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POLSKA AKADEMIA NAUK
ZAKŁAD ZOOLOGII SYSTEMATYCZNEJ I DOŚWIADCZALNEJ

ACTA ZOOLOGICA
CRACOVIENSIA

XXVII
(Pars I)
1—11

PAŃSTWOWE WYDAWNICTWO NAUKOWE
WARSZAWA—KRAKÓW 1984

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Adres redakcji: Zakład Zoologii Systematycznej i Doświadczalnej
Polskiej Akademii Nauk, ul. Sławkowska 17, 31-016 Kraków
Address of the Editor: Institute of Systematic and Experimental Zoology,
Polish Academy of Sciences, Sławkowska 17, 31-016 Kraków, Poland

Redaktor PWN
Maria Kaniowa

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ISBN 83-05154-X
ISSN 0065-1710

Zbigniew SZYNDLAR

**A description of a small collection of amphibians and reptiles
from the People's Democratic Republic of Korea with notes
on the distribution of the herpetofauna in that country**

[With plates I—III and 5 text-figs]

Opis małej kolekcji płazów i gadów z Koreańskiej Republiki Ludowo-Demokratycznej
z uwagami na temat rozmieszczenia herpetofauny w tym kraju*

Abstract. A small collection of amphibians and reptiles gathered by the author during an expedition to the People's Democratic Republic of Korea in the spring of 1980 is described. The collection comprises the following species: *Hynobius leechii*, *Bombina orientalis*, *Hyla arborea*, *Rana nigromaculata*, *Rana rugosa*, *Rana temporaria*, *Fremias argus*, *Takydromus amurensis*, *Takydromus wolteri*, *Rhabdophis tigrinus*, *Elaphe dione*, *Elaphe rufodorsata*, *Agkistrodon blomhoffi* and *Agkistrodon saxatilis*. A description of the distribution of all the members of the herpetofauna in North Korea, made up on the basis of available literature, is added.

I. INTRODUCTION

The materials described in this paper were collected by the author during a zoological expedition to the People's Democratic Republic of Korea, organized by the Institute of Systematic and Experimental Zoology, Polish Academy of Sciences, in Cracow from 19 May to 17 June 1980. They include also more than ten specimens taken in the course of the ornithological expedition to North Korea organized by the same institute and directed by Assist. Prof. Zygmunt BOCHENSKI in 1978. The collection presented, comprising 6 amphibian and 8 reptilian species, comes from 10 localities in different regions of that country. It consists of 95 specimens; moreover, 36 animals were brought to Poland alive from the expedition in 1980.

The North Korean herpetofauna is poorly known out of the boundaries of that country. The last foreign studies containing descriptions

* Praca wykonana w ramach Problemu MR.II.3.

of amphibians and reptiles of this part of Korea were based on the materials collected during the Korean War in 1950—1953 (e.g. SHANNON, 1956), whereas the Korean works do not go beyond the state frontiers of North Korea. In this connection the present paper contains — in addition to the description of the materials collected — a full list of amphibians and reptiles of the People's Democratic Republic of Korea with the data concerning their distribution on the basis of the local sources (WON, CHOY, 1967; WON, 1971).

Here I wish to express my heartfelt thanks to Dr. RIM Chu Yon (Inst. Zool., Korean Acad. Sci., Pyongyang), Dr. Teresa TOMEK and Dr. Adam NADACHOWSKI (Inst. Syst. & Exp. Zool., Polish Acad. Sci., Cracow) for their valuable help with collecting herpetological materials in the field. I am greatly indebted to Mr CHOY Hen Do (Korean Acad. Sci., Pyongyang) for his translation of WON's (1971) work from the Korean language. I also warmly thank Dr. Sen TAKENAKA (Univ. Tsukuba, Ibakari) and Dr. Harlan D. WALLEY (North Illinois Univ., De Kalb) for their disinterested help in the gathering of indispensable literature.

II. LOCALITIES AND METHODS

Materials were collected at the following localities in 1980:

Taesong-san. A wooded mountain within the limits of the capital of the country, Pyongyang (22 May).

Sunan. A town in the Pyongyang District.

Taesong-ho. A dam lake halfway between Pyongyang and the coast of the Yellow Sea (South Pyongan Province). Catches were carried out in the area of rice fields situated in a narrow gorge west of the lake (Phot. 1) (24 May, 8 and 9 June).

Myohyang-san. A mountain (1909 m a.s.l.) near a little town Hyangsan on the borderline between the provinces Chagang and North Pyongan. Catching was done along this wooded mountainous massif (25—28 May).

Suyang-san. A mountain north of the town of Haeju, the capital of the South Hwanghae Province (31 May).

Hyesan. The capital of the Ryanggang Province. Material was taken in a gorge, about 1000 m a.s.l., by the River Tuman-gang (China boundary) north-east of Hyesan (1 June).

Samjiyon. A lake situated about 1350 m a.s.l., north of the town of the same name, in the taiga (Phot. 2) at the foot of the volcano of Paekdu-san, 2744 m a.s.l. (Ryanggang Province, 2—6 June).

Kumgang-san. A mountain chain by the Japanese Sea, in the Kangwon Province. The materials come from several separate sites (10—13 June).

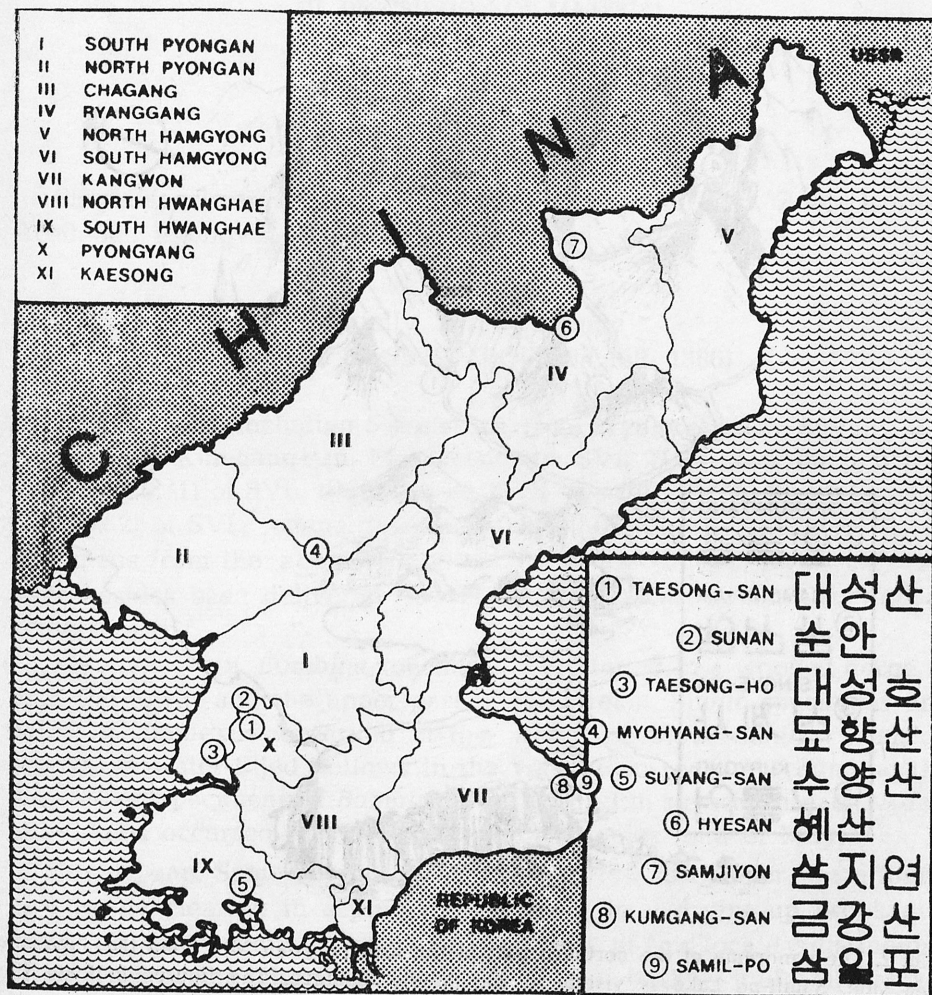


Fig 1. People's Democratic Republic of Korea. The map shows the localities (Arabic numerals) and the division of the country into provinces (Roman numerals)

Oe-Kumgang. A group of hotels by hot springs, several kilometres south of the town of Kosong.

Samson-am. A group of rocks. Catches were carried out in a wooded mountainous gorge bordering upon the rocks (Phot. 3).

Singye-sa. The ruins of a buddhist temple in a partly wooded area, several kilometres south-west of the hotel at Oe-Kumgang.

Kuryong. Waterfall (Phot. 4). The material was collected in a nearby gorge.

Samil-po. A lake situated between the massif of the Kumgang-san Mts. and the coast of the Japanese Sea. The specimens were captured in the rice fields by the western shore of the lake.

Figures 1 and 2 show the situation of all these localities. In order to

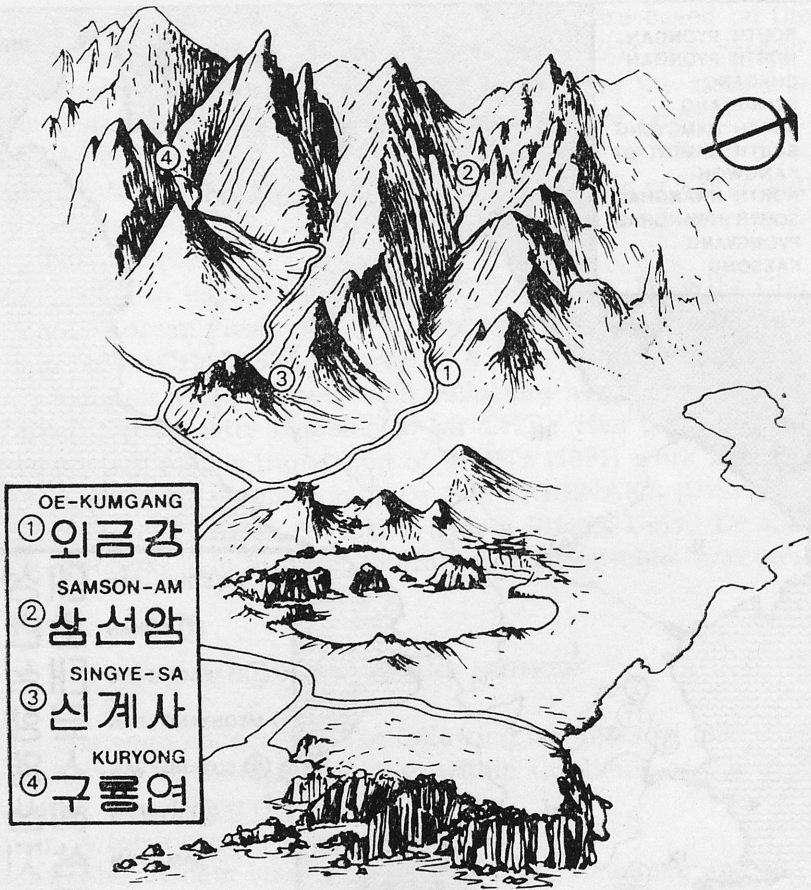


Fig. 2. The panorama of the northern part of the Kungang-san Mts. from the Japanese Sea side. Samil-po Lake is visible at the middle distance. The figures indicate the localities

avoid any misunderstandings all the names of localities are given on the map both in the English transcription and in the Korean alphabet.

For the data concerning the localities here unmentioned, where the specimens collected by the above-named ornithological expedition in 1978 come from see BOCHENSKI et al. (1981).

All the specimens were caught with the hand in the field and preserved in ethyl alcohol. Two specimens were delivered to the Butantan Institute at S. Paulo. Skeletons were prepared from nine specimens. Determinations in the field were based on the key to the amphibian and reptilian fauna of the U.S.S.R. (BANNIKOV et al., 1977). The measurements given in the text are to an accuracy of 1 mm and in cases of small species to 1 mm.

III. DESCRIPTION OF MATERIAL

Family *Hynobiidae*
Hynobius leechii BOULENGER, 1887

Single specimen of unknown derivation, ex coll. Inst. Zool., Korean Acad. Sci., Pyongyang. Measurements: SVL 51, tail 46.

Family *Discoglossidae*
Bombina orientalis (BOULENGER, 1886)

27 specimens, including 5 skeletons, from Myohyang-san, Suyang-san, Hyesan and Kungang-san. Measurements: SVL 27.9—51.7, femur 0.37—0.45 ($\bar{X} = 0.41$) of SVL; tibia 0.12—0.22 ($\bar{X} = 0.40$) of SVL; foot 0.54—0.70 ($\bar{X} = 0.62$) of SVL; femur: tibia ratio 0.91—1.02 ($\bar{X} = 1.00$). Thirty living specimens from the above-mentioned localities except Myohyang-san, have besides been delivered to the Inst. Compar. Anat., Jagellonian Univ., Cracow.

Myohyang-san. *Bombina* specimens were found in a wooded gorge in both the lower and the upper part of the stream. Single specimens and pairs in amplexus observed in the water of slow-running roadside brooks. In water-filled hollows in the very steep rocks surrounding the stream-bed specimens of *Bombina* were met with, several in each. Adult individuals occurred there together with tadpoles (end of May).

Suyang-san. Some specimens of *Bombina*, few in number, were found in a bushy clearing in a pine forest, partly in a drying-up brook and partly on the swampy ground. The specimens of this locality distinguish themselves by the characteristic colour of their back — uniformly brown or with brown-green patches (in other localities the back of *Bombina* is always green in colour).

Hyesan. Several specimens were captured in a stream at the edge of a larch wood (together with *Rana temporaria*) and on the gorge wall overgrown by thick bushes.

Kungang-san. Exceedingly numerous everywhere along the mountainous streams, especially in the lower lying regions of the mountains. Particularly large aggregations of these animals were observed in the partly brick-walled stream in the proximity of the hotel at Oe-Kungang. Single specimens were seen on the very steep rocks surrounding the beds of the streams in the higher parts of the mountains, e.g. above the Samson-am rocks. In the large rocky basins these animals were missing or occurred sporadically. Single specimens were, in addition, observed in small pools situated near the rice fields by Samil-po Lake, far from the mountains.

Family *Hylidae**Hyla arborea japonica* GUENTHER, 1858

4 specimens from Taesong-san and Samil-po. Measurements: SVL 26.3—38.4; femur 0.44—0.49 of SVL; tibia 0.42—0.46 of SVL; foot 0.66—0.75 of SVL; femur: tibia ratio 1.03—1.07.

Taesong-san. Two juvenile specimens were found hidden in a hole in an oak tree in the wooded part of the hill, below its summit.

Samil-po. Two specimens were captured in the high grass between a rice field and a wooded hill slope.

Family *Ranidae**Rana nigromaculata* HALLOWELL, 1860

16 specimens (including 1 coll. BOCHENSKI et al., 1978) from Taesong-ho and Samil-po. Measurements: SVL 33—73; femur 0.45—0.77 (\bar{X} = 0.51) of SVL; tibia 0.43—0.52 (\bar{X} = 0.49) of SVL; foot 0.75—0.88 (\bar{X} = 0.80) of SVL; femur: tibia ratio 0.89—1.05 (\bar{X} = 0.99).

Taesong-ho. These frogs abounded in the water of rice fields, on the dikes between them and in the adjoining meadows. Tadpoles were observed in the water of rice fields on 24 May and they were already absent from it on 9 June.

Samil-po. It occurred here similarly numerously in rice fields together with other frog species, *Rana rugosa* and *R. temporaria*.

Rana rugosa SCHLEGEL, 1838

6 specimens (including 2 coll. BOCHENSKI et al., 1978) from Samil-po and Sohung-po. Measurements: SVL 22.0—29.0; femur 0.45—0.48 of SVL; tibia 0.50—0.51 of SVL; foot 0.72—0.78 of SVL; femur: tibia ratio 0.89—0.95.

Samil-po. One specimen was found in the water of a rice field, close to the edge and 3 in a shallow pool nearby.

The remaining two specimens come from a stream opening into Sohung-ho Lake near the town of Sariwon in the North Hwanghae Province (see BOCHENSKI et al., 1981).

Rana temporaria chensinensis DAVID, 1875

3 specimens from Hyesan and Samjiyon. Measurements: SVL 50—69; femur 0.48—0.52 of SVL; tibia 0.54—0.58 of SVL; foot 0.72—0.80 of SVL; femur: tibia ratio 0.86—0.90.

All these specimens were taken in the uplands in the north of the country. Two frogs were caught in a stream flowing in a larch wood (to-

gether with *Bombina orientalis*), north-east of Hyesan and one in a high moor in the taiga near Samjiyon.

Rana temporaria ornativentris WERNER, 1904

7 specimens from Myohyang-san, Oe-Kumgang and Samil-po. Measurements: SVL 36—49; femur 0.44—0.52 ($\bar{X} = 0.48$) of SVL; tibia 0.50—0.57 ($\bar{X} = 0.54$) of SVL; foot 0.78—0.91 ($\bar{X} = 0.83$) of SVL; femur: tibia ratio 0.89—0.93 ($\bar{X} = 0.90$).

Myohyang-san and Oe-Kumgang. One specimen was caught in the forest after dark in each of these localities.

Samil-po. The frogs were captured in the water in rice fields in the daytime.

Note. The subspecific division applied here of *Rana temporaria* from Korea into the northern high-mountain form *chensinensis* and the form inhabiting lower regions *ornativentris* has been adopted after OKADA (1966) and WON (1971). This division seems well grounded, since, in addition to the environmental separation, these two groups of frogs are distinctly morphologically differentiated. It should however be mentioned that most authors assume only one subspecies, i.e. *dybowskii* GUENTHER, for the Korean *R. temporaria*.

Family Lacertidae

Eremias argus PETERS, 1869

One specimen, male, from Taesong-ho. Measurements: SVL 48, tail 54, head width 7.5 i.e. 0.16 of SVL, dorsal scales at midbody 65, femoral pores 9—9.

This lizard was caught at the sandy roadside near a wood.

Takydromus amurensis PETERS, 1881

11 specimens (including 4 coll. BOCHENSKI et al., 1978) from Singye-sa, Samson-am and Kuryong. Measurements: SVL 26—59 tail 1.69—2.41 ($\bar{X} = 2.02$) of SVL (7 specimens); head width 0.14—0.19 ($\bar{X} = 0.15$) of SVL; dorsal scales at midbody 26—32; femoral pores 2—2 (1 specimen), 3—3 (7) and 4—4 (3).

These lizards were collected both in a bushy area at the foot of the mountains (Singye-sa) and higher in mountainous gorges. In the region of the Samson-am rocks the lizards occurred chiefly in the rock rubble between the path and the wooded slope. In the region of the Kuryong Waterfall they were caught on large flat blocks of rock by the bed of a stream.

Note. It is interesting that despite small distances between particular si-

tes at Kumgang-san the specimens taken from them show distinct morphological differences. One of the two specimens caught at the Kuryong Waterfall distinguishes itself by having an additional scute between the prefrontal scutes (Fig. 3: 1—3), whereas this is absent from typical forms (Fig. 3: 4—5). Two males from Samson-am are characterized by the very slim structure of body and extremely elongated head (Fig. 3: 6). As can be seen from the above data, several specimens deviate in the number of femoral pores — 2—2 and 4—4 — from the normal: 3—3.

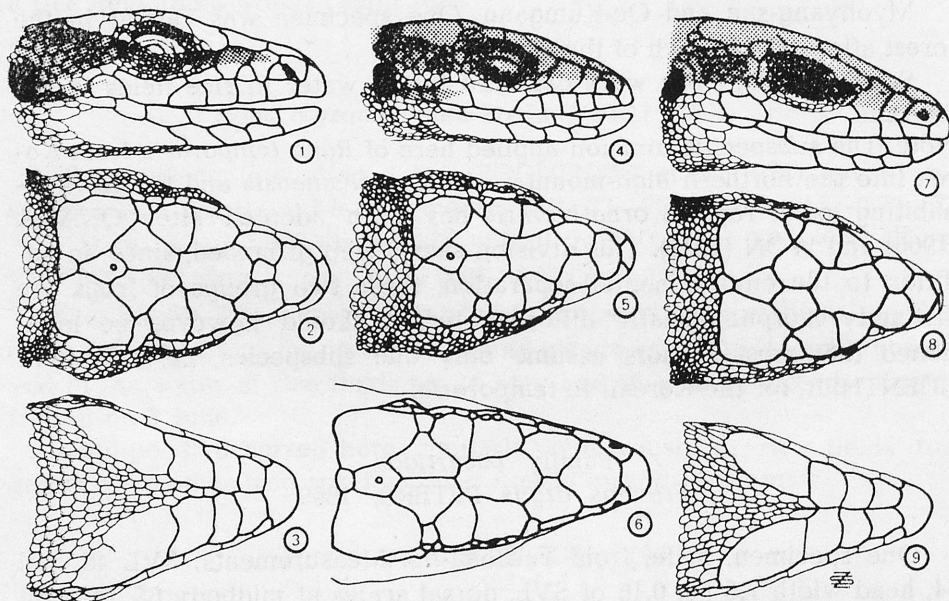


Fig. 3. 1—6: *Takydromus amurensis* PETERS, 1881; 1—3. The specimen from the Kuryong Waterfall region; 4—5 and 6. Two specimens from the area of the Samson-am Rocks. 7—9. *Takydromus wolteri* FISCHER, 1885, specimen from Suyang-san

Takydromus wolteri FISCHER, 1885

4 specimens from Sunan and Suyang-san (Fig. 3: 7—9). Measurements: SVL 47—54; tail 2.39—2.49 of SVL (2 specimens); head width 0.12—0.15 of SVL; dorsal scales at midbody 28—34; femoral pores 1—1.

Sunan. One specimen, captured in the neighbourhood of the airport, was provided by Dr RIM.

Suyang-san. Three specimens from a bushy clearing (southern exposure) in a pine forest.

Family Colubridae

Rhabdophis tigrinus lateralis (BERTHOLD, 1859)

6 specimens, including 2 skeletons (one coll. BOCHENSKI et al., 1973) from Taesong-ho and Myohyang-san. Measurements: overall length 723—926; SVL 566—757; tail 0.18—0.22 of overall length; dorsal scales in 20—19—17 rows; ventrals 153—177; subcaudals 56—66. Moreover, 2 living specimens from Taesong-ho are bred by the author.

Taesong-ho. Large numbers of these snakes occurred together with *Agkistrodon blomhoffi* in small meadows round the rice fields. They were never found present on the dikes between particular fields, these being inhabited by *Elaphe rufodorsata*. Similar habitats in the proximity of rice fields near Samil-po Lake were also occupied by *R. tigrinus* (one specimen was caught but then escaped).

Myohyang-san. One specimen was captured in a thin scrub by a stream at the foot of the mountain range.

One of the specimens bred laid 27 eggs in three successive broods (2 + 13 + 12) from about 10 June to 18 July. After 35 days of incubation 3 living young snakes of the second brood hatched successfully (SURA, 1981).

Elaphe dione (PALLAS, 1773)

One male from Myohyang-san. Measurements: overall length 691; SVL 562; tail 0.18 of overall length; dorsal scales in 34—25—19 rows; ventrals 201; subcaudals 68.

This snake was caught in a hiding-place under big rock blocks in a large clearing exposed to the sun's rays in a valley at the foot of the mountains. Some lizards (?*Takydromus*) were found present in the same area and *Rhabdophis tigrinus* in the nearby scrub.

Elaphe rufodorsata (CANTOR, 1842)

5 specimens, including 2 skeletons, from Taesong-ho and Samil-po. Measurements: overall length 640—732; SVL 538—611; tail 0.15—0.17 of overall length; dorsal scales in 21—21—17 rows; ventrals 178—179; subcaudals 49—52. Besides, 4 living specimens from Taesong-ho and Samil-po have been delivered to Mr Piotr SURA, Medical Academy, Cracow.

Taesong-ho. This species was extremely numerous on the high dikes, overgrown by lush grass, between rice fields and also in the meadows adjacent to the fields. The water of the rice fields abounded in frogs *Rana nigromaculata* and a frog of this species was found in the stomach of one of the snakes, soon after its being swallowed.

Samil-po. Here it was also numerous in rice fields and often seen in water.

All the above-mentioned living specimens were pregnant and, brought to Poland, gave birth to 7 young ones each in September or October (SURA, 1981).

Family *Viperidae*

Agkistrodon blomhoffi brevicaudus STEJNEGER, 1907

2 males from Taesong-ho. Measurements: overall length 549 and 480; SVL 498 and 427; tail 0.09 and 0.11 of overall length; dorsal scales in 23—21—17 rows; ventrals 134 and 136; subcaudals 27 and 32.

Both these specimens were caught in the vicinity of a rice field near Taesong-ho Lake, one in the grass of a small meadow and one in brushwood near the forest.

Agkistrodon saxatilis EMELIANOV, 1937, sensu GLOYD, 1972

One male from Singye-sa (Fig. 4). Measurements: overall length 563; SVL 527; tail 0.06 of overall length; dorsal scales in 26—23—17 rows; ventrals 152; subcaudals 43.

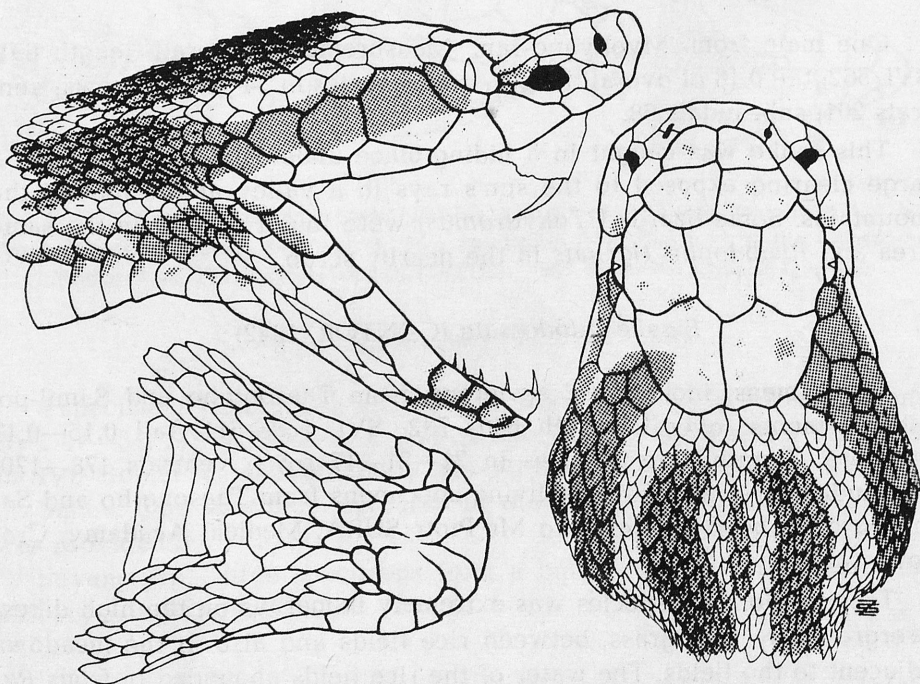


Fig. 4. *Agkistrodon saxatilis* EMELIANOV, 1937 — specimen from Singye-sa in the Kumgang-san Mts.

This snake was captured in a thicket between the path leading to the Kuryong Fall and the stream bed, west of Singye-sa. Remains of *Agkistrodon*, probably belonging to the same species, were in addition found much higher, near the Kuryong Fall.

Note. The determination of this snake to specific level (*saxatilis*) was performed in accordance with the new views on the systematic classification of the Korean pit-vipers (GLOYD, 1972).

IV. NOTES ON THE DISTRIBUTION OF THE HERPETOFAUNA IN THE TERRITORY OF THE PEOPLE'S DEMOCRATIC REPUBLIC OF KOREA

Korea is inhabited by 31 amphibian and reptilian species, of which 28 occur in the area of the People's Democratic Republic of Korea (the figures have been calculated by the author on the basis of the whole of literature cited; the subspecies have been excluded).

The whole area of the Korean Peninsula lies within the zoogeographical Manchurian Province, which belongs to the Palearctic, and then most of the Korean species are also met with in adjacent Manchuria in north-eastern China (see Fig. 5): they are 26 altogether, of which 25 species in the P. 's D.R. of Korea, the microhylid frog, *Kaloula borealis* (BARBOUR, 1908), restricted to the south-western part of the Korean Republic and Cheju (Quelpart) (SHANNON, 1956; WON, 1971), being omitted. It is worth while considering two of the species mentioned, namely *Hynobius keyserlingi* (DYBOWSKI, 1870) and *Vipera berus* (LINNAEUS, 1758), as a separate category; they are outstandingly boreal forms which live chiefly in the vast area of the Palearctic Eurosiberian Province and enter the Manchurian Province only at the peripheries of their ranges (BANNIKOV et al., 1977).

The part of Korea situated farthest to the north is more than 500 km away from the Eurosiberian Province, while the boundary with the Indo-chinese Province of the Oriental Region runs considerably nearer and, in consequence, the proportion of southern elements in the local herpetofauna is greater than that of the typical northern forms.

Four specimens penetrate into Korea (but not Manchuria) from the Oriental Region: *Lygosoma reevesi* (GRAY, 1838), living in Burma, Indochina and southern China (SMITH, 1935), *Chinemys reevesi* (GRAY, 1831), inhabiting the area from south-eastern China to Japan (SMITH, 1931), *Elaphe taeniura* COPE (1860) (its occurrence in Korea is doubtful!), distributed in south-eastern Asia (SMITH, 1943) and *Gekko japonicus* (DUMÉRIL et BIBRON, 1836) from southern China and Japan, including the Ryukyu Is. (WERMUTH, 1963). The occurrence of this last species is confined only to the south-eastern part of South Korea (WON, 1971). The presence in Korea of *Takydromus tachydromoideus* (SCHLEGEL,

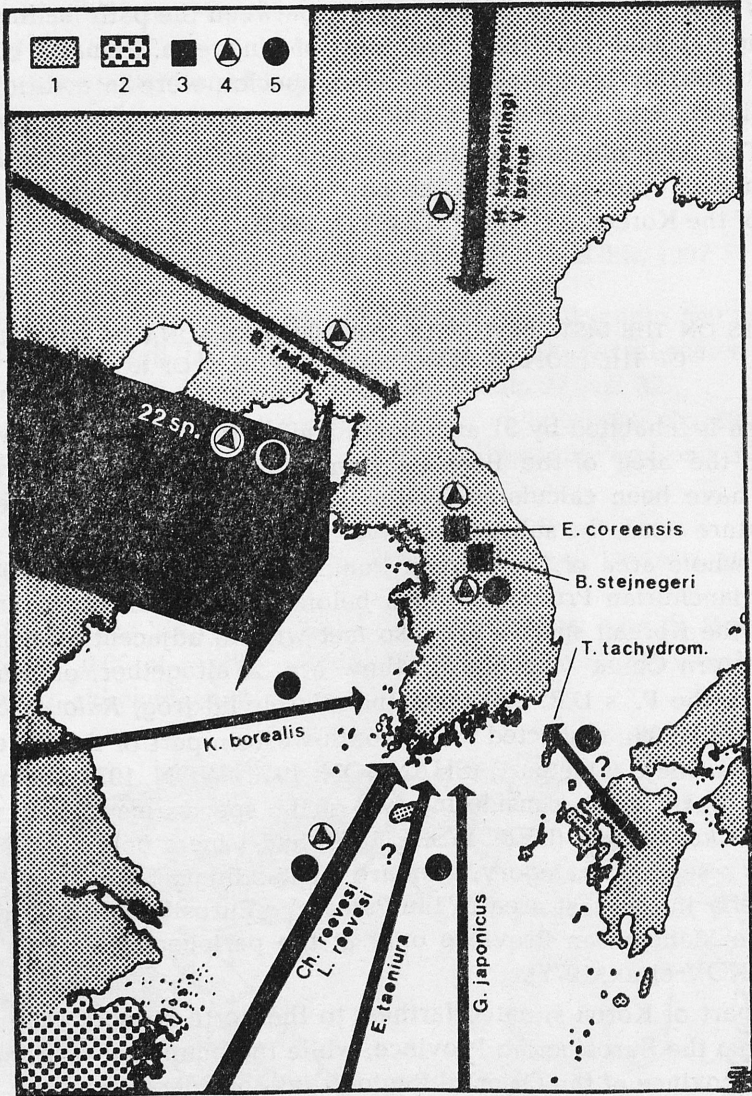


Fig. 5. The proportions of the Palearctic and the Oriental species in the herpetofauna of the Korean Peninsula. Explanation: 1 — Manchurian Province (Palearctic Region), 2 — Indochinese Province (Oriental Region), 3 — endemic species, 4 — species living in the People's Democratic Republic of Korea, 5 — species living in the Republic of Korea, ? — the presence of this species in Korea uncertain. The thickness of arrows corresponds with the number of species (for comment see Section IV)

1838), known from the Japanese Kyushu and Tsushima Is. (BOULENGER, 1921) is called in question both by SHANNON (1956) and by WON (1971), although WALLEY (1958a) confirmed its occurrence, describing a new subspecies of this lizard from the Seoul region. At any rate it has not been recorded from North Korea.

At last, Korea is inhabited by two endemites, which have a very small range, *Bufo stejnegeri* SCHMIDT (1931) and *Eumeces coreensis* OKADA (1937), of which the last is confined only to North Korea.

Here follows a survey of all the members of the herpetofauna of the People's Democratic Republic of Korea. It is given, above all, in order to present to other herpetologists the results of work of the late Prof. WON Hong Koo, an outstanding zoologist, on the distribution of the Korean herpetofauna, these results, as much indicates, being unknown out of that country.

Family *Hynobiidae*. Three species. *Hynobius leechii* BOULENGER (1887) and *Onychodactylus fischeri* (BOULENGER, 1886) are common in mountain forests throughout the country. The latter was captured in the North Hamgyong, Ryanggang, Kangwon and North Hwanghae Provinces. *Hynobius keyserlingi* (DYBOWSKI, 1870), a distinctly northern species from Siberia, inhabits only the high regions of the mountains in the north of Korea (WON, 1971). This agrees with SHANNON's (1956) earlier suppositions that this species may penetrate into Korea from adjacent Manchuria.

Family *Discoglossidae*. *Bombina orientalis* (BOULENGER, 1886) occurs in the mountain forests all over Korea (WON, 1971).

Family *Bufo*. Three species. *Bufo bufo* (LINNAEUS, 1758) has been reported from the urban districts of Pyongyang and Kaesong and from the North Hwanghae and North Pyongan Provinces (WON, 1971) as well as from Wonsan in the Kangwon Province (SHANNON, 1956). WON (1971) mentions also *B. raddei* STRAUCH (1876), inhabiting the valley of the River Amnok-gang (Yalu River), the borderline with China (North Pyongan Province). *Bufo stejnegeri* SCHMIDT (1931) is added to the list of the North Korean herpetofauna on the basis the recently published redescription (MATSUI, 1980) of this endemic toad.

Family *Hylidae*. *Hyla arborea* (LINNAEUS, 1758) is reported from all over Korea (WON, 1971).

Family *Ranidae*. Five species. *Rana nigromaculata* HALLOWELL (1860), *R. plancyi* LATASTE (1880), *R. rugosa* SCHLEGEL (1838) and *R. temporaria* LINNAEUS (1758) are distributed throughout that country. *R. amurensis* BOULENGER (1886) is limited to the south-eastern part of North Korea, being mentioned from the Pyongyang region and the South Pyongan and North Hwanghae Provinces (WON, 1971).

Family *Testudinidae*. *Chinemys reevesi* (GRAY, 1831) occurs in the lowlands of the south part of North Korea; it has been recorded from the Kangwon and South Hwanghae Provinces (WON, 1971).

Family *Trionychidae*. *Trionyx sinensis* WIEGMANN (1835) inhabits the rivers of the whole country except the mountainous areas (WON, 1971).

Family *Lacertidae*. Three species. *Eremias argus* PETERS (1869) is

known all over the country. *Takydromus amurensis* PETERS (1881) is common throughout the peninsula and was captured in the following provinces: Ryanggang, South Hamgyong, Kaesong, Kangwon, North Pyongan, North Hamgyong and South Hwanghae. *T. wolteri* FISCHER (1885) is reported from the provinces Kaesong, South Hwanghae, South Pyongan and Kangwon (WON, 1971). The other two species of this genus, described from the Seoul region, *T. auroralis* DOI (1929) and *T. kwangskuensis* DOI (1919) have been recognized by WALLEY (1958b, 1962) as synonymous with the species *T. amurensis*.

Family *Scincidae*. Two species. *Lygosoma (Leiolopisma) reevesi* (GRAY, 1838) occurs in the whole territory of Korea. It was taken in the provinces Ryanggang, Kangwon, South Hwanghae and Kaesong (WON, 1971). *Eumeces coreensis* OKADA (1937), endemic in Korea, is mentioned by WON (1971) exclusively from the North Pyongan Province in the north-western part of the People's Democratic Republic of Korea, including the islands in the Gulf of Korea, and then from the region from which it was described by OKADA. Nevertheless, the author had the possibility of seeing 2 specimens of *E. coreensis* (in the collection of the Institute of Zoology, Korean Acad. Sci., Pyongyang) captured at Aedog in the South Pyongan (the date of catching not given) and so somewhat further to the south of the traditionally accepted range.

Family *Colubridae*. Eight species altogether. *Elaphe rufodorsata* (CANTOR, 1842), *E. schrencki* (STRAUCH, 1873), *E. dione* (PALLAS, 1773) and *Dinodon rufozonatum* (CANTOR, 1842) live all over the country; *Zamenis spinalis* (PETERS, 1866) and *Rhabdophis tigrinus* (BOIE, 1826), also distributed throughout Korea, occur in lowlands (WON, 1971), and so does *Amphiesma vibakari* (BOIE, 1826) (MALNATE, 1962; WON, 1971). Both SHANNON (1956) and WON (1971) have doubts about the presence of the Oriental snake *Elaphe taeniura* COPE (1860) in the Korean Peninsula, where it is known from only one find. BANNIKOV et al. (1977) however mention it from the U.S.S.R. region neighbouring upon North Korea, but also on the basis of only one specimen. KOBA (1941) names this species among the snakes of Manchuria.

Family *Viperidae*. Four species. *Vipera berus* (LINNAEUS, 1758), the only member of true-vipers, inhabits exclusively the forests in the high mountains of the northern part of North Korea (WON, 1971). KOBA (1941) states the presence of this viper in Manchuria. In the U.S.S.R. *V. berus* lives in the Far East and all over the island of Sakhalin, but it does not reach the boundary of the People's Democratic Republic of Korea (BANNIKOV et al., 1977). The East-Asiatic pit-vipers were usually described from Korea, especially in studies by American authors (SHANNON, 1956; DIXON, 1956; WEBB et al., 1962) and also in the key by WON (1971) as one subspecies, *Agkistrodon halys brevicaudus* STEINEGER (1907). The Russian investigators (BANNIKOV et al., 1977) accept the

division of the pit-vipers inhabiting the Soviet Far East and Manchuria into *A. halys* (PALLAS, 1775) and *A. blomhoifi* (BOIE, 1826) (and so do WON and CHOY, 1967). In the seventies the systematics of the Asiatic crotaline snakes underwent a radical change in consequence of several studies by GLOYD (1972, 1977, 1978). According to GLOYD's (1972) new system, the Korean Peninsula, including the People's Democratic Republic of Korea, is inhabited by 3 species of these animals: *A. blomhoifi* (BOIE, 1826), *A. caliginosus* GLOYD (1972) and *A. saxatilis* EMELIANOV (1937)*.

Translated into English
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* According to current studies of HOGЕ and ROMANO-HOGЕ (1981) a new generic name, *Gloydus* instead *Agkistrodon*, has been proposed for Korean species of pit-vipers.

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Attention!

See also the Addendum on the back side of Plate III

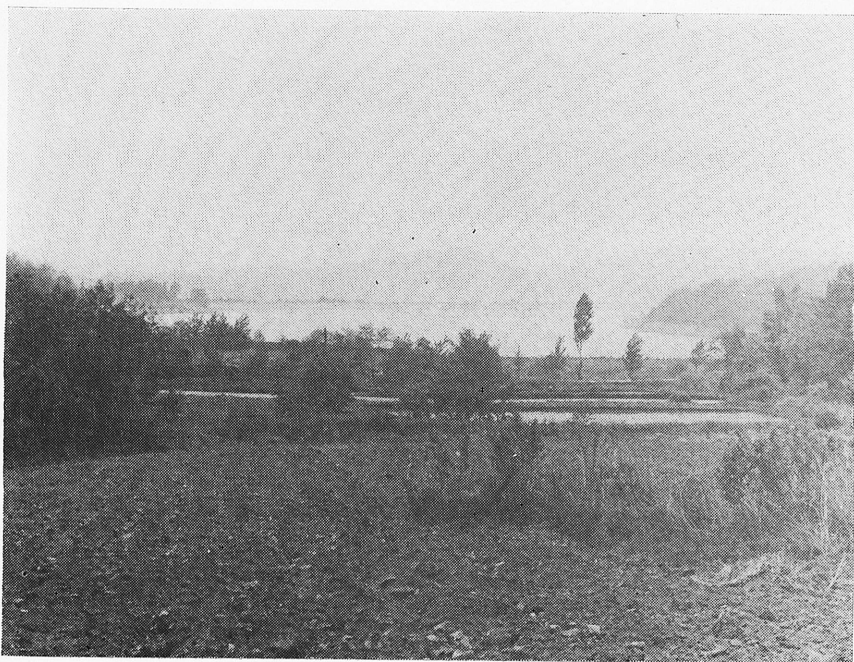
STRESZCZENIE

W niniejszej publikacji przedstawiono krótki opis liczącej 95 okazów kolekcji płazów i gadów, zebranej przez autora podczas pobytu w Koreańskiej Republice Ludowo-Demokratycznej od 19 maja do 17 czerwca 1980. Okazy pochodzą z 10 stanowisk, położonych w różnych częściach kraju (fig. 1 i 2). Kolekcja obejmuje 6 gatunków płazów: *Hynobius leechii*, *Bombina orientalis*, *Hyla arborea*, *Rana nigromaculata*, *Rana rugosa* i *Rana temporaria*, oraz 8 gatunków gadów: *Eremias argus*, *Takydromus amurensis*, *Takydromus wolteri*, *Rhabdophis tigrinus*, *Elaphe dione*, *Elaphe rufodorsata*, *Agkistrodon blomhoffii*, *Agkistrodon saxatilis*. W pracy umieszczono ponadto, sporządzoną głównie w oparciu o źródła północnokoreańskie, pełną listę herpetofauny K.R.L.-D. wraz z ich rozsiadaniem na terytorium tego kraju.

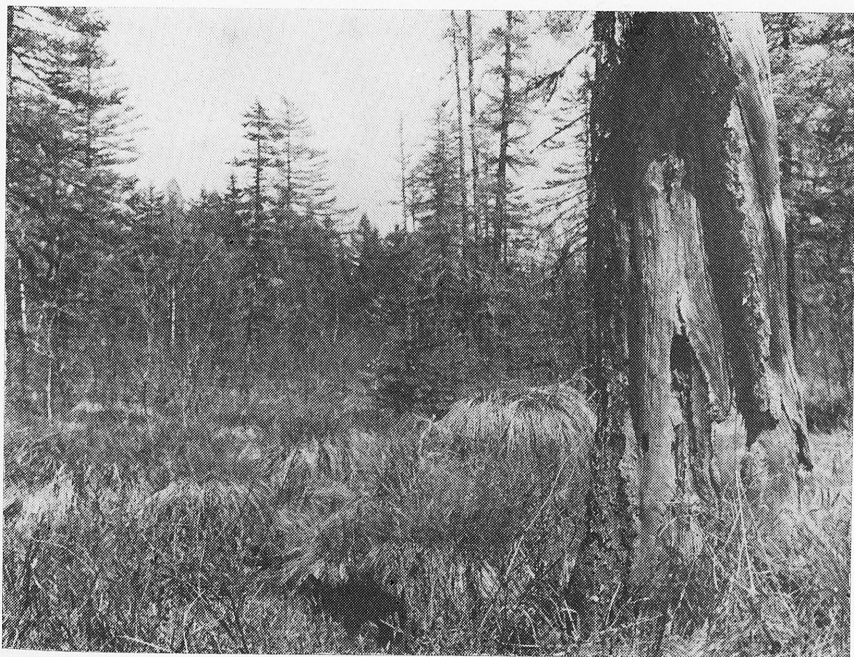
Redaktor pracy: prof. dr Z. Bocheński

Plate I

- Phot. 1. Rice fields near Taesong-ho Lake
 Phot. 2. Taiga in the region of Samjiyon



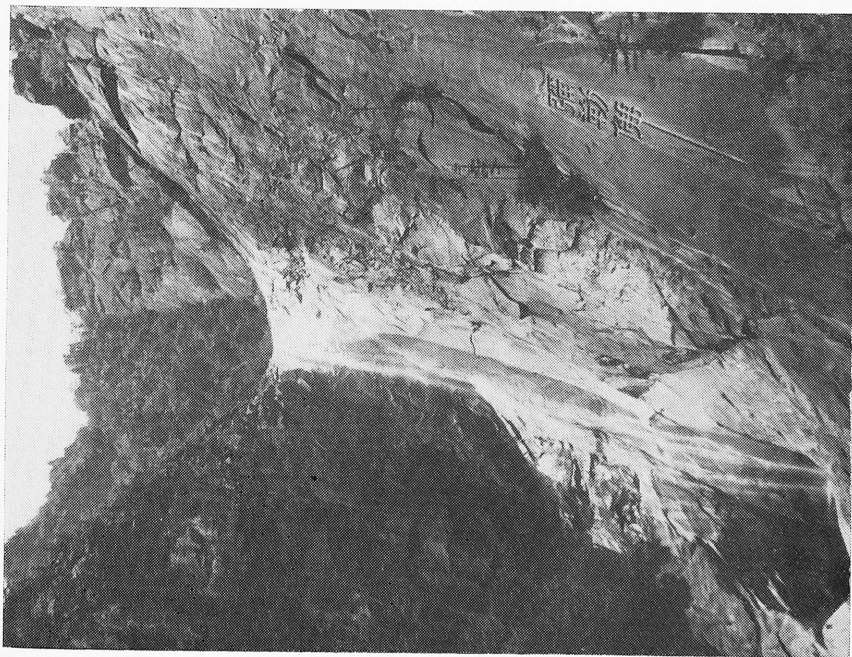
Phot. 1



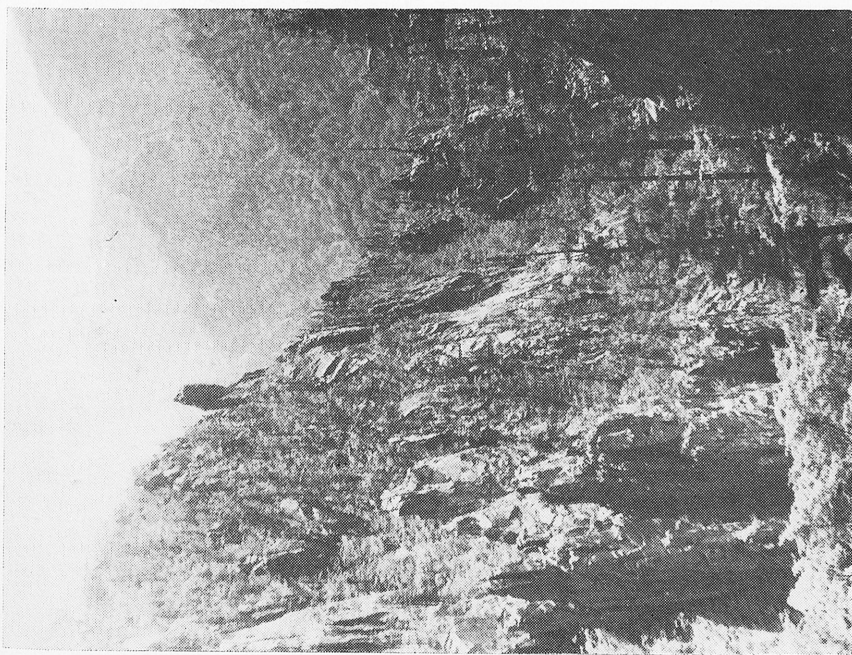
Phot. 2

Plate II

Phot. 3. Kumgang-san Mts. A gorge above the Samson-am Rocks
Phot. 4. Kumgang-san Mts. Kuryong Waterfall



Phot. 3

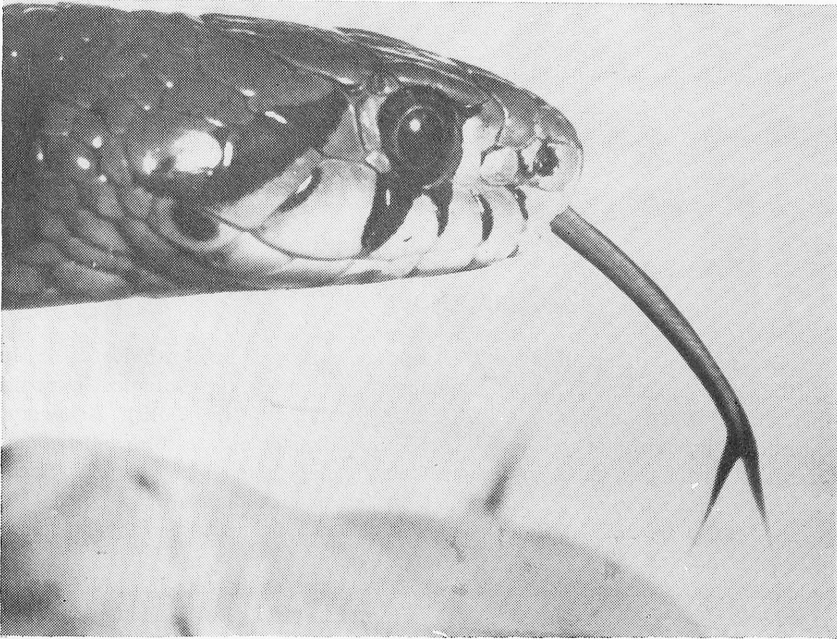


Phot. 4

Plate III

Phot. 5. *Rhabdophis tigrinus lateralis* (BERTHOLD, 1859) — specimen from the region
of Taesong-ho

Phot. 6. *Agkistrodon blomhoffi brevicaudus* STEJNEGER, 1907 — specimen from the
region of Taesong-ho



Phot. 5



Phot. 6

ADDENDUM

Here follows a list of amphibians and reptiles collected in North Korea in June and July, 1983, by Dr. Teresa TOMEK, a member of a succeeding zoological expedition of the Institute of Systematic and Experimental Zoology of the Polish Academy of Sciences, directed by Prof. Jerzy PAWŁOWSKI. Specific names are followed by names of localities and provinces; most specimens come from North Hamgyong Province in the north-eastern Korea (Fig. 1: V), not visited by the expedition '80.

Hynobius leechii BOULENGER, 1887 — 4 specimens from the Myohyang-san Mt., North Pyongan Prov.;

Onychodactylus fischeri (BOULENGER, 1886) — 1 specimen from the Myohyang-san Mt., North Pyongan Prov., and 3 specimens from Chayu-ri, North Hamgyong Prov.;

Takydromus amurensis PETERS, 1881 — 1 specimen from the Myohyang-san Mt., North Pyongan Prov., and 2 specimens from Chayu-ri, North Hamgyong Prov.;

Rhabdophis tigrinus lateralis (BERTHOLD, 1859) — 1 specimen from Taesong-ho, South Pyongan Prov.;

Elaphe dione (PALLAS, 1773) — 1 specimen from Chayu-ri near Mayang Lake, North Hamgyong Prov.;

Agkistrodon blomhoffii brevicaudus STEJNEGER, 1907 — 1 specimen from the Myohyang-san Mt., North Pyongan-Prov., and 1 specimen from the foot of the Kwanmo-bong Mt. (2540 m), North Hamgyong Prov.;

Agkistrodon saxatilis EMELIANOV, 1937 — 1 specimen from the Myohyang-san Mt., North Pyongan Prov., and 1 specimen from Chayu-ri, North Hamgyong Prov.;

Agkistrodon caliginosus GLOYD, 1972 — 1 specimen from Maehyang-ri, North Hamgyong Prov.