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OBSERVATIONS OF ASIATIC MIGRANTS IN THE WESTERN ALEUTIANS

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Abstract.—During the spring seasons of 1977-1985, birders in the western Aleutians observed large numbers of Asiatic migrants whose occurrence was relatively predictable. These birds regularly arrived during fair weather, sometimes in large mixed flocks, came from the southeast, and were exhausted upon arrival. This set of observations is consistent with an expected pattern of normal transoceanic migration. Because non-passerines seemed to arrive in the early morning and passerines in the afternoon and evening, a localized departure point is suggested. A simple model of migration mechanics suggests that departure was from the south-central Kurile Islands.

OBSERVACIONES DE EMIGRANTES ASIÁTICOS EN LAS ALEUTIANAS DEL OESTE

Resumen.—Desde el 1977-1985 observadores de aves localizados en las Aleutianas del oeste han notado durante la primavera la migración de un gran número de aves asiáticas. El patrón de movimiento es predecible; llegan las aves de forma regular cuando las condiciones climatológicas son buenas. Estas vienen del suroeste y como consecuencia del viaje transoceánico llegan exhaustas. Dado el caso de que las aves que no son canoras parecen llegar temprano en la mañana, mientras que los Passeriformes durante la tarde y la noche, se sugiere en el trabajo un punto particular de partida localizado en las Islas Kurile del sur.

Since 1977, birders have visited the western Aleutians, principally Attu Island, in search of Asiatic species that occur during spring migration. Compared to North America and western Europe, relatively little is known about east Asian migration routes, largely because of political difficulties facing researchers (McClure 1974). Thus, the body of observers on Attu has provided an opportunistic data base by which some aspects of east Asian migration may be understood provided that two assumptions are true: (1) the Asiatic species recorded are representative of the regular east Asian migration rather than "hapless" storm-blown vagrants; (2) the migratory route taken is representative of that used by birds which more closely track the Asian coast.

TABLE 1. Maximum daily counts of Asiatic species seen in two or more years (1977-1982, 1984) on Attu Island, Alaska.

Species	Year							
	1977 ^a	1978	1979	1980	1981	1982	1984	
Bean Goose (<i>Anser fabalis</i>)	1	7	14	1		1		2
Falcated Teal (<i>Anas falcata</i>)				4		5		X
Garganey (<i>Anas querquedula</i>)	2			2				X
Eurasian Wigeon (<i>Anas penelope</i>)	5	5	8	10	15	44		X
Common Pochard (<i>Aythya ferina</i>)			1	4		6		X
Tufted Duck (<i>Aythya fuligula</i>)	4	7	9	27		33		X
Snow (<i>Mergellus albellus</i>)		1	5	1		2		X
White-tailed Eagle (<i>Haliaeetus albicilla</i>)	2	2	1	2	3	3 ^b		X
Mongolian Plover (<i>Charadrius mongolus</i>)			7	9	1	5		X
Common Greenshank (<i>Tringa nebularia</i>)			1	1	6	1		X
Spotted Redshank (<i>Tringa erythropus</i>)			1		2	1		1
Wood Sandpiper (<i>Tringa glareola</i>)	2	14+	20	40	84	63		X
Green Sandpiper (<i>Tringa ochropus</i>)		1	1			1		
Gray-tailed Tattler (<i>Heteroscelus brevipes</i>)				5	2			
Common Sandpiper (<i>Actitis hypoleucos</i>)		1	1	9	12	2		X
Terek Sandpiper (<i>Xenus cinereus</i>)				22	2			
Far Eastern Curlew (<i>Numenius madagascariensis</i>)					4			X
Black-tailed Godwit (<i>Limosa limosa</i>)		2		1	1	1		X
Bar-tailed Godwit (<i>Limosa lapponica</i>)		5	40	25	3	4		X
Rufous-necked Stint (<i>Calidris ruficollis</i>)	2		3	15	5	3		X
Temminck's Stint (<i>Calidris temminckii</i>)			1		14	4		
Long-toed Stint (<i>Calidris subminuta</i>)	3	2	6	8	9	11		X
Kuff (<i>Philomachus pugnax</i>)		1	1	2	1	3		
Common Black-headed Gull (<i>Larus ridibundus</i>)		1	25	6	1	8		X
Slaty-backed Gull (<i>Larus schistsagus</i>)			1		1	1		X
White-throated Noddy (<i>Hirundapus caudacutus</i>)		1						2
Eurasian Skylark (<i>Alauda arvensis</i>)		2	2	1	1			X
Red-breasted Flycatcher (<i>Ficedula parva</i>)					3			2
Gray-spotted Flycatcher (<i>Muscicapa griseisticta</i>)	2					6		1
Siberian Rubythroat (<i>Luscinia calliope</i>)	1		1	2		7		X

TABLE 1. Continued.

Species	Year							
	1977 ^a	1978	1979	1980	1981	1982	1984	
Eye-browed Thrush (<i>Turdus obscurus</i>)	2	1	1	2	1	12	X	
Dusky Thrush (<i>Turdus naumanni</i>)		1		2				
Gray Wagtail (<i>Monticola cinerea</i>)			2		1	1	X	
Black-backed Wagtail (<i>Monticola lugens</i>)	1		4	1	3	7		
Olive Tree-Pipit (<i>Anthus hodgsoni</i>)	2		1			15	X	
Pechora Pipit (<i>Anthus gustavi</i>)			100+			2-3		
Red-throated Pipit (<i>Anthus cervinus</i>)		1	7	2	9	10	X	
Rustic Bunting (<i>Emberiza rustica</i>)	2	2		4	1	64	X	
Common Rosefinch (<i>Carduelis erythrurus</i>)					1	2		
Oriental Greenfinch (<i>Carduelis sinica</i>)				1	1	3		
Hawfinch (<i>Coccothraustes coccothraustes</i>)		2		1		3		
Brambling (<i>Fringilla montifringilla</i>)	1	4	9	156+	4	3	X	

X Species recorded, but daily counts unavailable.

^a Six observers compared to approximately 50 in all other years.

^b An active nest of White-tailed Eagles was found. Tally excludes eggs or nestlings.

AREA AND METHODS

From mid-May through early June, 1977–1985, observations of Asiatic species were made on Attu Island, Alaska in the western Aleutians. Observations were limited almost exclusively to the southeastern coast of the island. Although the number of observers on the island varied considerably among years, all the data reported (e.g., to American Birds) were compiled by Larry Balch, Dan Gibson, Ben King, or Thede Tobish, all experienced observers and trip leaders. The data presented are those reported by these individuals in American Birds and made directly available to me. In addition, I visited Attu during the 1978 and 1980 seasons and have included data from my daily field notes. Also, I have gleaned reports from American Birds for sightings from other islands in the western Aleutians during the study period.

RESULTS AND DISCUSSION

From mid-May through early June, 1977–1985, at least 66 Asiatic species were recorded in the western Aleutians, mostly Attu. Of these, 42 occurred regularly, some in moderate numbers (Table 1) and 24 were rare to accidental in occurrence (Table 2). Most of these species arrived during fair weather and occasionally in waves. For example, from 18 to 22 May 1980, I observed several large flocks of Bramblings with an assortment of other species (e.g., Rustic Bunting, Hawfinch, Oriental Greenfinch, Red-throated and Olive tree-pipits) arriving daily. The flocks included approximately 20–80 or more birds. The maximum daily count of 156+ Bramblings (Table 1) was based on the estimates of a single observer and was probably conservative. Other examples of sizable flocks include 22 Terek Sandpipers that I saw in 1980 and at least 25 Lanceolated Warblers reported in 1984 (Larry Balch, pers. comm.).

Over the years, migrants have arrived in distinct temporal patterns. On Attu, migrant Asiatic shorebirds and some passerine groups (e.g., finches and *Turdus* thrushes) peak during the third week of May whereas small Muscicapid thrushes, flycatchers and warblers peak during the first week of June (2 wks later). These data are generally comparable with those of mainland populations (Dement'ev et al. 1966). Typically, birds arrived on the coast in exhausted condition. Over the next few days, many of them drifted "inland" and then disappeared (presumably due to departure). Some species evidently bred. For example, Eurasian Wigeon and Tufted Ducks were common and usually occurred in pairs and in 1980, a pair of Bramblings were behaving as if on territory.

During the 1980 season, I found that most passerines seemed to arrive on Attu in the afternoon and evening (Table 3). For example, about 2000 on 26 May along the coast at Murder Point, Dan Gibson found an Eyebrowed Thrush that had recently arrived. In the late evening (ca. 2100) of 29 May also at Murder Point, Ben King found a Gray Bunting that was exhausted and behaved as if it had just arrived. On 31 May about 1700, I observed an Olive Tree-Pipit fly in from the SSE and land

TABLE 2. Occurrence of Asiatic species recorded in only one spring season from 1977 to 1985 in the western Aleutian Islands (including Attu Island).

Species	Year	Number of individuals
Spot-billed Duck (<i>Anas poecilorhyncha</i>)	1985	1
Steller's Sea-Eagle (<i>Haliaeetus pelagicus</i>)	1980	1
Eurasian Kestrel (<i>Falco tinnunculus</i>)	1984	1
Northern Hobby (<i>Falco subbuteo</i>)	1983	1
Oriental Pratincole (<i>Glareola maldivarus</i>)	1985	1
Common Ringed Plover (<i>Charadrius hiaticula</i>)	1982	1
Black-winged Stilt (<i>Himantopus himantopus</i>)	1983	1
Little Stint (<i>Calidris minuta</i>)	1983	1
Sharp-tailed Sandpiper (<i>Calidris acuminata</i>)	1980	1
Curlew Sandpiper (<i>Calidris ferruginea</i>)	1982	2
Jack Snipe (<i>Lymnocyptes minimus</i>)	1981	1
Pin-tailed Snipe (<i>Gallinago stenura</i>)	1984	1
Black-tailed Gull (<i>Larus crassirostris</i>)	1980	1
Common Cuckoo (<i>Cuculus canorus</i>)	1982	1
Lanceolated Warbler (<i>Locustella lanceolata</i>)	1984	25+
Mugimaki Flycatcher (<i>Ficedula mugimaki</i>)	1985	1
Brown Flycatcher (<i>Muscicapa latirostris</i>)	1985	1
Red-flanked Bluetail (<i>Tarsiger cyanurus</i>)	1982	1-2
Siberian Blue Robin (<i>Luscinia cyane</i>)	1985	1
Brown Shrike (<i>Lanius cristatus</i>)	1984	1
Gray Bunting (<i>Emberiza variabilis</i>)	1980	1
Pallas' Reed-Bunting (<i>Emberiza pallasi</i>)	1980	1
Common Reed-Bunting (<i>Emberiza schoeniclus</i>)	1977 ^a	1
Eurasian Bullfinch (<i>Pyrrhula pyrrhula</i>)	1978	1

^a Six observers compared to approximately 50 in all other years.

exhausted on the rocky shore. About two hours later, a Eurasian Skylark arrived. Conversely, non-passerines appeared to arrive late at night or early in the morning because they were not often seen arriving but were typically found during the first "sortie" of searches in the morning (ca. 0800-1000).

I developed a simple model to predict potential departure points assuming an average departure time of one hour after dark (Gauthreaux 1971), and range of flight speeds of 62-66 km/h for non-passerines and 40-44 km/h for passerines (Lee 1963, Pettingill 1970, Williams et al. 1978). Great circle distances for each of nine possible departure points were calculated (Fig. 1, Table 4). For each of these points, arrival times on Attu were calculated assuming that the migrants flew the shortest possible route (Table 4). Clearly, variables such as wind velocity and direction, and deviations from the "ideal" route would affect actual arrival times. Based on the assumption of morning arrival (e.g., 0100-0900) of non-passerines and afternoon-evening arrival (e.g., 1400-2200) of passerines, the model predicts that migrants reaching Attu embarked on their trans-Pacific flight from the southern Kurile Islands (Fig. 1, Locations C-E).

TABLE 4. Predicted schedules for Asiatic migrants arriving on Attu Island, Alaska from nine possible departure points (see Fig. 1).

Location on Fig. 1	Flight distance to Attu (km)	Non-passerines		Passerines	
		Average flight time (h)	Estimated time of arrival (h)	Average flight time (h)	Estimated time of arrival (h)
A	2618	41	1527-1757	62	1115-1715
B	2279	37	1030-1348	54	0348-0900
C	1988	31	0606-0806	47	2112-0142
D	1811	28	0339-0527	43	1727-2133
E	1651	26	0115-0251	39	1345-1733
F	1514	24	2324-0054	36	1054-1424
G	1458	23	2236-2400	35	0936-1300
H	1203	19	1857-1909	29	0403-0654
I	747	12	1233-1355	18	1815-1957

The departure points predicted by the model are supported by a variety of empirical evidence. First, the predicted overseas flight distance of less than 2000 km is energetically feasible. Williams et al. (1978) have shown that western Atlantic fall migrants can successfully complete a 3500 km journey. Second, of the 42 species that occurred two or more spring seasons (Table 1), only three (Garganey, Common Pochard and White-throated Needletail) apparently do not breed at or north of the latitude of the Aleutians (Flint et al. 1984). This observation is more consistent with an hypothesis of regular migration rather than extreme vagrancy. Alerstam and Pettersson (1977) have noted that as a migrant nears its breeding grounds, its tolerance for course deflections and diversions decreases. The geography of eastern Asia (Fig. 1) is such that the further north a migrant departs from land, the greater the angle of deflection (away from the "ideal" flight path) to reach Attu. Conversely, the greater the distance to the breeding grounds, the less the angle of deflection to reach Attu and the more tolerant a bird would be of such deviations. Although significant east-west deflections in migration routes do occur (Gauthreaux, pers. comm.), this is an unlikely explanation for the majority of migrants seen on Attu. Aside from the large number and predictability of migrants, birds reaching Attu from Kamchatka would landfall on the west side of a mountainous island 67 km long. With observations concentrated in the southeast corner, this hypothesis would not explain exhausted birds arriving from the southeast.

In summary, the Asiatic species that occur on the western Aleutians represent a portion of the regular spring migration along the eastern coast of Asia. Many of the birds observed arrive after an overseas flight of 1600-2000 km from the south-central Kurile Islands. Presumably, after an appropriate rest, some of these birds complete the migration to their

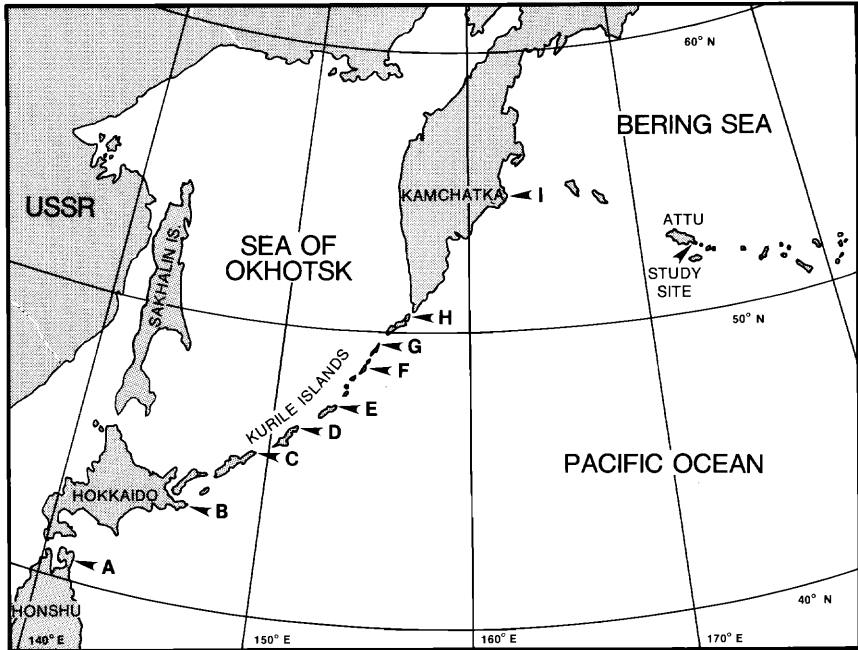


FIGURE 1. Northwestern Pacific Ocean indicating locations of the study site on Attu Island, Alaska and nine possible departure points for migrants reaching Attu: A—Shiriyu Point, Honshu, Japan; B—Nemuro, Hokkaido, Japan; C—Iturup Island, USSR; D—Urup Island, USSR; E—Simushir Island, USSR; F—Rasshua Island, USSR; G—Kharimkoton Island, USSR; H—Baykovo Island, USSR; I—Kronotskiy Peninsula, Kamchatka, USSR.

breeding grounds in Asia. Others apparently find the Aleutians suitable for breeding and conclude their migration there.

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