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THE

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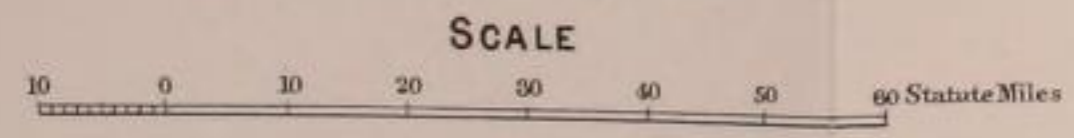
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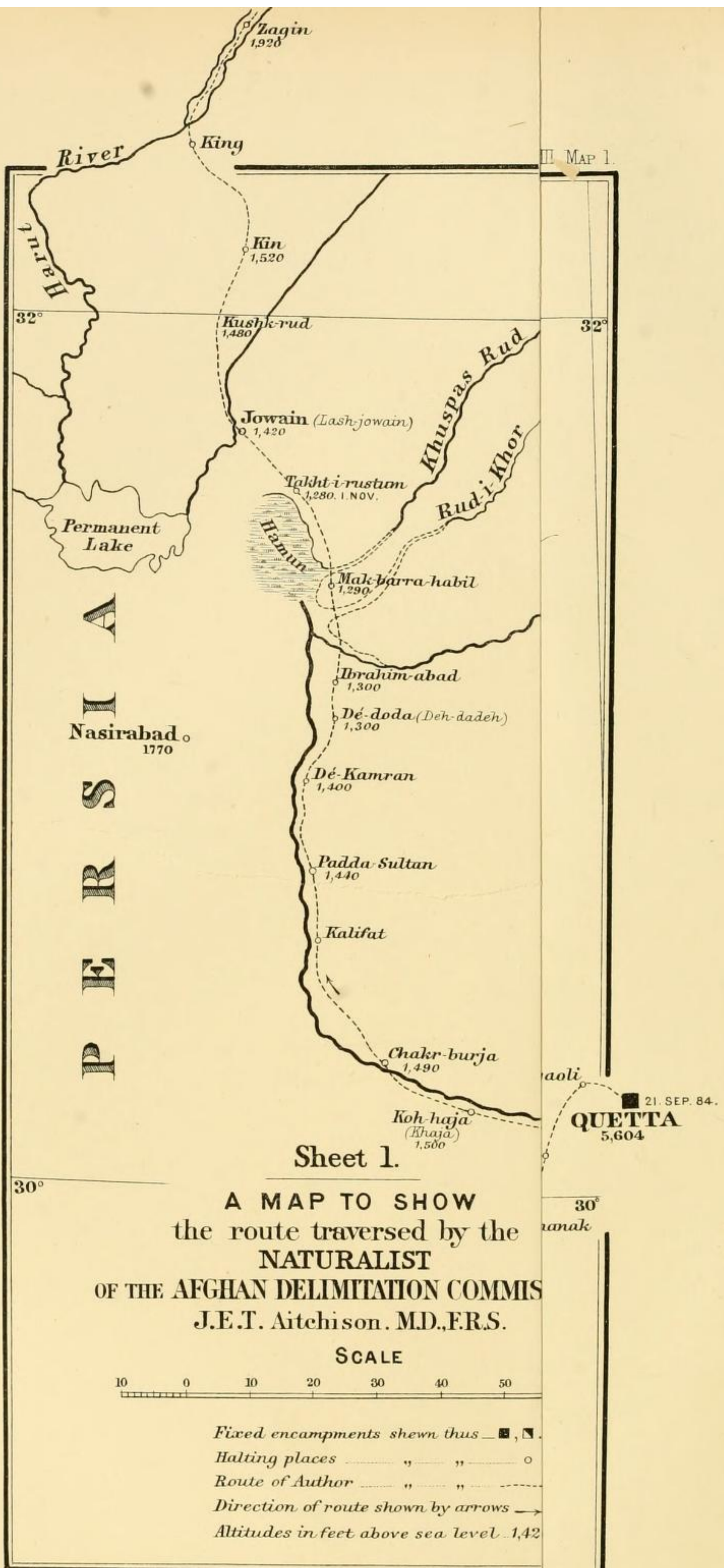


Sheet 1.
 A MAP TO SHOW
 the route traversed by the
 NATURALIST
 OF THE AFGHAN DELIMITATION COMMISSION.
 J.E.T. Aitchison. MD., F.R.S.

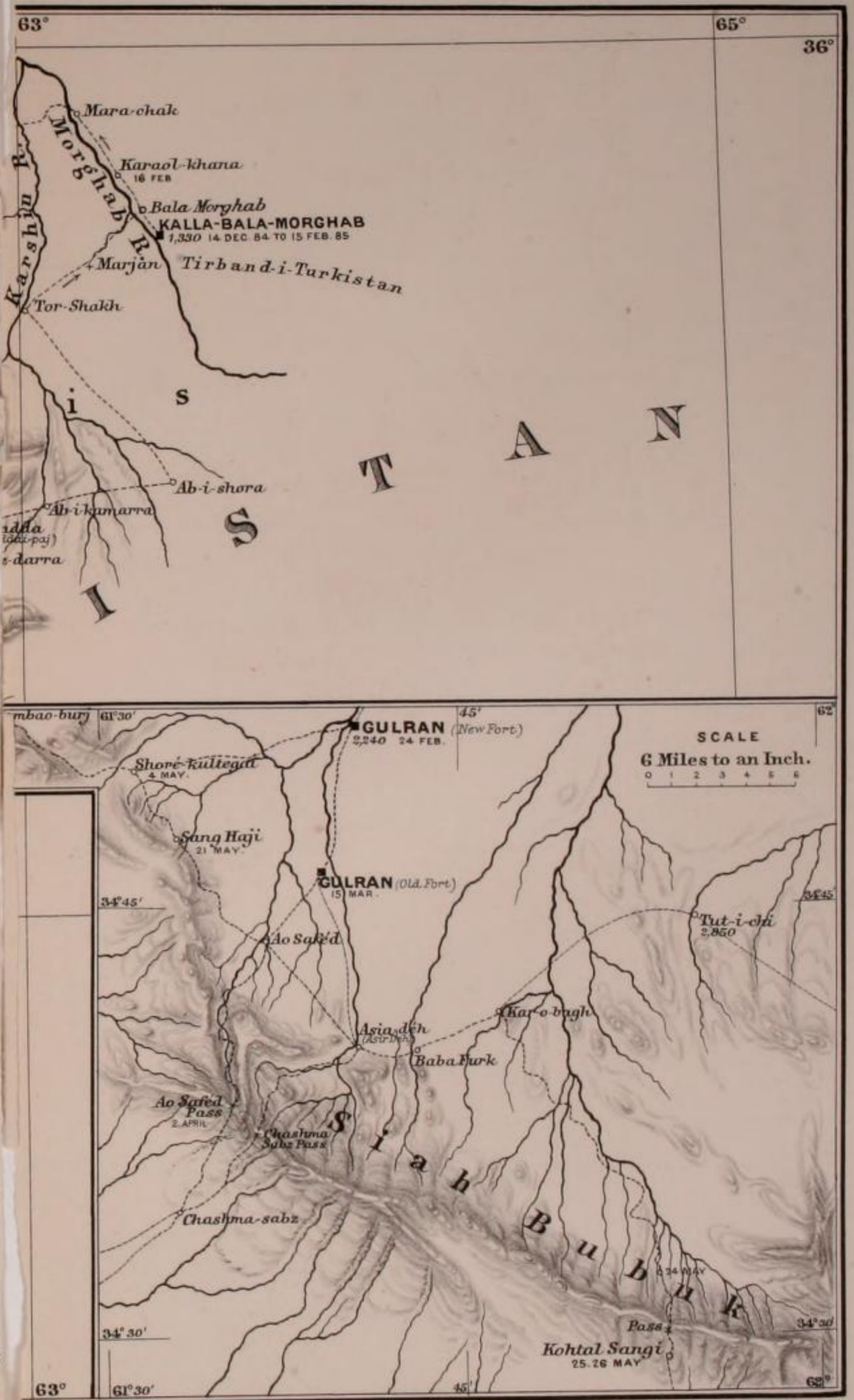
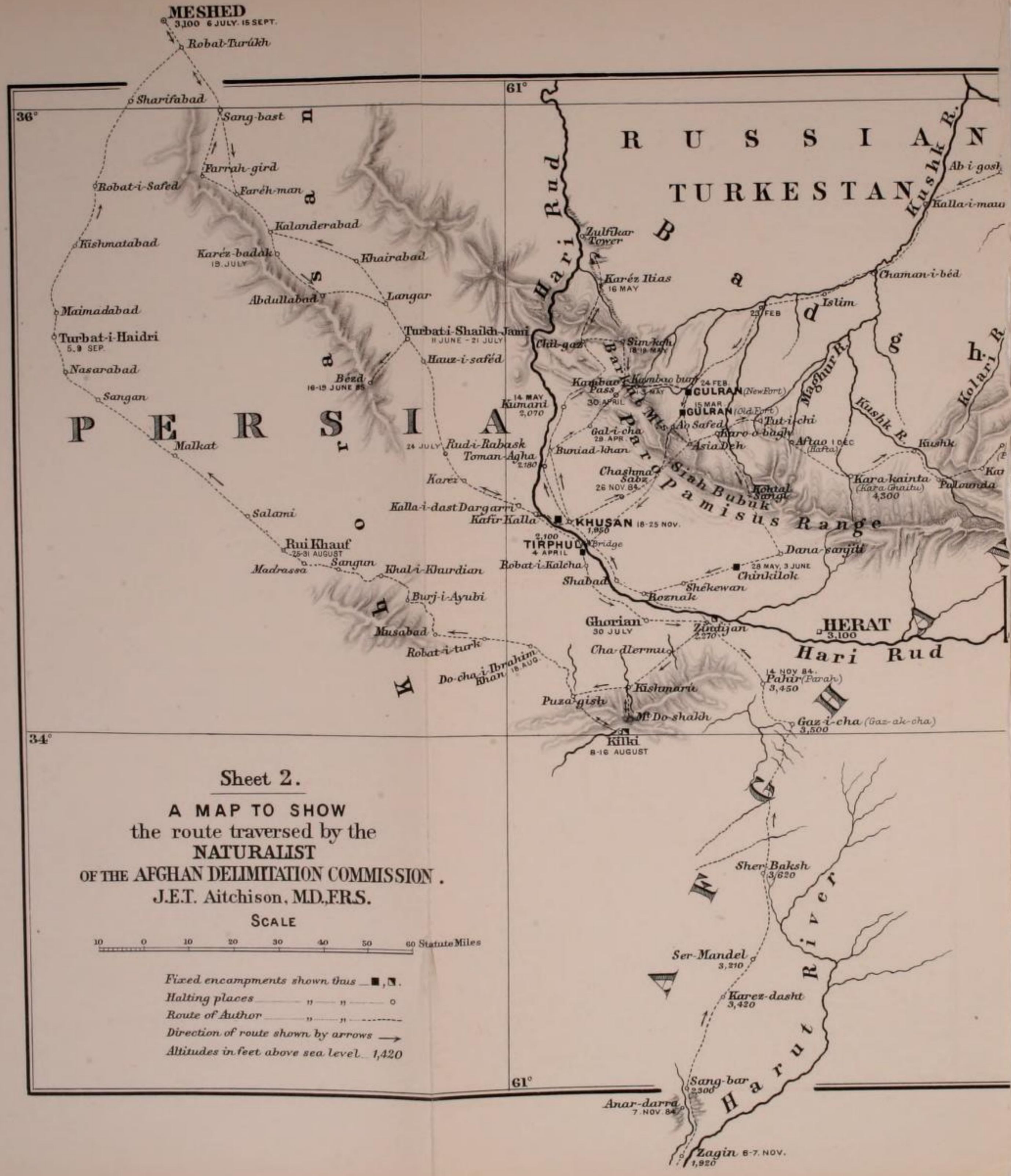


- Fixed encampments shown thus — ■ —
- Halting places — " — ○ —
- Route of Author — " — —
- Direction of route shown by arrows —>
- Altitudes in feet above sea level. 1,420

63° Long E. of Greenwich.







Sheet 2.
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SCALE
 10 0 10 20 30 40 50 60 Statute Miles

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(Plates VI.–XIV. and two Maps.)

Read 3rd February, 1887.

Introduction.....	By J. E. T. AITCHISON.
Mammals	By OLDFIELD THOMAS, F.Z.S.
Birds.....	By R. BOWDLER SHARPE, F.L.S., F.Z.S.
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Gall Insects	By G. B. BUCKTON, F.R.S., F.L.S.

INTRODUCTION.

IF the zoological collections which I have made do not answer the expectations of all, the difficulties which I have had to encounter in my work must be taken into consideration. On being appointed to the Mission, I was called upon to undertake the general duties of a naturalist, in addition to my more special calling of botanist. Previously to this I had never collected zoological specimens, and, owing to the very short notice of departure given to me, I failed in obtaining collectors, the Afghans, in this respect, being useless. Griffith remarked, fifty years ago, "Afghans will not collect;" and I can vouch for it they are still unchanged. Luckily for the undertaking, Mr. Wood Mason, of the Calcutta Museum, sent me two native taxidermists, who although useless as collectors, were invaluable in the honest way they worked as taxidermists and, in addition, arranged, labelled, packed, and sorted my various impedimenta, so as to allow of my having more time to devote to zoology.

I am greatly indebted to Lieut. Rawlins and Capt. C. E. Yate, both of whom liberally supplied me with birds whenever they had the opportunity, and I must here thank various members of the Mission who assisted me by procuring specimens, and who may not have been personally named elsewhere in this paper.

My collections comprise 290 species belonging to 210 genera, of which 32 species have been described as new.

Of Mammals I collected 16 species belonging to 13 genera, in addition to which 7 other species, belonging to 7 genera, were seen, of which I was unable to obtain specimens. The most interesting, as being the least known of these, as I learn from Mr. Thomas,

is *Ellobius fuscicapillus*, the original specimens of which were obtained many years ago near Quetta. The next point of importance is the extension of the geographical range of *Felis tigris* in Afghanistan as far east and north as Bala-morghab, and that of the Hunting Leopard (*Felis jubata*) to the valley of the Hari-rud; while the Egyptian Fox (*Vulpes famelica*) was obtained as far north and east as Kushk-rud and Kin, in the basin of the Harut river.

Of Birds, I collected 123 species, belonging to 82 genera, besides recognizing about 14 other species, specimens of which I failed to procure. Amongst these there are only three new species, namely, a Woodpecker (*Gecinus gorii*, Hargitt), a Sparrow (*Passer yatii*, Sharpe), and a Pheasant (*Phasianus principalis*, Sclater). With few exceptions all the birds observed were migratory, the exceptions being the Pheasant, Raven, Rook, Carrion-Crow, Jackdaw, Sparrow, Starling, the Sky-Lark (*Alauda arvensis*), the Large-crested Lark (*Galerida cristata*), the Bokhara Lark (*Melanocorypha bimaculata*), the Wall-creeper (*Tichodroma muraria*), the Bittern (*Botaurus stellaris*), an Owl, several of the *Raptores*, the Black-breasted Sand-Grouse (*Pterocles arenarius*), and a Red-legged Partridge (*Caccabis chukar*).

As spring advances, birds are seen to arrive, following each other very rapidly, such as *Aedon familiaris*, *Sylvia*, *Saxicolæ*, *Motacillæ*, *Lanius*, *Pastor*, *Merops*, *Coracias*, &c., &c. The various Ducks are then leaving, except the Brahminy (*Casarca rutila*), which breeds there and is resident throughout the year. The largest number of species occur in the genera *Saxicola* (8), *Lanius* (6), *Sylvia* (5), *Motacilla* (5), and *Emberiza* (4).

Of Reptiles there are 35 species, comprising Tortoise (*Testudo*), Lizards (*Lacertilia*) 21 species, of which 3 are new, Ophidians 13 species, of which 1 is new. The collections of Lizards Mr. Boulenger considers interesting, as much on account of good and numerous specimens as of the number of genera represented. Amongst the Ophidians there are fine specimens of the little-known *Naia oxiana*, heretofore only recognized from young and undeveloped specimens.

Of Batrachia there are only two species, *Rana esculenta* and *Bufo viridis*. Feeding on the latter was found a Leech (*Aulostomum gulo*).

Of Fishes I only managed to procure 7 species, belonging to 6 genera, 3 of which prove to be new. The most interesting species amongst them, owing to its geographical distribution, is *Schizothorax intermedius*, first found by Griffith in the Cabul river, an affluent of the Indus, and again by the Second Yarkand Mission in the great eastern drainage of Eastern Turkestan at Tang-i-hissar. The specimens obtained by myself were found in the tributaries of the Bala-morghab river, which drain to the north and west towards the Caspian.

The new species of *Schizothorax* described by Dr. Günther was collected in the Hari-rud and its tributaries only.

One hundred species of Insects were collected, of which 20 species have been described as new. The majority of these appear to be Arabian, North-African, Mediterranean, and Canarian types, some Central Asian (Turkestanian), very few Indian; but too few were collected to admit of generalization.

I made no collection of Butterflies (though a few were seen), owing to my not being

able to engage collectors. These only appeared in small numbers of the same species here and there when there was perfect stillness in the air. This stillness occurs so infrequently and at such irregular intervals that it would have required the entire devotion of one's time to collecting these insects alone. When the wind rose they were driven about like so many leaves, and seemed with difficulty to gain shelter. I never, to my knowledge, saw a perfect specimen, all were battered (one may say) to pieces, their wings becoming deeply irregularly fringed from continuous fractures and injuries.

Thanks to the courtesy and assistance of Professor Flower, the Director of the Natural History Museum, and to the kindness of Dr. Günther, I was enabled to exhibit the collections at the Natural History Museum, South Kensington.

I am indebted to the several officers of that Museum who have identified and described for me the species of which each has made a special study, namely:—

The Mammals, Mr. Thomas; the Birds, Mr. Sharpe; the Reptiles, Mr. Boulenger; the Fishes, Dr. Günther; the Insects, Mr. Kirby and Mr. Waterhouse; and the Spiders and Crustacea, Mr. Pocock. To Mr. G. B. Buckton, F.R.S., I am obliged for his description of a gall-insect.

I alone am responsible for the localities with the references and remarks enclosed within brackets and initialed J. E. T. A.

MAMMALS.

By OLDFIELD THOMAS, F.Z.S.,

Assistant in the Zoological Department, British Museum.

[Since the following notes on the Mammals of Afghanistan, brought home by Dr. Aitchison, were written, I have received a paper by Dr. J. Scully "On the Mammals and Birds collected by Captain C. E. Yate, C.S.I., of the Afghan Boundary Commission" (J. A. S. B. lvi. pt. ii. p. 68, 1887), and therefore practically a paper on an almost precisely similar set of Mammals to those here described. Thirteen species are there referred to, two being new; of these, one (*Spermophilus bactrianus*) is not represented in Dr. Aitchison's collection, while the other (*Ellobius intermedius*) is evidently the same as my No. 11.—O. T.]

1. FELIS TIGRIS, L.

a. Skin and skull. Karaol-khana.

This Tiger has the rich coloration of Bengal specimens, and shows no approximation to the greyer and longer-haired type found further north.

[Blanford, Eastern Persia, ii. p. 34.

Afghans call the Tiger *Báber*; Turkomans *Yúlbars*.

During the march of the Afghan Delimitation Commission from India to Khusan, the question whether we were ever likely to meet with a Tiger was often discussed,

and I think the general view was against the assumption. However, on Sir Peter Lumsden, G.C.B., and his party joining our camp at Khusan, our views began to change, as we heard from them that they had seen the *pugs* (footprints) of Tigers in the valley of the Hari-rud; and the native report was that we were in the land of Tigers. On the 19th January, 1885, at our camp at Bala-morghab the body of a female Tiger was brought to the General. It had been caught in a trap by the neck, then shot, and frequently stabbed, as the skin was a good deal injured by knife-cuts. It was evidently an old animal, the teeth being broken and much worn away. It measured 8 feet $4\frac{3}{4}$ inches from the tip of the nose to the end of the tail, the tail alone measuring 36 inches; and from the spine above the shoulder to the base of the second claw on the fore foot measured 3 feet 8 inches. The skin was in good condition, and in no way mangy, which was remarkable, considering the age of the animal and its worn away teeth. It was killed near Karaol-khana, between that and Mara-chak on the Bala-morghab river. The arrival of this Tiger in camp settled, beyond mere hearsay and impressions, the fact that Tigers exist as far east as the Bala-morghab. On the 5th May, at the Chashma-sabz pass, at an elevation of 5000 feet, I came across the playground evidently of a pair of fine animals, which, from the very recent condition of their *pugs*, must have been close in our neighbourhood. Again near Toman-agma, on the Hari-rud, I saw their markings plentifully. During summer, owing to there being so much suitable cover for Tigers, they wander over the great rolling plains of the Badghis, ascending to higher altitudes with the increase of heat, depending for their food on Pig, Oorial, and even Ibex. In winter they resort to the Tamarisk and grass thickets of the larger streams and main rivers, to which their usual food, the Pig, also retires. The Turkomans say that an old and toothless Tiger is especially destructive to sheep, hunger and inability to obtain other food making him very bold and cunning. They assert that such a Tiger will follow a man on horseback, wait until he has taken his food, and has lain down to rest, and will then attack him in preference to his horse.

At Bandar-i-ghaz, the port of Astrabad, on the Caspian, there was a fine Tigress in captivity, some six or seven months old, which was said to have been caught on the Hari-rud between Sarakhs and Pul-i-katun: this I purchased, and after many difficulties managed to place safely on board an English steamer at Batoum, bound for England. It is now in the Zoological Gardens of London, having been presented to the Zoological Society by the Government of India in Council.

The above data confirm Ferrier's statements, that Tigers exist in the thickets of the Hari-rud, and extend their geographical area as far east as the Bala-morghab river. —J. E. T. A.]

[FELIS JUBATA, Schreber.

Blanford, *tom. cit.* p. 35.

A pair of young Hunting Leopards were obtained by Sir Peter Lumsden's party in their journey through Persia towards Afghanistan, in the watershed of the Hari-rud river, on the southern slopes of the mountains that separate the waters of the Zroabad

from those of the Turbat-shaikh-jami river. These I saw when only two or three weeks old. Their general colouring, the extreme length of their tails in proportion to their bodies, and their soft woolly fleece, led me to conclude that they were the young of *Felis uncia*. I therefore strongly urged their owner, my friend Nawab Mirza Hassain Ali Khan, to send them by the very first opportunity to England. They arrived safely at Quetta, where one died; I have since seen the second, grown a splendid animal, at the Zoological Society's Gardens in London.—J. E. T. A.]

2. FELIS CAUDATA, Gray.

a. Skin. Bala-morghab.

This specimen, a bad skin without a skull, agrees very fairly with the type of Gray's "*Chaus caudatus*" (P. Z. S. 1874, p. 31, pls. vi. & vii.) from Bokhara. Its bad state, however, prevents any further light being thrown by it on the doubtful question of the distinctness of *F. caudata* from *F. chaus*, Güld.*

[The skin of this Cat was obtained almost fresh, so that it must have been killed in the vicinity of our camp at Bala-morghab.—J. E. T. A.]

3. FELIS DOMESTICA, L.

a. Bala-morghab, 31/1/85.

[CANIS LUPUS, L.

Blanford, *tom. cit.* p. 37.

Local names *Ghurk*, *Gurg*.

On the 9th November at Karez-dasht, South-west Afghanistan, with my glasses I distinctly recognized a Wolf. In the Badghis during winter Wolves are said to be common, but I neither obtained skins nor did I ever see one.—J. E. T. A.]

[CANIS AUREUS, L. ?

Blanford, *tom. cit.* p. 37.

Local name *Shakal*.

Jackals were occasionally heard, but are not generally common, as in my journal for the 30th June I note, "Last night heard a few Jackals, the first time I do not remember since when." In Khorasan Capt. Griesbach gave me a young one, but it was in such an unhealthy condition that I had to shoot it. The skin was not worth keeping.—J. E. T. A.]

4. VULPES PERSICA, Blanford (?) †.

Blanford, *tom. cit.* p. 39, pl. ii.

a. Bala-morghab.

This skin, like that of *Felis caudata*, was purchased in its present state in Bala-

* The same is also unfortunately the case with the specimen referred to by Dr. Scully, *t. c.* p. 69.

† This is probably the same Fox that Dr. Scully refers to *V. montana*, Pears.

morghab, and is without a skull. It is therefore almost impossible to decide for certain to which of several nearly allied races of Foxes it should be referred.

5. VULPES FAMELICA, Rüppell.

a. Skin and skull. Between Kushk-rud and Kin, November 3, 1884.

The discovery of the Egyptian Fox in Afghanistan is of some interest, as it confirms Mr. Blanford's determination of the Bushire Fox, in his work on Persia*, and at the same time extends the known range of the species to a very considerable extent. The skin obtained by Dr. Aitchison agrees in every respect with Rüppell's description†, and I have little hesitation in referring it to *V. famelica*, although it is just possible that a direct comparison of the skulls of the two forms might show them to be distinct.

[Foxes (local name *Roba*) were commonly seen all over the route traversed. On the Helmand they were most numerous, and there get the credit of disturbing graves to such an extent that the relatives have to place various objects on them to frighten off these pests by their noise or motion. Sometimes smouldering fires are even kept up for the same purpose.—J. E. T. A.]

6. PUTORIUS SARMATICUS, Pallas.

a. Skull. Gulran.

Capt. Hutton (J. A. S. B. xiv. p. 346, 1845) has given an excellent account of the habits of the Mottled Polecat, as observed by him at Kandahar.

[URSUS, sp.

Blanford, *tom. cit.* p. 47.

At Bala-morghab several persons who lived between that and Maimana told me that in the hills between these two places are to be got two kinds of Bears, one red (called locally "*Khirsa*") and one black (called "*Kul*"). I saw no skins, nor could I obtain any.—J. E. T. A.]

7. ERINACEUS ALBULUS, Stoliczka.

a. Tirphul, 7/4/85. *b.* Bala-morghab. *c.* No history.

This species was hitherto only known from Yarkand, where several specimens were obtained by the two Indian Yarkand Expeditions (*cf.* Blanford, 2nd Yark. Miss., Mamm. p. 14, 1879). *a* is an excellent specimen, in spirit, caught alive by Dr. Aitchison; *b* and *c* are dried and headless skins, and were picked up in their present state.

[A Hedgehog seems to be very common over the whole Badghis, for pieces of the spine, bearing portions of the skin, were daily picked up. I, however, only succeeded in getting one live specimen, an adult. The local names are "*Khar-pusht-ak*" and "*Khal-posh*."—J. E. T. A.]

* Zool. Geol. Eastern Persia, ii. p. 41 (1876). See also Selater, P. Z. S. 1875, p. 420.

† Atlas, Zool. pl. v. p. 15 (1826).

7*. [*Spermophilus bactrianus*, Scully, *l. c.* p. 70, may be added in here as an additional species.]

8. GERBILLUS ERYTHRURUS, Gray.

a. Gulran, 25/2/85. *b.* Between the Hamun of the Helmand and Khusan.

[Blanford, *tom. cit.* p. 70.

The obtaining of the above two specimens extends the area of the range of this *Gerbillus* northwards to Bala-morghab, and gives a link between Kandahar and Shiraz.—J. E. T. A.]

8*. [Insert *Mus bactrianus*, Bly., as an additional species (Scully, *t. c.* p. 72).]

9. CRICETUS PHÆUS, Pallas.

a. Bala-morghab, 23/1/85.

Blanford, *tom. cit.* p. 58.

10. ARVICOLA MANDARINUS, Milne-Edwards (?).

a, b. Gulran, 13/3 and 1/4/85.

These two Voles quite agree with the Afghan specimen doubtfully referred to *A. mandarinus* by Mr. Blanford in his paper on the Arvicolæ of this region (J. A. S. B. 1. pt. ii. p. 108, 1881). The following are their measurements, in spirit:—

	Head and body. millim.	Tail. millim.	Hind foot. millim.	Forearm and hand. millim.	Ear (above crown). millim.
<i>a.</i> ♂	87	24	16·0	23	6·0
<i>b.</i> ♀	94	26	16·1	23	6·5

Foot-pads 5-6. Mammæ 2-2=8.

10*. [Insert *Arvicola guentheri*, Danf. & Alst., as an additional species (Scully, *t. c.* p. 72).]

11. ELLOBIUS FUSCICAPILLUS, Blyth †.

a, b. Gulran, 19/3 and 1/4/85. *c.* Bala-morghab, 15/1/85. *d.* Karaol-khana, 15/2/85.

This species is by far the most interesting of the Mammals found by the Commission, as it was hitherto only known from the type specimens obtained more than forty years ago at Quetta, and described as *Georychus fuscicapillus* by Mr. Blyth ‡, who later § formed a special genus, *Myospalax*, for their reception. In order to find out the true

† Dr. Scully (*t. c.* p. 73), than whom there is no better authority on such a point, describes this animal as a new species, under the name of *E. intermedius*. The cranial and dental characters he gives, however, although at first sight they would naturally appear to be of specific importance, prove to be so variable within the present series that I feel I must still adhere to the above determination, despite the advantage Dr. Scully has of me in being able directly to compare the Afghan specimens with Blyth's original types.

‡ J. A. S. B. xi. p. 887 (1842).

§ J. A. S. B. xv. p. 141 (1846).

relations of this so-called "Quetta mole," Mr. Blanford, when working out the North-Indian Voles in 1883*, obtained one of the typical specimens from Calcutta, and showed that the species really belonged to the genus *Ellobius*, giving at the same time excellent figures of its skull and dentition. No other specimens seem ever to have been obtained, and these four well-preserved spirit-specimens, the only ones in Europe, are therefore of considerable value for the elucidation of the species. The following are their measurements, which are, of course, far more trustworthy than any taken from dried skins:—

	Head and body. millim.	Tail. millim.	Hind foot. millim.	Forearm and hand. millim.
<i>a.</i> ♀	127	16·0	20·5	35·0
<i>b.</i> ♀	98	14·0	21·0	33·0
<i>c.</i> ♂	103	12·0	19·4	31·0
<i>d.</i> ♂	115	16·0	20·6	34·5

The ear-conch is not so entirely aborted as in the Spalacidæ, but forms a small triangular projection some two or three millimetres long. The soles are smooth and ungranulated, and the pads, of which there are 5 on the fore and 6 on the hind feet, are low and little prominent. The mammary formula is 2—1=6.

The other characters of this species, being observable in skins as well as in spirit-specimens, have been fully described in Mr. Blanford's paper above referred to.

[This curious bull-dog headed, mole-like Rat, with enormous incisor teeth for its size, was said by the natives to be common, but that it was rarely seen unless dug out of its burrows. The whole of the Badghis was, in many places, perforated like a sponge from the burrowing of this as well as other rodents, species of which were not obtained, owing to the restrictions placed upon my work and my having no men with me who had been trained as collectors. Owing to these burrows, in many places the country was very unsafe to ride over, as on our marches on the 21st, 22nd, and 23rd February, 1885, between Islim and Gulran. On these marches I saw what I believe to have been Marmots, but was not lucky enough to procure specimens.]

The Badghis is just the country for small rodents, from the loamy, sandy, soft soil, easily worked in, and the numerous plants with large tuberous roots, ready to supply them with food and drink.—J. E. T. A.]

12. ALACTAGA INDICA, Gray.

a, b. Sim-koh, 18/5/85. *c.* Between the Hamun of the Helmand and Khusan.

Measurements in spirit:—

	Head and body. millim.	Tail. millim.	Hind foot. millim.	Forearm and hand. millim.	Ear (above crown). millim.
<i>a.</i> ♀	105	161	54·5	26	38
<i>b.</i> ♀	102	165	50·0	26	35

* J. A. S. B. l. p. 118, pl. ii. (1881).

[These specimens supply a link between Shiraz and Afghanistan to the east of the Hamun of the Helmand, besides extending the range of this Jerboa as far north as the Sim-koh hills. See Blanford, *t. c.* p. 77.—J. E. T. A.]

13. LEPUS TIBETANUS, Waterhouse*.

Blanford, Second Yark. Miss., Mamm. p. 63 (1879).

a, ♂, weight 3 lb. 4 oz., De-kamran, 26/10/84. *b*, ♂, weight 3 lb., Tirphul, 9/4/85. *c*, *d*, ♂, weight 3½ lb., and young, Gulran, 23/2 and 9/3/85.

[Hares were met with along our entire route, and all apparently of one species. They were small; the heaviest I have noted was procured on the 23rd February, and weighed 3 lb. 8 oz. Except on the march between Kushk-rud and Kin, they were never seen in any numbers. Owing to the reports of the natives of these parts, it was considered unsafe to eat their flesh, and hence a general aversion arose to doing so in camp. I do not believe a single one was eaten, though many of the natives looked for a time as if they could have eaten anything.—J. E. T. A.]

13*. [Insert *Lagomys rufescens*, Gray, as an additional species obtained by the Commission (Scully, *l. c.* p. 75).]

[EQUUS HEMIONUS, Pallas?

Blanford, Eastern Persia, ii. p. 84.

Locally called *Gor-khar*, and by the Turkomans *Gulam*.

We were certainly in the country of the Wild Ass. They were first seen on the march between Tut-i-chi and Aftao on the 30th of November, 1884, where, owing to a cavalry brigade of the Afghan army marching some little distance from us they drove to us, or we to them, herds of these as well as Wild Sheep and Gazelles. The two combined camps, with their long string of impedimenta, had disturbed a country of game, over which but seldom any human being had traversed for many years back. The excitement was great, but, alas! no specimens were obtained. We next met with the Wild Ass on our last march into Gulran, on the 23rd February, on which occasion one was come upon suddenly in the dark, as if he were standing fast asleep, but he was off into the distant darkness long before he could be shot at. They occupied the country in the vicinity of Gulran, as they were known to have attacked and injured some Mules and Donkeys that had been turned loose to graze. On the 16th March a small herd, probably of a dozen, were seen close to our camp, at our second Gulran encampment.

In my march from Gal-i-cha to the base of the Kambao Pass, on the 29th of April, 1885, I had to cross the northern end of a great plain called "*Gulam-i-maidan*," or the plain of the Wild Ass. At the time I crossed it, it was one great field of the most splendid verdure, consisting chiefly of grasses and *Umbelliferæ* in their spring clothing, of herbs and shrubs, probably not one over four feet in height, not a tree to be seen to break the

* Dr. Scully refers this hare to *Lepus lehmanni*, Severtz., but there can be little question that Severtzoff's species, of which we have in the Museum specimens from the original locality, is not really separable from the earlier described *L. tibetanus*, Waterh.

landscape, but simply a great plain extending for some thirty miles and ending by being lost in the outer hills of the Barkut and Siah-koh ranges. This was the great historic plain of the Wild Ass. My guide took me to a slight elevation, and from it pointed out to me where I was to look for the animals: for some time I could see nothing; at last, whilst using my glasses, I noticed clouds of dust, like the line of smoke left in the track of steamers. This was what the guide wished to attract my attention to, and what he wished me to look for; these several lines of dust-cloud were caused by herds of Asses, galloping in various directions over the great plain. One herd came well within a mile's distance; from its extent, I am even now of the opinion which I then held, that the herd consisted of at least 1000 animals. I counted sixteen of these lines of dust-cloud at one time on the horizon. My guide said that at this period of the year the Wild Asses are always united in great herds on that plain, owing to the mothers having their foals at foot, but that in a few weeks the great herds would break up, and the animals would spread themselves all over the country in parties of ten to twelve. This is the season at which the young are caught, by riding them down; usually, the mother will not leave, viciously attacking men and horses upon their coming near her foal. It is a very rare circumstance to get a foal unless by shooting it.

This splendid open country, covered with the most excellent fodder, chiefly fine grasses, which occur as an earlier and later grass, a sufficiency of water, with great saline plains in the vicinity, impressed one greatly as to its value for the purposes of horse-breeding.

We came across a piece of ground over which a herd of these animals had recently passed, in all probability that morning; the soil was soft, and it had been covered with a fine crop of grass; over this the herd had left a track, as wide as an ordinary road, which was seen to extend, like a road, for some distance. Between Karez-dasht and Sher-baksh, to the south-east of the Do Shakh range, we were informed was a locality for the Wild Ass, also the country between Kushk-rud and Zagin, still further south, but I did not hear of any having been seen by members of the Mission.

No specimens of this animal were obtained.—J. E. T. A.]

[HYSTRIX, sp.

Blanford, *tom. cit.* p. 80.

Locally called *Shogle*; by the Turkomans *Kara-kosh* and *Sikh-aol*.

On two occasions the remains of a Porcupine were picked up, and once one was sent to me by Captain Maitland, in the Badghis: frequently their quills were found at the mouths of their burrows, but no specimens were secured. The natives say that they are not uncommon; their flesh is used medicinally, as well as being regularly eaten by a class of people called *Shaufi*, who live near Teheran.—J. E. T. A.]

[SUS SCROFA, L. ?

Locally called *Khuk*, *Khanzir*.

A Wild Hog was found to be very common, from the Hari-rud through the Badghis

to Bala-morghab. On the march between Ab-i-shora and Tor-shakh we came upon the carcass of an old Boar that had just been killed; it had attacked and killed a Camel and injured a man. I took its measurements, it was 64 inches from the tip of its nose to the end of its tail, and 37 inches from the hair on its fore foot to the top of its shoulder. In addition to the usual bristles and coarse hair, it had a thick matting of shorter and soft, *pashmina*-like wool. It was a great fat brute of a dirty white colour all over. This, with the remains of one which must have been a giant amongst its race, that lay on our route close to our camp at Kalla-i-maur, 18th February, 1885, were the only two specimens with which I came in contact. The hair and bristles on the latter were deep black.

On one or two occasions Pigs were ridden at and killed (speared) by some of the party, and frequently they were seen in great herds; but owing to the religious prejudice relative to this animal, I was unable to obtain specimens for Museum purposes, although several good opportunities occurred for doing so.

These Pigs were a great pest to those shooting Pheasants at the nearest locality to our camp at Bala-morghab, as they were heard grunting and blowing in the dense cover close to the shooter, who was never very certain whether they might not rush out and make an attack on him. During the early summer they wander over the whole country, as then there is abundance of water from the melting snows in the valleys leading down from the hills, as well as quantities of fresh food, in the form of roots and bulbs. They regularly hunted for the bulbs of an *Arum* that grew at the base of bushes in the valleys of the low ranges of hills. I used often to follow their tracks to see what roots they chiefly dug up. During summer there is plenty of cover for them all over the Badghis. Often we came across their remains in localities over which one would never expect they would wander, until a season's experience of this country had opened out one's ideas. In winter they keep to the great stream-bed, and hide in the dense Tamarisk and grass thickets. Where there is cultivation they are a perfect nuisance to the cultivator, especially in the way they attack fields of melons. Amongst these the owners build small walled enclosures with loop-holes, from which to fire on them at night. Until summer came I could not make out what these miniature fortifications could possibly be intended for.—
J. E. T. A.]

14. OVIS CYCLOCERUS, Hutton.

a. Head; Gulran. *b, c.* Skulls, with horns; Gulran. *d.* Head of young; Kambao, 1/5/85. *e, f.* Heads; Khusan, 22/11/84. *g-i.* Heads; Bala-morghab, 12/84. *j.* Immature skin; Chasma-sabz Pass, 27/11/84.

These specimens all agree very closely, and are of the most pronounced *cyclocerus*-type, none of them approaching the Sha-poo (*O. vignei*), from which, however, many zoologists think that *O. cyclocerus* is hardly separable. The finest horns are those of specimen *a*, which measure 36 inches in length round the curve, and 23 inches from one horn to the other, between the most distant points of their outer edges.

[Blanford, *tom. cit.* p. 87.

Locally named, the male *Mal*, female *Mesh*.

This Wild Sheep (or *Oorial* of the Punjab) is very numerous on the higher ground and lower ranges of hills throughout the Badghis, from 2000 feet and upwards. I saw a skull and horns at a *Ziarat* or Shrine, on the 2nd December, 1884, between Karakainta and Kushk. These horns, although both tips were broken off, measured 36 inches. Sir Peter Lumsden made over to me at Khusan a very fine head, in which the horns are entire, and of which Mr. Thomas has given the measurements.—J. E. T. A.]

15. CAPRA SIBIRICA, Pallas.

Blanford, Second Yark. Miss., Mamm. p. 87 (1879).

a. Skull and horns; Bala-morghab. *b, c.* Heads; Bala-morghab, 12/84.

[Locally named, the male *Thakka*, the female *Burz-i-kohi*.

The Ibex was very numerous, and frequently seen on the more rocky parts of the Badghis, although only one was shot by any of the members of the Mission, and that was at a drive, on the 23rd December, 1884, at the Kara-jungle Peak, and at which I was not present. I am indebted to Major Rind for one of the above heads. The Ibex occurs, along with the *Oorial*, on ground where one would never expect them; but to understand their peculiarities here, one must study the country. There are, of course, the great extending rolling downs, varying in elevation from a few feet to a thousand, where these waves suddenly come together, and a little more cover is formed by blocks of sandstone having been clean washed, of all their loam; here the *Oorial* are very common, and extend more or less along the sides of the more precipitous downs. The rocks in localities such as the Sim-koh country and Kambao Pass, suddenly spring out distinct from the rolling plains on all sides to a few hundred feet in height; these sudden perpendicular ridges are the ordinary haunts of the Ibex, but they are continually seen wandering between such localities, making from one to another, and in doing so have to cross over the ordinary *Oorial* ground. I once met a herd which I tried to ride down, and almost succeeded. The total absence of human beings over the country I traversed is no doubt the reason why these animals were so numerous, and occurred on such different ground from that on which they usually resort. The largest flock of Ibex I saw was on the Doshakh range, close to the Puza-gish stream, upon precipitous limestone rocks up which no human being could possibly have climbed.—J. E. T. A.]

16. GAZELLA SUBGUTTUROSA, Gldenstadt.

a. Head and feet, ♀; Gulran, 29/11/84. *b.* Horns; Khusan. *c, d.* Two pairs of horns, and a large number of odd feet, taken from a temple at Gal-i-cha.

The separate head (specimen *a*) has a nearly perfectly white face, but there seems to be no reason to suppose that this is more than an individual variation.

[Blanford, Eastern Persia, ii. p. 91.

Locally named *Ahu*; the male *Thakka-i-Ahu*, the female *Burz-i-Ahu*.

This animal, or a closely allied species, was occasionally seen along our whole march from Quetta to Khusan, but no specimens were procured. From a shrine at Gal-i-cha, in Baluchistan, on the 13th October, 1884, I got some horns and feet, which Mr. Thomas thinks belong to this species, as well as the head of a Doe that Major Durand shot in the Badghis, about the 30th November, 1884. The markings on this head were very pale originally.

In the low hills and great gravel plains of the valley of the Hari-rud I have seen them everywhere, but I never got within shooting distance of them. They are very cautious and wary, usually in groups of three or four, feeding at short distances from each other; on being alarmed they close together and gallop off; as one alarmed herd was seen to move off, others in their vicinity did the same. On the 30th November, between Aftao and Tut-i-chi, owing to the immense line of our camp, and at some little distance that of the Afghan cavalry, the country was accidentally driven. The consequence was that large numbers of the small herds became united, and thus in place of seeing them in fours or fives, several members of the Mission told me that they had seen herds numbering hundreds of individuals flying between the two moving camps. About the 2nd June, 1885, at Chinkilok, to the north-west of Herat, some 20 miles between the Khotal-sangi Pass and Herat, I picked up a young female Gazelle of this species; it was a day old; at Turbat-i-haidri, Khorasan, I got a pair (male and female) of the same age as my first one, and at Meshed the Nawab gave me another young male. I brought these four alive to England; they are now in the Zoological Gardens in London, and look well and healthy; the males have fine horns.—J. E. T. A.]

[CERVUS MARAL, Ogilby*.

Blanford, *tom. cit.* p. 95.

At a shrine between Kara-kainta and Kushk, on the 2nd December, 1884, I saw a magnificent pair of very old horns, which in all probability were those of this species of Stag, which had been brought as a votive offering many years ago, when the geographical area of this animal may have extended much further east than it now does.—J. E. T. A.]

* Dr. Scully refers an antler from the banks of the Oxus, near Balkh, to *Cervus cashmirianus*. Falc.