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Materials for the Avifauna of People's Democratic Republic of Korea

[With pls IV—VI and 1 text-fig.]

Materiały do fauny ptaków Koreańskiej Republiki Ludowo-Demokratycznej*

Abstract. A total of 86 bird species were observed by the authors during their stay in the People's Democratic Republic of Korea from Sep. 18 to Oct. 31, 1978. The most interesting of them are *Porzana fusca*, *Gallinago solitaria* and *Motacilla lutea taivana*. Series of measurements taken permitted biometrical characterizations of some species, e. g. *Parus major*, *P. montanus* and *Emberiza elegans*.

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I. INTRODUCTION

Traditions of Polish ornithological investigations on the Korean Peninsula go back to the eighties of the nineteenth century, for in 1885—1888 Jan KALINOWSKI spent there more than 2 years, collecting birds and making observations, published by TACZANOWSKI (1887, 1888). The stormy twentieth-century history of Korea did not permit the continuation of Polish zoological studies in that country until the sixties, when expeditions this time entomological, were organized by the Institute of Zoology, Polish Academy of Sciences, in Warsaw and the Institute of Systematic and Experimental Zoology, Pol. Acad. of Scs., in Cracow.

During our six-week stay in the People's Democratic Republic of Korea

* Praca wykonana w ramach Problemu M. R. II. 3.

in 1978 we were in a position to make observations on some birds of that country. We stayed there from Sep. 18 to Oct. 31, and then in the period which is not the best for studying the avifauna. This fact produced additional difficulties in identifying the birds, sometimes even those caught in nets, for they were often juveniles with atypical coloration or in moult.

During the whole period of our stay we met with kindness and help from the workers of the Korean Academy of Sciences, notably those of the Ornithological Laboratory, Institute of Zoology, its Head, Mr RIM ČhuJŏn, senior scientific workers, Mr PAK U Ir and Mr PAK Re Bŏn, the curator of the collection of the Institute, Mr Ŏ Hyng Dam, and Mr RJU Gjŏng Sun, who accompanied us during our trips in the country. We wish to express our heartfelt thanks to them. Particular thanks are due to the interpreter, Mr Sŏk Ha Rjong, who extended facilities to us during our visit, always ready to help.

II. STUDY AREA AND METHOD

Materials were collected during one- and several-day trips from Phjŏngjang into the country. Observations could practically be made at the place of destination of our trips; on the way we were able to note only some more characteristic species from the fast running car but we did not always manage to identify even these specimens exactly. The sites of observations are plotted on the map (Fig. 1). The spelling of geographical names conforms to the principles of the international transliteration system (cf. MROCKOWSKI, 1972). In the following list of trips the names are also given according to the English transliteration (in brackets).

The time-table of the trips was as follows:

- 19 September. Jongak-san in the region of Phjŏngjang (Pyongyang)
- 22—24 September. The town of Hedžu (Haeju) and the Sujang-san Mt.
- 25—26 September. The town of Sarivŏn (Sariwon) and the region of Sohyng-ho (Sohung-ho) Lake
- 28 September. Ponghva-ri near Phjŏngjang (Pyongyang)
- 28 September. The region of the town of Nam-pho (Nampo) and the mouth of the River Tedong-gang (Taedong-gang)
- 30 September — 1 October. The region of Jŏnphung-ho (Yonpung-ho) Lake
- 7—8 October. The Kymgang-san (Kumgang-san) Mts. in the south-western part of the country
- 9 October. The region of Samil-pho (Samilpo) Lake
- 10 October. The region of the town of Vŏnsan (Wonsan)
- 11—12 October. Sok-vang-sa (Sokwangsa) — a resort south of Vŏnsan
- 13 October. Sin-phjŏng — the region of a motel half-way between Vŏnsan and Phjŏngjang — mountainous country, rocks, forests
- 16—17 October. The region of Tesŏng-ho (Taesong-ho) Lake

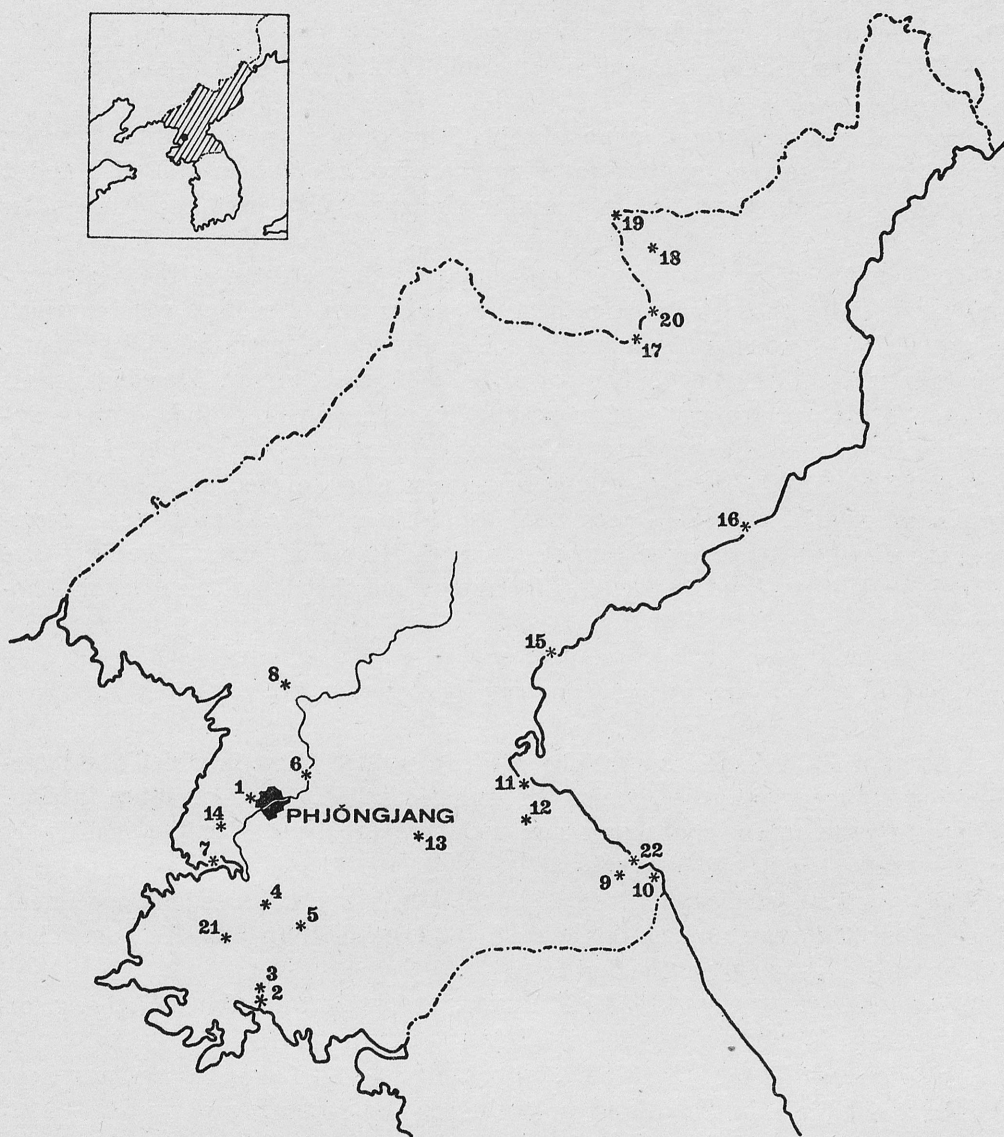


Fig. 1. Situation of observation points or other places mentioned in text: 1 — Jongak-san Mt., 2 — Hedžu (town), 3 — Sujang-san Mt., 4 — Sarivŏn (town), 5 — Sohyng-ho Lake, 6 — Pong-hva-ri, 7 — mouth of the River Tedong-gang, 8 — Jŏnphung-ho Lake, 9 — Kymgang-san Mts., 10 — Samil-pho Lake, 11 — Vŏnsan (town), 12 — Sok-vang-sa, 13 — Sin-phjŏng, 14 — Tesŏng-ho Lake, 15 — Hyngnam (town), 16 — Tanchŏn (town), 17 — Hjesan (town), 18 — Samdžijŏn, 19 — Pektu-san Mt., 20 — Počhon-bo (region), 21 — Sinčhŏn (town), 22 — Kosong (town)

19 October. Observations from the train from Hyngnam (Hungnam) via Tančhon (Tanchon) to Hjesan (Hyesan)

20—21 October. The region of Hjesan

21—25 October. Samdžijön (Samjiyon) and Pektu-san (Paekdu-san)

27 October. Tesöng-ho Lake

The materials collected were obtained by observing the birds visually, using 8×30 binoculars, and by catching them in nets (5 nets of Polish and 2 of American production). In determining the species we used regional guides to the birds of the Soviet Union (FLINT et al., 1968) and Japan (YAMASHINA, 1974). In virtue of permission we made preparations of some of the birds captured, especially those belonging to the Siberian and Far East species which do not visit Poland, for the scientific collection of the Institute of Systematic and Experimental Zoology, Pol. Acad. of Scs., in Cracow. However, most of these birds were released after having been measured. Standard measurements were taken: the length of folded wing, tarsometatarsus, bill (from the feathers) and tail. In most cases the birds were also weighed on a Pesola-type spring balance. When the determinations of the birds collected were uncertain, we checked them, availing ourselves of the collections of the Institute of Zoology, Korean Acad. of Scs., in Phjôngjang and the help of the local ornithologists.

III. REVIEW OF SPECIES OBSERVED

A total of 86 bird species were observed. In several cases, in which the determination is uncertain, the species are marked with a note of interrogation. The systematic arrangement and nomenclature are based for the most part on VAURIE'S (1959b, 1965) works.

Phalacrocorax pelagicus PALLAS, 1811 (?). On Oct. 7 and 9 several specimens observed at the sea-shore near the road between Vönsan and Kosöng. They had no white patches on the head.

Egretta alba (LINNAEUS, 1758.) Numerous everywhere in rice fields, e. g. on Oct. 7 about 30 birds along the road from Vönsan to Kosöng.

Ardea cinerea LINNAEUS, 1758. Sep. 25, Sohyng-ho Lake, 1 specimen, Sep. 28, above 10 birds in flood-land in the Nam-pho region.

Casarca ferruginea (PALLAS, 1764). On Oct. 19 two birds seen from the train, on the shore of the Sea of Japan, between the towns Hyngnam and Tančhon.

Anas platyrhynchos LINNAEUS, 1758. Observed only on a small lake near the hotel at Samdžijön, 1 ♂ and 4 ♀♀ and separately 1 ♂ on Oct. 23 and 1 ♂ on Oct. 24 and 25.

Anas poecilorhyncha (SWINHOE, 1866). On 17 Oct. a flock of 30 birds on Tesöng-ho Lake and on Oct. 27 about 50 specimens in the same place.

Aix galericulata LINNAEUS, 1758. On Sep. 25 three specimens in were seen on Sohyng-ho Lake.

Flocks and single specimens of undetermined ducks, swimming on the sea or the Tedong-gang River, were in addition observed, usually at a great distance.

Pandion haliaetus LINNAEUS, 1758. On Sep. 28 one specimen was observed while flying over Sujang-san.

Accipiter gentilis (LINNAEUS, 1758). Single specimens were met with several times in different parts of the country; it may be assumed that it is here far more numerous than in Poland.

Accipiter nisus LINNAEUS, 1758. Only once a female was seen on the way from Phjǽngjang to Tesong-ho Lake on Oct. 16.

Buteo lagopus (PONTOPPIDAN, 1763.) On Oct. 16 two specimens were observed over Tesong-ho Lake and on Oct. 22 one over a taiga forest on the way from Samdžijǽn to the summit of Pektu-san and two above the timber-line in the massif of Pektu-san.

Buteo buteo (LINNAEUS, 1758) was encountered twice, in the region of Sohyng-ho Lake on Sep. 25 and at Sin-phjǽng on Oct. 13.

Falco peregrinus TUNSTALL, 1771. Only once a pair of medium-sized falcons were seen flying high up over Samil-pho Lake. In silhouette and size they corresponded to the Peregrine Falcon.

Falco subbuteo LINNAEUS, 1758. On Sep. 24 we saw 2 flying specimens on the way between the towns of Hedžu and Sarivǽn.

Falco (vespertinus) amurensis RADDE, 1863. A pair of these small falcons flew about above a pond near Jongak-san, catching insects in flight, on Sep. 19 and 1 bird was observed on Sohyng-ho Lake on Sep. 25.

Falco tinnunculus LINNAEUS, 1758. The Kestrel was the most often encountered bird of prey. On Sep. 24 one bird was seen between the towns of Hedžu and Sarivǽn, on Sep. 25 a male hunted insects on a sun-heated road near Sohyng-ho Lake, one bird was seen between Phjǽngjang and Jǽnphung-ho Lake on Oct. 1, one between the towns of Vǽnsan and Kosǽng on Oct. 7 and twice at Sok-vang-sa on Oct. 12.

Tetrastes bonasia (LINNAEUS, 1758). Only once a single bird was seen in the taiga of the Samdžijǽn region Oct. 22.

Phasianus colchicus LINNAEUS, 1758. Pheasants were encountered relatively often, chiefly in the low-lying western part of the country. The most numerous flock, of c. 10 specimens, was observed near Tesong-ho Lake on Oct. 17.

Porzana fusca (TEMMINCK and SCHLEGEL, 1849) (?). Once, on Oct. 17, a bird, very dark and fairly large, corresponding to the description and illustration of this species in YAMASHINA'S (1974) guide and resembling the specimens stored in the collection of the Institute of Zoology, Korean Acad. of Scs., in Phjǽngjang, was observed in a thicket by Tesong-ho Lake.

(*Capella*) *Gallinago solitaria* HODGSON, 1831. One specimen was seen on the shore of a small lake at Samdžijǽn on Oct. 21.

Larus argentatus PONTOPPIDAN, 1763. Some dozen Herring Gulls were feeding on a flat exposed at low tide near Nam-pho on Sept. 28.

Larus schististisagus STEJNEGER, 1884. Several specimens were seen at Vönsan on Oct. 10 and 11.

Larus crassirostris VIEILLLOT, 1818. On Sep. 28 a gull, much darker than the Herring Gull, occurred on the sea-mud flat near Nam-pho. Another specimen was besides observed at Vönsan on Oct. 11.

Columba rupestris PALLAS, 1811. On Oct. 13 c. 10 specimens were observed on rocks near Sinphjöng and, in addition, single birds were seen on high buildings in Phjöngjang towards the end of October.

Streptopelia decaocto (FRIVALDSKY, 1838). Only once a single specimen was noted in the region of Tesong-ho Lake on Oct. 16.

Streptopelia orientalis (LATHAM, 1790). It is the commonest pigeon, observed usually singly or in groups of several birds everywhere in fields. The largest group of c. 50 birds was observed south of the town Vönsan on Oct. 12. No specimens were seen in the regions of Hjesan and Samdžijön.

Strix uralensis PALLAS, 1771. A covert belonging to this owl was found in the taiga near Samdžijön on Oct. 22.

The voice of a unidentified owl, probably of the genus *Otus* or *Ninox* (not *Strix aluco*, *S. uralensis*, *Asio*, *Athene*, *Bubo*), was heard at Sarivön on Sep. 25.

Hirundapus caudacutus (LATHAM, 1801). Only once, on Sep. 28, we observed a group of (c. 5) birds circling high up over a hill at Ponghva-ri near Phjöngjang. Despite a considerable height the characteristic lack of fureulation in the tail was visible.

Eurystomus orientalis (LINNAEUS, 1766). Only once, on Sep. 19, a young bird with a dark bill was seen hunting insects in flight on the hill Jongak-san near Phjöngjang.

Alcedo atthis (LINNAEUS 1758). Seen twice, at the mouth of the Tedong River into the Yellow Sea at Nam-pho on Sep. 28 and at Samdžijön on Oct. 25.

Picus canus GMELIN, 1788. It was most often encountered of all the woodpeckers seen: at Sujang-san on Sep. 23, in the region of Sohyng-ho Lake on Sep. 25, at Ponghva-ri on Sep. 28, in the region of Jönphung-ho Lake on Sep. 30 and Oct. 17, in the region of Tesong-ho Lake on Oct. 17 and in the taiga between Samdžijön and Pektu-san on Oct. 22. Measurements of one specimen: wing — 151 mm, tarsometatarsus — 26 mm, bill — 40 mm, tail — 110 mm. It belongs to the subspecies *Picus canus jessoensis* STEJNEGER, 1886.

Dryocopus martius (LINNAEUS, 1758). Observed once near the hotel at Kosöng in the Kymgang-san Mts. on Oct. 7.

Dendrocopos major (LINNAEUS, 1758). It was observed four times: in the region of Jönphung-ho Lake on Sep. 30, a female caught in the region of Tesong-ho Lake on Oct. 16, 2 birds at the same place on Oct. 17 and one at Samdžijön on Oct. 23. Measurements of the female caught: wing — 140 mm, tarsometatarsus — 22 mm, bill — 27 mm, tail — 92 mm. The distribution and number of white patches on the wings and the black markings on the neck indicate the subspecies *Dendrocopos major japonicus* (SEEBOHM, 1803).

Dendrocopos kizuki (TEMMINCK, 1835). It was encountered twice: on Sep.

25 a specimen captured in a valley grown over by a young (c. 25 years old) mixed forest (Phot. 2) in the region of Sohyng-ho Lake and on Oct. 1 one specimen in a chestnut wood by Jönphung-ho Lake. Measurements of the adult male from the shore of Sohyng-ho Lake: wing — 85 mm, tarsometatarsus — 15 mm, bill (measured from feathers) — 12 mm, tail — 55 mm, body weight — 18 g. In accordance with the illustrations presented by WON, Hong Koo (1960), the plumage of this bird indicates its membership in the subspecies *Dendrocopos kizuki nippon* (KURODA, 1922). Neither this subspecies nor *D. k. acutirostris* (YAMASHINA, 1931), mentioned by AUSTIN (1948) from the Korean Peninsula, is acknowledged by VAURIE (1959a, 1964), who synonymized these names with *D. kizuki seebohmi* (HARGITT, 1884). The length of wing of our specimen is identical with that given for *D. kizuki nippon* by HARTERT (1923) and lies within the range of measurements given by VAURIE (1959a) for *D. kizuki seebohmi*. The measurements of one specimen from the region of Seul, quoted by TACZANOWSKI (1887), are very similar.

Hirundo rustica LINNAEUS, 1758. It occurred in large numbers in Phjõngjang, particularly numerous in the region of Sujang-san and along the road from Hedžu to Sarivõn (Sep. 24). Seen also in the region of Jönphung-ho Lake (Oct. 1) and Samil-pho (Oct. 9).

Hirundo daurica LINNAEUS, 1771. Two birds were seen amidst a flock of Swallows, feeding in flight, at Sinchõn on Sep. 24.

Galerida cristata (LINNAEUS, 1758). One specimen was seen amidst a flock of Buntings *Emberiza elegans*, foraging on the ground, at Samdžijõn on Oct. 23.

Motacilla cinerea TUNSTALL, 1771. One specimen was observed on a brook near Sujang-san Mt. on Sep. 23.

Motacilla alba LINNAEUS, 1758. Single birds or groups of several were seen on a tributary of the Tedong-gang River in the region of Jongak-san on Sep. 19, at Sujang-san on Sep. 22, by Sohyng-ho Lake on Sep. 25, in the region of Jönphung-ho Lake on Oct. 1, at Võnsan on Oct. 10, at Počhon-bo on Oct. 21 and on the way from Samdžijõn to the top of Pektu-san, in taiga, on Oct. 22. Not all the specimens were alike. Especially, a large white patch on the wings was striking in the birds observed at Võnsan, which suggests their membership in the subspecies *Motacilla alba lugens* GLOGER, 1829. (The skin received from the Institute of Zoology, Korean Acad. of Scs., collected on Apr. 8, 1973, represents the subspecies *Motacilla alba leucopsis* GOULD, 1837).

Motacilla lutea GMELIN, 1770. An undoubtedly migrating small group of 3 specimens was seen to stop on the north shore of Sohyng-ho Lake for several minutes and then to flow off on Sep. 25. The birds were determined on the basis of the yellow colour of the back, clearly seen at the moment of their taking flight. This form, considered by different systematists, e. g. VAURIE (1959b) to be a subspecies of *Motacilla flava*, inhabits, among other regions, the eastern part of Siberia and Sakhalin, where it is known as the subspecies *Motacilla lutea taivana* (SWINHOE, 1863). According to DEMENTEV et al. (1951—1954), it occurs there together with two subspecies of the Yellow Wagtail, *Motacilla*

flava macronyx (STRESEMAN, 1920) and *M. f. angarensis* (SUSHKIN, 1925). In the migration period it flies across Eastern Manchuria (CHENG, 1976). One specimen was recorded from the Korean Peninsula in the period of spring migration by AUSTIN (1948) and one in May by MACFARLANE (1963), in both cases as *Motacilla flava taivana*.

Lanius bucephalus TEMMNICK and SCHLEGEL, 1847. Single observation of a male on Tesong-ho Lake on Oct. 27.

Lanius cristatus LINNAEUS, 1758. Seen twice on Tesong-ho Lake on Oct. 16 and 17; it was a female in either case. Measurements of one of them: wing — 83 mm, tarsometatarsus — 26 mm, bill — 18 mm, tail — 90 mm, body weight 33 g.

Oriolus chinensis LINNAEUS, 1766. Observed only twice: 1 bird on Jongak-san Mt. on Sep. 19 and one in the region of Samil-pho Lake on Oct. 9.

Garrulus glandarius (LINNAEUS, 1758). It was encountered nearly as often as the Magpie, both singly and in flocks up to c. 30 specimens chiefly in forests and fairly large scrubs. The reddish head is striking as regards plumage, which indicates the subspecies *Garrulus glandarius brandtii* EVERSMAAN, 1842.

Cyanopica cyanus (PALLAS, 1776). A flock of 15—20 birds was seen in the scrubs surrounding Sujang-san Mt. on Sep. 23, one bird from the train between Tanchon and Hjesan on Oct. 19, one on the way from Samdžijon to the summit of Pektu-san on Oct. 22 and one at Samdžijon on Oct. 25.

Pica pica (LINNAEUS, 1758). These birds are less numerous than Crows, which they follow in frequency and number in most of the regions explored. We saw no Magpies only during our five-day stay at Samdžijon, whereas they were, among other areas, in the region of Hjesan and at Počhon-bo. They occur mainly in the vicinity of cultivated fields.

Nucifraga caryocatactes (LINNAEUS, 1758). It was always observed singly, though sometimes several times during observation: at Ponghva-ri on Sep. 28, in the Kymgang-san Mts. (above the hotel at Kosong) on Oct. 7, in the Kuryong Valley in the same mountains on Oct. 8 and in the region of Počhon-bo on Oct. 21.

Corvus dauuricus PALLAS, 1776. Three specimens were seen from the train between Tanchon and Hjesan on Oct. 19.

Corvus frugilegus LINNAEUS, 1758. Only once, towards the end of our stay (Oct. 27), two flocks of c. 40—50 birds each were observed foraging in the fields near Tesong-ho Lake.

Corvus macrorhynchos WAGLER, 1827. Only once, on Oct. 19, more than 10 specimens were seen from the train between Tanchon and Hjesan (nearer Tanchon).

Corvus corone orientalis EVERSMAAN, 1841. This bird is very common, occurring in large numbers and frequently. It was observed nearly everywhere where we stayed for some time, usually in groups of several to more than 10 birds. Measurements of 2 Crows: overall length — 450 and 440 mm, wing — 190 (specimen in moult) and 278 mm, tarsometatarsus — 60 and 55 mm, bill —

48 and 50 mm, tail — 175 and 170 mm. In 5 specimens from the Far East (Transbaykalia, Amur, Vladyvostok) in the collection of the Institute of Zoology, Polish Acad. of Scs., in Warsaw the length of wing ranges 322—367 mm, tarsometatarsus 56—63 mm, bill 52—57 mm and tail 214—233 mm. These measurements (except bill length) much resemble those given by VAURIE (1959b). Compared with them, the Korean birds are smaller. Nevertheless, if the differences in wing length and tail length may be neglected, since perhaps the feathers had not grown fully in these places after moulting (cp. the length values quoted by Won Hong Koo (1958), yet the somewhat shorter tarsometatarsus and markedly shorter bill are surprising.

Troglodytes troglodytes (LINNAEUS, 1863). Only once one bird was observed at Samdžijön on Oct. 22.

Cettia squameiceps (SWINHOE, 1863). A male, dead for 10 days or more, was found at Samdžijön on Oct. 24 (there was a heavy snow-fall in the preceding period). Its measurements: wing — 52 mm, tarsometatarsus — 19 mm, bill — 10 mm, tail — 30 mm.

Acrocephalus arundinaceus orientalis (TEMMINCK et SCHLEGEL, 1847). Three birds were caught with nets near Tesong-ho Lake on Oct. 17. All of them were in moult. Their measurements: wing — 72, 75 and ♂ 74 mm, tarsometatarsus — 31, 30 and ♂ 30 mm, bill — 14, 13 and ♂ 13 mm, tail — ♂ 74 mm (incomplete in the other two), body weight — ♂ 24 g.

Phylloscopus inornatus (BLYTH, 1842). Found (captured with nets) 3 times: 1 bird on Sujang-san Mt. on Sep. 23 and one and next two birds near Tesong-ho Lake on Oct. 17 and 27. Their measurements are respectively: wing 52, 55, 58 and 55 mm, tarsometatarsus — 17, 20, 19 and 19 mm, bill — 9, 8.5, 9 and 9.5 mm, body weight — —, 5.5, 7.0 and 6.5 g.

Phylloscopus borealis (BLASIUS, 1858). One specimen observed on Tesong-ho Lake on Oct. 16.

Phylloscopus trochiloides (SUNDEVALL, 1837). A male captured on Sujang-san Mt on Sep. 24 and another specimen on Sohyng-ho Lake on Sept. 26. Their measurements: wing — 64, 63 mm, tarsometatarsus — 20, 20 mm, bill — 10, 10 mm, tail — 48, 43 mm, body weight 9, 9.5 g.

Ficedula parva (BECHSTEIN, 1794). One bird caught with a net in the vicinity of Samil-pho Lake on Oct. 9. Its measurements: wing — 67 mm, tarsometatarsus — 17 mm, bill — 9 mm, tail — 51 mm, body weight — 10 g. (The blackish colour of the tail coverts indicates the subspecies *Ficedula parva albicilla* PALLAS, 1811).

Cyanoptila cyanomelana (TEMMINCK, 1829). A female caught on Sujang-san Mt. on Sep. 23. Its measurements: wing — 90 mm, tarsometatarsus — 17 mm, bill — 11.5 mm, tail — 60 mm.

Muscicapa latirostris RAFFLES, 1822. A bird was caught with a net on Sujang-san Mt. on Sep. 23 and another on 24th. Measurements: wing — 67 and 70 mm, tarsometatarsus — 12 and 12 mm, bill (length/width at base) — 11/7 and 11/8 mm.

Saxicola torquata (LINNAEUS, 1766). Only one bird was seen from the car on the way from Phjöngjang to Sujang-san on Sep. 22.

Monticola solitarius (LINNAEUS, 1758). One bird in juvenile plumage was observed at the resort of Nam-pho on Sep. 28.

Phoenicurus auroreus (PALLAS, 1776). A male captured at the edge of Tesong-ho Lake on Oct. 16. Measurements: wing — 72 mm, tarsometatarsus — 23 mm, bill — 9 mm, tail — 65 mm, body weight — 17 g.

Pseudaëdon sibilans (SWINHOE, 1863). Encountered twice: a female caught on Sohying-ho Lake on Sep. 26 and a specimen on Jönphung-ho Lake on Oct. 1. Their measurements respectively: wing — 68 and 72 mm, tarsometatarsus — 27 and 27 mm, bill — 12 and 12 mm, tail — 49 and 50 mm, body weight — 18 and 20 g.

Tarsiger cyanurus (PALLAS, 1773). Observed only in the second half of October: a specimen on Tesong-ho Lake on the 17th and at Samdžijön on the 22nd—25th. A total of 13 birds were captured, all of them in female or juvenile plumage. A male in blue plumage was seen only once at Samdžijön on Oct. 22. Measurements of the birds captured:

	wing	tarsometatarsus	bill	tail
mm	74.75.76.77.78.	22.23.24.	9.10.	52.53.54.55.56.57.58.59.60.61.62.
	5 2 — 4 2	3 6 4	9 4	1 3 1 2 2 3

Body weight: 11.0—16.0 g (mean: 13.7 g).

It may well be that we observed the autumn migration of birds belonging to the nominative form *Tarsiger cyanurus cyanurus* (PALLAS, 1773), nesting, among other regions, north of Korea in North Asia (DEMENTEV et al., 1951—1954).

Turdus naumanni TEMMINCK, 1820. Observed only in taiga in the region of Samdžijön and on the way to the summit of Pektu-san Mt. in flocks from about a dozen to several dozen specimens on Oct. 21—25. The flocks consisted mainly of birds belonging to the nominative form *Turdus naumanni naumanni* TEMMINCK, 1820, with a few specimens of *Turdus naumanni eunomus* TEMMINCK, 1931 among them. Measurements of 4 specimens of the nominative form: wing — 132, ♂ 131, 119, ♂ 131 mm, tarsometatarsus — 33, 37, 33, 34 mm, bill — 21, 19, 19 18 mm, tail — 97, 93, 90 95 mm, body weight 89, 83, 68, 84 g. Measurements of one male *Turdus naumanni eunomus*: wing — 121 mm, tarsometatarsus — 33 mm, bill — 17 mm, tail — 81 mm, body weight — 72 g. We also observed a specimen of intermediate coloration. AUSTIN (1948) mentions a similar occurrence.

Zoothera dauma LATHAM, 1790. Single specimens were captured twice with a net, on Sujang-san on Sep. 24 and on Jönphung-ho Lake on Oct. 1. Their

measurements: wing — 162, 162 mm, tarsometatarsus — 40, 39 mm, bill — 26, 27 mm, tail of the first of them — 110 mm. These measurements refer them to *Zoothera dauma aurea* (HOLANDRE, 1825).

Paradoxornis (Suthora) webbiana (GRAY, 1852). Encountered twice: on Sujang-san on Sep. 22 and a flock (family?) of 6 birds, of which some in moult, in the region of Tesong-ho Lake on Oct. 17. Measurements of 2 specimens (the second was an adult female): wings — 50, 55 mm, tarsometatarsus — 20, 21 mm, bill (length/height at base) — 8/6, 8/6 mm, tail (of the second bird, in the first incomplete) — 72 mm, body weight — 10.5, 12.0 g. In 3 specimens measured by TACZANOWSKI (1885) the lengths of wings were similar but those of the tails smaller (67, 67 and 63 mm). The length of the tail of our specimen agrees with that given by VAURIE (1959b) for *Paradoxornis webbiana mantchurica* (TACZANOWSKI, 1885), although this dimension in 15 specimens measured by AUSTIN (1948) approached 70 mm and made him remark that „tails... varying as much as a centimetre within the series are not a good criterion”. However, the bird is whole darker (more grey-olive) than 4 birds collected by KALINOWSKI in Korea and on the Amur River (collections of the Institute of Zoology, Pol. Acad. of Scs., in Warsaw), which disagrees with the description given by VAURIE (op. cit.). Its bill is also dark (blackish).

Aegithalos caudatus (LINNAEUS, 1758). Encountered at Samdžijön only on Oct. 22 and 23, scarcely several specimens all together. The measurements of two captured birds were as follows: wing — 63, 63 mm, tarsometatarsus — 17, 18 mm, bill — 6, 5.5 mm, tail — 95, 99 mm, body weight — 7.5, 8 g. The plumage (entirely white head, grey coat) indicates the nominative group distinguished by VAURIE (1959b), in which he includes the subspecies *Aegithalos c. caudatus* (LINNAEUS, 1758), *Aegithalos caudatus sibiricus* (SEEBOHM, 1890) and *Aegithalos caudatus japonicus* (PRAZÁK, 1897). The tail length excludes *Aegithalos caudatus japonicus*. Therefore, if after VAURIE (1959b) we assume the division into the above-mentioned subspecies, the specimens from Samdžijön, which, as a rule, do not differ in plumage and size from 4 specimens from the Amur region (collection of the Institute of Zoology, Pol. Acad. of Scs., in Warsaw), belong to *Aegithalos caudatus sibiricus*, numbered besides by HARTERT (1903—1922) and DEMENTEV et al. (1951—1954) in the nominative form.

Parus palustris LINNAEUS, 1758. Met with only twice: a bird on Jongak-san on Sep. 19 and 2 birds captured on Jönphung-ho Lake on Oct. 1. Their measurements: wing — 68, 68 mm, tarsometatarsus — 15, 14 mm, bill — 7, 8 mm, (length of rectrices — extreme-middle — 63—60, 66—63 mm). The length of both the wing and tail indicates the membership of these birds in the subspecies *Parus palustris brevirostris* (TACZANOWSKI, 1872) and is conformable to that found in the specimens of this subspecies from Manchuria (PIECHOCKI, 1958).

Parus montanus (CONRAD von BALDENSTEIN, 1827). These birds were captured much oftener than the members of the previous species. They were ob-

served in various places visited by us: on Sohyng-ho Lake on Sep. 25 and 26, on Jönphung-ho Lake on Oct. 1, at the foot of the Kymgang-san Mts. on Oct. 7, at Sok-vang-sa on Oct. 12 and at Samdžijön on Oct. 21, 22 and 23. A total of 15 specimens were caught. Their measurements are:

	wing	tarsometatarsus
mm	59.60.61.62.63.64.65.66.67.	12.13.14.15.16.17.
	1 5 3 2 2 2	1 1 1 6 6

	bill	tail
	7. 8. 9.	54.55.56.57.58.59.60.61.62.63.64.65.66.67.
	1 7 7	1 3 1 7 1 1 1

The mean length of their wings is 63.3 mm. The difference between the middle and extreme retrices varies between 3 (1) and 9 mm (1) (mean: 6.13 mm), the 3 mm difference occurring in the specimen with the shortest tail and wings. The body weight in 13 specimens ranges from 9 to 11.5 g (mean: 10.2g). The wing length of 58—67 mm given by DEMENTEV et al. (1951—1954) for the subspecies *Parus montanus baicalensis* (SWINHOE, 1871) is somewhat smaller than that found by VAURIE (1959b). According to VAURIE (1959b), *Parus montanus sachalinensis* (LÖNNBERG, 1908), regarded by DEMENTEV et al (1951—1954) as one of the synonyms of *baicalensis*, is similar to *Parus montanus restrictus* HELLMAYR, 1900 from the Japanese islands, which is characterized chiefly by its shorter tail (50—55 mm). Judging mainly from the length of tail, the specimens captured by us belong to *Parus montanus baicalensis*, which confirms the results obtained by MISHIMA (1961). The subspecies *P. m. stötzneri* KLEINSCHMIDT, 1921 from Manchuria differs, according to VAURIE (1959 b), in its brown cap. Flocks observed by us in different parts of the country throughout our stay in Korea showed no signs of being on migration, which fact may suggest that they were stationary.

Parus ater LINNAEUS, 1758. Like the previous species it is encountered fairly often singly or in groups of several specimens: on Sujang-san on Sep. 22 (several), in the region of Sohyng-ho Lake on Sep. 20, in the Nam-pho region on Sep. 28, near Jönphung-ho on Oct. 1, in the Kuryong Valley in the Kymgang-san Mts. on Oct. 8, on Tesong-ho Lake on Oct. 17 and at Samdžijön on Oct. 22. Two specimens were caught, their measurements being as follows: wing — 58, 62 mm, tarsometatarsus — 16, 16 mm, bill — 9, 7 mm, tail — 46, 50 mm, body weight — 8, 7.5 g. The second of the specimens measured was a male and its elongated black feathers forming a crest at the back of the

head and the comparatively dark coloration of the whole belly and breast may refer it to *Parus ater pekinensis* DAVID, 1870, although, on the other hand, the purely white cheeks are a character of the nominative form, with which *pekinensis* intergrades, among other areas, in Korea (VAURIE, 1959b).

Parus varius TEMMINCK and SCHLEGEL, 1848. Only once two birds were taken in the region of Tesong-ho Lake on Oct. 17. Measurements (♀ and ♂): wing — 77, 79 mm, tarsometatarsus — 18.5, 20 mm, bill — 13, 13 mm, tail — 55, 56 mm, body weight — 15, 17 g. The length of wing and that of tail corresponds to the values given by HARTERT (1903—1922) and DEMENTEV et al. (1951—1954) for the nominative form only that the bill of the specimens under description is 2 mm longer, similar to that described by HARTERT (1903—1922) for the subspecies *Parus varius owstoni* IJIMA, 1892, living in the Seven Is.

Parus major LINNAEUS, 1758. The most numerous and commonest tit. Encountered everywhere in forests and scrubs. A total of 32 birds were captured, of which 13 in the region of Jönphung-ho Lake and 8 on Tesong-ho Lake. They were both adult and this year's birds. Standard measurements:

	wing	tarsometatarsus	bill
mm	66.67.68.69.70.71.72.73.74.75.	17.18.19.20.	8. 9.10.
	4 9 3 4 4 3 3 1— 1	4 10 16 2	5 21 6

The mean length of their wings is 68.9 mm.

The length of tail ranged between 59 and 75 mm and the body weight between 12 and 16 g (mean from 27 specimens: 14.13 g). The breast and belly are purely white or somewhat greyish white. Both the coloration and dimensions suggest the subspecies *Parus major minor* TEMMINCK and SCHLEGEL, 1848, which, according to VAURIE (1959b), contains all the birds from north-eastern China, Manchuria, Korea, Sakhalin and most of the Japanese islands, on the assumption that *Parus major wladivostokiensis* KLEINSCHMIDT, 1913 is its synonym. The length of wing of the specimens now examined approximates most to that given by VAURIE (1959b) from Japan.

Sitta europaea LINNAEUS, 1758. This bird was observed in wooded areas: in the region of Jönphung-ho Lake on Sep. 30 and Oct. 1, in the environs of Hjesan on Oct. 20 and 21, in the neighbourhood of Počhon-bo on Oct. 21 and at Samdžijön on Oct. 23 and 24. It occurred in the largest number in the taiga surrounding Samdžijön. The measurements of 1 specimen from the region of Jönphung-ho Lake: overall length — 139 mm, wing — 81 mm, tarsometatarsus — 19 mm, bill — 14 mm, tail — 46 mm. As regards plumage, the white colour of the front of the neck and the breast is striking. This specimen belongs to the subspecies *Sitta europaea amurensis* SWINHOE, 1871.

Certhia familiaris LINNAEUS, 1758. Only one bird was taken at Samdžijön on Oct. 22. Its measurements: wing — 66 mm, tarsometatarsus — 15 mm,

bill — 12.5 mm, tail — 65 mm, big toe — 6 mm, big toe claw — 8 mm, body weight — 9.5 g. This specimen reveals the characters of the subspecies *Certhia familiaris orientalis* DOMANIEWSKI, 1922.

Passer montanus (LINNAEUS, 1758). This is a very abundant species, which we encountered nearly everywhere; it occurred in particularly large numbers in agricultural areas.

Fringilla montifringilla LINNAEUS, 1758. Observed for the first time at Sok-vang-sa on Oct. 11, it was later seen in abundance in the region of Tesong-ho Lake on Oct. 16 and 17 and at Samdžijön on Oct. 21—24. The measurements of two females: wing — 88, 86 mm, tarsometatarsus — 20, 20 mm, bill — 13, 12 mm, tail — 66, 62 mm, body weight — 22.5, 23 g.

Carduelis sinica (LINNAEUS, 1766). This species occurred in fairly large numbers and was observed on Jongak-san on Sep. 19, at Sok-vang-sa on Sep. 23, in the region of Hjesan on Oct. 20 and in the region of Počhon-bo on Oct. 21. The measurements of 2 birds collected by the workers of the Institute of Zoology, Korean Acad. of Scs., in the region of Phjǝngjang in the second half of September: wing — 75, 80 mm, tarsometatarsus — 16, 17 mm, bill — 10, 11 mm, tail — 45, 50 mm. The length of wing agrees with the values given by DEMENTEV et al. (1951—1954) for *Carduelis sinica ussuriensis* HARTERT, 1903.

Uragus sibiricus (PALLAS, 1773). Observed in small flocks of several specimens each at Samdžijön on Oct. 21—23. and in the neighbourhood of Tesong-ho Lake on Oct. 27. Measurements of 3 specimens (♀ taken at Samdžijön and ♀ and ♂ caught on Tesong-ho Lake): wing — 63, 65, 72 mm, tarsometatarsus — 17, 19, 17 mm, bill — 8, 8.5, 8 mm, tail — 70, 76, 79 mm, body weight 13.5, 10.5 and 18 g. The high pink coloration of the breast and belly of the male collected and most of the measurements above correspond to the data presented by VAURIE (1959b) for *Uragus sibiricus ussuriensis* BUTURLIN, 1915. The measurements agree also with those of 3 specimens taken by PIECHOCKI (1958) in Manchuria. The specimens of the nominative form from Middle Asia stored in the collection of the Institute of Zoology, Pol. Acad. of Scs., in Warsaw are conspicuously lighter. Against those data the length of the wing of the female captured at Samdžijön is interesting; is it 2 mm below the lower limit given for this subspecies and equals the length given by DEMENTEV et al. (1951—1954) for females of *Uragus sibiricus sanquinolentus* (TEMMINCK and SCHLEGEL, 1808), inhabiting Sakhalin and the northern island of Japan.

Coccothraustes coccothraustes (LINNAEUS, 1758). It was observed only on Tesong-ho Lake on Oct. 17, represented by two specimens flying over.

Emberiza cioides BRANDT, 1843. Only 1 bird (♂) was caught in the region of Hjesan on Oct. 21. Measurements: wing — 73 mm, tarsometatarsus — 19 mm, bill — 11 mm, tail — 72 mm, body weight — 20 g. The length of wing lies within the limits given by VAURIE (1959b) for *Emberiza cioides castaneiceps* MOORE, 1856.

Emberiza rustica PALLAS, 1776. This species, always represented by single

specimens, was encountered several times in October: in the region of Jönphung-ho Lake on Oct. 9, in the neighbourhood of Tesong-ho Lake on Oct. 17, at Hjesan on Oct. 20 and at Samdžijön on Oct. 22. The measurements of 3 specimens (♂, ♂, ♀) are, respectively: wing — 75, 76, 76 mm, tarsometatarsus — 18, 21, 18.5 mm, bill — 10, 10, 10 mm, tail — 57, 58, 59 mm, body weight — 18, 17.5, 16.5 g. The dates given above correspond with the beginning of autumnal migrations, mentioned by DEMENTEV et al. (1951—1954) for the eastern part of the breeding area (Kamchatka, Sakhalin, Okhotsk region).

Emberiza elegans TEMMINCK, 1835. As the most abundant of Buntings, it was often met with: in the region of Sohyng-ho Lake on Sep. 26, at Sokvang-sa on Oct. 12, at Sin-phjöng on Sep. 13, in the region of Tesong-ho Lake (very large flocks) on Oct. 16—17, flocks of more than 10 birds at Samdžijön on Oct. 23—24, a large flock in the vicinity of Tesong-ho Lake on Oct. 27. A total of 63 specimens were captured. Their measurements are as follows (because of the resemblance — emphasized by DEMENTEV et al. (1951—1954) — between males in the first year's plumage and old females the sex determination concerning the specimens caught was not always reliable and for this reason they are given together):

	wing	tarsometatarsus	bill
mm	67.68.69.70.71.72.73.74.75.76.77.78.	18.19.20.21.22.	9.10.11.12.
ad	2 2 2 5 6 4 13 5 7 4	12 29 8 1	12 30 7 1
imm	1 3 5 2 1 1	1 3 7 2	6 7

The length of tail in 45 adult birds was 55—75 mm and in 13 that year's birds 60—71 mm. The weight of each of the 47 adults ranged between 16.0 and 22.5 g (mean: 18,05 g) and that of 13 young birds 15.5—20.0 g (mean: 17.27 g). Two specimens brought from that country, i. e. the males collected on Sohyng-ho Lake on Sep. 26 and at Sin-phjöng on Oct. 13, came from fairly large flocks. These birds have been compared with the specimens kept in the collection of the Institute of Zoology, Pol. Acad. of Scs., in Warsaw (♂: 8 Jan. 1887, Ara Sambu, Corea, coll. KALINOWSKI; ♂: 13 March 1878, Ascold, coll. M. JANKOWSKI; ♀: 18 Apr. 1885, Sidemi, Amuria, coll. M. JANKOWSKI, ♂: ? June 187?, Ussuri, coll. DYBOWSKI et GODLEWSKI). All these birds have the same plumage of the back, rump and flanks of body, although, according to VAURIE (1956, 1959b), PORTENKO and VIETINGHOFF-SCHEEL (1978) and MAUERSBERGER (1966), they should belong geographically to two different subspecies with distinctly varying coloration, *Emberiza e. elegans* TEMMINCK, 1835 from the Korean Peninsula and *Emberiza e. ticehursti* SUSCHKIN, 1926 from the Amur and Ussuri regions.

Emberiza rutila PALLAS, 1776. It was encountered only once, namely, a female was taken at the foot of the Kymgang-san Mts. (near the Singyesa shrine)

on Oct. 8. Its measurements: wing — 68 mm, tarsometatarsus — 19 mm, bill — 9 mm.

Emberiza spodocephala PALLAS, 1776. Only one bird was captured in the region of Tesong-ho Lake on Oct. 17. Its measurements: wing — 71 mm, tarsometatarsus — 21 mm, bill — 10 mm, tail — 65 mm, body weight — 19 g. We also received a specimen, taken probably in the region of Phjǽngjang in the second half of September 1978 (its measurements, respectively: 71, 20, 9.5, 63 mm) and identified by workers of the Institute of Zoology, Kor. Acad. of Scs., as *Emberiza spodocephala extremi-orientalis*, which form is regarded as a synonym of the subspecies *Emberiza spodocephala melanops* BLYTH, 1845, and together with this last as a synonym of the nominative form (VAURIE, 1959b). This is also suggested by the lengths of wing and bill.

IV. REMARKS

The materials collected by us cannot constitute a basis for characterizing the whole avifauna of the People's Democratic Republic of Korea. They were gathered in the season of autumn migrations and about 25 per cent of the species found were migrants, which do not belong to the breeding fauna of the Korean Peninsula but nest further to the north, in north-eastern and eastern Asia. On the other hand, many breeding species had already flown off to their winter quarters and we could not observe them. It seems, however, that in view of the data in literature the observations of some species call for a wider commentary. Here we must refer, above all, to AUSTIN's (1948) work, in which he gives data about 355 species on the basis of his own material, collections in Japan, the United States of America and other countries, and a critical review of rich literature up to the forties.

Porzana fusca. In HARTERT's (1903—1922) opinion, its subspecies are distributed from India and Ceylon up to Japan, except Korea; a similar distribution is given by ETCHECOPAR and HUE (1978). VOROB'EV (1954) does not mention this species in his work on the birds of Ussuriland. From the territory of the U.S.S.R. it was first recorded from Sakhalin by GIZENKO (1955) and next in the breeding seasons of 1967—1968 it was observed in the region of Peter the Great Bay by LABZYUK et al. (1971) and in 1970—1971 by NAZAROV and LABZYUK (1975). AUSTIN (1948) mentions only 2 specimens, found in the southern and middle parts of the Korean Peninsula on Oct. 27, 1923 and July 13, 1929. FENNELL and KING (1960), however, observed this species many a time in the Seoul region and WON Pyong-Oh (1969) found it nesting there. Finally, GORE and WON Pyong-Oh (1971) considered this species to be a „summer visitor in small numbers throughout the lowlands”. Thus, it may be assumed that we are concerned with the colonization of the Korean Peninsula and Ussuriland by it in the last 20 years, which has also been proved by the present observation of a specimen on Tesong-ho Lake.

Gallinago solitaria. According to AUSTIN (1948), it is a rare migrant and all the data about it come from the southern Korean provinces. Later observations from the same provinces are presented by FENNELL and KING (1964), while GORE and WON Pyong-Oh (1971) number it among „uncommon passage migrants and winter visitors” in South Korea. NAZARENKO (1971), in turn, mentions the regular wintering of this bird in the „Kedrovaya Pad” reserve (on the western shore of the Amur Bay) and then near the People’s Democratic Republic of Korea. It also winters in the north of Korea (WON Hong Koo, 1956). If we keep this in mind, even though there are no other data published, the observation of the Solitary Snipe at Samdžijŏn in the season of autumn migration is nothing astonishing.

Larus schistisagus. It was not mentioned by AUSTIN (1948) or MACFARLANE (1963). WON Hong Koo (1956) writes about its occurrence in the northern portion of the coast of the Sea of Japan. According to SHUNTOV (1965) it is common in the western part of the Sea of Japan in the season of migrations and wintering, which sea, as shown on the map given by DEMENTEV et al. (1951—1954), is whole an area of wintering of this species. GORE and WON Pyong-Oh’s (1971) data on the occurrence of this species as a „regular visitor in small numbers” on the southern coast of the Korean Peninsula, based on observations carried out since 1965, agree with the above statements. Our observations made at Vŏnsan suggest that the foregoing remarks may be extended over the whole eastern coast of the peninsula.

Dendrocopos kizuki. In TACZANOWSKI’S (1887) opinion, it was common, but AUSTIN (1948) regards it as an „uncommon resident in the central and southern portions of Korea”. It might be assumed that in 1947—1962 it was also rare in the south of the peninsula, for except STRAW (1953) no authors mention it (FENNELL, 1952; FENNELL and KING, 1964; MACFARLANE, 1963; MOYER, 1958; NEFF, 1956; WOLFE, 1950). This notwithstanding, GORE and WON Pyong-Oh (1971) consider it to be a „common resident in the lowlands”. The fact that we observed it twice indicates that it is not a rarity in the lowlands in the northern part of the peninsula, either.

Parus montanus. No doubt the Willow Tit used to be a rare species, or simply it did not occur in the Korean Peninsula at all. This is evidenced by the complete lack of any data in TACZANOWSKI’S (1887, 1888) studies, only slight hints in WON Hong Koo’s (1956, 1958) papers and AUSTIN’S (1948) statement that „the Willow Tit is a straggler in Korea known from two records”. In the light of the data given by PIECHOCKI (1958) it was also a rarity in Manchuria in the fifties. There are no records on this species in reviews of original faunistic observations made in different areas of southern Korea in 1947—1962 and published by different authors (FENNELL, 1952; FENNELL and KING, 1964; MACFARLANE, 1963; MOYER, 1955; NEFF, 1956; STRAW, 1953; WOLFE, 1950), who, on the other hand, mention many other interesting and rare species. WON Pyong-Oh (1977) does not mention it from the sample plots in the pine forests, either. It must however be admitted that some specimens of this species

are kept in the collection of the Institute of Zoology, Korean Acad. of Scs. in Phjöngjang. Both this fact and our present observations may indicate the colonization of at least the northern part of the peninsula by the Willow Tit in the last more than ten years, and they also explain, even though in part, the question posed by VAURIE (1959b), who writes that its „status in Korea is not clear, whether as resident, migrant or rare straggler”.

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STRESZCZENIE

Przedstawione w pracy materiały zostały zebrane podczas sześciotygodniowego pobytu w Koreańskiej Republice Ludowo-Demokratycznej, w dniach od 18. IX. do 31. X. 1978. Miejsca, w których gromadzone były obserwacje, zostały naniesione na mapę (ryc. 1). Obejmowały one rozmaite środowiska: od Morza Japońskiego i Morza Żółtego, poprzez 3 różne jeziora zaporowe, góry na południu kraju w podzwrotnikowej strefie roślinności (m. in. Góry Diamentowe), po górska tajgę na północy (fot. 1—6). Materiały pochodzą głównie z obserwacji wizualnych. Dodatkowo dokonywaliśmy odłowów sie-

ciowych. Wszystkim chwytanym ptakom mierzono długość skrzydła złożonego, skoku, dzioba i ogona i ważono je. W przypadku niektórych gatunków brane były też i inne pomiary: szerokość dzioba u nasady *Muscicapa latirostris* i wysokość dzioba *Paradoxornis webbiana*. Wyniki pomiarów przedstawione są przy omawianiu poszczególnych gatunków (w przypadkach, gdy dysponowaliśmy większymi seriami — tabelarycznie). Tam, gdzie zebrane materiały na to pozwalały, ustalono przynależność podgatunkową.

Łącznie zebrane materiały dotyczą 86 gatunków ptaków. Ze względu na porę roku (okres jesiennej wędrówki), ok. 25% z listy stwierdzonych gatunków stanowią ptaki przelotne, gnieźdzące się w północnej lub północno-wschodniej Azji. Niektóre z obserwowanych gatunków należały do rzadkości faunistycznych (np. *Motacilla lutea taivana*), bądź też ich status na Półwyspie Koreańskim był nie wyjaśniony. Stwierdzenia innych gatunków można wiązać z ogólniejszymi zmianami rozsiedlenia tych ptaków na Dalekim Wschodzie. Do tej ostatniej grupy zaliczyć można *Porzana fusca* i *Parus montanus*.

Redaktor pracy: prof. dr M. Młynarski

Plate IV

- Phot. 1. A thicket at the foot of Sujun-san Mt. and *Cyanopica cyanea* flying over it
 Phot. 2. A young wood in the neighbourhood of Sohyng-ho Lake, where *Dendrocopos kizuki* was captured



Phot. 1



Phot. 2

Plate V

Phot. 3. The place of mist-netting at the foot of the Kymgang-san Mts.

Phot. 4. Taiga on Samdžijön Lake, feeding grounds of *Turdus naumanni*



Phot. 3



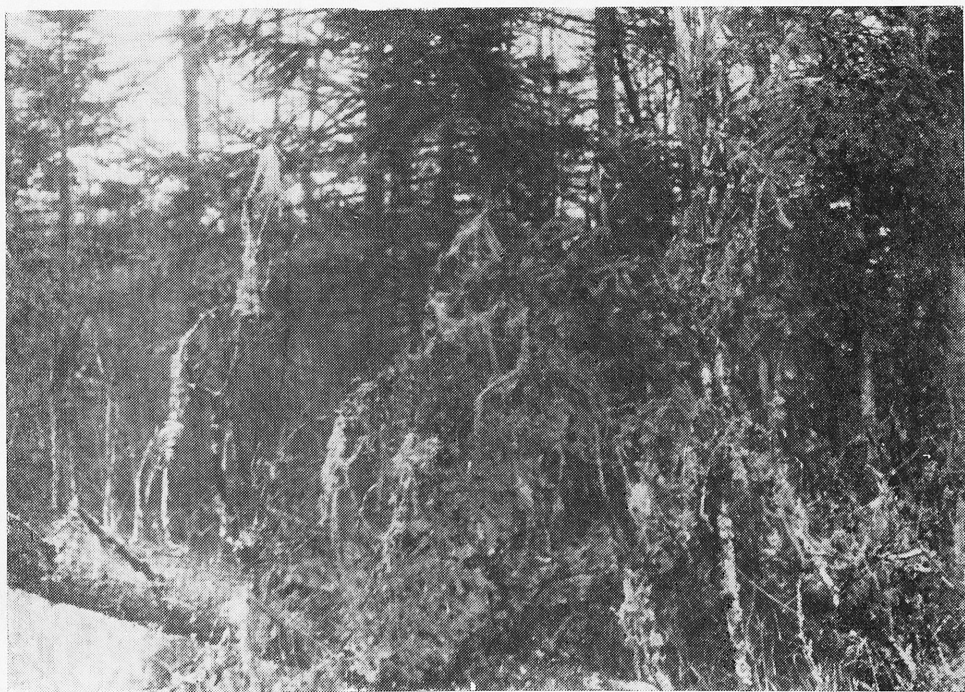
Phot. 4

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Plate VI

Phot. 5. Taiga interior in the region of Samdžijön

Phot. 6. The region of the timber line in the larch taiga on Pektusan Mt.



Phot. 5



Phot. 6

Z. Bocheński, T. Oleś, T. Tomek