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PRELIMINARY REPORT OF REPTILES FROM YAOSHAN, KWANGSI, CHINA

BY

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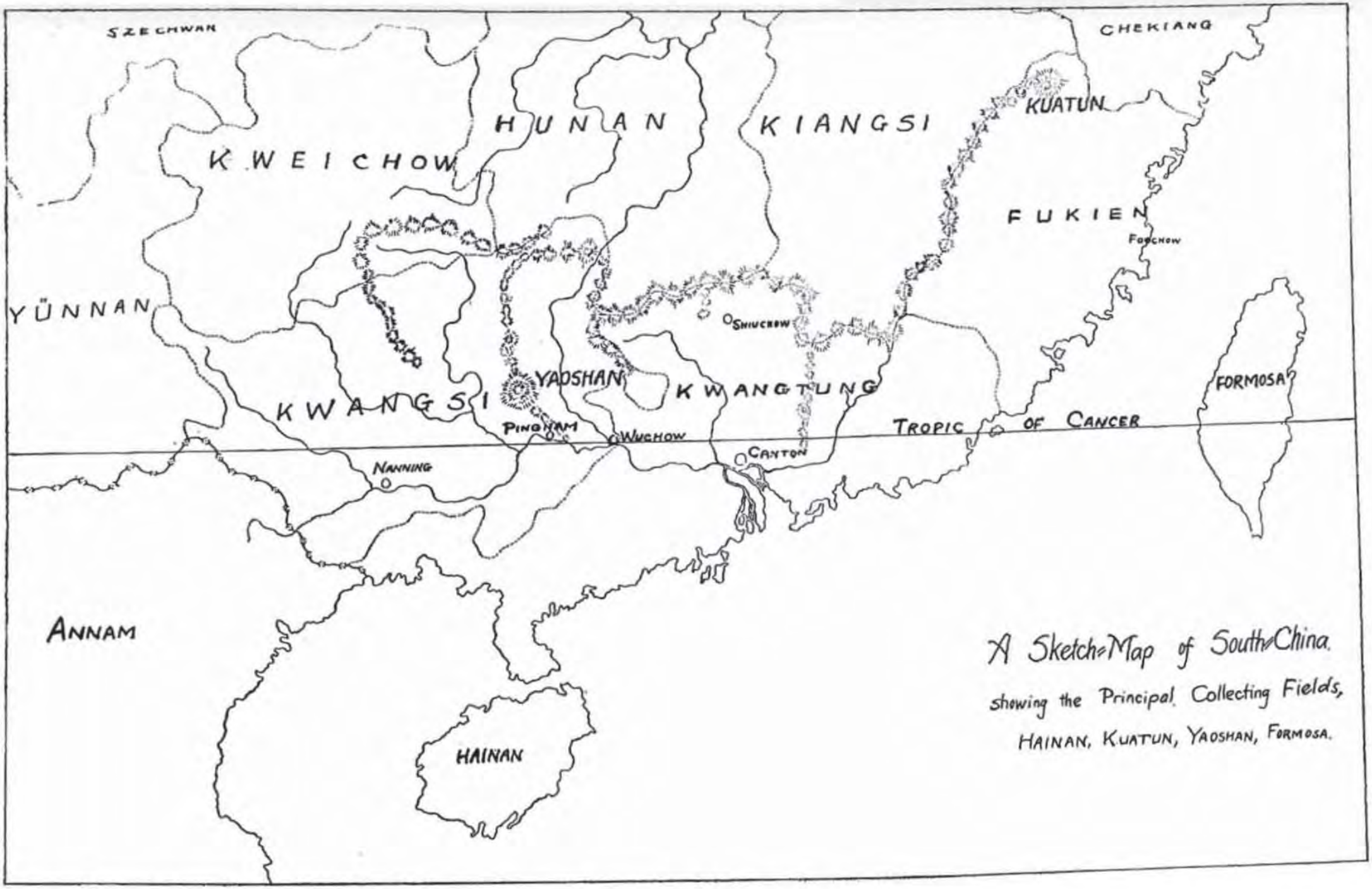

A Sketch-Map of South-China.

showing the Principal Collecting Fields,

HAINAN, KUATUN, YAOSHAN, FORMOSA.

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PRELIMINARY REPORT OF REPTILES FROM YAOSHAN, KWANGSI, CHINA

BY

TSANG-HOW FAN (范曾浩)

(With 11 Text-Figures, 9 Plates And 1 Map)

INTRODUCTION

In summer 1928, the Department of Biology of Sun Yatsen University chose Yao-shan of Kwangsi as the objective for an expedition. For, from a view of geographical distributions of plants and animals, the Province of Kwangsi lies just at an angle of two lines, viz., the Himalayan-Burmese line on the west directing southwards and the Pacific-oriental line on the east-north-east. Thus we naturally hoped to get there an interesting collection of plant and animal specimens of an admixed nature. Secondly, as compared with Kwangtung, Hunan, and Yünnan adjacent, that Province is still quite thinly populated and Nature must have well-preserved much of her virginal riches for biological studies. Thirdly, the records of Biogeographical study then still left there a blank page, because it is difficult to access owing to the harshness of meteorological conditions and the lack of proper accommodations. While the Yao-shan Mountains, the steepest as well as the most mysterious part in its north-east, was especially ignored, as, in addition, the natives Yao or Yaotze, were reported to be exceedingly inhospitable to

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strangers. In spite of these difficulties, the expedition set out on May 10th under the leadership of Prof. S. S. Sin (辛樹幟) and arrived there on the 23rd after a hard journey of twenty days. There we remained and made a general expedition till the end of July. During November in the same year another expedition went and worked there for three months. Then the work was suspended until the next March, when the party was reinforced to make a third expedition of an other three months.

The expedition collected mammals, birds, reptiles, amphibians and insects as well as botanical specimens. The result of floral and faunal studies of that mountain has been already published in some preceeding numbers of the present series of Bulletins. What put forword here is a preliminary report on the 873 reptilian specimens.

The main place from where the great majority of our specimens were secured, was a village named Loshiang (羅香), an ideal place for herpetological collections. It is surrounded by lofty peaks of a height no less than 3,000 ft. Streams run here and there through the junglewoods of a typical subtropical character. Tall herbages, thick shrubages, as well as shadowy thickets were found everywhere. These furnish ideal refuges for reptiles, while the extraordinary abundance of insects, frogs, tiny birds and fishes supplies them with luxurious feedings. As the venomous species are specially abundant, the natives were very glad to see our snakehunt and proved to be very helpful to our work. What we had heard of about their inhospitalities was really a legend. They were so delighted in watching our treatment of serpents that whenever and wherever a snake was caught, they would handle in for us, not for the material reward but rather for the pleasure of observing how the venomous snakes were narcotized, studied, killed,

and kept in formalin. Thus rare forms were brought in until finally a collection of more than 300 specimens were obtained in the first campaign. All the specimens secured then were caught at Loshiang and its vicinities with only few exceptions from Chinsiu (金秀), another village of lower altitude. In the second expedition led by Mr. K. K. WONG(黃季莊), reptilian specimens collected were mainly from Loshiang; a few form Kutchen (古陳). Kutchen is a name given to two alpine hamlets (Upper and Lower Kutchen as they were called) situated just before a high range of five towering peaks of 7,000 ft, There the junglewoods are thicker and more luxuriant than in Loshiang. Here some interesting forms were obtained, amongst them may by mentioned the adult specimen of *Proboscidophis versicolor* and an abnormal specimen of *Pseudoxenodon sinii.*

Reptilian collection in the third expedition was undertaken chiefly by our collector Mr. SUIBIN TONG (唐瑞斌), This time brought back two more valuable forms, namely, *Naja hannah* and *Trimeresurus gramineus stejnegeri.* Specimens of other rare forms in good condition were also secured.

The reptiles and amphibians collected in the first expedition were under Mr. KWOKLIANG TSAI'S (蔡國良) care for classification. By Mr. TSAI a set was picked up and sent to the Zoological Museum of Berlin for identification. Thanks to Dr. MELL, Dr. AHL, Dr. UNTERSTEIN and Dr. HANBERG, these specimens were named and annotated and six new forms were described.* Later on, Mr. TSAI was engaged in other field and the unfinished work was then assigned to me by Prof. S. S. SIN.

In this work all the text-figures were drawn by Mr. S. M. PONG (龐新民). And Mr. CHAUSU M. SHIH (石聲漢), Assistant in our Department, took the trouble of a general revision of my manus-

*Beiträge zur Surch-und Kriechtierfaura Kwangsi's—Sitzungsberichte der Geselischaft naturforschender Freunde pp. 309-322. (1930).

cript and rewrote all the description of colouration anew for me. Mr. K. Y. YEN (任國榮), former Assistant of our Department, encouraged me all through my work continuously. To these three gentlemen I owe my best thanks. Our thanks are also due to DR. C. H. CHU (朱家驊), former Chancellor of our University, without his enthusiastical help and support the expedition work would be impossible.

TESTUDINATA.

PLATYSTERNIDAE

PLATYSTERNUM

53. Platysternum megacephalum Gray.

Twenty six specimens, Nos. 1201, 8101-8125, were collected form Loshiang, Chinsiu, and Kutchen. Two specimens kept in the Zoological Museum of Berlin.

Description:—Specimen No. 1201, ad. ♀; June 29, 1928; Loshiang.—Head very large, upper suface and temporal region covered with an undivided horny scute, flat and triangular above, broad behind, compressed at the snout; snout nearly as long as orbit, evenly projecting; lateral profile vertical, straight; edges of jaws not denticulated; upper jaw bent down anteriorly into a toothlike book. Mandibular symphysis about one and half the length of orbit; occipital area marked with transverse lines, conjuncted with the head shields. Throat with round flattened tubercles. Carapace much depressed; oval, with a feeble median keel fading away anteriorly; anterior border broadly emarginate, posterior rounded and feebly serrated; shields with distinct excentric rings; nuchal shield very small, much broader than long; first vertebral somewhat pentagonal, much broader in front, as long as second, slightly shorter than third and fourth; all much broader than long and as broad as adjacent costals; plastron feeble concave, front lobe rectangular, posterior angularly emarginate; deeply and obtusely notched behind. The width of the bridge contained four and a half times in the length of the plastron. The plastral shields arranged in sequence of their lengths along the median sutures beginning with the largest are anal<humeral=femoral= pectoral>abdominal>gular.

Fore arm with large squarish scutes; hinder side of thighs and base of tail with large conical tubercles. Tail slightly longer than the shell, the scales on its upper surface and lateral, side marked with concentric rings.

Colouration:—Carapace dark olive brown; soft parts yellowish brown; lower parts of marginals and plastron olive buff.

Dimensions:—

Length carapace	122 mm.
Width of Carapace	86 „
Length of Plastron	98 „

Depth of shell.....39 ,,
Width of the bridge.....21 ,,
Tail, fron vent.....105 ,,

Dariations:—We have collected from Yaoshan twenty-six specimens of this very interesting oriental tortoise. Amongst these youngs of all ages are included. The snout may be as long as or longer than the orbit. First vertebral as long as the second in adults, but shorter in youngs; in some individuals however, this scute may be longer than the second. The median keel of the carapace someties quite well defined and sometimes feeble, or even wanting. Intergular surture usually much shorter than the interabdominal, being the shortest pair in the plastron scutes. The lengths of the plastral shields measured along their median sutùres otherwise varies to a great extent. The colour of carapace of adult specimens are usually dark olive brown; soft parts usually yellowish brown, some darker and some paler in tint, in youngs even being whitish. Plastron and underside of marginals dark olive-buff, whitish in the youngs.

Plastron usually with blackish patterns along the median line, fringing the transverse surtures, and on the bridges; these patterns are specially distinct in youngs. Spots of a beautiful vermilion colour are scattered on the neck, limbs, and sometimes tail. There is a few dark brown dots on the crown and in the center of each costal scute in youngs, which fade away in advancing age. Head uniformly dark brown in adults; olive-buff in youngs, with a black-edged yellow streak along the temple which is quite well defined in youngs but totally fade away or but scarcely recognizable in adults. Tail black brown, or sometimes light brown in adults, olive brown with a black median line inferiorly in youngs. In all the youngs and some adult specimens, there are concentric rectangular markings, crossed by obliquely arranged parallels, in each plastronal scute.

CLEMMYS

54. Clemmys beallii quadriocellata Siebenrock

Five specimens, Nos. 1203, 8091-97, were collected from Loshiang, One specimen kept in Zoological Museum of Berlin.

Description:—specimen No. 1203. ♂ ad. June30, 1928; Loshiang.—Head moderate, snout but slightly projected; vertical profile slightly oblique; straight edges of jaws not denticulated; upper jaw without hook or notch; mandibular symphysis equals to the length of orbit; head above covered with smooth skin. Carapace elavated, elavated, rather longate and smooth; obtusely keeled behind; the depth being less than half the width; posterior margin not serrated; nuchal very narrow; first vertebral pentaganal, broader in front than behind, nearly as long as the third and fourth, a little longer than the second, but shorter than the sixth, smaller than the adjacent costals. Plastron large, truncate anteriorly, openly emarginate posteriorly; the width of bridge about the same as the hind lobe; abdominal shields much larger than the pectorals, the largest median suture is that between the abdominals, the shortest that between the gulars; interanal suture longer than interfemoral; axillary shields distinct, small; fore arm provided anteriorly with large scales, digits webbed to the claws; tail round, short, terminated in large subcaudals, basally enveloped by granular scales, which also cover about one third the dorsal side.

Colouration:—Carapace yellowish brown, with irregular black markings on the first vertebral and the first two pairs of marginals. Plastron marked alternately with violet-brown and white streaks somewhat like a worm-worn plate, fringing with a pinkish wash. Head grayish; upper and lower jaws black, longitudinaly lineotated with light brown. Two pairs of black edged white temporal ocellae, each with a black spot in the center, the hinder pair larger and more well-defined. Neck

dark grayish. Three longitudinal lines running through the whole length of the neck. Limbs dark grayish.

Remark:—Nos. 8092-93, with an obtusely keel, in No. 8092 and No. 8093 interanal suture being as long as interfemoral. Carapace of Nos. 8091-93 chocolate-brown, plastron purplish gray dotted with brown spots. Upper and lower jaws vertically lineotated with brown gray. On some individuals, the carapace scutes are marked with well-defined excentric rings. Hind pair of temporal ocellae as a rule larger.

GEOEMYDA

55. Geoemyda spengleri sinensis subsp. n.

Sixty-nine specimens, Nos. 1202, 8001-8068 were collected from Loshiang and Kutchen. Two specimens kept in Zoological Museum of Berlin.

Deseription:—Specimens No. 1202. ad. ♀ June 17, 1929. Kutchen.—Snout short, not projecting, lateral prfile vertical, straight; edges of jaws not denticulated, both jaws hooked, without lateral notch; triturating surface of upper jaw narrow without any longitudinal ridge; mandibular symphysis shorter than diameter of oribt; head above covered with smooth skin; body rather depressed, its depth being somewhat more than half the width (width 88mm.; depth 48mm). Carapace slightly widened behind, serrated in front; three well-developed keels, median one the most eminient, being 2.4mm wide. Shields with distinct concentric lines; nuchal large, wedge-shaped, notched behind, broader behind than in front, longer than broad; first vertebral pentagonal, slightly broader in front than behind, scarcely longer than second, third, and fourth; all somewhat broader than long, narrower than adjacent costals; edge of marginals from third to eighth slightly turned up. Anterior and posterior marginals with their posterior corners greatly

projecting, thus the anterior and posterior outline of the shell strongly serrate; first marginal broadest; posterior marginals all bending upward. Plastron flat and large, deeply emarginate behind, very obtusely notched in front, outer anterior corner of gulars projecting; bridge angle gently rounded; shields smooth; posterior lobes slightly longer than bridge; abdominal suture longest, as long as humeral and gular together; the latter shortest, femoral suture longer than anal, which in turn is longer than humeral; without axillary and inguinal shields.

Farther ends of limbs covered with large conical scales with pointed and projecting tips, which reduced suddenly into granular warts on the small scales covering the humeral and femoral portions. Webs rudimentary. Tail short, depressed, with ten pairs of flat square shields on upper surface toward the tip; and with numerous long, blunt spines on the base. Skin on soft parts granular.

Coloration:—In formlin, carapace clove brown, more or less clouded with yellowish; underside dark chocolate brown; margins of plastral lobes, bridge angles as well as the underside of projected corners of marginals wax-yellow; upper head black brown, occipital part and neck black above with an indistinct line on each side of neck; underside of neck blackish, with several more or less well-defined pale isabella-colored markings; horny jaws and limbs nearly coloured the same as head; tail chocolate brown above.

Dimensions

Length of carapace	128 mm.
Width of carapace	95 „
Length of Plastron	120 „
Length of hind lobe	38 „
Width of hind lobe	54 „
Width of bridge	26 „
Depth of skull	45 „
Tail, from vent	25 „

Variation:—Specimens kept in formalin differ but little from fresh materials. The tune of colour shows very slight variation in individuals. Carapace as a rule are brown, varying in different shadows from yellowish, grayish, to dark black brown. An albinous specimen being isabella. Underside usually dark chocolate brown with a more or less purple tinge. The darkest being jetty black washed with purplish, in case of the albinous specimen it is jetty black also, but the marginal pale area being cream coloured. Occiputal reign and soft part same as the plastron, the albinous specimen being yellowish brown with whitish granules. Some specimens have the isabella patterns on head quite well-defined whilst in majority irregular and some indeed imperceivable.

Concentric lines on the scute may or may not be conspicuous. The first vertebral may be slightly shorter, as long as or even longer than the second, third, fourth, and the adjacent costals. Base of tail covered by long blunt spines, or merely by granular skin with granules indicating spines.

Remarks:—According to STEJNEGER, specimens from Japan have the following succession of plastral shield beginning with the longest abdominal, pectortal, femoral, anal, humeral, gular, the axillary shield very distinct and well developed. But on an examination of all the specimens we have in our laboratory, including individual of extreme ages, we found that the succession is absolutely coincident with that given by BOULENGER, viz: abdominal, femoral, pectorals, humeral, anal, gular; and, besides, no trace of axillary is to be found. Thus we propose to divide this species into two subspecies basing on the following synopsis and give them accordingly subspecifie names:

1. From Japan and other Pacific islands; with distinct axillary, succession of plastral shields: abdominal, pectoral, femoral, anal, humeral, gular.....*Geoemyda spengleri japonica.*

2. From Asiatic continent; no axillary; succession of plastal shields: abdominal, femoral, pectoral, humeral, anal, gular.....
.....*Geoemyda spengleri sinensis.*

TRIONYCHIDAE.

AMYDA.

56. Amyda sp. (*tuberculata* subsp. ?)

Two specimens, one, No. 1204, a subadult female fom Mungkong, a tributary to The West River from Yaoshan Mountains, on July 28, 1928; the other, a very young male, from Loshiang Yaoshan Proper, on January 2, 1929. No. 8131

Description:—Specimen No. 1204; Mungkong.—Head pointed obtusely; proboscis longer than interorbital breadth, as long as horizontal diameter of orbit. Nostril seperated by a narrow septum provided with a papilla midway on either side, papillae being visible from the nostril opening. Upper head skin smooth with median granules, head side, occipital region, as well as the lower side of the head creased; labial region smooth; mental groove dilabiated; neck skin tuberculate. Carapace ovate, with a sharp median keeling which is about half as broad as the interorbital contraction. Tubercules on carapace in wavy longitudinal lines, not confluent, heaviest posteriorly, where they become stout spines. Plastron flat, slightly depressed anteriorly. Posterior lobe moderately long, more than one third the plastron; it width at base nearly one half the length of plastron. Greatest depth of body more than 0.37 the carapace length.

Colouration:—In formalin general colour is plumbeous (the typical "plumbeous" of Ridgway.) above, yellowish gray on the bony disque tubercules "horny" coloured. A peripherical circle of nineteen dusky brown roundish spots on the extreme margin

of soft flap; another circle of eight spots bordering the bony disque on its outer side; one spot on the very center of the disque. Each spot is vermiculated to some extents. Anteriorly on the middle of the revolute nuchal border a dusky streak represents these spots in continuity with a streak on the nape, which is accompanied by another broader one on each side. A whitish blotch on either side of the neck after the middle line between the tip of proboscis and nuchal border. A dusky brown line runs obliquely down from lower half of anterior border of orbit to upper lip. Another line of about a snout length behind the eye parallel with mouth cleft. A short dusky streak on the fore corner of eye lid. A pair of dusky brown dots before and after the orbit on upper head. A few dots of more dusky colour scattered on nape. Head otherwise uniformly bright plumbeous. Plastron white marginally, pink in the center. Decorated with black patterns just the same as the No. 1 of STEJNEGER'S photograph of *Amyda japonica* (Bull. U. S. Mus. Nat. His. No, 58, pl. XXXV,)—namely, a median longitudial blotch on the gular unto entoplastra; a large triangular blotch on hyo-hypoplastral interspace, broader than high; a pair of large roundish blotches in front of hyoplastra; a pair of triangular blotches between the outer angles of hyoplastra, in continuity with the transverse blotch; a pair of oblique elliptical blotches behind the bend of hypoplastra; an irregular blck on the exiphiplastra behind median process; a pair of blotches at the base of tail; a pair on the inner side of thighs. Underside of flap all dark blackish; extremities of limbs black.

Another specimen:—No. 8131, a young male. Uniformly whitish below and with no patterns except a pair of very faint blocks in front of hyohypoplastra.

Dimensions:—

	Actual Dimensions in mm.	Percentage	Actual Dimensions in mm.	Percentage
Specimen Number	1204		8131.	
Length of Carapace	134	100	35	100
Broadth of Carapace	114	85.9	47	88.7
Depth of Carapace	51	38.0	24	45.3
Length Plastron	108	80.6	41	79.2
Greatest Width of Head	31		13	
Distance from Plastron to Tip of Tail.	37		15	
Free Portion of Tail *	13		5	

Remarks:—The patterns, tubercules, and carapace in general rather resemble to the Japanese from *A. japonica.* but the carapace is much desper, especially in the young specimen. It seems, however, impossible to have such a remote form in geographical regions to distribute in this rather tropical district with the other forms *A. sinensis, A. schlegelit* (STEJNEGER) and *A. tuberculata* (SCHMIDT and POPE) regularly seperating between. From geographical conditions, it is highly probable that the present specimens should be *tuberculata.* But to the latter name, standardizing on SCHMIDT's description, (Bull. U. S. Nat. Mus. Nat. Hist., 1927, p. 473-6) it is rather irreferable through a comparison with a specimen decidely of that species and nearly of the same size from Hunan. With the more southern from *A. steindachneri* of Hainan, the divergencies are even greater. On all account the present species must be looked as a subspecies of *A. tuberculata* not recorded. But since, however, the specific identification of Chinese fresh-water turtle is still a puzzle, I prefer not to introduce any more new trouble by giving unnecessary new names and retain this for further study.

*From connection with carapace.

When this work has been sent to press, many valuable and instructive suggestions were received from Mr. CLIFFORD POPE and Dr. RUDOLF MELL. These were inserted into the descriptions with or without special notice. For these kindness here I express my best thanks to these two gentlemen.

T. H. F.

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