AN UNUSUAL MIGRATION OF BIRDS AT TOKYO, JAPAN

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WEATHER has long been recognized as a contributing factor in bird migration. In recent years much has been written concerning bird movements and weather in North America (Lowery, 1945; Lincoln, 1950; Williams, 1950, 1952; Gunn and Crocker, 1951, Bullis and Lincoln, 1952; Imhof, 1953; and many others). That the phenomenon of bird movement before "fronts" of weather would not be confined to North America is self-evident. Undoubtedly it is variously reported in the many journals and languages of Europe. Reports of such movements in Japan would be illegible to most American students unless summarized in English. Because of this, I wish to present here observations of a movement of birds before a front that swept over Tokyo on October 31 – November 1, 1953.

Migration through Japan is of long duration, lasting from late July and early August with the appearance of Wandering Tattlers (*Heteroscelus incanus*) and other shorebirds, which have finished nesting in the Arctic, until late December when the last thrushes have come in from Siberia and Manchuria. Because of this there is a continuous flow of birds rather than a great influx. These flights include thrushes, bramblings, bulbuls, etc., reared in the vast continental areas of Siberia and Manchuria, and those more locally produced, from Sakhalin, Hokkaido, and northern Honshu. The continental populations may cross the Japan Sea (Austin, 1947) or move down the chain of islands from Sakhalin. An unknown percentage of these populations remains in Honshu, Kyushu, and Shikoku for the winter, while the remainder moves on down the Ryukyu Island chain to disperse into the Philippines, Formosa, and more southern islands. Since almost no banding has been done these routes and destinations are still poorly understood.

During October first flights of thrushes and bulbuls begin arriving along the northwest coast of Japan. They filter across the island of Honshu especially through the Fossa Magna, the great rift in the chain of mountains forming the backbone of the archipelago. As all of this takes time and is distributed over two months the appearance of migrants and winter residents in Tokyo and vicinity is usually gradual.

Whether the breeding season in Siberia and Manchuria was especially successful in 1953 or whether fall weather conditions in Japan and the land to the north were favorable to migration could not be determined, but flights through Tokyo were definitely more conspicuous than in the three previous autumns which I have observed. The flight of White-rumped Swifts (see tables for scientific names not given in text) had been greater, and that of the

Jay so conspicuous that Jays were found penetrating areas in which they had not previously been seen.

During the day of October 31, 1953, a cold front from a low hanging over the coast of Siberia, Manchuria, and inland moved quietly into Japan bringing with it a light northwest wind and rain. At 1800 hours weather reports indicated that it was raining hard at 10,000 feet and that, unless there was a wind shift, rain would reach Tokyo within an hour. The rain did not come

TABLE I

PERMANENT RESIDENT SPECIES SEEN AT HAMA PARK, TOKYO, DURING THE 1953 FLIGHT

Species[1]	*Oct. 6*	*Nov. 2*	*Nov. 9*
Common Cormorant (*Phalacrocorax carbo*)	200	41	7
Black-crowned Night Heron (*Nycticorax nycticorax*)	3	6	
Black-eared Kite (*Milvus migrans*)	3	2	4
Bamboo Partridge (*Bambusicola thoracica*)[2]	2	2	2
River Kingfisher (*Alcedo atthis*)	3	1	2
Thick-billed Crow (*Corvus levaillantii*)	1	2	2
Great Tit (*Parus major*)	4	10	17
Gray Wagtail (*Motacilla cinerea*)	2	1	1
Bull-headed Shrike (*Lanius bucephalus*)	1	8	8
Ashy Starling (*Sturnus cineraceus*)	103	43	68
Tree Sparrow (*Passer montanus*)	106	40	120
Oriental Greenfinch (*Chloris sinica*)		10	1

[1]Common and scientific names from Austin and Kuroda, 1954.
[2]Introduced in 1919 from China and now a widespread and permanent resident.

as the front veered off to the north and a high with clear skies and a light, warm, southeast wind pushed over the coast. All day November 1 the warm, clear weather held, but it became calm at sundown and by 2100 hours the wind had shifted again to the northwest and the cold weather moved in. It was raining and windy all day November 2.

There was nothing unusual about this chain of events in the weather. It happens regularly in the humid, rainy climate of Tokyo, but this time a host of birds was moving with the cold front and they were momentarily stranded by the warm weather which intercepted them.

In the light of the huge flocks of birds that may be seen in America—large both in numbers and species—those encountered in Tokyo seem insignificant. However, the weather-bird relationship was present even if on a small scale.

Within the limits of downtown Tokyo is a small, heavily wooded park of about forty acres, Hama Park. An island formed by reclaimed mudflats between canals and Tokyo Bay was established at least a hundred years ago as a private bird sanctuary and hunting ground for the Imperial Household but is now a city park. About one-third of the area is made up of ponds and landscaped lakes. The remainder is about equally divided between lawns and

clumps of large trees, oaks, camphor, pines, and others, with a heavy undergrowth of bamboo and ornamental shrubs. Because of its proximity to the city, it is heavily used by pleasure seekers, and the mild weather of November 1 filled the parks with thousands of people.

Observations were made on the morning of November 2 before the bulk of the birds had moved on, and on November 9, when more normal winter populations were present. These observations are compared here with those made on October 6 (Tables 1, 2, and 3). Of the 37 species seen during these three observations, 12 were permanent residents of the park. These are listed in Table 1. There was nothing unusual about the numbers seen. The Ashy Starling, Tree Sparrow, and Cormorant numbers fluctuated because of their daily movements to and from the park. However, the sudden increase in Bull-headed Shrikes seemed to be correlated with the cold front.

TABLE 2

WINTER RESIDENT SPECIES AT TOKYO, JAPAN, APPARENTLY INFLUENCED BY THE FRONT OF OCT. 31 – NOV. 1, 1953

Species	*Oct. 6*	*Nov. 2*	*Nov. 9*
Snowy Egret (*Egretta garzetta*)	1	6	3
Spot-billed Duck (*Anas poecilorhyncha*)	2		10
Green-winged Teal (*Anas crecca*)			2
Black-tailed Gull (*Larus crassirostris*)	1	58	2
Black-headed Gull (*Larus ridibundus*)		28	42
Turtle Dove (*Streptopelia orientalis*)	1	3	4
Brown-eared Bulbul (*Ixos amaurotis*)	7	105	15
Bush Warbler (*Horeites diphone*)			13
Pied Wagtail (*Motocilla alba*)		2	2
Hawfinch (*Coccothraustes coccothraustes*)			2
Black-faced Bunting (*Emberiza spodocephala*)		4	1

Migrating flocks of winter residents (Table 2) were most evident in this population shift. The Brown-eared Bulbul is a noisy, conspicuous winter resident which arrives in October. It is the only passerine species in Japan which flocks as do blackbirds in America and can be seen sweeping like smoke above the horizon. Ordinarily, winter flocks of bulbuls are common in Kyushu but very uncommon in the Tokyo area. On November 1 and 2 a group of more than a hundred bulbuls formed a loose flock which flew restlessly above the trees of the park, diving into them every few minutes to feed. Other winter residents listed in Table 2 arrived with the front or in the weather immediately following it.

Strictly migrant species at this season were apparently brought into or moved away from the Tokyo region by this front (Table 3). The Jay went on south with the storm. Flycatcher and warbler migration was brought to a close. Thrush flights apparently just began with this front and could be ex-

TABLE 3

MIGRANT SPECIES SEEN AT HAMA PARK, TOKYO, IN THE FALL OF 1953

Species	*Oct. 6*	*Nov. 2*	*Nov. 9*
Mangrove Heron (*Butorides striatus*)	1		
Common Sandpiper (*Actitis hypoleucos*)			1
Brown Hawk-Owl (*Ninox scutulata*)	1		
White-rumped Swift (*Apus pacificus*)	6		
Jay (*Garrulus glandarius*)	5	3	
Pale Thrush (*Turdus pallidus*)			4
Red-bellied Thrush (*Turdus chrysolaus*)		4	
Blue Rock Thrush (*Monticola solitarius*)			1
Redstart (*Phoenicurus auroreus*)			1
Crowned Willow Warbler (*Phylloscopus occipitalis*)	1		
Broad-billed Flycatcher (*Musicapa latirostris*)	9	1	
Gray-spotted Flycatcher (*Musicapa griseisticta*)	3		
Narcissus Flycatcher (*Siphia narcissina*)		1	

pected to increase slightly before they moved on. All of the birds listed in Table 3 are of interest, but two species, the Common Sandpiper and the Mangrove Heron were summer stragglers that should have flown weeks before. The Redstart, a small thrush, moved in during the week but probably did not winter in the park as they usually frequent more open or brushy farmlands.

The Blue Rock Thrush, a beautiful robin-sized bird of powder blue and brick red, is a species of very limited habitat requirements. It is found most commonly along rocky coasts where it nests beneath the rocks and feeds along the water's edge. Each year of my studies a lone male has been seen on a small, unused lighthouse at Hama Park, many miles from any suitable habitat. Fall arrival dates have been October 4, 1951, October 6, 1952, and November 9, 1953. It would have been of interest to have determined the identity of this annual visitor by banding.

On November 16, another front of about the same magnitude as that of October 31 – November 1 swept over Japan, bringing another wave of birds. On the following day tallies were made at an upland farm area in the outskirts of Tokyo. This was in rolling country of open fields surrounding farmyards of large trees and bamboo thickets. Again migrant forms were much in evidence, including Bull-headed Shrikes, Brown-eared Bulbuls, Dusky Thrushes (*Turdus naumanni*), Oriental Greenfinches, Redstarts, Hawfinches, Rustic Buntings (*Emberiza rustica*), and a lone Eurasian Woodcock (*Scolopax rusticola*).

SUMMARY

A mild, cold front on October 31, 1953, stalled at Tokyo, Japan, by a warm front for twenty-four hours, brought a flight of migrants which re-

mained a few days. The most conspicuous of these was the Brown-eared Bulbul. Other species apparently arriving at this time were the Bush Warbler, Pale Thrush, Red-bellied Thrush, and Redstart. Most species moved on as the cold front overran the warm front and pushed on south. A second migratory wave appeared two weeks later with another front.

Literature Cited

Austin, O. L., Jr.
1947 Mist netting for birds in Japan. *General Headquarters, Supreme Commander for the Allied Powers, Natural Resources Section,* Report No. 88, 22 pp.

Austin, O. L., Jr., and N. Kuroda
1954 The birds of Japan, their status and distribution. *Bull. Mus. Comp. Zool., Harvard College,* 109:279–637.

Bullis, H. R., Jr., and F. C. Lincoln
1952 A trans-Gulf migration. *Auk,* 69:34–39.

Gunn, W. W. H., and A. M. Crocker
1951 Analysis of unusual bird migration in North America during the storm of April 4–7, 1947. *Auk,* 68:139–163.

Imhof, T. A.
1953 Effect of weather on spring bird migration in northern Alabama. *Wilson Bull.,* 65:184–195.

Lincoln, F. C.
1950 Migration of birds. *U.S. Dept. Int. Fish and Wildlife Serv. Cir.* 16:iii–102 pp.

Lowery, G. H., Jr.
1945 Trans-Gulf spring migration of birds and the coastal hiatus. *Wilson Bull.,* 57:92–121.

Williams, G. G.
1950 Weather and spring migration. *Auk,* 67:52–65.
1952 Birds on the Gulf of Mexico. *Auk,* 69:428–432.

406th Medical General Laboratory, APO 500, c/o Postmaster, San Francisco, California, December 3, 1953