Oct-04	Lanius	bucephalus	Bull-headed Shrike	38	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	5-Oct-04	Parus	major	Great Tit	13.4	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	6-Oct-04	Pica	pica	Black-billed Magpie	224	F	S. Korea, Jeollabuk Province	North end of runway	rice / small crab fragments
Kunsan	6-Oct-04	Pluvialis	squatarola	Black-bellied Plover	224	F	S. Korea, Jeollabuk Province	beach west of airstrip	small crab parts
Kunsan	6-Oct-04	Larus	crassirostris	Black-tailed Gull	442	F	S. Korea, Jeollabuk Province	beach west of airstrip	small bits of marine invertebrates
Kunsan	6-Oct-04	Phylloscopus	inornatus	Yellow-browed Warbler	6.5	F	S. Korea, Jeollabuk Province	south end of airstrip	black mush
Kunsan	6-Oct-04	Larus	crassirostris	Black-tailed Gull	486	M	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	6-Oct-04	Larus	cachinans	Yellow-legged Gull	988	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	6-Oct-04	Larus	crassirostris	Black-tailed Gull	508	F	S. Korea, Jeollabuk Province	beach west of airstrip	lovely little shells
Kunsan	6-Oct-04	Emberiza	sp.	Black-faced Bunting	13.4	F	S. Korea, Jeollabuk Province	south end of airstrip	empty

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	6-Oct-04	Emberiza	rutila	Chestnut Bunting	15.2	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	6-Oct-04	Parus	varius	Varied Tit	17.2	M	S. Korea, Jeollabuk Province	south end of airstrip	very small hard particles
Kunsan	6-Oct-04	Emberiza	rutila	Chestnut Bunting	15.4	F	S. Korea, Jeollabuk Province	south end of airstrip	empty
Kunsan	6-Oct-04	Emberiza	spodocephala	Black-faced Bunting	16.2	M	S. Korea, Jeollabuk Province	south end of airstrip	mash
Kunsan	6-Oct-04	Parus	major	Great Tit	12.8		S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	6-Oct-04	Emberiza	rutila	Chestnut Bunting	16	F	S. Korea, Jeollabuk Province	south end of airstrip	grit
Kunsan	6-Oct-04	Turdus	cardis	Grey Thrush	64	F	S. Korea, Jeollabuk Province	south end of airstrip	purple seeds / cf pokeberry
Kunsan	6-Oct-04	Parus	varius	Varied Tit	13.4	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	6-Oct-04	Parus	major	Great Tit	14.4	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	6-Oct-04	Parus	major	Great Tit	13.8	M	S. Korea, Jeollabuk Province	south end of airstrip	small seeds
Kunsan	6-Oct-04	Larus	crassirostris	Black-tailed Gull	598	F	S. Korea, Jeollabuk Province	beach west of airstrip	mud, crabs/invertebrates
Kunsan	6-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1342	M	S. Korea, Jeollabuk Province	west of airstrip	marine invert, grass seeds
Kunsan	7-Oct-04	Parus	varius	Varied Tit	15.2	F	S. Korea, Jeollabuk Province	south end of airstrip	black bits (insect parts ?)
Kunsan	7-Oct-04	Phylloscopus	sp.	Warbler	8.2	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	7-Oct-04	Parus	major	Great Tit	12.4	F	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	7-Oct-04	Emberiza	rutila	Chestnut Bunting	16	M	S. Korea, Jeollabuk Province	south end of airstrip	grit
Kunsan	7-Oct-04	Parus	varius	Varied Tit	15.2	M	S. Korea, Jeollabuk Province	south end of airstrip	black triangular seeds
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	18.4	?	S. Korea, Jeollabuk Province	west of airstrip	
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	18.2	?	S. Korea, Jeollabuk Province	west of airstrip	
Kunsan	7-Oct-04	Emberiza	spodocephala	Black-faced Bunting	17.4	M	S. Korea, Jeollabuk Province	south end of airstrip	grit,vegetative matter
Kunsan	7-Oct-04	Streptopelia	orientalis	Rufus Turtle Dove	266	M	S. Korea, Jeollabuk Province	west of airstrip	small black seeds, grit
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	17.4	F	S. Korea, Jeollabuk Province	west of airstrip	grit
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	19.2	M	S. Korea, Jeollabuk Province	west of airstrip	seed pulp
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	18.4	F	S. Korea, Jeollabuk Province	west of airstrip	seed pulp

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	18.2	M	S. Korea, Jeollabuk Province	west of airstrip	grit,seed husk/pulp
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	19	M	S. Korea, Jeollabuk Province	west of airstrip	green and yellow seeds
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	17.4	F	S. Korea, Jeollabuk Province	west of airstrip	black and yellow seeds
Kunsan	7-Oct-04	Carduelis	sinica	Oriental Greenfinch	19.2	M	S. Korea, Jeollabuk Province	west of airstrip	seeds
Kunsan	7-Oct-04	Gallinago	gallinago	Common Snipe	110	F	S. Korea, Jeollabuk Province	west of airstrip	
Kunsan	7-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1240	M	S. Korea, Jeollabuk Province	west of airstrip	small black seeds
Kunsan	8-Oct-04	Dendrocopos	major	Great Spotted Woodpecker	72	F	S. Korea, Jeollabuk Province	west of airstrip	seeds
Kunsan	7-Oct-04	Larus	crassirostris	Black-tailed Gull	488	F	S. Korea, Jeollabuk Province	west of airstrip	empty
Kunsan	7-Oct-04	Lanius	bucephalus	Bull-headed Shrike	40	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	7-Oct-04	Lanius	bucephalus	Bull-headed Shrike	34	F	S. Korea, Jeollabuk Province	south end of airstrip	beetle parts
Kunsan	7-Oct-04	Garrulus	glandarius	Jay	130	F	S. Korea, Jeollabuk Province	south end of airstrip	grit,acorn bits
Kunsan	7-Oct-04	Parus	major	Great Tit	13	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	7-Oct-04	Anthus	cervinus	Red-throated Pipit	20.8	F	S. Korea, Jeollabuk Province	south end of airstrip	seeds
Kunsan	7-Oct-04	Anthus	cervinus	Red-throated Pipit	22.4	F	S. Korea, Jeollabuk Province	south end of airstrip	seeds
Kunsan	8-Oct-04	Motacilla	alba	White Wagtail	22.5	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	8-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.5	M	S. Korea, Jeollabuk Province	south end of airstrip	grit, plant matter, nearly empty
Kunsan	8-Oct-04	Egretta	intermedia	Intermediate Egret	492	M	S. Korea, Jeollabuk Province	west of airstrip	50mm loach-like fish, 3-4 mole crickets
Kunsan	8-Oct-04	Egretta	garzetta	Little Egret	456	F	S. Korea, Jeollabuk Province	west of airstrip	small to med clupeid or atherind fish,shrimp
Kunsan	8-Oct-04	Parus	major	Great Tit	14.2	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	8-Oct-04	Parus	varius	Varied Tit	16.8	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	8-Oct-04	Parus	ater	Coal Tit	7.8	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	8-Oct-04	Parus	ater	Coal Tit	8.5	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	8-Oct-04	Phylloscopus	sp	Warbler	8	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	8-Oct-04	Phylloscopus	sp	Warbler	9.5	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	8-Oct-04	Dendrocopos	major	Great Spotted Woodpecker	70	M	S. Korea, Jeollabuk Province	south end of airstrip	insect grit, seed meat
Kunsan	8-Oct-04	Alauda	arvensis	Eurasian Skylark	32	F	S. Korea, Jeollabuk Province	on airstrip	seeds
Kunsan	8-Oct-04	Alauda	arvensis	Eurasian Skylark	34	F	S. Korea, Jeollabuk Province	on airstrip	seeds, green mush
Kunsan	8-Oct-04	Ficedula	mugimaki	Mugimaki Flycatcher	10.8	M	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	8-Oct-04	Acrocephalus	orientalis	Oriental Great Reed Warbler	18.5	M	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	8-Oct-04	Cyanoptila	cyanomelana	Blue and White Flycatcher	23.5	F	S. Korea, Jeollabuk Province	south end of airstrip	not recorded
Kunsan	8-Oct-04	Garrulus	glandarius	Jay	152	F	S. Korea, Jeollabuk Province	south end of airstrip	grit and acorn bits
Kunsan	9-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	482	F	S. Korea, Jeollabuk Province	west of airstrip	seeds, grasshoppers
Kunsan	9-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	449	F	S. Korea, Jeollabuk Province	west of airstrip	seeds
Kunsan	9-Oct-04	Streptopelia	orientalis	Rufus Turtle Dove	172	F	S. Korea, Jeollabuk Province	west of airstrip	not recorded
Kunsan	9-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1232	M	S. Korea, Jeollabuk Province	west of airstrip	grit, green plant matter
Kunsan	9-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1316	M	S. Korea, Jeollabuk Province	west of airstrip	grit, green plant matter
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	17	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	18	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	17	M	S. Korea, Jeollabuk Province	south end of airstrip	small amt of grit, black seed fragments, insect leg
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	18.2	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.8	F	S. Korea, Jeollabuk Province	south end of airstrip	empty
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	15.5	M	S. Korea, Jeollabuk Province	south end of airstrip	yellowish seeds
Kunsan	9-Oct-04	Phylloscopus	sp	Warbler	9.2	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	9-Oct-04	Phylloscopus	inornatus	Yellow-browed Warbler	5	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	9-Oct-04	Parus	major	Great Tit	12.5	F	S. Korea, Jeollabuk Province	south end of airstrip	insect parts
Kunsan	9-Oct-04	Parus	major	Great Tit	12.7	M	S. Korea, Jeollabuk Province	south end of airstrip	very little black bits, insect parts
Kunsan	9-Oct-04	Parus	major	Great Tit	12.3	M	S. Korea, Jeollabuk Province	south end of airstrip	green plant matter
Kunsan	9-Oct-04	Parus	major	Great Tit	12.2	M	S. Korea, Jeollabuk Province	south end of airstrip	insect parts

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	9-Oct-04	Emberiza	spodocephala	Black-faced Bunting	16.2	M	S. Korea, Jeollabuk Province	south end of airstrip	seeds, green mush
Kunsan	9-Oct-04	Lanius	bucephalus	Bull-headed Shrike	38	F	S. Korea, Jeollabuk Province	south end of airstrip	black insect parts
Kunsan	9-Oct-04	Parus	major	Great Tit	12	M	S. Korea, Jeollabuk Province	south end of airstrip	green mush
Kunsan	9-Oct-04	Anthus	sp.	Pipit	18	F	S. Korea, Jeollabuk Province	west of airstrip	seeds
Kunsan	9-Oct-04	Garrulus	glandarius	Jay	150	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	9-Oct-04	Garrulus	glandarius	Jay	148	M	S. Korea, Jeollabuk Province	south end of airstrip	beetle parts, acorn meats
Kunsan	9-Oct-04	Garrulus	glandarius	Jay	140	M	S. Korea, Jeollabuk Province	south end of airstrip	acorns, beetles
Kunsan	10-Oct-04	Phylloscopus	sp	Warbler	9	M	S. Korea, Jeollabuk Province	North end of runway	insect parts
Kunsan	10-Oct-04	Charadrius	mongolus	Mongolian Plover	76	M	S. Korea, Jeollabuk Province	beach west of airstrip	brown mush
Kunsan	10-Oct-04	Pica	pica	Black-billed Magpie	238	M	S. Korea, Jeollabuk Province	west of airstrip	acorns, caterpillar
Kunsan	10-Oct-04	Pica	pica	Black-billed Magpie	240	M	S. Korea, Jeollabuk Province	west of airstrip	nut meat, caterpillar
Kunsan	10-Oct-04	Lanius	bucephalus	Bull-headed Shrike	38	F	S. Korea, Jeollabuk Province	North end of runway	insect parts
Kunsan	10-Oct-04	Garrulus	glandarius	Jay	142	M	S. Korea, Jeollabuk Province	south end of airstrip	acorn meat, insect parts
Kunsan	10-Oct-04	Garrulus	glandarius	Jay	140	M	S. Korea, Jeollabuk Province	south end of airstrip	acorns, beetles
Kunsan	10-Oct-04	Garrulus	glandarius	Jay	136	F	S. Korea, Jeollabuk Province	south end of airstrip	acorn meat
Kunsan	10-Oct-04	Garrulus	glandarius	Jay	142	F	S. Korea, Jeollabuk Province	south end of airstrip	acorns
Kunsan	10-Oct-04	Egretta	intermedia	Intermediate Egret	none	F	S. Korea, Jeollabuk Province	west of airstrip	insect parts, mole cricket?
Kunsan	10-Oct-04	Lanius	bucephalus	Bull-headed Shrike	44	M	S. Korea, Jeollabuk Province	west of airstrip	
Kunsan	10-Oct-04	Egretta	intermedia(?)	Intermediate Egret	550	M	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	11-Oct-04	Heteroscelus	brevipes	Grey-tailed Tattler	110	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	11-Oct-04	Xenus	cinereus	Terek Sandpiper	104	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	11-Oct-04	Tringa	nebularia	Greenshank	176	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	58	F	S. Korea, Jeollabuk Province	beach west of airstrip	shell fragments, green mush
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	54	M	S. Korea, Jeollabuk Province	beach west of airstrip	sm amt shell and sand

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	50	M	S. Korea, Jeollabuk Province	beach west of airstrip	grit
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	48	M	S. Korea, Jeollabuk Province	beach west of airstrip	muddy grit
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	56	F	S. Korea, Jeollabuk Province	beach west of airstrip	green mush
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	58	M	S. Korea, Jeollabuk Province	beach west of airstrip	grit
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	54	M	S. Korea, Jeollabuk Province	beach west of airstrip	grit
Kunsan	11-Oct-04	Lanius	bucephalus	Bull-headed Shrike	40	M	S. Korea, Jeollabuk Province	North end of runway	not recorded
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	58	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	54	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	11-Oct-04	Calidris	alpina	Dunlin	48	M	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	11-Oct-04	Calidris	ruficollis	Red-necked Stint	34	F	S. Korea, Jeollabuk Province	beach west of airstrip	bits of inverts.
Kunsan	11-Oct-04	Calidris	ruficollis	Red-necked Stint	36	F	S. Korea, Jeollabuk Province	beach west of airstrip	invert parts
Kunsan	11-Oct-04	Calidris	ruficollis	Red-necked Stint	32	F	S. Korea, Jeollabuk Province	beach west of airstrip	small amt mud and shell
Kunsan	12-Oct-04	Xenus	cinereus	Terek Sandpiper	98	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	12-Oct-04	Xenus	cinereus	Terek Sandpiper	82	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	12-Oct-04	Charadrius	alexandrinus	Kentish Plover	46	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	12-Oct-04	Parus	major	Great Tit	12.7	?	S. Korea, Jeollabuk Province	south end of airstrip	
Kunsan	12-Oct-04	Phylloscopus	sp.	Warbler	7.8	M	S. Korea, Jeollabuk Province	south end of airstrip	insects
Kunsan	12-Oct-04	Calidris	ruficollis	Red-necked Stint	28	M	S. Korea, Jeollabuk Province	beach west of airstrip	green mush, bits of shell
Kunsan	12-Oct-04	Calidris	ruficollis	Red-necked Stint	28	F	S. Korea, Jeollabuk Province	beach west of airstrip	sand, mud
Kunsan	12-Oct-04	Calidris	ruficollis	Red-necked Stint	34	F	S. Korea, Jeollabuk Province	beach west of airstrip	sand, mud
Kunsan	12-Oct-04	Xenus	cinereus	Terek Sandpiper	98	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	12-Oct-04	Coturnix	japonica	Japanese Quail	100	F	S. Korea, Jeollabuk Province	west of airstrip	full of grass seed
Kunsan	13-Oct-04	Saxicola	torquata	Common Stonechat	16	M	S. Korea, Jeollabuk Province	west of airstrip	beetle and other insect parts
Kunsan	13-Oct-04	Gallinago	gallinago	Common Snipe	94	F	S. Korea, Jeollabuk Province	west of airstrip	insect parts and grit

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	13-Oct-04	Anthus	hodsoni	Olive-backed Pipit	22	M	S. Korea, Jeollabuk Province	south end of airstrip	seeds
Kunsan	13-Oct-04	Anthus	cervinus	Red-throated Pipit	29	F	S. Korea, Jeollabuk Province	midfield of airstrip	grass seeds
Kunsan	13-Oct-04	Gallinago	gallinago	Common Snipe	96	?	S. Korea, Jeollabuk Province	North end of runway	
Kunsan	13-Oct-04	Gallinago	gallinago	Common Snipe	94	?	S. Korea, Jeollabuk Province	North end of runway	
Kunsan	13-Oct-04	Gallinago	gallinago	Common Snipe	110	F	S. Korea, Jeollabuk Province	North end of runway	grit
Kunsan	14-Oct-04	Anthus	hodsoni	Olive-backed Pipit	17.5	M	S. Korea, Jeollabuk Province	North end of runway	insect parts, grit
Kunsan	14-Oct-04	Hypsipetes	amaurotis	Brown-eared Bulbul	68	M	S. Korea, Jeollabuk Province	south end of airstrip	wild cherry, purple
Kunsan	14-Oct-04	Hypsipetes	amaurotis	Brown-eared Bulbul	66	F	S. Korea, Jeollabuk Province	south end of airstrip	12mm reddish purple fruit with two pits
Kunsan	14-Oct-04	Streptopelia	orientalis	Rufus Turtle Dove	200	M	S. Korea, Jeollabuk Province	south end of airstrip	grain, grit, gullet rice
Kunsan	14-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1095	F	S. Korea, Jeollabuk Province	beach west of airstrip	not recorded
Kunsan	14-Oct-04	Anthus	sp.	Pipit	28	F	S. Korea, Jeollabuk Province	midfield of airstrip	seeds
Kunsan	14-Oct-04	Emberiza	rutila	Chestnut Bunting	14.2	M	S. Korea, Jeollabuk Province	midfield of airstrip	seeds
Kunsan	14-Oct-04	Alauda	arvensis	Eurasian Skylark	38	M	S. Korea, Jeollabuk Province	beach west of airstrip	full of seeds, vegetation
Kunsan	14-Oct-04	Charadrius	mongolus	Mongolian Plover	78	F	S. Korea, Jeollabuk Province	beach west of airstrip	tiny dark snails
Kunsan	14-Oct-04	Calidris	ruficollis	Red-necked Stint	36	?	S. Korea, Jeollabuk Province	beach west of airstrip	not recorded
Kunsan	14-Oct-04	Calidris	ruficollis	Red-necked Stint	24	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	46	?	S. Korea, Jeollabuk Province	beach west of airstrip	not recorded
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	48	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	44	?	S. Korea, Jeollabuk Province	beach west of airstrip	not recorded
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	46	M	S. Korea, Jeollabuk Province	beach west of airstrip	not recorded
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	48	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	50	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	50	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	48	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	14-Oct-04	Charadrius	alexandrinus	Kentish Plover	42	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Calidris	alpina	Dunlin	58	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	14-Oct-04	Calidris	alpina	Dunlin	48	M	S. Korea, Jeollabuk Province	beach west of airstrip	green mush, grit
Kunsan	14-Oct-04	Calidris	alpina	Dunlin	58	M	S. Korea, Jeollabuk Province	beach west of airstrip	grit
Kunsan	14-Oct-04	Calidris	alpina	Dunlin	50	F	S. Korea, Jeollabuk Province	beach west of airstrip	grit
Kunsan	14-Oct-04	Gallinago	gallinago	Common Snipe	102	M	S. Korea, Jeollabuk Province	North end of runway	not recorded
Kunsan	15-Oct-04	Alauda	arvensis	Eurasian Skylark	38	M	S. Korea, Jeollabuk Province	midfield of airstrip	seeds
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	934	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	1106	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	512	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	586	?	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	844	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	958	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	1036	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	1098	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	1048	F	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	974	F	S. Korea, Jeollabuk Province	beach west of airstrip	crustacean bits
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	998	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	852	M	S. Korea, Jeollabuk Province	beach west of airstrip	empty
Kunsan	15-Oct-04	Numenius	madagascarensis	Far Eastern Curlew	836	M	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	662	M	S. Korea, Jeollabuk Province	beach west of airstrip	small fish bones
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	500	F	S. Korea, Jeollabuk Province	beach west of airstrip	fish bones
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	588	M	S. Korea, Jeollabuk Province	beach west of airstrip	8 + cm fish
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	442	F	S. Korea, Jeollabuk Province	beach west of airstrip	sm amt fish bones

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	526	F	S. Korea, Jeollabuk Province	beach west of airstrip	
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	614	M	S. Korea, Jeollabuk Province	beach west of airstrip	goby-like fish, small fish bones
Kunsan	15-Oct-04	Larus	crassirostris	Black-tailed Gull	654	F	S. Korea, Jeollabuk Province	beach west of airstrip	fish bones
Osan	0 Sep 04	Calidris	alpina	Dunlin	40	M	S. Korea, Kyonggi Province		green mash
Osan	0 Jul 04	Anas	poecilorhyncha	Spot-billed Duck	1048	M	S. Korea, Kyonggi Province		grit, vegetable mash, very sm tan seeds
Osan	0 Sep 04	Charadrius	mongolus	Mongolian Plover	52	M	S. Korea, Kyonggi Province		
Osan	18-Oct-04	Hypsipetes	amaurotis	Brown-eared Bulbul	64	M	S. Korea, Kyonggi Province	alpha ammo storage site	
Osan	18-Oct-04	Phoenicurus	aureus	Daurian Redstart	17.8	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	18-Oct-04	Picoides	kizuki	Japanese Pygmy Woodpecker	21	F	S. Korea, Kyonggi Province	alpha ammo storage site	beetles
Osan	18-Oct-04	Parus	palustris	Marsh Tit	11.4	M	S. Korea, Kyonggi Province	alpha ammo storage site	insects, seeds
Osan	18-Oct-04	Aegithalos	caudatus	Long-tailed Tit	8.4	F	S. Korea, Kyonggi Province	alpha ammo storage site	caterpillar, insect parts
Osan	18-Oct-04	Phoenicurus	aureus	Daurian Redstart	17.1	M	S. Korea, Kyonggi Province	alpha ammo storage site	pokeberry
Osan	18-Oct-04	Aegithalos	caudatus	Long-tailed Tit	8.6	M	S. Korea, Kyonggi Province	alpha ammo storage site	caterpillar, insect parts
Osan	19-Oct-04	Emberiza	rustica	Rustic Bunting	18.4	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Phylloscopus	inornatus	Yellow-browed Warbler	6	M	S. Korea, Kyonggi Province	alpha ammo storage site	small insect parts
Osan	19-Oct-04	Phoenicurus	aureus	Daurian Redstart	15.7	F	S. Korea, Kyonggi Province	alpha ammo storage site	pokeberry
Osan	19-Oct-04	Lanius	bucephalus	Bull-headed Shrike	38	M	S. Korea, Kyonggi Province	alpha ammo storage site	beetle & outer insect parts
Osan	19-Oct-04	Anthus	hodsoni	Olive-backed Pipit	26	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Parus	major	Great Tit	16	?	S. Korea, Kyonggi Province	alpha ammo storage site	
Osan	19-Oct-04	Emberiza	tristrami	Tristram's Bunting	18	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Emberiza	tristrami	Tristram's Bunting	22	M	S. Korea, Kyonggi Province	alpha ammo storage site	grass seeds
Osan	19-Oct-04	Emberiza	spodocephala	Black-faced Bunting	20	M	S. Korea, Kyonggi Province	alpha ammo storage site	large yellow seeds, small black seeds
Osan	19-Oct-04	Emberiza	spodocephala	Black-faced Bunting	20	F	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Emberiza	rutila	Chestnut Bunting	22	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Osan	19-Oct-04	Aegithalos	caudatus	Long-tailed Tit	7.7	M	S. Korea, Kyonggi Province	alpha ammo storage site	caterpillar
Osan	19-Oct-04	Phylloscopus	inornatus	Yellow-browed Warbler	6.1	M	S. Korea, Kyonggi Province	alpha ammo storage site	insect parts
Osan	19-Oct-04	Hypsipetes	amaurotis	Brown-eared Bulbul	74	M	S. Korea, Kyonggi Province	alpha ammo storage site	empty (stained purple from berries)
Osan	19-Oct-04	Aegithalos	caudatus	Long-tailed Tit	8	F	S. Korea, Kyonggi Province	alpha ammo storage site	insect parts
Osan	19-Oct-04	Emberiza	rutila	Chestnut Bunting	20	F	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Dendrocopos	kizuki	Japanese Pygmy Woodpecker	19.8	M	S. Korea, Kyonggi Province	alpha ammo storage site	caterpillar, insect parts
Osan	19-Oct-04	Parus	palustris	Marsh Tit	10.5	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	19-Oct-04	Emberiza	rustica	Rustic Bunting	18	M	S. Korea, Kyonggi Province	alpha ammo storage site	small seeds
	19-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1272	M	S. Korea, Kyonggi Province	Chinwi River	grit, seed meats
	19-Oct-04	Streptopelia	orientalis	Rufus Turtle Dove	210	M	S. Korea, Kyonggi Province	Chinwi River	rice, round black seeds
	19-Oct-04	Nycticorax	nycticorax	Black-crowned Nightheron	684	M	S. Korea, Kyonggi Province	Chinwi River	tiny shrimp, fish
	19-Oct-04	Ardea	cinerea	Grey Heron	1665	?	S. Korea, Kyonggi Province	Chinwi River	
	19-Oct-04	Egretta	garzetta	Little Egret	352	?	S. Korea, Kyonggi Province	Chinwi River	
	19-Oct-04	Pica	pica	Black-billed Magpie	248	?	S. Korea, Kyonggi Province	Chinwi River	
	19-Oct-04	Pica	pica	Black-billed Magpie	200	?	S. Korea, Kyonggi Province	Chinwi River	
	19-Oct-04	Lanius	bucephalus	Bull-headed Shrike	38	M	S. Korea, Kyonggi Province	Chinwi River	insects
	19-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	1302	M	S. Korea, Kyonggi Province	Chinwi River	grit, veg mash
	19-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1260	M	S. Korea, Kyonggi Province	Chinwi River	rice, veg matter
	19-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	1308	M	S. Korea, Kyonggi Province	Chinwi River	rice
	19-Oct-04	Phasianus	colchicus	Ring-necked Pheasant	836	F	S. Korea, Kyonggi Province	Chinwi River	
Osan	20-Oct-04	Emberiza	elegans	Yellow-throated Bunting	16.2	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds, vegetation
Osan	20-Oct-04	Emberiza	elegans	Yellow-throated Bunting	16.2	F	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	20-Oct-04	Emberiza	elegans	Yellow-throated Bunting	16	F	S. Korea, Kyonggi Province	alpha ammo storage site	seeds
Osan	20-Oct-04	Emberiza	tristrami	Tristram's Bunting	22	M	S. Korea, Kyonggi Province	alpha ammo storage site	seeds

Air Force Base	Date	Genus	Species	Common Name	Weight (g)	Sex	Country/Province	Location	Stomach Contents
Osan	20-Oct-04	Eurystomus	orientalis	Broad-billed Roller		?	S. Korea, Kyonggi Province	alpha ammo storage site	
	20-Oct-04	Tringa	glareola	Wood Sandpiper	94	F	S. Korea, Kyonggi Province	Chinwi River	invertebrate parts
	20-Oct-04	Nycticorax	nycticorax	Black-crowned Nightheron	518	M	S. Korea, Kyonggi Province	Chinwi River	dragon fly and insects
	20-Oct-04	Anas	poecilorhyncha	Spot-billed Duck	910	F	S. Korea, Kyonggi Province	Chinwi River	grit, seeds, veg matter
Osan	20-Oct-04	Passer	montanus	Tree Sparrow	22.4	M	S. Korea, Kyonggi Province	near west end of runway at golf course	seeds
Osan	20-Oct-04	Passer	montanus	Tree Sparrow	22.5	M	S. Korea, Kyonggi Province	near west end of runway at golf course	rice, seeds