

SCIENTIFIC RESULTS
OF
THE SECOND YARKAND MISSION;

BASED UPON THE COLLECTIONS AND NOTES
OF THE LATE
FERDINAND STOLICZKA, PH.D.

REPTILIA AND AMPHIBIA.

BY
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REPTILIA.

By W. T. BLANFORD.

THE collection of reptiles made by Dr. Stoliczka during his travels with the second expedition to Eastern Turkestan was small, owing partly to the country traversed not being rich in forms of animal life, but still more because of the unfavourable season at which many of his journeys were made. The Thian Shan was visited in the depth of winter, and the Pámir steppes and Wakhán long before the snow had melted, and, under these circumstances, no snakes, lizards, or other forms of reptilian life could be found. The bulk of the collection consists of specimens procured on the journey from India to Káshghar, in the Punjab hills beyond Mari (Murree), in Kashmir and in Ladák, and those obtained on the return journey between Yárkand and the Karakoram. Of several of the species, fine series have been obtained.

The only reptiles previously collected in the districts traversed beyond Kashmir were (1) those procured by the Messrs. von Schlagintweit, who, in 1857, obtained one species of lizard, which was described by Dr. Günther in the Reptiles of British India; (2) by Dr. Stoliczka himself, who, when in Ladák in 1865, collected several reptiles, of which Dr. F. Steindachner gave an account, together with the Reptiles of the Novara Expedition; and (3) a few specimens obtained by the first expedition to Yárkand in 1870, which were examined and described by Dr. Anderson in the Proceedings of the Zoological Society for 1872. The last was the only collection which included specimens from Turkestan, but, unfortunately, the localities had apparently, in some cases, not been correctly marked on the labels. It is well known that there is much confusion in the localities of the specimens collected by the Messrs. von Schlagintweit. Nearly the whole of Dr. Stoliczka's collections are carefully labelled, and in the very few cases in which, from the labels having been omitted or lost, there is doubt as to the original locality of a specimen, this is noted in the subsequent pages in the list of the specimens collected.

The following is a list of the species of Reptiles hitherto procured from Ladák and the Upper Indus valley:—

LACERTILIA :

Stellio himalayanus.
Phrynocephalus theobaldi.

Gymnodactylus stoliczka.
Mocoo stoliczka (? = *M. ladacensis*).

OPHIDIA :

Zamenis ventrimaculatus (*Z. ladacensis*, Anderson).

The last-named is the only species not obtained by Dr. Stoliczka in his last journey. It had, however, previously been procured by him in Spiti (Steindachner, Rept. Nov. Exp., p. 65). All the other species named had also been obtained previously, no additions having been made to the fauna by the present collection.

The very moderate list of species as yet procured from Eastern Turkestan comprises the following forms:—

LACERTILIA :

<i>Stellio stoliczkanus.</i>		<i>Gymnodactylus elongatus.</i>
<i>Phrynocephalus theobaldi</i> , var. (<i>P. forsythi</i>).		<i>G. microtis.</i>
<i>P. axillaris.</i>		<i>Eremias yarkandensis.</i>
<i>Teratoscincus keyserlingii.</i>		<i>E. vermiculata.</i>

OPHIDIA :

<i>Zamenis ravergeri.</i>		<i>Tropidonotus hydrus.</i>
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Taphrometopum lineolatum.

Of these species, only *Phrynocephalus theobaldi* and *Eremias yarkandensis* had been obtained before the country was visited by Dr. Stoliczka; another species, *Cyrtodactylus yarkandensis*, recorded as having been brought from Yárkand, having really, I believe, been collected in Ladák, and wrongly labelled.

In the present account the following species are also mentioned, specimens of them having been collected by Dr. Stoliczka in the Punjab hills or in Kashmir:—

LACERTILIA :

<i>Stellio tuberculatus.</i>		<i>Eumeces tæniolatus.</i>
<i>S. agorensis.</i>		<i>Mocoo himalayana.</i>

OPHIDIA :

<i>Typhlops porrectus</i> , var.		<i>Tropidonotus platyceps.</i>
<i>Compsosoma hodgsoni.</i>		<i>Vipera obtusa.</i>
<i>Ptyas mucosus.</i>		<i>Halys himalayanus.</i>

With the possible exception of the last, none of these species appears to be found in the dry region of Ladák, north of the dividing range between Kashmir proper and the Indus valley.

It is thus evident that, so far as the Reptiles are considered, the countries traversed by Dr. Stoliczka between the plains of India and Káshghar yield three entirely distinct faunas: (1) that of the Punjab hills and Kashmir, comprising a majority of Himalayan forms, with a few species common to the plains of India and some types belonging to palæarctic genera; (2) that of Western Tibet; and (3) that of Eastern Turkestan, both the latter belonging to the palæarctic region, but to distinct sub-divisions, only one species having hitherto been found in both areas, and even that is represented by well-marked varieties.¹

¹ Since the present account was first written, I have received, through the kindness of Dr. Strauch, a copy of his descriptions of the reptiles collected by Colonel Przevalski in Central Asia. The work was published in 1876, and is, therefore, later in date than my preliminary account of Dr. Stoliczka's collections in the "Journal of the Asiatic Society of Bengal" for 1875 (vol. xlv, p. 191). The greater portion of Dr. Strauch's paper is unfortunately in Russian, but the descriptions are in Latin, and excellent lithographs of all the new species are given. One form of *Eremias*, *Podarces (E.) pylzowi*, appears to me possibly the same as *E. vermiculata* from Yárkand; but of this I am not certain, and I am unable to identify any of the other forms described, including five species of *Phrynocephalus*, and five (besides *E. pylzowi*) of *Eremias*, with the species inhabiting Eastern Turkestan.

Order LACERTILIA.

Family—*AGAMIDÆ*.1. *STELLIO HIMALAYANUS*.

Steindachner: Novara Reise, Reptilien, p. 22, Pl. i, fig. 8.

Stoliczka: Jour. As. Soc. Bengal, 1872, xli, Pt. 2, p. 113.

1, 2, Dras valley; 3, 4, Tashgaon, near Dras; 5-7, Chiliscomo; 8, Shargol; 9, Kharbu; 10, 11, Snemo near Leh; 12-22, Leh;—all in the Upper Indus valley, north of Kashmir.

These specimens are from the original locality and its neighbourhood. *Stellio himalayanus* has hitherto only been found in the Upper Indus valley in Ladák, where it was originally discovered by Dr. Stoliczka.

In his diary Dr. Stoliczka remarks that the male of this lizard is smaller, and has the whole head, breast, and shoulders tinged with yellow, and the sides of the neck umber red. These colours are probably assumed in the breeding season; the date when they were noticed was August 17th.

2. *STELLIO TUBERCULATUS*.Gray *apud* Günther: Reptiles of British India, p. 157.

Stoliczka: Jour. As. Soc. Bengal, 1872, Pt. 2, xli, p. 115, Pl. iii, fig. 3.

1, 2, Kashmir.

Though labelled Kashmir, the specimens were probably obtained on the road from Mari (Murree) to Srinagar. The species is common about Mari.

3. *STELLIO AGRORENSIS*. Pl. I, fig. 3.

Stoliczka: Proc. As. Soc. Bengal, 1872, p. 128.

1-6, Kashmir.

The specimens agree well with the types from the Agror valley in the Punjab hills. In his diary, Dr. Stoliczka records obtaining this species near Chatarkailas in the Jhiam valley, north-east of Mari.

As no figure of this species has ever appeared, one is published herewith. A full description was given by Dr. Stoliczka.

4. *STELLIO STOLICZKANUS*. Pl. I, figs. 1 & 2.

W. Blanf.: Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 191.

S. squamis dorsalibus mediis majoribus, haud in lineas regulares ordinatis, obtuse carinatis, lateralibus minoribus, acute carinatis, postice subæqualibus; nonnullis mucronatis circum

tympanum, et in fasciculos ad latera colli et supra humeros dispositis; caudalibus carinatis, mucronatis, verticillatis, dorsales magnitudine vix excedentibus; stramineus, capite dorsoque posteriore nigro-punctatis, dorso anteriore nigro, stramineo transversim fasciato.

1-7, Yangihissár, 8, Karghalik, south of Yárkand, both in the plains of Eastern Turkestan.

Description.—General form apparently more slender than in *Stellio caucasicus* or *S. tuberculatus*; body and base of tail depressed; tail 1·5 times to nearly twice the length of the body; the fore limb laid backward does not reach the thigh (except in very young specimens); the hind limb laid forward extends to about the ear. Head depressed, its length considerably exceeding its breadth. The largest specimen collected measures 14·75 inches, of which the head and body from the snout to the anus measure 5·4, fore limb to end of toes 2·6 inches, hind limb nearly 4, third toe of hind foot without the claw, measured from between the third and fourth toes, 0·65. In a smaller specimen the head and body measure 4·6, tail 8 inches.

The scales on the upper surface of the head are convex, those on the occiput being submucronate, those on the supra-orbital bosses are rather smaller and flat. Supra-orbital ridge and *canthus rostralis* prominent, loreal region concave, bearing small scales, some of which, like most of the scales on the side of the head, are bluntly keeled. Nostrils directed backwards, situated in the hinder part of a single shield below the *canthus*. Rostral more than twice as broad as high. Labials not much larger than the neighbouring scales. Mental the same breadth as the rostral and pointed below. Eyelids covered with small granular scales, those along the edges of the lids rather larger and pointed. Some rather large scales bluntly keeled or submucronate between the eye and the tympanum. Some spinose scales round the tympanum: groups of spinose scales are scattered over the sides and back of the neck, the former being the larger. There is no trace of a crest. Sides of the neck between the larger scales covered with very small conically mucronate scales.

Scales on the back of the neck granular, passing gradually into the bluntly keeled scales of the middle of the back; these are considerably larger than the scales of the sides, being about twice as broad. The scales on the lateral portions of the body are distinctly keeled, in tolerably well-marked transverse rows, and nearly uniform in size, but few conspicuously larger scales being scattered amongst them in general, though a few may occasionally be detected here and there, and these are patches of enlarged subspinose scales of pale colour about the shoulders. There is no patch of enlarged scales in the middle of the sides. Scales of the belly smooth, rhomboidal, about the same size as those in the middle of the back, and arranged in transverse series, containing towards the middle of the belly from fifty-eight to sixty-seven scales, tending, however, to pass into the keeled scales at the sides. I count about 150 to 160 scales round the middle of the body. The throat scales are similar to those of the abdomen, but much smaller.

In males there are two or three rows of thickened scales before the anus; in females the scales are a little larger than those adjoining, but not thickened. There is no patch of thickened scales in the middle of the abdomen, as there is in *Stellio caucasicus*, and several other species of the genus. All the limb scales are keeled, those above sharply, those below, and especially on the hind limb, faintly; those on the back of the thigh small, with a few larger and subspinose scales scattered amongst them; scales below the feet keeled, very similar to those above; toes covered beneath with transverse plates, each with several keels. Tail scales,

except near the base below, keeled, and ending in a short spine posteriorly; those near the base scarcely larger than the back scales, those behind very little smaller, all in verticals. There is a double fold below the neck, several at the side of the neck, and one which passes above the shoulder and down the side.

The general colour is pale yellowish, mixed with dusky black. The head above is straw-coloured, with a few black scales scattered over the upper surface and irregular vertical dusky bars on the side. Anterior portion of the back and upper part of forelimbs dusky, with transverse rows of pale spots, sometimes forming tolerably marked bars, especially on the shoulders and upper parts of the fore legs; hinder part of the back and sides straw-colour, speckled with black. Tail pale yellowish at the base, sometimes with indications of crossbands; hinder portion brown. Lower parts uniform pale yellow, except the chin and throat, which are dusky, more or less mottled, or speckled with pale yellow. The young is much paler in colour, with a pinkish tinge, and the scattered black scales on the back are few in number, and form rather irregular transverse lines.

There are twelve to fourteen maxillary teeth on each side of the upper jaw, and three pairs of conical teeth in front; the outer pair the largest. In the lower jaw there are twelve to thirteen teeth along each side, and two pairs of more elongate pointed teeth in front.

All the larger specimens are eviscerated. Dr. Stoliczka in his diary mentions that, at Karghalik, he found this species living in holes in sand, and that, on a low bush, he saw one specimen which, when pursued, took to the ground immediately. I have never seen any other *Stellio* which had similar habits, though probably, from its habitat, *S. aralensis* may resemble the present species. All the other species of the genus are, as a rule, rock lizards, living on the rocks, and taking refuge in clefts and under stones. *S. nuptus* in Persia is sometimes found on old walls of hardened mud, but with the exception of *S. aralensis*, I have never heard of any species inhabiting level ground and living in holes, as, from Dr. Stoliczka's note, is, I infer, the case with the present form.

S. stoliczkanus differs much from all known species. The arrangement of the scales on the body is quite distinct in *S. nuptus*¹ and *S. melanura*,² which belong, indeed, to a different section of the genus. *S. tuberculatus*,³ *S. agrorensis*³ and *S. dayanus*⁴ are stouter forms; the first two are at once recognised by their more strongly keeled dorsal scales, the much greater difference between the dorsal and lateral scales, and the smaller size of the latter, and *S. dayanus* differs in having strongly keeled dorsal and lateral scales, in the numerous large scales scattered over the sides, and the larger scales on the limbs, besides other distinctions in each case. None of the three species have the spinose scales on the sides of the neck so developed as in *S. stoliczkanus*. *S. himalayanus* has the central dorsal scales smooth, besides other distinctions.

*S. caucasicus*⁵ and *S. microlepis*⁶ are also distinguished by stouter form and broader heads, by the presence of a large cluster of enlarged scales in the middle of each side, and of an oval patch of thickened scales in the middle of the abdomen in both sexes. The scales in

¹ DeFilippi: *Giomale del I. R. Ist Lomb.* vi, (1843);—*Eastern Persia*, ii, p. 317.

² *Laudakia (Plocoderma) melanura*, Blyth: *Jour. As. Soc. Bengal*, 1854, xxiii, p. 738;—*S. melanurus*, Anderson: *Proc. As. Soc. Bengal*, 1871, p. 189.

³ *Vide ante*.

⁴ Stoliczka: *Jour. As. Soc. Bengal*, 1872, xli, Pt. 2, p. 113.

⁵ Eichwald: *Zool. Spec.* iii, p. 187;—*Fauna Casp. Cauc.*, p. 80;—*Eastern Persia*, ii, p. 322, Pl. xx, fig. 1.

⁶ *Eastern Persia*, ii, p. 326, Pl. xix, fig. 2.

S. microlepis are smaller throughout. On the whole, the present species approaches *S. caucasicus* more nearly than any other form with which I am acquainted.

I have no specimen of *Stellio aralensis*¹ for comparison, and from its inhabiting the steppes east of the Sea of Aral, it may very possibly be nearly allied to the present species. According to Lichtenstein's description, it has the back scales strongly keeled and mucronate, and the toes fringed, the colouration is very different from that of *S. stoliczkanus*, being ash-grey, with pale wavy crossbands, the tail and limbs being also banded, and there is a large black spot at each side of the neck in the fold. The young have this spot peculiarly distinct and have long pale spots on the back on a bluish-grey ground. There can be but little doubt of the present being a distinct species. A form from Western Turkestan appears to have been named *L. lehmanni* by Strauch,² but I can find no description of it. In the list of Western Turkestan reptiles, "*S. himalayanus*, Strauch," is also included by Severtzoff.

5. PHRYNOCEPHALUS THEOBALDI.

P. tickellii, Günther: Proc. Zool. Soc., 1860, pp. 167, 173, *nec* Gray.

P. olivieri, Theobald: Jour. As. Soc. Bengal, 1862, xxxi, p. 518, *nec* Dum. et Bibr.

P. theobaldi, Blyth: Jour. As. Soc. Bengal, 1863, xxxii, p. 90;—W. Blanf.: Jour. As. Soc. Bengal, 1875, xlv, Pt. 2, p. 192.

P. caudivolvulus, Günther: Rept. Brit. Ind., p. 161 (1864);—Theobald: Cat. Rept. Mus. As. Soc., p. 40 (1868);—Anderson: Proc. Zool. Soc., 1872, p. 387, *nec* Pallas?

P. stoliczkae, Steindachner: Novara Expedition, Reptilien, p. 23, Pl. i, figs. 6, 7.

P. forsythi, Anderson: Proc. Zool. Soc., 1872, p. 390, fig. 7.

1-4, between Sonamurg and Kharbu (all probably from the Indus valley and not from the Kashmir side of the Zoji-la); 5-7, Namika-la, north-east of Shargol; 8-14, above Kharbu, 14,000 feet; 15-22, Lamayuru; 23-25, Snemo; 26-40, Leh (all the above from the Indus valley in Ladák); 41-47, Mughlib, east of Tánkse 14,000 feet; 48-53, Lukung, Pankong Lake; 54, 55, Chagra, north of Pankong Lake; 56-66, between Yárkand and Karakoram (this and all the following specimens belong to the variety *P. forsythi*); 67, Sánju; 68, Yárkand; 69, Kizil; 70-72, Yangihissár; 73, 74, Kashkasu, on road from Yangihissár to Sarikol.

I feel convinced that there must be some mistake in uniting the *Phrynocephalus* of Western Tibet with *Lacerta caudivolvula* of Pallas.³ In the first place, Pallas' description, *L. corporis squamis minutissimis lævibus, cauda longiuscula lævissima, subtus apice rubro nigroque variegata*, does not appear to agree well. The tail in the Tibet *Phrynocephalus* is not nearly so long as would be inferred from the above description and from the measurements of *L. caudivolvula* by Pallas,—whole length 3 inches 3 lines, tail 2 inches, so that the proportion of the head and body to the tail is 5 to 8. In a large number of specimens from Tibet and Eastern Turkestan I find the proportions of the head and body to the tail vary between 5 to 5.6 and 5 to 6.3, the last being exceptional. The tail, moreover, can scarcely be called very smooth; the scales towards the extremity, as a rule, are keeled. Then the colouration is different, and especially that of the tail, which is said by Pallas, in his more detailed description, to be *subtus a medio ad apicem interrupte nigra et rubra*. The colouration in *P. theobaldi* is extremely variable, as noticed by Steindachner in his description (of *P. stoliczkae*), but I have never seen

¹ *Agama aralensis*, Lichtenstein, Eversmann's Reise von Orenburg nach Buchara p. 144. It is by no means clear that Lichtenstein's species was really a *Stellio*.

² Severtzoff: Turkistanskie Jevotnie, p. 71.

³ Zoogr. Ros. As., iii, p. 27.

an approach to the mixture of red and black described by Pallas. It is true that these red colours are probably seasonal, and that they tend to disappear in spirits, but the colouration in the specimens before me is so well preserved, that it would be surprising if no trace of red remained in any of them, and they were collected at various seasons, some in autumn, others in spring and early summer.

I am unable to find Pallas' figure of *Lacerta caudivolvula*, but there are two figures of the species, both accompanied by descriptions, by Eversman¹ and Eichwald.² These figures I have compared with the Tibet *Phrynocephalus*, and I find both agree with Pallas' description of *P. caudivolvulus*, and differ from *P. theobaldi*. It is true that Eversman gives the length of the body as 1 inch 11 lines and of the tail 2 inches 1 line, but his figure shows a longer tail than this, whilst Eichwald gives the lengths of the body and tail respectively as 1 inch 8 lines and 2 inches 5 lines, a proportion of 5 : 7.5. Eichwald describes the tail as having black rings towards the end, the interspaces below being red; Eversman merely says that there are black bands on the lower surface of the tail towards the extremity, with red interspaces. A comparison of Eversman's or Eichwald's figure with Steindachner's bears out the view I have expressed of the species represented being distinct.

Dumeril and Bibron³ appear to me to have described a different species from Pallas', under the name of *Phrynocephalus caudivolvulus*. The tail is said to be but little longer than the body, and to be black at the end, with blackish spots along the sides of the remaining portion, and the ventral scales are said to be keeled, whereas Pallas, Eversman and Eichwald describe them as smooth. Dumeril and Bibron's description agrees, except in having the ventral scales keeled, with *P. theobaldi*. Now, the specimen described by the French herpetologists came from Berlin, and was very probably identical with that compared with the Tibet *Phrynocephalus* by Professor Peters.⁴

But what especially guides me in rejecting Pallas' name for the Tibet *Phrynocephalus* is that name itself, and the circumstance from which it was derived. Pallas says "*percepto inimico caudam coloratam versus dorsum in spiram promptissime revolvit, quod in nulla alia specie vidi.*" Now, there are two groups of *Phrynocephali*, to one of which belong *P. olivieri*⁵ and *P. persicus*⁶; both of these I have seen alive in large numbers, and I never yet saw one coil its tail, whilst to the other belongs *P. maculatus*⁷ and a species to be described immediately, both of which have been observed, the latter by Stoliczka, the former by myself, to have a habit of coiling their tails. These last are much smoother, as a rule, than the *Phrynocephali* of the former group, and their tail is much longer, whilst in *P. maculatus* the under surface of the tail, when alive, is frequently red in part. I think it is to this group that the true *Lacerta caudivolvula* must belong, whilst *P. theobaldi* certainly belongs to the former group. In Mr. Theobald's very good account of the habits of the present species⁸ which he obtained on the Tso-Morari in Rupshu, he makes no mention of having seen it coil its tail, nor does Stoliczka notice any such habit, although he especially describes it in the case of the other Turkestan species, and gives a sketch in his diary of the appearance presented.

¹ *Lacerta Imperii Rossici*, Nouv. Mem. Soc. Imp. Nat. Moscou, iii, p. 362, Pl. xxxii, fig. 2.

² *Fauna Caspia Caucasica*, Nouv. Mem. Soc. Imp. Nat. Mosc., vii, p. 107, Pl. xii, figs. 6, 7, Pl. xiii, figs. 9—14.

³ Erp. Gén., iv, p. 522.

⁴ Günther : Rept. Brit. Ind., p. 161.

⁵ Dum. et Bibr. : Erp. Gén. iv, p. 517;—Eastern Persia, ii, p. 327.

⁶ DeFilippi : Archiv. Zool. Genova, ii, p. 387;—Eastern Persia, ii, p. 329.

⁷ Anderson : Proc. Zool. Soc., 1872, p. 388;—Eastern Persia, ii, p. 331.

⁸ Jour. As. Soc. Bengal, 1862, xxxi, p. 518.

I have not overlooked the fact mentioned by Dr. Günther in the "Reptiles of British India,"¹ and to which reference has already been made, that specimens from Tibet had been compared by Professor Peters of Berlin with typical examples of *L. caudivolvulus*, and found specifically identical. I confess that it appears at the first glance as if the opinion of so high an authority on the Reptilia as Professor Peters must be more correct than mine, but I think there must be some mistake, as I have already indicated when noticing the description of *P. caudivolvulus* by Dumeril and Bibron. The original types of Pallas can scarcely be in Berlin, and it has frequently happened that other species have been sent from Russia under Pallas' names. Under any circumstances I cannot but think, for the reasons given above, that Pallas must have described a different lizard.

Steindachner in his description of *P. stoliczkæ*, which is certainly the same lizard as *P. theobaldi*, several of the specimens examined by Steindachner being from the typical locality of the last-named species, points out that *P. stoliczkæ* differs from *P. caudivolvulus* in its shorter tail and in having smooth scales on the upper surface of the limbs. The latter character, however, is not constant. Keels may generally be detected in *P. theobaldi* on the scales of the tarsus, and not unfrequently on the thigh and forearm, and in the Turkestan variety, *P. forsythi*, they are the rule. The length of the tail is, however, a characteristic distinction, though, I believe, it is not the only one.

It is only after long and repeated comparison that I have come to the conclusion, that *P. forsythi* of Anderson cannot be separated from *P. theobaldi*.² At the first glance, they appear distinguished by colour and by the Turkestan form having some scattered, whitish, enlarged scales on the back, and keels on the scales covering the upper surface of the limbs. Individuals, however, vary greatly in the scales of the back; in some these are convex and granular, in others flat, smooth, and even subimbricate; in some larger in the middle of the back, in others nearly the same size throughout. The scales on the top of the head are scarcely alike in any two individuals; some have the scales large on the occiput and very small on the supra-orbital region, in others all are of about equal size; in some the enlarged superciliary scales almost reach the nasals, in others three or four small scales intervene. The keels on the limb scales and the enlarged scales on the sides of the back are no more constant than the other characters. I find specimens from Western Tibet with a few scattered enlarged scales, and with distinct keels on the limb-scales, and I find specimens from Eastern Turkestan in which the enlarged scales are wanting and the keels can scarcely be detected.

Even in colouration, I do not think the difference, although it is usually marked, is constant. *P. forsythi* has almost always a row of rather distant dark spots, arranged in pairs down each side of the back. These spots consist of rather pointed scales. *P. theobaldi* varies exceedingly in colour. Some specimens, perhaps the most, are rather irregularly spotted, others have large ocelli on the back; in others again there are no markings whatever. But there is very often a tendency to a double row of spots down the back, and in some cases a very near approach to the colouration of *P. forsythi*, and in the latter the spots

¹ p. 161.

² I may here remark that I believe Dr. Anderson was misled by his collectors into supposing that the specimens of *P. theobaldi* described by him, Proc. Zool. Soc., 1872, p. 387, under the name of *P. caudivolvulus*, were from Yarkand. Like the gecko named by him *Cyrtodactylus yarkandensis*, I think it almost certain that the *Phrynocephali* in question must have been collected in the Upper Indus valley, in Ladák. Every specimen from Yarkand and Eastern Turkestan in Dr. Stoliczka's large collection has the colouration of *P. forsythi*, whilst the specimens described by Dr. Anderson, which I have examined, are undistinguishable from some of those procured by Dr. Stoliczka in Ladák.

are often faint and small, or some of them are wanting, whilst in other specimens additional spots are found on the sides. It is evident that the colouration varies, in the case of *P. theobaldi*, to a great extent, and therefore it would be impossible to found a specific distinction upon it without stronger differences.

There is one difference which, if constant, would be of great importance. *P. theobaldi*, as Theobald has shown, is viviparous (or, more correctly ovo-viviparous), and I find fœti in the females, whereas I find only eggs in the oviducts of a female *P. forsythi*. But this may depend on the time of year, the pregnant females of the former species having been captured at a later period of the season.

Dr. Anderson omits to point out the characters which led him to suppose that *P. forsythi* was a distinct species. I may have overlooked some difference, but I have examined both forms carefully, and I do not think the two can be distinguished by any constant character.

The following is a description of *P. theobaldi* from the specimens before me :

General form as in *P. olivieri* ; tail a little longer than the head and body, rather thick at the base, tapering beyond, but much thicker throughout in some specimens than in others. In some cases the tip is laterally compressed, in others round. Limbs rather short, the hind limb reaches beyond the shoulder, and often to the head ; the fore limb does not reach the thigh. Scales of back small, flat, or convex, often granular. The scales in the middle of the back usually larger than those of the sides. A few rather larger scales are sometimes scattered over the sides, but they are not much larger than the others. The black scales forming spots on the back are sometimes more pointed. Scales on the head larger than those on the back ; usually the largest are on the occiput. Upper labials with projecting rounded, or pointed margin along the edge of the lip, lower labials straight edged. Scales on upper surface of limbs generally faintly, sometimes more strongly keeled, often almost or quite smooth. Scales of lower parts smooth. Tail scales smooth, except towards the end, where they are usually keeled, more strongly below than above.

Usual colour above olive-grey, varying in tint, and more or less spotted with black ; sometimes the ground colour is pale, almost cream-coloured, and the spots form ocelli. Sometimes, besides the black marks, there are whitish spots of various sizes. The variety *P. forsythi* has usually four or five pairs of black spots on the back, and is bluish-grey in colour. The tail has dusky spots along each side ; these are never, except towards the tip, joined across the lower surface as in *P. olivieri*, but they frequently meet above. Tip of the tail not unfrequently black, and in many specimens (especially males, though it is not confined to them) the central portion of the abdomen is black ; this colour sometimes extending to the whole, or nearly the whole, lower surface of the body and head.

6. PHRYNOCEPHALUS AXILLARIS. Plate I, fig. 4.

W. Blanf. : Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 192.

P. major, laevis, cauda elongata, pede anteriore in adulto vix femur attingente, squamis omnibus laevibus, cauda apicem versus exceptis ; supra griseus, maculâ rubrâ utrinque post axillam notatus, membris caudâque fasciis fuscis transversis signatis, hac ad medium fusco-

c

annulatá, nunquam ad apicem nigrá, subtus albidus. Long. tota poll. 5—6, caudæ $\frac{2}{3}$ totius longitudinis subæquante.

1, 2, south of Yárkand; 3-9, Yárkand; 10-16, Akrobát near Yárkand; 17-20, Kizil; 21-33, Yangihissár—all in Eastern Turkestan.

Description.—General form depressed; head not so short as in *P. theobaldi*, *P. olivieri*, &c., and tail longer. In adults the fore limb falls short of the thigh, or barely reaches it; the hind limb extends to the eye; the tail is one-third to one-half longer than the body with the head. The base of the tail is depressed and slightly dilated, thence the tail tapers gradually; it can be coiled upwards near the end. Toes rather long; the fourth toe on the hind foot exceeds the third by more than the length of the claw, and has both sides fringed; the outer edge of the third toe is also fringed; the fifth toe of the hind foot without the claw falls short of the point of union of the third and fourth toes. Claws yellowish, strong; the claw of the fifth toe on the hind foot longer than the rest. Nine to ten triangular teeth on each side in both jaws; six pointed anterior teeth in the upper jaw, four in the lower; the outer pair in each jaw elongate. The largest specimen measures 6.25 inches, of which the tail from the anus is 3.75, head 0.75, fore limb to the end of the toes 1.4, hind limb 2.2.

Scales of the head above convex, tubercular, not varying much in size, as a rule; each nostril in a larger scale, sometimes divided horizontally. Scales of the superciliary ridge larger; each eyelid with a fringe of about nine rather larger scales, the lower row pointed. Upper labials twenty-seven to thirty-one, with convex margins; rostral scarcely larger. Mental or lower rostral generally much larger than the lower labials, which are, as a rule, rather fewer in number than the upper labials. Scales near the lower labials rather larger than the remaining scales of the throat. Scales of the body about the same size above and below; all on the back and belly are smooth, rhomboidal, and arranged in transverse rows, those on the back subimbricate; on the sides they are smaller and more granular, especially behind the shoulder, where the red patch consists of small granular scales. I count from 95 to 103 scales round the middle of the body in adults, rather fewer in young specimens. Scales on the limbs usually rather bluntly keeled above, smooth below; those beneath the feet sharply keeled, cross-plates beneath the toes with several keels. The pointed scales forming a fringe on the outer side of the fourth toe on the hind foot are longer than those on the inside of the same toe, or on the outside of the third toe. On none of the other toes is there any distinct free margin. Tail scales all keeled, except at the extreme base; they are about the same size as the back scales, and are arranged in rings; the keels form longitudinal lines below the tail, but not above; at each side of the tail close to the base is a large patch of spinose scales.

Colour above pale slaty-grey, nearly uniform or speckled with whitish, or, in young individuals especially, with three or four dark crossbands on the body. In some cases the back is tinged in parts with pale copper red. Dusky crossbands on the limbs and tail. In the middle of the tail, about 1.5 inch from the end, two or three dusky bands pass round the under surface; these are sometimes nearly black, at other times so faint as to be barely perceptible, but they are not entirely absent in any of the specimens collected; end of the tail never black. Lower parts white throughout, except the bands round the tail. Behind the axil, so as to be partly concealed by the fore limb when laid back along the body, there is a red patch at each side; this in the living animal is said by Dr. Stoliczka to be bordered by blue. The red colour has faded greatly in spirit, but can still be detected.

This species of *Phrynocephalus* is very closely allied to the Persian *P. maculatus*,¹ and probably to the true *P. caudivolvulus*, Pallas *nec* Günther. It appears to be a much larger form than the latter. From the former it is distinguished by its limbs, when adult, being shorter, the fore limb, as a rule, not reaching the thigh, whereas it always reaches or even exceeds it in *P. maculatus*. The fifth toe of the hind foot in *P. maculatus* is longer; the fringe on the outer edge of the fourth toe less developed, and there is scarcely any fringe on the inside of the toe. But the most important distinctions are in colouration. *P. maculatus*, of which I have collected many living examples, never has a red spot behind the shoulder, and it always has a black tip to the tail, below at all events. The colouration of the tail in *Phrynocephali* is, as a rule, very constant.

P. axillaris is said by Dr. Stoliczka to be very active, to run at a great pace, and to have the habit of coiling its tail upwards at the end. It, doubtless, inhabits open plains, like its Persian ally.

From the above, it would almost appear as if I had proposed a new species on characters of no more importance than those which I have just before shown to be insufficient in the case of *P. forsythi*. But in the present case the characters appear constant, probably because the two forms *P. axillaris* and *P. maculatus* inhabit distant and isolated areas, whilst in the case of *P. forsythi* and *P. theobaldi* there is great variation, and no constant distinction can be detected even in colouration; moreover, so far as my experience of the genus goes, I should say that the red patch behind the axil in *P. axillaris* and the black tail tip in *P. maculatus* are more important than the back markings which distinguish *P. forsythi*. When *P. maculatus* exhibits bright colours, as it very often does, they are confined to the lower surface of the tail and hinder parts of the thighs.

Family—*GECKOTIDÆ*.

7. *TERATOSCINCUS KEYSERLINGI*.

Strauch: Bull. Acad. Sci. St. Pet., 1863, vi, p. 480;—Mel. Biol., vi, p. 554;—Zool. Record, 1864, p. 111.

Kuli-yailang, Yárkandi (Scully).

1, Yangihissár, Eastern Turkestan.

This is a new locality for this very remarkable gecko. *Teratoscincus keyserlingi* was originally discovered by Count Keyserling in the Persian province of Khorassan, at a spot called Sar-i-cháh, and it has since apparently been found in Western Turkestan, as it is included by Severtzoff in his list of the Reptiles² found in that province. It thus appears to have a considerable distribution in Central Asia. The original description was copied in the "Zoological Record."

The single specimen obtained by Dr. Stoliczka is not in a very good state of preservation, but still the characters are easily distinguishable. The following is a description:

¹ Anderson: Proc. Zool. Soc., 1872, p. 339;—Eastern Persia, ii, p. 331.

² Turk. Jev., p. 71.

Habit stout, head and body depressed, limbs strong, toes rather short, tail shorter than the body. The hind limb reaches to the shoulder, the fore limb not quite to the end of the snout. Head covered with small granules above and below. Pupil vertical. Nostrils between the rostral, first labial and three enlarged plates behind; upper labials eleven, the hinder small, lower labials ten. Rostral nearly twice the breadth of two labials; mental also large, square behind. Some enlarged scales along the edges of the lower labials. Scales of the body all round large, smooth, imbricate, and rounded behind, those of the abdomen scarcely larger than those of the back; I count about thirty-two round the body, but they are a little irregular; scales on the limbs similar to those of the body, except behind the upper arm and thigh, where, as well as on the side of the trunk behind the shoulder, they are small and granular. Feet and toes covered with imbricate scales above, and with minute spinose tubercles below; all the toes provided with claws and fringed at the sides. Tail covered with smooth imbricate scales, those below, and near the base above, similar to those of the body; the posterior two-thirds of the tail covered above with large imbricate scutes, seventeen in number, the whole breadth of the tail. Region around the anus, before and behind, granular; two large pores, one on each side, behind, none in front. Length 5.1 inches, tail 2.1, forelimb 1.2, hind limb 1.6.

Colour grey above, with a few small blackish spots on the back, most strongly marked between the shoulders. According to Strauch, the pupil is circular, and young specimens are transversely banded, but Dr. Scully, who has seen a living specimen, assures me that the pupil is vertical, and this is borne out by the specimens I have examined. Comparing this specimen with *Teratolepis fasciata*,¹ the type of which, originally described by Blyth, is in the Indian Museum, I find that the differences pointed out by me in the "Zoology of Persia"² from the descriptions, hold good, and the two forms must be placed in distinct genera. *T. fasciata* has the basal portion of the toes dilated, and furnished with a double row of enlarged plates, but the toes are not fringed at the sides, and there is no external ear.

Another specimen of *Teratoscincus* has since been brought from Yárkand by Dr. Scully, who has ascertained that it is not very common, and that (according to the information given by the people) it inhabits waste ground, and is found about stones. The colouration of the back, when alive, is greenish, lower parts whitish, limbs pinkish fleshy.

8. GYMNODACTYLUS STOLICZKÆ.

Steindachner: Reptilien, Novara Expedition, p. 15, Pl. ii, fig. 2.

Cyrtodactylus yarkandensis, Anderson: Proc. Zool. Soc., 1872, p. 381, fig. 3 (figura mala).

1-5, Chiliscomo; 6-13, Kargil; 14, 15, Kharbu; 16, Lamayuru; 17, Snemo; 18-46, Leh:—all in the Indus valley, Ladák.

I have compared the specimens obtained by Dr. Stoliczka with the type of Dr. Anderson's *Cyrtodactylus yarkandensis*. They agree perfectly. *Gymnodactylus stoliczkae* was

¹ Günther: Proc. Zool. Soc., 1869, p. 504;—*Homonota fasciata*, Blyth: Jour. As. Soc. Bengal, xxii, p. 468.

² Eastern Persia, ii, p. 355.

originally described by Steindachner from a specimen obtained by Dr. Stoliczka himself near Dras in 1865; and the latter mentions in his diary having found some of the specimens now obtained, those from Chilisco, under stones in exactly the same place in which he procured the type on his former visit. The specimens described by Dr. Anderson as *Cyrtodactylus yarkandensis* were brought, with others, by a collector, who accompanied Dr. Henderson on the mission which was sent to Yarkand in 1870; this mission traversed precisely the same route through Kashmir and Leh as the second in 1873-74, and I do not think there can be any reasonable doubt that the real locality whence *Cyrtodactylus yarkandensis* was obtained must have been Ladák, and not Yarkand, because this species appears to be replaced in Yarkand by the next, and because Dr. Anderson was, I think, similarly misinformed by his collector as to the true locality of the *Phrynocephalus* which he assigned to *P. caudivolvulus*. It is fortunate that Dr. Anderson's name does not stand, since it has, I think, been given under an erroneous idea of the locality.

The woodcut in the "Proceedings of the Zoological Society" representing this species is very poor. Steindachner's figure is much better. Dr. Anderson's specimens had lost their tails and their epidermis, and he consequently described the upper surface as smoothly granular with enlarged scales, none of which are tubercular. As this does not agree with the fresher specimens before me, and as the tail is very characteristic, I give a fresh description. Steindachner's is in German.

Description.—Form moderately stout, head and body depressed, tail usually much swollen and depressed at the base and tapering regularly. The fore foot laid forward does not quite reach the end of the snout, laid back it extends more than half-way to the thigh, the hind leg laid forwards reaches to the axil, or a little beyond it. Surface of the head covered with subequal granules, three shields behind the nostril very little larger than the other scales of the snout. Rostral large, and with a groove running down the upper part of its surface. About ten upper labials on each side, the hinder ones very small; about six lower labials. Mental large, triangular, with two (sometimes three) pairs of enlarged chin-shields behind the labials. Pupil vertical. Ear-opening round and small, but larger than the dorsal tubercles. Back granular, with scattered, enlarged, convex tubercles (these are wanting in the specimens from Kharbu). Upper surface of limbs granular; occasionally there are a few enlarged tubercles on the thigh and tarsus. Scales on the lower surface flat and hexagonal. No femoral or præanal pores. Claws very small. Tail when perfect ringed, with three enlarged blunt tubercles at each side of each ring, the uppermost the smallest; upper surface of the tail granular in the middle, lower surface covered with small smooth scales, no enlarged plates. When reproduced, the form of the tail is the same, and it is much swollen at the base, but it is uniformly granular and not ringed.

Colour grey, with numerous darker crossbands, slightly wavy and irregular on the back, limbs and tail. An adult measures 4 inches in length, tail 2.2.

The tail is very rarely perfect. Steindachner, however, appears to have been mistaken in supposing that of the specimen figured by him to have been reproduced.

This species seems hitherto to have been found only in the Indus valley in Ladák, where it appears to be abundant.

*G. lawderanus*¹ is closely allied, but the tail seems different.

¹ Stoliczka: Jour. As. Soc. Bengal, 1872, xli, Pt. 2, p. 105.

9. GYMNODACTYLUS ELONGATUS. Pl. II, fig. 2.

W. Blanf.; Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 193.

G. elongatus, corpore gracili, cauda attenuata, membris exilibus, dorso tuberculis majoribus latis confertis ornato, inter tuberculas squamis rotundis parvulis induto, caudâ subtus scutis majoribus instructâ, verticillatâ, serie ultimâ verticilli cujusque ex squamis majoribus carinatis superne et ad latera omnino compositâ, poris præ-analibus ad 5; griseus, transverse fusco-fasciatus. Long. poll. 5, caudæ 2·8.

1-5, Yangihissâr, Eastern Turkestan.

Description.—General form more elongate than is usual amongst geckoes, head depressed, sloping gradually down to the snout, body rather slender, tail very thin, regularly attenuate, very little, if at all, swollen at the base, exceeding the head and body in length. Limbs slender, elongate, the fore limb laid forward extends to the end of the snout, laid back it reaches more than three-quarters of the distance to the thigh; the hind limb brought forward comes some distance in front of the shoulder. Toes elongate, rounded, all with very small claws. Pupil vertical. Length of a perfect specimen 5 inches, head 0·65, tail 2·8, fore limb to end of toes 1, hind limb 1·3.

Surface of the head granular, granules nearly uniform, and about equal in size to the scales of the abdomen; nostrils between the rostral, first labial and two small shields behind, which are slightly swollen. Upper labials about twelve, the hinder very small, and passing into granules; lower labials nine or ten. Rostral rather higher than the other labials and twice as broad, with the upper portion of the anterior surface grooved. Mental the same breadth as the rostral, and pointed behind; two or three pairs of enlarged chin-shields. Back granular, with numerous broad triangular keeled tubercles, each nearly as large as the small ear-orifice; they are not arranged in regular rows, but about twelve may be counted across the back; the granular scales between the tubercles much smaller than the head granules. There are tubercles on the forearm, thigh and tarsus. I count about twenty-five larger scales across the abdomen. Tail verticillate, covered with trapezoidal or subtrapezoidal keeled scales, the posterior row of each ring larger, but without any granules or small scales between, so that there are no distinct tubercles. Lower surface of the tail, except near the base, with a row of large plates about as broad as long, two to each verticil. Præanal pores about six in a V-shaped line.

Colour in spirits pale grey, with darker transverse bands on the body, limbs, and tail.

This species belongs to the same group as *G. caspius*,¹ *G. scaber*,² *G. kotschyi*,³ *G. kachhensis*,⁴ *G. brevipes*,⁵ &c., but is much more slender in form than any of them, and has no tubercles, with smaller scales intervening, on the tail, all the scales of the last row in each verticil being enlarged and submucronate.

Only one of the specimens obtained is in good condition.

¹ Eichwald: Fauna Casp. Cauc., p. 114, Pl. xv, figs. 1, 2.

² Rüpp. Atlas: Rept., p. 15, Pl. iv, fig. 2.

³ Steindachner: Sitzungsber. K. K. Akad. Wiss. Wien., lxii, Pt. 1, p. 329, Pl. i, fig. 1.

⁴ Stoliczka: Proc. As. Soc. Bengal, 1872, p. 80.

⁵ W. Blanf., Eastern Persia, ii, p. 344, Pl. xxii, fig. 2.

10. GYMNODACTYLUS MICROTIS. Pl. II, fig. 1.

Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 193.

G. parum robustus, capite brevi, depresso, meatu auditorio minimo; caudā attenuatā, lāvi, haud verticillatā; membris breviusculis; dorso granulato, tuberculis subcarinatis ornato; arenarius, fusco minute punctatus, subtus albescens. Long. tota 3·2 poll., caudā 1·8.

1-20, Yárkand; 21-27, Yangihissár; 28-66, Káshghar, 67-75, no label, probably Káshghar.

Description.—General form moderately slender; head short, blunt, slightly depressed, convex towards the snout, ear-opening very small, tail stout at the base and regularly attenuate, smooth, not ringed; limbs rather short, the fore limb laid forward reaches between the eye and the snout, laid back it extends more than half-way to the thigh, the hind limb laid forward does not reach the shoulder. Toes rather short, rounded, all with minute claws; pupil vertical. Length of a perfect specimen 3·2 inches; tail 1·8.

Head granular above, granules of the occiput, region between the eyes, and sides of the head behind the eyes equal in size, those of the snout and loreal regions rather larger. Nostril in an angle between the rostral, first labial, and the points of two posterior shields, the inner of which is usually the larger.

There are generally nine or ten upper labials on each side, the first five being the largest, and in most cases there are four large lower labials followed by smaller scales, but these characters are not constant; sometimes there are six lower labials. Mental ending behind in an obtuse angle, two or three pairs of enlarged chin-shields; all the scales near the lower labials larger than the flat granules of the throat. Back granular, with bluntly keeled enlarged tubercles; about eight to ten of these may be counted across the back; they are not very regularly disposed, and all are larger than the minute ear-opening. Abdomen covered with flat hexagonal scales, which diminish in size laterally, but come farther up the sides than in most geckoes and pass into the dorsal granules. Five præanal pores in males in a transverse row in front of the anus. Limbs granular above. Tail granular throughout, granules convex above, rather larger and flat below.

Colour sandy above, whitish below, a pale line from the nose to the eye above the rather darker loreal region, and sometimes a pale line down each side of the back. Under the lens the upper parts are seen to be minutely punctulated with brown, more closely in some parts than others, and there are also in places fine spots on the abdominal scales.

This species is probably allied to *Lacerta pipiens*¹ of Pallas, a species apparently overlooked by most herpetologists, and which, like the present species, is described as possessing a minute ear and a smooth tail; it, however, has no tubercles on the back, to judge by Pallas' description, and it is very differently coloured. On one of Dr. Stoliczka's labels the present species is said to be found under stones and about old walls, and it is evidently common.

In his list of the Western Turkestan reptiles, Severtzoff includes *G. caspius*, Eich. *G. scaber*, Rüpp., and *G. evermanni*, Strauch. I have not been able to find the description of the last.

¹ Pallas: Zool. Ros. As., iii, p. 27;—*Ascolabotes pipiens*, Licht., Eversman's Reise, p. 145.

Family—*LACERTIDÆ*.11. *EREMIAS YARKANDENSIS*. Pl. II, fig. 3.

W. Blanf. : Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 194.

E. caruleo-ocellata, Anderson : Proc. Zool. Soc., 1872, p. 373, nec Dum. et Bibr.? *E. multiocellata*,¹ Günther : Ann. and Mag. Nat. Hist., 1872, Ser. 4, vol. x, p. 419.

E. gracilis, supra grisea vel olivacea, nigro-maculata, ocellis albidis nigro-marginatis utrinque ad dorsum in seriem longitudinalem dispositis; subtus albida; scutis nasalibus haud tumidis, præfrontali unico, a rostrali supranasalibus atque a verticali postfrontalibus longe disjuncto; infra-orbitali ad labrum pertinente; dentibus palatalibus nullis; scutis ventralibus in series longitudinales (potius obliquas) 14-16, et in transversas ad 30 dispositis; poris femoralibus utrinque 9-14; squamis infradigitalibus vix carinatis. Long. 6 poll., caudæ 3·7.

1-4, Sánju; 5-23, Yárkand and Yangihissár; 24-28, Káshghar; 29, near Fyzabad, east of Káshghar; 30-33, Kashkasu, between Yangihissár and Sarikol; 34-44, Sarikol; 45-46, west of Sarikol.

Description.—General form rather slender, tail when perfect about one and a half times the length of the head and body, limbs rather short; the fore limb reaches to between the eye and snout, the hind foot extends to the axil. The nasal scales are not swollen, the lower eyelid is opaque and granular. Scales below the toes very faintly keeled. No palatal teeth. Usual length 5 to 6 inches. A fine specimen, in which only the tip of the tail appears renewed, measures 6·2 inches, of which the tail is 3·8, head 0·6, fore limb 0·8, hind limb 1·25.

Scales of the back rounded, arranged in transverse rows, becoming flatter and rather larger on the sides. Ventral scales in transverse and oblique rows; usually 14 to 16 in each transverse row in the middle of the abdomen (very rarely 18) and in 28 to 35 (generally 30 or 31) transverse rows. Tail scales not keeled, as a rule, on the anterior portion, though occasionally they are bluntly keeled above; on the posterior portion they are more or less distinctly keeled throughout. Præanal scales all small. From 9 to 14 femoral pores beneath each thigh. The enlarged scales below the tarsus extend about two-thirds of the distance across. Scales beneath the feet granular, not keeled. Collar free, the scales towards the middle enlarged, nearly as large as the abdominal plates, but varying in number; and often passing into small scales at the sides; usually there are ten to twelve enlarged scales.

Head shields.—Nostrils between three shields, an upper, lower, and posterior nasal, which are not swollen, but merely slightly convex, as are all the other head shields. Præfrontal single; the supranasals meet in a broad suture, and so do the postfrontals. Two large supraorbital shields, with granules outside and in front of them, but none inside. Præoccipitals each about the same size as a postfrontal; central occipital smaller, but variable in size. Postoccipitals large, each three or four times the size of a præoccipital, no azygos shield behind them. Upper labials six, in front of the large supraorbital shield which descends to the lip, its lower margin along the lip being nearly equal to that of the preceding shield. Temples covered with small granular scales. Edge of ear not denticulate.

Colour.—Olive-grey above, spotted with black, and with a more or less well marked line of whitish black-edged ocelli along each side of the back. The dark spots on the back often form longitudinal lines.

This name will have priority if, as is probable, the species are the same.

This species was referred by Dr. Anderson to *Eremias cæruleo-ocellata* of Dumeril and Bibron,¹ but it appears to me to differ in several characters. The nasal shields are not swollen, the dorsal scales are close together and scarcely any granules can be detected amongst them, whereas in *E. cæruleo-ocellata* they are said not to be very close, and each is surrounded by some granules. That species, moreover, has the tail scales keeled; as a rule, they are smooth in the Turkestan form, and the limbs are proportionally longer in the former, the hind legs nearly reaching the ear.

I have already² expressed doubts as to whether *E. cæruleo-ocellata* is the same as *E. velox*,³ as the former has no palatal teeth, and the latter appears to possess them; but if they resemble each other at all closely, as is probable from the circumstance of most authors uniting them, I think the species now described differs much in habit, being a more slender form, and it is also distinguished by having the scales beneath the feet granular and not distinctly keeled.

The closest ally appears to be a species described by Dr. Günther from the Gobi Desert under the name of *E. multiocellata*. It is possible that this may be the same, but it is described as having an azygos shield between the postfrontals, a large central scale in the collar, and eighteen longitudinal rows of scutes across the abdomen. None of these differences is of much importance, but taking them together, they present a considerable distinction and render it possible that other differences exist. I should not think Dr. Günther would have overlooked the peculiar character of the nasal shields not being swollen, in which the present species differs from all other *Eremias* with which I am acquainted.⁴

11a. EREMIAS YARKANDENSIS var. SATURATA. Pl. II, fig. 4.

W. Blanf. : Jour. As. Soc. Bengal, 1875, xliv, Pt. 2., p. 194.

E. yarkandensis magis infuscata, scuto infraorbitali horizontaliter diviso, parte superiori a labro discretâ.

1-13, Valleys of the Kuenlun range, south of Yarkand.

This variety differs from the typical form in being much darker in colour and frequently in having much less distinct ocelli along the sides of the back. In one or two specimens the back is uniformly slaty-grey. Another difference is generally found, and it would, if constant, justify the giving a specific name to the variety. This is that the infra-orbital shield is divided below the eye, and does not reach the lip, the lower divided portion forming the seventh supralabial. But in one specimen this infra-orbital descends to the lip, as in the normal form.

The specimens were not labelled, and they were amongst the last collected; but Dr. Stoliczka notices this form in his diary as replacing the ordinary *Eremias* of the Yarkand plain at the commencement of the valleys leading to the Kuenlun.

¹ Erp. Gén. v, p. 295.

² Eastern Persia, ii, p. 374.

³ Pallas: Reise, i, p. 718.

⁴ Since the above was written, Dr. Günther has very kindly compared specimens of *E. yarkandensis* with the type of *E. multiocellata*, and informs me that they are probably the same, the only distinction of any importance, so far as can be detected, being that the fore and hind claws appear much larger in *E. multiocellata*. The type of this species is so much shrunk, that it is difficult to ascertain whether it had swollen nasals, but apparently it had not. I leave the account of the species as originally written, but I think there is every probability that *E. multiocellata* and *yarkandensis* are identical.

12. EREMIAS VERMICULATA. Pl. II, fig. 5.

Jour. As. Soc. Bengal, 1875, xliv, Pt. 2, p. 194.

? *Podarces (Eremias) pylzowi*, Strauch, Przewalski's Reptiles, p. 28, Pl. vi, fig. 1.

E. supra grisea, nigro-vermiculata, subtus albida, elongata, gracilis; dorso granuloso, scutis nasalibus tumidis, præfrontali unico a rostrali supranasalibus atque a verticali postfrontalibus longe disjuncto; supraorbitalibus convexis, omnino squamis minimis rotundis circumdatis; infraorbitali late ad labrum pertinente, dentibus palatalibus nullis; scutis ventralibus in series 16-20 longitudinales (potius obliquas), atque 36-41 transversas dispositis; poris femoralibus utrinque 19-23; squamis infradigitalibus vix carinatis. Long. 7·4 poll., caudæ 5·1.

1, 2, Yarkand; 3, Kizil, Eastern Turkestan.

Description.—General form very slender, the tail more than twice as long as the head and body. Limbs moderate, the fore limb reaches nearly to the end of the snout, the hind limb in front of the shoulder, nasal plates swollen. Scales beneath the toes but little keeled. No palatal teeth. Length of the largest specimen 7·4 inches, of which the tail measures 5·1, head 0·55, the fore limb is 0·85 long, hind limb 1·5.

Scales of the back round, granular, minute in the middle, becoming larger on the sides, all arranged in transverse rows. Ventral scales in transverse and oblique rows, 18 to 20 across the abdomen and 41 along it in the two Yarkand specimens, but only 16 across and 36 along in the Kizil individual. Tail scales all keeled, except below near the base. None of the præ-anal scales are much enlarged. Femoral pores from 19 to 23 beneath each thigh. The enlarged scales below the tarsus extend about half-way across. Scales beneath the soles of the feet granular and very small. Plates beneath the toes on the fore feet keeled, but not prominently, those on the hind feet are smooth, except towards the end of the toes, collar free, scales about the same size as those of the abdomen, rather irregular in the specimens examined, and passing gradually into the small granules of the throat.

Head shields.—The single præfrontal is large, and is separated from the rostral by the supranasals and from the vertical by the postfrontals; suture between the supranasals about equal to that between the postfrontals, and, in each case, in the specimens examined, about half the length of the præfrontal. Nasals normal. The supraorbitals are somewhat more convex than the other shields and are completely surrounded by granules, those separating them from the vertical and præoccipitals being rather larger than those towards the superciliary ridge.

Præoccipitals each about a quarter the size of a postoccipital. A small central occipital, no azygos shield behind it, five or six supralabials in front of the large infraorbital, which descends to the lip, the lower edge being equal to that of the preceding shield or longer. Lower eyelid granular. Temples covered with small granular scales. Edge of ear not toothed.

Colour.—Grey above, finely vermiculated with black lines, which tend to form longitudinal bands along the middle of the back. Upper surface of head and limbs the same; lower parts white.

This is easily distinguished from the former species by being much more elongate, with a much longer tail and hind limbs, by its having more numerous ventral scales, and swollen

nasal shields, by the presence of granules on the inner side of the supraorbital shields and by colouration.

From Western Turkestan Severtzoff¹ quotes, besides *E. variabilis* and *E. cæruleo-ocellata* (?*E. velox*), two species which he calls *E. intermedius*, Strauch, and *E. erythrurus*. Neither of these species, so far as I know, has been described; *E. erythrurus*, Severtzoff himself suggests, may be the young of *E. velox*. Two species of *Scapteira* and *Lacerta stirpium* are also included in the list of reptiles obtained in Western Turkestan.

E. vermiculata may be the same as *E. pylzowi* collected by Przevalski in the deserts of Alashan, 27 degrees of longitude east of Yárkand. The principal characters of the two species are similar, and so is the colouration, but, judging from the figure, the toes of the fore foot are considerably shorter in *E. pylzowi*.

Family—SCINCIDÆ.

13. EUMECES TÆNIOLATUS.

Eurylepis tæniolatus, Blyth: Jour. As. Soc. Bengal, xxiii (1854), p. 740.

Plestiodon scutatus, Theobald: Cat. Rept. Mus. As. Soc., p. 25.

Eumeces scutatus, Jerdon: Proc. As. Soc. Bengal, 1870, p. 73.

Mabouia tæniolata, Anderson: Proc. As. Soc. Bengal, 1871, p. 184.

Eumeces tæniolatus, Stoliczka: Proc. As. Soc. Bengal, 1872, pp. 75, 88.

1, Chakoti on the road from Mari to Srinagar, in Kashmir.

This is a very much larger specimen than the types, and so much stouter, that at first I was much inclined to consider it distinct. But the proportions are the same, and the only structural distinction I can find is, that there are twenty-three rows of scales round the body instead of twenty-one. This amount of variation is commonly found in scinques.

The length of the specimen is 13 inches; tail, probably renewed when young, 6; circumference round the middle of the body, 3; head, 0·95 long; fore limb, 1·35; hind limb, 1·75, both to the end of the claws. The colour noted by Dr. Stoliczka on the living specimen is brown above, with a dark central stripe, upper parts of sides darker and with small white spots in longitudinal rows; the upper portion of the limbs also spotted, lower portion of sides greenish, this colour extending across the ears to the lower labials; feet below pale fleshy, the whole of the lower surface deep waxy yellow. In spirits the middle of the back is very little darker than the lateral portions.

14. MOCOA HIMALAYANA.

Eumeces himalayanus, Günther: Rept. Brit. Ind., p. 86.

Euprepes himalayanus, Steindachner: Novara Expedition, Reptilien, p. 45.

Eumeces sikkimensis, partim, Jerdon: Proc. As. Soc. Bengal, 1870, p. 73;—Anderson: Proc. Zool. Soc., 1871, p. 158;—Blyth?

Mocoa himalayana, Stoliczka: Jour. As. Soc. Bengal, 1872, xli, p. 127.

1-10, Mari, Punjab; 11, 12, between Mari and Srinagar; 13-25, Sonamurg; 26-32, Mataian.

¹ Turk. Jev., p. 71.

Although I feel far from satisfied that the western form is really separable from the eastern (*M. sikkimensis*), most of the differences pointed out by Dr. Stoliczka appear sufficiently marked to justify the two being kept apart. The general aspect and colour of the two forms are different, and the number of scales round the body appears larger in *M. himalayana*, though this is variable. In specimens from Mari, there are almost constantly twenty-eight rows round the body, whilst in the Sonamurg examples the prevailing number is only twenty-six.

There is certainly one specimen in the Indian Museum, labelled *E. sikkimensis* from Darjiling and presented by Dr. Jerdon, which has thirty rows of scales round the body, but the colouration is so different from that of all other Sikkim specimens, that I cannot but suspect there is some mistake in the locality, for Dr. Stoliczka had large collections from Sikkim, and found no marked variation, whilst the colouration of the specimen from Dr. Jerdon is precisely that of the North-Western form, and it has a large strongly denticulated ear-opening.

The distinctions noticed by Dr. Stoliczka between the head shields of *Mocoo himalayana* and *M. sikkimensis* are not borne out by the large series before me, nor is there, so far as I can see, any constant difference in the limbs, but the ear-opening, as a rule, is decidedly larger and more denticulated in *M. himalayana*. There are more scales round the body, and there is a marked difference in colouration, Sikkim specimens being much browner and wanting the greenish white line along the lower portion of the side, which is conspicuous in *M. himalayana*. Still it is highly probable, as indeed Dr. Stoliczka suggested, that intermediate forms may connect the two.

This species appears to be common in Kashmir. The specimens labelled from Mataian were probably collected on the road from Sonamurg, for every other *Mocoo* from the Indus valley in Ladák belongs to the next species. Mataian itself is on the north side of the mountains which separate the Kashmir valley from Ladák.

15. MOCOA STOLICZKAI (?=*M. ladacensis*).

Eupræpet stoliczkai, Steindachner: Novara Expedition, Reptilien, p. 45.

E. kargilensis, Steindachner: ib., p. 46.

Eumeces ladacensis, Anderson: Proc. Zool. Soc., 1872, p. 375;—*forsan* Günther: Rept. Brit. Ind., p. 88.

1-3, Mataian; 4-8, Kargil; 9, Namika-la; 10-16, Kha rbu; 17-19, Lamayuru—all in the Indus valley, Ladák; 20-24, no label.

It is most probable that there is really only one species of *Mocoo* in the Upper Indus valley, and that the different names above enumerated belong to it. If this be the case, and if the specimen described by Dr. Günther be really identical, the species must bear the name of *Mocoo ladacensis*. But I am unable to identify the specimens brought by Dr. Stoliczka with Günther's species, because in not one of the individuals collected does the fore foot reach the snout,¹ and because, although the three rows of scales beneath the tail are rather broader than those above, and the middle row is slightly more developed than the other, there is scarcely such a difference as I should suppose to be implied by the character of "subcaudals broad." It must be borne in mind, too, that the locality of Dr. Günther's type rests upon the authority of Messrs. von Schlagintweit, whose want of accuracy with reference to the localities assigned to their reptilian collections is notorious.

¹ This was noticed also by Dr. Anderson l. c.

It is true that in Steindachner's description of *Euprepes stoliczkai*, there is said to be a row of broader shields beneath the tail. But then the only difference stated to exist between *E. stoliczkai* and *E. kargilensis* is that in the former there are five, in the latter four supralabials in front of the infraorbital. That this character is of no specific value is proved by the circumstance that both forms occur together in the present collection, and that there are some specimens which have four shields on one side of the head and five on the other. Now, some of the specimens before me are typical *E. kargilensis* from the same locality as the original specimens procured by Dr. Stoliczka himself in 1865. The only other distinction between the descriptions of *Euprepes stoliczkai* and *E. kargilensis* is that in the former the middle denticulations on the anterior edge of the ear are larger than the others, in the latter the uppermost is largest. This is certainly of no importance.

In different individuals the number of scales round the body varies from thirty-two to thirty-eight, not depending apparently on age. In one very young specimen from Mataian there are only twenty-eight rows, but this individual is so immature, that its characters are ill marked, and it perhaps belongs to the last species. The usual number is thirty-four or thirty-six.

The colouration appears very constant; the back is brownish-olive, rather paler towards the sides, and spotted, the spots consisting of a whitish dot with a larger blackish mark behind or at the side of it. These spots sometimes, but not often, tend to form longitudinal lines. Sides with a broad band of dark olive brown broken by small pale spots and extending from the eye to the root of the tail and sometimes continued as a narrower broken line down the tail. A few dark marks forming irregular longitudinal lines on the upper surface of the tail; lower parts bluish-white.

Order OPHIDIA.

Family—*TYPHLOPIDÆ*.

16. *TYPHLOPS PORRECTUS*, var.

Stoliczka: Jour. As. Soc. Bengal, 1871, xl, Pt. 2, p. 426, Pl. xxv, figs. 1-4.

1, Ambor in the Jhilam valley, north-east of Mari.

The only specimen of a *Typhlops* in the collection is evidently that mentioned in Dr. Stoliczka's diary of the 18th July, and considered by him a new species. It differs in some respects from the description of *Typhlops porrectus*, but still agrees so nearly with that form, that I do not like to distinguish it on the strength of a single specimen.

The solitary example obtained is so tightly coiled towards the tail, that all the caudal portion is difficult to examine. The following is a brief description.

Scales smooth, shining, in eighteen longitudinal rows. I count (with great difficulty owing to the condition of the specimen) 393 scales along the body and eight along the tail. The body is much compressed posteriorly, but this is probably due to pressure when coiled. The diameter is nearly the same throughout, the circumference about one-twentieth of the length.

Head short and flat, rostral occupying about one-third of the upper surface, and having its lateral margins parallel above; below it is scarcely narrower. Fronto-nasal united to the nasal above the nostril, separate below, the nasals extending a little behind the end of the rostral,

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but not quite touching. Nostrils rather in front. Præocular and ocular about equal, neither of them as large as the nasal, anterior margin of præocular very convex, that of ocular straight and vertical, except on the top of the head, where it is curved back. Præfrontal, postfrontal, supraocular, and interparietal scarcely exceeding the back scales in size; the parietals are considerably broader. Upper labials four, the first very small, in contact with the rostral and fronto-nasal; the second below the fronto-nasal and nasal, and just reaching the præocular; the third between the præocular and ocular, but not rising much on the side of the head; the fourth, which is considerably the largest, beneath the ocular and extending some distance back beyond it. Eyes quite invisible.

This differs from the description of *T. porrectus* in being rather less slender, in having fewer longitudinal rows of scales, and only eight instead of eleven to twelve rows round the tail, and, to judge by Dr. Stolizcka's figure, in the smaller size of the frontals, interparietals, and supraoculars.

Family—*COLUBRIDÆ*.

17. *COMPSOSOMA HODGSONI*.

Günther: Rept. Brit. Ind., p. 246;—Stolizcka: Jour. As. Soc. Bengal, 1870, xxxix, Pt. 2, p. 189.

1, Kashmir.

This specimen, which is young, being only 24.5 inches long, has the scales absolutely smooth throughout, and a second præocular, formed of a detached portion of the supra-labial series, between the third and fourth labials. A similar specimen has been described by Stolizcka, loc. cit., from the North-Western Himalayas. Ventrals 227, subcaudals in 79 pairs.

18. *PTYAS MUCOSUS*.

1, 2, Kashmir.

These specimens do not differ from the ordinary Indian form. Kashmir must, I should think, be at the extremity of this snake's range to the north-west.

19. *ZAMENIS RAVERGIERI*.

Coluber ravigieri, Ménetries: Cat. Rais., p. 69 (1832).

Zamenis caudolineatus, Günther: Cat. Col. Snakes, Brit. Mus., p. 104 (1858);—Jan. Icon. Ophid. livr. 23, Pl. iii.

Zamenis ravigieri, Strauch: Schlangen des Russ. Reichs, Mem. Acad. Sci. St. Pet., xxi, No. 4, p. 127 (1873);—W. Blanford: Eastern Persia, ii, p. 417 (1875).

Z. fedtschenkoi, Strauch: Schlangen des Russ. Reichs., p. 135, Pl. iv (1873).

1, Yarkand; 2, 3, Yangihissár.

The spots on the head and back are larger than in Persian specimens, and somewhat resemble those of *Z. diadema*, whilst the dark band along the upper part of the tail has a

tendency to be broken into spots, and the bands along the sides of the tail are faint or wanting. Otherwise there appears to be no constant difference.

The colouration is that of the form to which Dr. Strauch has given the name of *Z. fedtschenkoi*, and which is mainly distinguished from the typical *Z. ravergeri* by the tail being spotted instead of striped. Dr. Strauch adds that, as a rule, in *Z. fedtschenkoi* the number of longitudinal rows of scales is twenty-three, twenty-one being the exception, whilst the reverse is found in *Z. ravergeri*. He also calls attention to a slight difference in the form of the head, which is rather broader and less depressed in the first-named form. *Z. fedtschenkoi* is said to be common in Russian Turkestan.

In the three specimens from Eastern Turkestan, the rows of scales round the body are twenty-one in number, and the head is of the same form as in typical *Z. ravergeri*. I have already¹ shown that the two forms pass into each other in Persia, and the specimens from Eastern Turkestan tend to the same conclusion.

In both the specimens from Yangihissár, there are three postoculars on each side, but only two, as usual, in the Yárkand example. In the latter there are 222 ventrals and ninety-one pairs of subcaudals.

20. TROPIDONOTUS HYDRUS.

1, Káshghar ; 2, 15, Yangihissár, Eastern Turkestan.

This snake is apparently as common in Eastern Turkestan as it is, according to Strauch,² farther to the westward. The specimen from Káshghar was procured on the 2nd February, and is noted on the label as having been found frozen in a field ; the Yangihissár specimens were collected in April.

The majority of the snakes of this species obtained in Eastern Turkestan appear to have five postoculars. They are olivaceous above, with the back spots rather indistinct as a rule, and a great portion of the ventral shields is black.

21. TROPIDONOTUS PLATYCEPS.

1, Mari ; 2, 3, Kashm ir.

I can see no difference between these specimens and those from other parts of the Himalayas. This species, which had previously been obtained by Dr. Jerdon in Kashmir,³ appears to be one of the Himalayan forms, like *Compsosoma hodgsoni*, which range farther to the north-west than do most of the species characteristic of the Himalayan region.

Family—*PSAMMOPHIDÆ*.

22. TAPHROMETOPUM LINEOLATUM.

Coluber (Taphrometopon) lineolatum, Brandt : Bull. Ac. Sci. St. Pet., iii, p. 243 (1837) ;—Peters : Proc. Zool. Soc., 1861, p. 47.

¹ Eastern Persia, ii, p. 418.

² Schlang. Russ. Reichs., p. 173.

³ Stoliczka : Jour. As. Soc. Bengal, 1870, xxxix, Pt. 2, p. 192.

Psammophis doriae, Jan. : De Fil., Viag. in Persia, p. 356.

Taphrometopon lineolatum, Strauch : Schlang. Russ. Reichs. Mem. Acad. Sci. St. Pet., xxi, No. 4, p. 185, Pl. v ;—W. Blanf. : Eastern Pers., ii, p. 422.

1, Beahterek, south of Karghalik, Eastern Turkestan.

This characteristic Central Asiatic snake has been fully described and figured by Strauch. The only specimen obtained is of moderate size, being $33\frac{1}{2}$ inches long, of which the tail measures 8. Ventrals 195, subcaudals about a hundred, the last three or four injured. The markings on the back are rather less distinct than in Strauch's figure, those on the belly are more developed, there being a subtriangular blackish mark in the middle on the anterior shields; this passes gradually into a trapezoidal dusky patch, with black lateral margins in the centre, and a row of black spots along the side, and this again gradually into two oblique lines on each side of the ventrals, becoming fainter posteriorly, but quite visible as far as the commencement of the tail. Similar colouration is described by Strauch as occurring in a specimen from Krasnovodsk, and another of unknown locality, loc. cit., p. 192.

Family—*VIPERIDÆ*.

23. *VIPERA OBTUSA*.

Dwigubsky, *teste* Strauch ;—W. Blanf. : Eastern Persia, ii, p. 428.

V. euphratica, Martin : Proc. Zool. Soc., 1838, p. 82 ;—Strauch : Schlangen Russ. Reichs. Mem. Acad. Sci. St. Pet., xxi, No. 4, p. 221, Pl. vi.

Echidna mauritanica, Dum. and Bibr. : Erp. Gén., vii, p. 1431.

1, Kashmir.

In structure this specimen agrees fully with one which I obtained in Persia, but the colouration is very different, being almost uniform dark olive, with a little mottling of pale straw colour on the labials, chin, and ventral shields.

The discovery of this species in Kashmir adds considerably to its known range. It is found in Northern Africa, Asia Minor, and other parts of Western Asia, the Trans-Caucasian provinces of Russia, and Persia.

Family—*CROTALIDÆ*.

24. *HALYS HIMALAYANUS*.

Günther : Rept. Brit. Ind., p. 393, Pl. xxiv, fig. A ;—Steindachner : Novara Reise, Reptilien, p. 87.

1, Mari, Punjab ; 2, Kashmir ? or Indus valley near Dras.

In both specimens there are twenty-one rows of scales round the body, not twenty-three. Steindachner has already pointed out that the number is variable. In two specimens in the Indian Museum, one from north-east of Simla, the other labelled from Ladák, the same number of rows of scales occurs *conf.* Anderson : Proc. Zool. Soc., 1871, p. 196. Judging from these specimens, it would appear that twenty-one is the number most frequently met with to the westward. Dr. Günther's original specimens, with twenty-three rows of scales, were from Garhwal.

AMPHIBIA.

The Amphibia are very poorly represented in Dr. Stoliczka's collections. Only four species are represented, and only one was procured from Eastern Turkestan; all are well known forms of Batrachia. No examples of *Urodela* were met with.

Order BATRACHIA.

Family—*RANIDÆ*.

1. *RANA CYANOPHLYCTIS*.

Schneider *apud* Günther: Rept. Brit. Ind., p. 406;—Stoliczka: Jour. As. Soc. Bengal, 1870, xxxix, Pt. 2, p. 146; Proc. As. Soc. Bengal, 1872, pp. 85, 102, 130;—W. Blanf.: Jour. As. Soc. Bengal, xxxix, Pt. 2, p. 374; Eastern Persia, ii, p. 433.

1—3, between Mari and Kashmir.

This species had previously been recorded by Dr. Stoliczka from Mari. It is common throughout the peninsula of India, and is the only abundant frog in the dry western parts of the country, Kachh (Cutch), Sind, &c., extending to the west into Baluchistan.

2. *DIPLOPELMA CARNATICUM*.

Engystoma carnicum, Jerdon: Jour. As. Soc. Bengal, 1853, xxii, p. 534.

Diplopelma carnicum, Jerdon: Proc. As. Soc. Bengal, 1870, p. 85;—Stoliczka: Jour. As. Soc. Bengal, 1870, xxxix, p. 154; Proc. As. Soc. Bengal, 1872, p. 110.

? *D. ornatum*, Dum. Bib., *apud* Günther: Rept. Brit. India, p. 417; see also Proc. Zool. Soc., 1875, p. 568.

1, Tinali, on the road from Mari to Kashmir.

The single specimen obtained agrees very well with specimens in the Indian Museum from the peninsula of India and Burma. No representative of the genus had, so far as I am aware, been previously met with so far to the north-west.

It is not without some hesitation that I retain the name *D. carnicum* for this species, as Dr. Günther has recently repeated his opinion that both *Engystoma carnicum* (in part at least) and *E. rubrum* of Jerdon, or rather specimens identified as such by Jerdon, are identical with *E. ornatum* of Dumeril and Bibron, but Dr. Jerdon has pointed out that *E. carnicum* does not agree with Dumeril and Bibron's description, whilst the form inhabiting Malabar, whence the type of *E. ornatum* was obtained, is probably distinct from that found in Central and Northern India. I must say that I feel much doubt as to whether *E. carnicum* is the species described by Dumeril and Bibron, the colouration described by those authors differing greatly from that of the present form, so far as I am acquainted with it.

3. BUFO VIRIDIS.

Laur. *apud* Steindachner: Novara Expedition, Amphibien, p. 40;—Stoliczka: Jour. As. Soc. Bengal, xxxix, 1870, p. 155; Proc. As. Soc. Bengal, 1872, pp. 113, 131.

1-3, Kashmir; 4-11, Yárkand; 12-15, Yangihissár; 16-23, Káshghar; 24, Zung, Wakhán.

The Kashmir specimens appear to differ a little from those of Turkestan. They have a shorter fourth toe on the hind foot, and the parotoid glands are somewhat more elongate. The differences, however, are not great, and specimens from Persia and from various parts of the Himalayas appear to be intermediate to some extent.

4. BUFO CALAMITA?

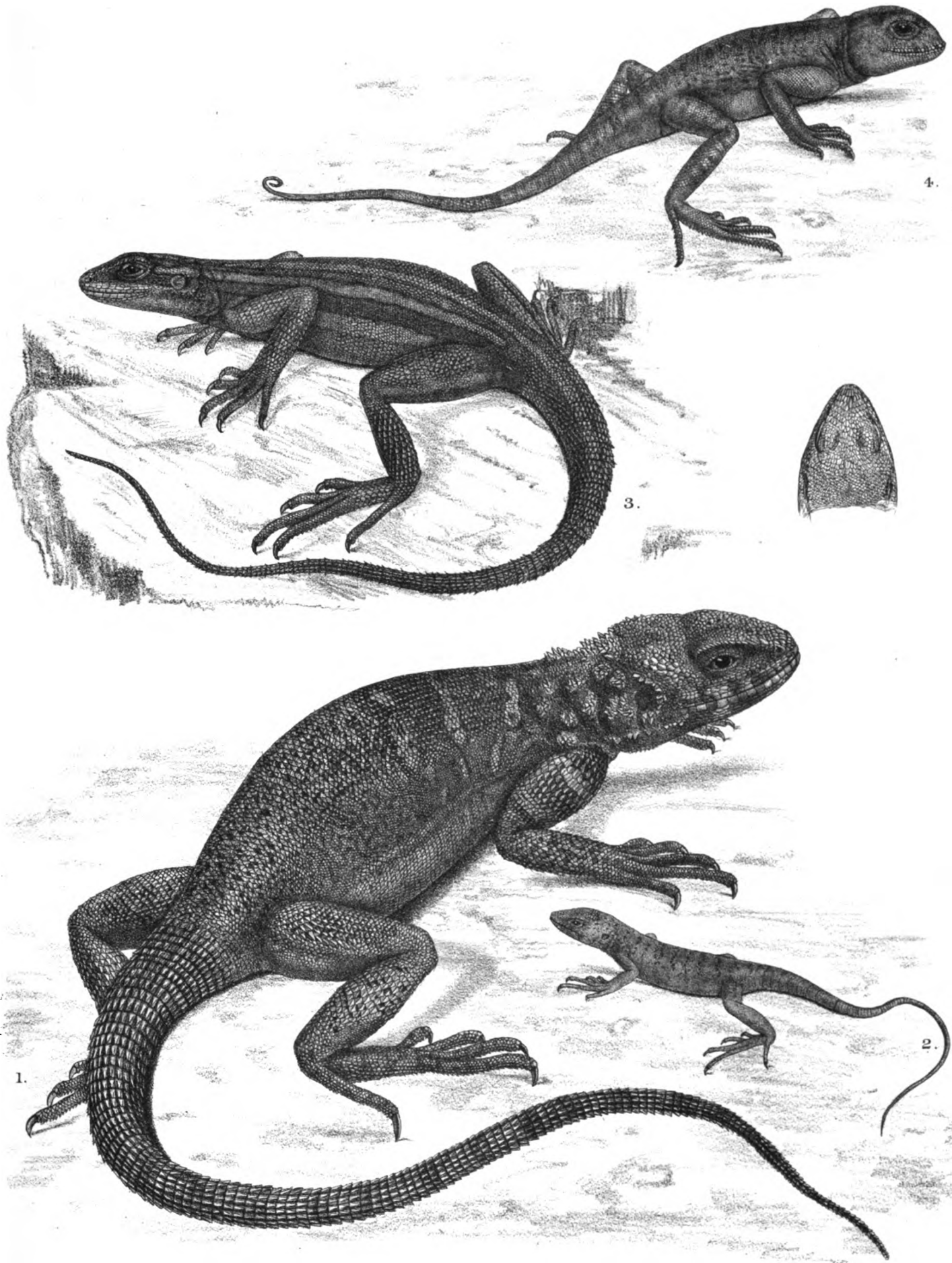
1, Kashmir.

A single very young toad from Kashmir probably belongs to this species. I find an older specimen, also from Kashmir, and presented by Dr. Jerdon, in the Indian Museum, and the two agree well in colouration, but I cannot find the characteristic gland on the leg in the young specimen. Its absence may, however, be due to immaturity.

SECOND YARKAND MISSION.
REPTILIA.

PLATE I.

- Fig. 1. *Stellio stoliczkanus*, adult.
„ 2. „ „ young.
„ 3. *Stellio agrorensis*, and head of the same from above.
„ 4. *Phrynocephalus axillaris*.



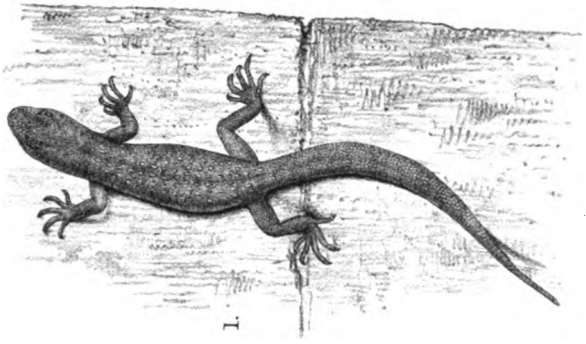
R. Minton del et lith.

Minton Bros imp.

SECOND YARKAND MISSION.
REPTILIA.

PLATE II.

- Fig. 1. *Gymnodactylus microtis*.
„ 2. *G. elongatus*.
„ 3. *Eremias yarkandensis*, with sketches of head from above and from the side.
„ 4. *E. yarkandensis*, var. *saturata*, sketch of head from side.
„ 5. *E. vermiculata*, and sketches of head from above and from the side.



1.



2.



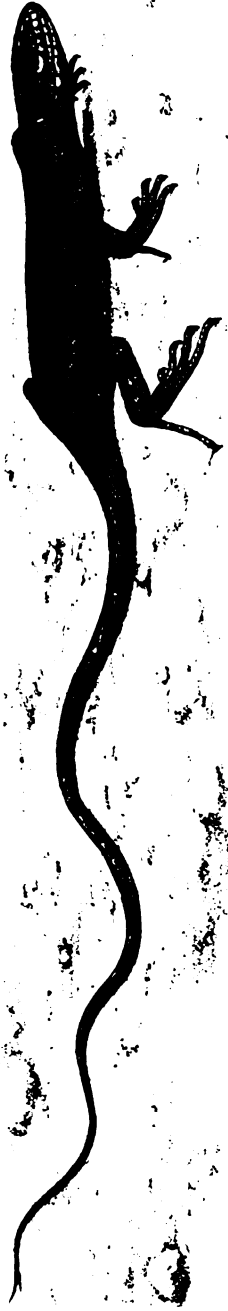
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