



Caprinae



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Editorial

Please remember to keep submitting articles for your newsletter – Thank you.
David Shackleton
 Editor

Status and new records of Ladakh urial (*Ovis orientalis vignei*) in northern Pakistan

Introduction

The Ladakh urial (*Ovis orientalis vignei*) was once a common member of the fauna of northern Pakistan. Its range encompassed most of the Western Himalayas (Himalayan/Karakoram/Hindu Kush mountain region) on rolling slopes at middle elevations, from 1,500 m to above treeline (Schaller 1975, Roberts 1997). Historically, urial at higher elevations made altitudinal migrations to lower valleys to avoid winter snows (Schaller 1975, Fox *et al.* 1991). Unfortunately, these elevations and habitats correspond to the region most heavily utilized by humans, and a combination of overhunting, disturbance, and competition with livestock, has driven the subspecies to the brink of extinction. It is now listed by IUCN (2002) as Endangered (ENC2a), with perhaps a combined total of <1,500 individuals in Pakistan and India.

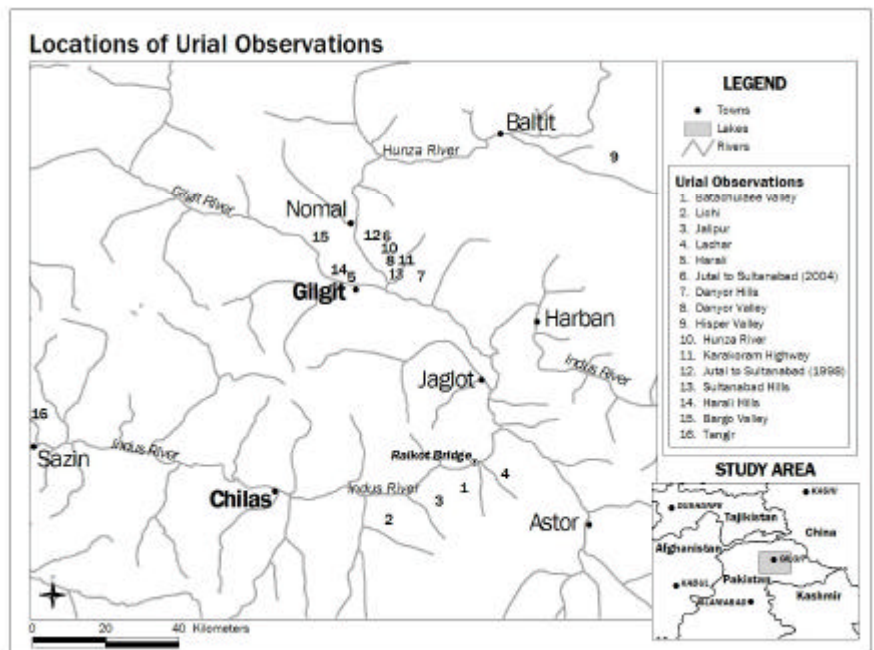
The last estimate of the total Ladakh urial population in Pakistan was <600

(Hess *et al.* 1997). In Pakistan, these urial are now primarily confined to Chitral District in the Northwest Frontier Province and Baltistan District (Skardu region) in the Northern Areas. However, a small population is recorded in Hispar Valley, Nagar region of Gilgit District. Although Hess *et al.* (1997) found “no evidence of its presence within the whole area along the Gilgit and Indus rivers upstream from Gilgit to downstream from Chilas,” a small population has been recorded in that region in Bunji Valley of Diamer District (IUCN-Pakistan pers. comm.).

Location

Southern Gilgit and Diamer Districts are located in the Northern Areas of Pakistan at roughly 35°N, ranging along the Indus drainage from about the mouth of the Hunza River in the north, to Kohistan in the south (see Map). This area was once classic urial range, and is an arid

subdesert, with lower slope precipitation ranging between 100 and 200 mm a year and temperatures soaring over 45° C during summer days. In the mountains on either side of the Indus there are definite floral zones. Below 1,800 m is essentially barren and rocky desert with little vegetation outside of villages with their irrigated crops. Above 1,800 m, vegetation is dominated by sagebrush or wormwood (*Artemisia*), while scattered oak (*Quercus baloot*) and juniper (*Juniperus macropoda*) appear around 2,100 m. At higher elevations, between 2,500 to 3,800 m, there are often open pine forests (*Pinus wallichiana* and *P. gerardiana*), with juniper and patches of deodar cedar (*Cedrus deodara*) and spruce (*Picea smithiana*). Above 3,800 m, woody vegetation is limited to juniper and shrubby Himalayan birch (*Betula utilis*). Most peaks in this region range from 4,000 to 5,100 m, although the enormous massif of Nanga Parbat, at 8,125 m, dominates the region.



Methods

From November 2001 through May 2002 a survey was conducted for flare-horned markhor (*Capra falconeri falconeri*) and other wildlife that encompassed over 50 valleys in southern Gilgit and Diamer Districts. Most of these valleys not previously been surveyed for wildlife, so records were also made of all species of interest, including urial. We used 2 approaches. The first was the use of a survey questionnaire to collect data on local people's estimates of past and present numbers of wildlife in their area, population trends, local hunting pressure, locations where wildlife could still be found, and public perceptions of wildlife, especially regarding hunting and conservation.

The second method was to conduct surveys of each valley to estimate markhor numbers. The survey methodology was derived from Jackson and Hunter (1996) and involved direct samples using 2 fixed point counts and 2 random point counts per valley or major valley segment, as well as general transect surveys during travel to and from point count locations. Fixed point count locations were determined from the questionnaire, as local people were asked for the most likely locations in the valley to view markhor. Random point count locations were derived from a random number table. When possible, local villagers accompanied the team to assist in finding locations and spotting wildlife.

Results

Only one herd of urial was seen by the survey teams (see below). All other information on urial distribution and status was determined from the survey questionnaires and through discussions with local shikaris (hunters) and villagers. **(For location numbers shown below, please refer to the Map).**

On the morning of 13 January, 2003, the Wildlife Conservation Society survey team spotted 13 urial in a herd in Batachulaee Valley (1), a small valley in Diamer District next to Jalipur Valley and near Tatta Pani Raikot. This sighting was subsequently confirmed by local people during interviews (see below).

Three other valleys surveyed in Diamer were Lichi (2), Jalipur (3), and Lachar (4). During interviews in Lichi and Lachar

valleys, locals stated that their valleys still had small populations of ungulates, including urial. They also said that hunting pressure is still heavy. In Jalipur and Batachulaee, local inhabitants reported a population of urial in the area, numbering at least 25 individuals. Apparently these urial move between Gunar and Raikot valleys.

As a follow-up to the surveys, a series of targeted interviews were held with shikaris (hunters), shepherds, and other knowledgeable people in the region. These interviews led to the following information about urial.

In December 2003, a local shikari saw a herd of 24 urial in the Harali area, apparently coming to drink at the Gilgit River. Harali (5) is a large region in Gilgit District between the right side of the Hunza River and the left side of the Gilgit River above Kono Dass and Sakar Koi Gilgit village. This area is used by Gilgit town communities and Bagrot valley's shepherds for livestock in autumn, winter and spring. In January 2004, a forest guard saw a herd of 6 urial between Sultanabad and Jutal (6), and another herd of around 15 were seen above the hills of Danyor (7). It is believed that the 24 urial in the Harali area, might have separated into smaller groups due to human disturbance from shikaris and shepherds, and that they crossed the Hunza River. Another shikari also saw a group of 6 urial in Harali near Bargo Valley (15); it is possible that this small group is also from the scattered herd of 24 urial.

There is a history of fairly recent urial sightings in the general Gilgit region. Two shikaris from Gilgit reported that in 1997 they saw 2 urial and shot both (adult females) in the Sultanabad area next to Danyor Valley (8). They also saw a group of 7 urial 6 years ago in the Huru area of Hisper valley in Nagar, district Gilgit (9). Another interviewee stated that in 1997, he saw some urial near the Karakoram Highway while travelling from Hunza to Gilgit. Apparently they were coming toward the Hunza River near Sultanabad (Gujar Dass) at night (10). A shikari from Napura (Gilgit) said he saw a herd of 12 urial about 7 years ago going uphill from the Karakoram Highway near Sultanabad (Gujar Dass) (11). Another shikari from Gilgit stated that a friend saw a herd of around 15 urial between Jutal and Sultanabad in 1998 (12), and another

hunter from Ghizer district reported seeing a herd of 7 urial between Jutal and Sultanabad (he shot an adult male) in 1998. A shepherd from Sultanabad (Gujar Dass) saw 3 urial 3 years ago above Sultanabad (Gujar Dass) hills (13), while another shepherd from Sakar Koi village (Gilgit) reported seeing 2 urial about 2-3 years earlier on the Harali hills above Sakar Koi village (14). Interestingly, all other local shikaris and shepherds interviewed, believed that urial have been extinct from Harali, Danyor, Sultanabad (Gujar Dass), Jutal, Rahimabad (Matum Dass), and the other valleys in the region, for at least 6 years.

It is worth noting that there is disagreement about the origins of the urial in these sightings. Some shikaris believed that the urial herd of 24 that had been seen in the Harali region in December 2003 and later on in Danyor hills and other areas in scattered groups, might have come from Bunji. They would have crossed the Indus River and then the Hunza River and then moved to the Harali area, then again crossed the Hunza river before entering the hills of Danyor and adjacent valleys. These shikaris believe that urial maintain a migratory movement of about 50 km, and that historically, the best route for urial was from Bunji up to Bargo, with the animals returning along the same route to Bunji, before crossing the Hunza and Indus rivers. However, others believe that the 24 urial seen in Harali in December 2003, came from the same area in Harali, from the Hunza side or from some adjacent valleys (Danyor, Jutal, etc.), and not from Bunji. Some older shikaris also stated that in the past, some urial herds from Harali remained in the area year round, while others crossed the Gilgit River near Henzal area and migrated towards Dalnat (just next to Gulapur valley) in Ghizer District. Here they stayed during summer, returning back along the same route to the Harali area for winter, crossing the Gilgit River from Henzal area.

Despite previous mention of a small urial population in Tangir Valley (IUCN 1999), local people and shikaris living in Tangir (16), state that no urial now occur in the valley or general region, nor have there been any sightings for many years.

Discussion

The existence of small populations of Ladakh urial in southern Gilgit and Diamer Districts is extremely important from a conservation standpoint. The Ladakh urial's range in Pakistan has dramatically shrunk and become fragmented over the past century. Except for the small population in Bunji, urial was thought to have been exterminated in southern Gilgit and Diamer Districts previous to our work.

Information strongly suggests that previously undocumented, scattered small urial herds still exist from the northern Astor region in Diamer District to the southern Hunza region of Gilgit District. Evidence indicates that these herds appear to move frequently, possibly due to a combination of weather, availability of food and water, and human and livestock disturbance. Given the high level of human activity in this region, the number of guns available, the active hunting culture, and the almost complete lack of enforcement measures, these few remaining small herds of urial are in extreme danger.

The last remaining Ladakh urial in Pakistan are in small, fragmented populations. They need to be immediately located and surveyed, and protection measures must be established to ensure their continued survival. These measures should include immediate education campaigns directed toward local communities. If local villagers are hired to assist in urial surveys, this will provide some small economic incentive for urial conservation and begin creating a sense of ownership among villages for the herds. An awareness campaign should extend to Gilgit and other outlying towns where hunters visiting the areas might live. Urial populations should be closely monitored with regular surveys, if possible twice a year, to determine if they are stable, decreasing, or increasing in numbers. These surveys can be performed economically by training local villagers in survey techniques. Survey results might also help identify threats other than hunting, such as competition with livestock, disease, and mineral extraction. We also recommend that in the near future a few urial be captured and radio-collared to determine herd movements. Only through complete protection, careful monitoring, and active education and

community support, will Ladakh urial continue to survive in this large section of its native range.

Acknowledgements

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References

- Fox J.L., Nurbu C., and Chundawat R.S. 1991. The mountain ungulates of Ladakh, India. *Biological Conservation*, 58: 167-190.
- Hess R., Bollman K., Rasool G., Chaudrhy A.A., Virk A.T. and Ahmad A. 1997. Pakistan. In: *Wild Sheep and goats and their relatives. Status survey and conservation action plan for Caprinae*. Shackleton D.M. (ed). IUCN, Gland, Switzerland and Cambridge, UK.
- IUCN. 1999. *Statistical Abstract of Northern Areas*. IUCN Pakistan NACS-Support Project, Gilgit, Pakistan.
- IUCN. 2002. *2002 IUCN red list of threatened animals*. International Union for the Conservation of Nature and Natural Resources, Cambridge, UK.
- Jackson R. and Hunter D.O. 1996. *Snow Leopard Survey and Conservation Handbook*. International Snow Leopard Trust and U.S. Geological Survey,

Biological Resources Division, Seattle, WA.

Roberts T.J. 1997. *The mammals of Pakistan*. 2nd Ed. Ernest Benn Ltd., London, UK.

Schaller G.B. 1976. Mountain mammals in Pakistan. *Oryx*, 13(4): 351-356.

Schaller G.B. 1977. *Mountain monarchs: Wild sheep and goats of the Himalayas*. University of Chicago Press, Chicago, IL.

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Wild goat and Armenian Mouflon Surveys in Armenia

In the second half of January 2004, field work was conducted through Eastern Armenia, organized by I. Khorozyan (WWF Armenian Office) and A. Malkhazyan (Ministry for Nature Conservation of Armenia). The latter also was the guide. The main objective was to collect genetic samples and morphological data on wild goat (*Capra aegagrus*) and Armenian mouflon (*Ovis gmelini*).

During the trip, we observed wild goats in the Khosrov Nature Reserve, Noravank Valley and on the southern end of the Megri Range near Nuvadi Village on the left bank of the Araks River. Khosrov Nature Reserve consists of several separate areas situated west of Erevan (ca. 40°N, 45°E). The Reserve includes oak and juniper forests on slopes (limestone and sandstone) rising from the Araks River valley to foothills of the Gegam Range. Wild goats stick to precipitous places. We saw 7 fully adult males, 1 male 4-5 years old, 3 males 3 years old, 4 males 2 years old, 7 females, 1 yearling male, and 6 juveniles (total 29 animals) in Khosrov and the neighboring Gand valleys in 3 days.

Noravank Valley is at the north-western end of Zaghezur Range (ca. 39°40'N, 45°40'E). The upper part of the valley is precipitous (limestone) with

sparse juniper stands. During one excursion, I saw 20 goats: 2 males 3 years old, 1 male 2 years old, 8 females, 1 yearling male, 2 yearling females and 6 juveniles. Megri Range (ca. 38°55'N, 46°30'E) is a south-eastern offshoot of the Zanghezur Range and is composed of granite. Goats mostly inhabit the southern precipitous ends of the range overhanging the Araks River. The sunny arid slopes are overgrown by juniper, the shady slopes harbour oak and maple; hornbeam grows along the streams. During 2 days, 45 animals were counted: 1 male 4 years old, 2 males 3 years old, 1 male 2 years old, 19 females, 4 yearling males, 5 yearling females and 12 juveniles. This area is very different from those previously mentioned, being much warmer and more arid, and having practically no snow cover but already displaying new green grass during my visit.

All these areas harbour, or are at least visited by leopard. Upper and more rolling parts of the ranges used to be inhabited by mouflon. It appears that the wild goat is still quite widespread all over Armenia east of Erevan, even if much less numerous than a century ago. Unfortunately, even approximate data on population numbers are lacking.

The status of mouflon was much worse following WW II. The Khosrov Nature Reserve was established in 1958, primarily for protection of mouflon which inhabited the Urts Range (part of the reserve) and also the ridge of the Gegam Range. The main problem, as everywhere, was competition with livestock because mouflon occupied mostly the plateaus and foothills that have always been main pastures for domestic sheep. Even in the 1970s, Armenian zoologists were quite pessimistic about the status of mouflon, and estimated the total numbers in Armenia and Azerbaijan (Nakhichevan) at 400 (Airumyan, Gasparyan, 1976), while their Azerbaijan colleagues counted 1,000-1,200 animals in Nakhichevan area alone (Alekperov, Yerofeyeva and Rakhmatulina, 1976). In 1973, mouflon was reported to be practically absent from Khosrov Nature Reserve, although the situation probably changed after the war between Armenia and Azerbaijan. Numbers of domestic sheep and goats in Armenia decreased and encounters with mouflon (in winter) were unofficially reported even from areas not far from

Erevan. All the current information is incidental and not professional. I was told that there were animals on the Urts Range as well, and was shown a photograph of 50 animals (part of a mixed herd) running through deep snow. The photograph was shot from a helicopter and reportedly taken on the Urts Range. Unfortunately, it is difficult to find mouflon in late winter from the ground because animals move to windswept, snowfree ridges and plateaus which are inaccessible to observers on foot due to deep snow surrounding them. This is why I was unable not observe mouflon myself. However, reports of wild sheep encounters come from several areas in central and eastern Armenia. The occurrence or disappearance of mouflon in a specific site may depend on such circumstance as establishment of a border-guard station, etc. No research has been conducted on wild goat and mouflon since the 1970s in Armenia (and Azerbaijan), so nothing is known about the distribution and numbers of mouflon. Nevertheless, there is growing interest in the possibilities of mouflon trophy hunting.

It was always considered that Zanghezur Range, separating Nakhichevan from Armenia, was the main stronghold of mouflon in Transcaucasia. The areas to the east of Erevan, though belonging to different ranges, are quite easily reachable from Zanghezur. In fact, mouflon population of the Transcaucasia is probably common and united, though may be isolated from Iran by Araks River and the border-line constructions. Therefore any conservation or research programs on mouflon in Transcaucasia should be common for Armenia and Azerbaijan, despite the fact that there is still no peace treaty between the two states.

Literature cited

- Airumyan K. A., K. M. Gasparyan. 1976. Rare ungulates and carnivores of Armenia. Pp. 35-42 in Rare Mammals of the USSR Fauna. Nauka, Moscow [in Russian].
- Alekperov, Kh. M., S. N. Yerofeyeva and I. K. Rakhmatulina. 1976. Contemporary status of certain selected species of mammals in Azerbaijan. Pp. 28-34 in Rare Mammals of the USSR Fauna. Nauka, Moscow [in Russian].

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Taxonomic News

The European Mouflon Re-Named

One may have noticed that very few taxa of large vertebrates have enjoyed a variety of scientific names as great as that given to the European mouflon (e.g. *Ovis aries*, *O. ammon*, *O. musimon*, *O. orientalis*, *O. gmelini*, even *Aegoceros musimon*!). Common names have also been several, mainly because of nationalistic reasons (e.g. Italian authors have referred to it as the “Sardinian mouflon”, whereas not surprisingly French authors rather prefer “Corsican mouflon”). This confusing mess of published, unpublished and almost-published nomenclature has recently been brought to a halt with an official position of the International Commission of Zoological Nomenclature, published in the *Bulletin of Zoological Nomenclature (BZN)*.

In *BZN* (1996), three members of the Nomenclature Commission (A. Gentry, J. Clutton-Brock, C.P. Groves) raised the issue of 15 mammal specific names based on WILD species which are antedated by or contemporary with those based on domestic animals. The majority of domestic animals and their wild ancestors continue to share the same name, but in a few cases a tradition has arisen under which the domestic and wild forms are separately named. Among these, there are 15 mammals in which the name for the DOMESTIC form antedates or is contemporary with that of the WILD ancestors: a minority of authors has thus applied (correctly, according to current conventions) the domestic names to the wild forms. Yet, the majority of authors has not. It has been proposed that majority usage be confirmed by adoption of the first available specific name based on the WILD population. Fortunately, this has been the case with *Capra aegagrus* Erxleben, 1777 (**wild goat**) and *Ovis orientalis* Gmelin, 1774 (**Asian mouflon**), which respectively win over *Capra hircus* Linnaeus, 1758, and *Ovis aries* Linnaeus,

1758 (which should actually have had priority). On the other hand, these authors pointed out **explicitly** that the **European mouflon**, being a domestic sheep turned wild some 8000 years ago or so, should keep the *O. aries* name.

In *BZN* (2003) the Commission has ratified the opinion expressed in *BZN* (1996), with 19 votes "FOR" out of 24 votes. Thus, the WILD GOAT is going to be *Capra aegagrus*, the DOMESTIC goat stays with *C. hircus*, the ASIAN MOUFLON is *Ovis orientalis*, the EUROPEAN/MEDITERRANEAN etc. MOUFLONS must inexorably make do with *O. aries* (in the company of domestic sheep).

References

- Gentry A., Clutton-Brock J. and C.P. Groves. 1996. Case 3010: Proposed conservation of usage of 15 mammal specific names based on wild species which are antedated by or contemporary with those based on domestic animals. *Bull. Zool. Nomenclature* 53: 28-37.
- Opinion 2027 (Case 3010). 2003. Usage of 17 specific names based on wild species which are pre-dated by or contemporary with those based on domestic animals: conserved. *Bull. Zool. Nomenclature* 60: 81-84.

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Abstracts

Population status of Transcaspien urial (*Ovis orientalis [vignei] arkal*) at Aktau Buzachinsky Nature Reserve, Kazakhstan.

M. R. Frisina. 2002.

A ground survey of Transcaspien urial (*Ovis orientalis [vignei] arkal*) was conducted over a 7-day period in March 2000 on a 113-km² portion of the Aktau Buzachinsky Nature Reserve in southwest Kazakhstan. The purpose of the survey was to determine the population status of urial, especially males. A total of 491 urial

(183 ewes, 97 rams, 15 lambs, 196 unclassified) were observed. About 70 urial were observed per day afield. The observed urial density was ~4 per km². Approximately 35% of urial habitat on the reserve was surveyed. During the survey 71 adult rams were observed of which 45% were older than 6 years. One ram was observed for every 2 females and 1 mature ram for every 2.6 females. Rams 5 years or older were considered mature. The data indicate urial are abundant on the reserve and adequate mature rams are present in the population for breeding. Indications are that historic grazing has impacted the lands ability to produce forage which, in combination with the relatively high density of urial, may be negatively affecting ram horn growth rate.

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Molecular Phylogenetic Status of the Korean Goral and Japanese Serow Based on Partial Sequences of the Mitochondrial Cytochrome b Gene.

Hideo Okumura, Mi-Sook Min, Jung-Hwa An, Hang Lee. 2004

The Korean goral, *Nemorhaedus caudatus*, is an endangered mammalian species in Korea (Ministry of Environment of Korea 1998). The goral population has been reduced dramatically by habitat loss and poaching, thereby the current goral habitat in South Korea is restricted and fragmented. The size of the goral population in South Korea is assumed to be less than 800 individuals. They are categorized vulnerable in Red List (IUCN 1996). At present, commercial trade of this species is banned among countries that have signed the Convention on International Trade in Endangered Species (CITES; Hutton and Dickson 2000). Korean goral is preserved with high priority by Korean government as Natural Monument animal species (No. 217). However, systematic study for long-term management and conservation of this species is still insufficient.

Of all things, the correct phylogenetic status of Korean goral (*Nemorhaedus caudatus*) needs to be investigated to

established the conservation strategy for this species. The partial sequences of the mitochondrial cytochrome b gene from 12 Korean goral samples, one sample from Russian Primorski region and 16 Japanese serows were determined and compared with those of the major lineages of Rupicaprini species. We found that Korean gorals have two haplotypes with only one nucleotide difference between them, whereas the Japanese serows showed slightly higher sequence diversity with five haplotypes. We also confirmed the sufficient genetic distances between serows and gorals to be separated into two genera. Genetic distances and molecular phylogenetic tree indicated that there is considerable genetic divergence between Korean goral and *N. caudatus* (Chinese goral) [Groves and Shields (1996)], but virtually no genetic difference between Korean goral and goral from Russian Primorski region. The present data imply that the Korean and Russian Far East gorals may be a distinct from Chinese goral. The data highlight importance of conservation of the goral populations in Korea and Russian Primorski region, and the necessity of reconsidering the taxonomic status of gorals. To establish conservation unit and management strategy for gorals, the phylogenetic relationships among species and subspecies of the genus *Nemorhaedus* should be addressed. However, there has not been much research efforts on this field.

Even though gorals range from Laos, Myanmar up to Russian Far East, few scientists work on these species. Consequently, gorals are gradually facing with extinction over many countries. An international cooperative network seems necessary to get better knowledge on goral species.

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