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The Betpakdala saiga's breeding and sex composition

The main issue in the article is that saigas have been inhabited in ancient times. At present, the main populations of saiga antelopes are stored only in the Kazakh land. The country has protected zones, changes in seasons and migration paths. The issues of mass involvement of saiga antelopes, measures and their survival are described. The «Altyn Dala» Association for the Conservation of Biodiversity of Kazakhstan for 2013 has been created to further improve the work of the Specially Protected Natural Areas (SPNA), i.e. saiga conservation. Nature Protection Initiative informs that nature protection personnel have been provided with special equipment and related trainings. End of November — beginning of December is a very important time for saigas, especially for males. The number of females is several times higher than males; however, females become weaker often, die or become food for predators, such as fox, corsac. The survival rate of these wild animals is very different. Life expectancy of males is 3–4 years, the age of females can reach up to 9 years. Therefore, wild antelopes grow rapidly. Females begin to be fertilized in 7 months. Males are sexually active in two years. The morphometric characteristics of the internal organs of the saiga were studied less than other morphological features (exterior, craniometric, etc.).

Keywords: polygamous, morphometric, morphological, exterior, craniometrical, poaching.

Actuality of the research

One of the representatives of the mammals who survived the ancient mammoth fauna of the Eurasian steppes and deserts is the saiga population currently populated only on the territory of Kazakhstan. In ancient times saigas survived the Don River in the southern part of Europe up to the banks of the Irtysh and the Ob River. In the last century, human ecosystems have been devastating in the process of saiga evolution.

Most of the saiga antelope (80–85 %) is part of Kazakhstan. There are three main populations in the country, isolated from the steppe antelope. They include: Betpakdala (between the Aral Sea and Lake Balkhash), the Ustyurt Plate (between the Aral Sea and the Caspian Sea), and the Ural Orphanage (Volga and Ural among themselves). In the winter, the Ustyurt population is Uzbekistan to the south, and a smaller part to Turkmenistan, and the Ural population is on the territory of Russia, but in spring, their migration routes are directed to Kazakhstan [1].

Saiga Conservation Alliance Chairman According to Milner-Guland, on June 5, 2015, 134352 saiga antelopes were killed by 62 % of the Betpakdala population and half the world's saiga antelopes. Most mass deaths have occurred during the calving time of saigas, especially those of females and young adults. At the same time, according to the scientist, it is well-known that the saiga antelopes were killed in the Wildlife Center of the Republic of Kalmykia. J Milner-GULAND described the mass deaths of saiga antelopes, such as the saiga antelope, in 2003, when the saiga population reached its lowest level in 2003, and that there was not so much money to store it at that time [2, 3].

Research Methods and Materials

The ecological corridor for the first saiga in Kazakhstan was created in 2004 in Kostanay region for the purpose of the public environmental organization «Naurzum», area of 31253 ha. Established in 2007, the Irtysh-Turgay MRR, established in the western part of the Aral Sea, and the Altyn Dala MTP, established in 2012, cover the Betpakdala populated areas and the saiga antelope. However, adverse effects on the part of the protected area are in place that is to protect the hunting catch for horns of the male antelope. For the further improvement of these two SFSs, i.e. the conservation of saiga antelopes, the 2013 Environmental Protection Initiative of the Association for the Conservation of Biodiversity of Kazakhstan conducted special trainings and trainings for nature conservation professionals [4, 5].

The saigas are polygamous animals. About 3000 saiga females gather in the hive. At the end of November or beginning of December is a very important time for saigas, especially for the male part of the population: at the time, the goat's loins are constricted and the hooks fall off and the beard drops low. Fertilization does

not take much time; every heifer rises to 40–50 heifers within 1–2 days. In recent years, an aggression has been averted to get the horns of the saiga, and the number of goats has dropped dramatically. Since the number of maternal breeds is several times higher than the heifers, some unhealthy young, inexperienced young mothers become weaker, die or become food for predators such as fox, corsac. When the bleeding ends, the climate is not cooled down and it is suitable for pasture, and it is harvested again by the end of January and early February. As a result of these battles, saigas are subdivided into smaller groups. Saiga antelopes are involved only in the attack. At that time, the strongest females collect their females (40–50 female antelopes) and form an infant. Their females keep their area in a radius of 30–80 m and cover the snow, the plants, and the remains of the urine and the lake. Parents are more likely to divide between the ankle and the groin at the joint. Their body is drowned in the wound, and the blood flows from the mouth and the wound. After the attack, saiga antelopes are so weak that they become either easy prey to predators or die back to life. The fierce battle between heroes leads to death [6, 7].

The survival rate of these wild animals is very different. Life expectancy of males is 3–4 years, and this age can reach up to 9 years. Therefore, wild antelopes grow rapidly. Each year their mother is supplemented with 2–3 tablets, and seven months later, chewing (herbs) is released and the goat is released. After the show, they bring their first generation. In addition, breast-feeding can take place 2 years after sexual maturation. Usually in May, their females are separated from the common herd, trying to find undisturbed plains in the steppes and bringing their descendants in unprotected places. They do not come into the liver like other species of animals, but are raised vertically. If saiga antelopes are first recorded, the varnish will be unique. Then they bring two, sometimes even three times. Saiga antelopes are completely unsuccessful in the first days and they are only found on the ground. But growing nuts do not interfere with their mother, they are the most obedient generation in the wild. A week after the birth of the flu, he begins to follow his wife, and in two weeks he goes with her. However, the grass itself only takes about a month to swallow.

Small herds of herdated herbs can be found in the entire territory of the populace. However, the main hereditary herbs are found in the exact site of the fetus. The density of the newborns in such an assortment is between 0.3–0.4 and 5–6 individuals per hectare. Such places are often referred to as «maternity hospitals». Washing time is about 5 months. The maturity period usually ends in May. Parents are twins, rarely, and very rarely three times. In the first couple or two days, younger clans can not follow their ancestors, hiding in dangerous conditions, but it is difficult to observe them. Milking lasts up to two months, but from the second month the herd begins to eat grass. The newborn will be 2–4.4, average 3.5 kg. After about a month, small horns begin to appear in the male body. In 6 months, they grow up to 10 cm and remain black. During the 13–14 months, the horns become bleached and burst.

Females begin to be fertilized in 7 months. Males are sexually active in two years. Saigas until the age of two are converted to stable teeth, from age 3 to the formation of upper chewing teats. The degree of swelling of the shovel teeth in patients older than 3 years is determined. The steppes are 5–6 years old and 10–11 years old females.

The morphometric characteristics of the internal organs of the saiga are slightly lower than other morphological features (exterior, craniometric, etc.). Newborn male weights are 2.9 ± 0.2 kg, and weighing less than 2.5 ± 0.2 kg. In adult animals weighs 12–15 times, weighs 5.5 years and weighs 43.5 ± 2.8 kg and 7.5 years old weighs 28.7 ± 1.3 kg. The process of growth up to a year and a half is intensified, which grows 7.4–8.2 times, and in the population this growth process is 49,4 %, and females grow up to 71,4 % of the adult animal. Growth rates are slightly different than their females. Sexual diminution to 2.5 years of age is not observed, but in the later period, the weight gain increases rapidly and adds up to 1.5 times the weight.

The threat of complete disappearance of saigas can not be traced back to home or raised in detention. The patience and rapid reproduction of saigas could have been the most effective livestock in the case of trained animals, but they were hardly ever grown in the surrounding area, wherever they were taught. As a result of the experimental work done at the Asania-Nova Nature Reserve, saiga antelopes have been hunted for more than a decade and hundreds of thousands of hectares. Saiga breeding is carried out on the experience of Rostovsky reserve. The ants do not have freedom, that is, they can easily be reflected when they are in the fence, the females are fertilized, but there are some difficulties in the growth of the weed. The animal is very vulnerable to depression, and the duration of its survival is insignificant; the fertile population is rapidly exploding and leading to death. However, zoologists and scientists are hoping to solve this problem. Saiga antelope studies are continuing in zoos. He is also working for foreign scientists-zoologists [8].

Sexual proportions of young adolescents show the legality of the relationship at the initial stage. The number of saiga antelopes increased in the years that followed. This process is common to all populations.

There is a significant infliction of severe damage to newborns during mass calving. However, the proportion of deceased mothers with newborns was higher. Coupling does not have a significant effect on sexual intercourse during general calving. It remains unchanged at the same sex ratio as the embryo.

Results of the study: during the calibration work, the samples from adult female saiga were collected and, as a result, it was determined that the percentage of male adolescents was high. This exception is directly related to the existence of good habitat for the populations living in the region (Fig.).

Saigas can be characterized in a number of ways. It depends on the maturity of the animals, that is, the male and female saiga.

Taking into account the sexual maturity of the mothers, it is important to determine the relation between all saiga antelopes. It is also important to determine the ratio of animals of different ages to the group (Table). It not only demonstrates the originality of the third relation, but also allows to detect the dynamics of the genitalia of the genesis.

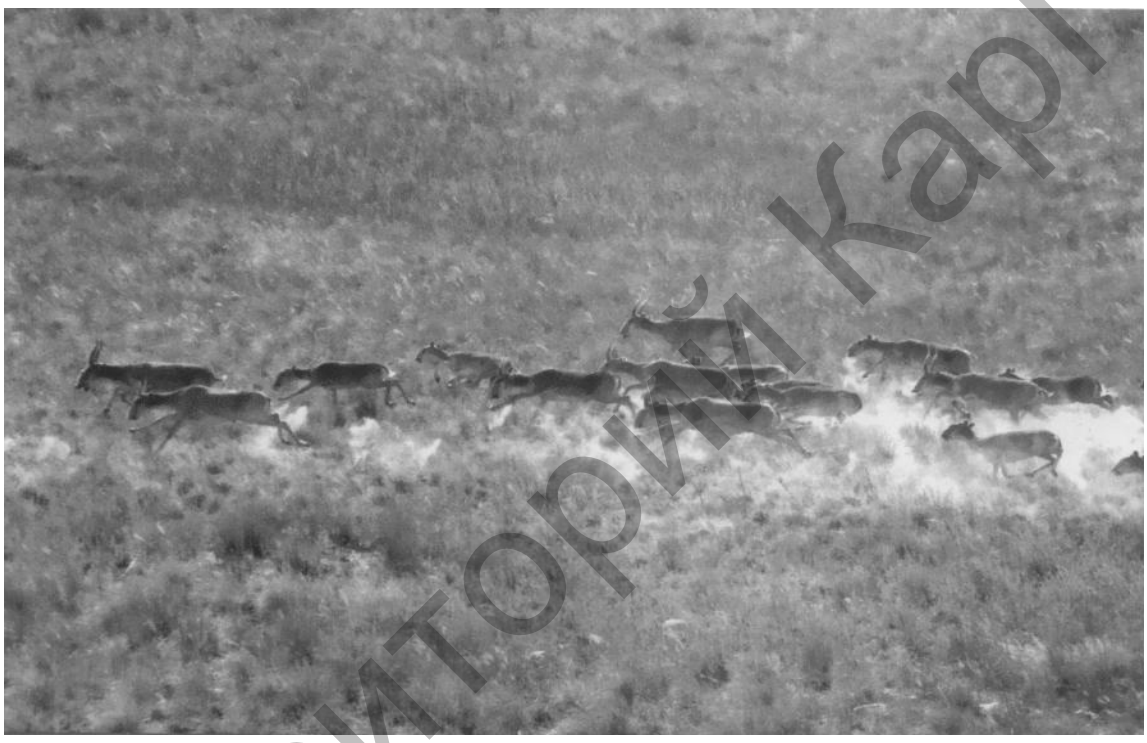

Figure. Video on the definition of the youngest sexual structure of Betpakdala saiga

The peculiarity of the dynamics of the sex structure is that the number of saiga antelopes in the population is decreasing. According to the results of the survey, the number of saiga antelopes in the group of 8–9 months old saiga antelopes increased from 1.4 females to one and the same age group was more than one year old. According to the surveys conducted in December-January, the average age for saigas in this age group is 2.6, while in May the average age of 1.5 years between the animal group is 2.9 among the saiga antelopes, and more than 2.5 years old among the saiga antelopes it was determined that one parent comes from 3.6 motherhood.

T a b l e

Sexual structure of saigas controlled by the saiga population in Betpakdala, %

Years	Number	Adult animals		Up to 1 year old animals (both sex)
		male	female	
2014	15687	4.8	69.6	25.6
2015	11243	4.2	65.1	30.7

In some comparisons, the number of saiga antelopes was higher in the second ratio than the initial ratio. In accordance with the method, the control work is performed in large numbers among females with

concentrated females. It allows you to quickly collect the necessary materials. There was no monitoring of the peripheral sites of newborns with low birth density. If we take into account the above, the prevalence of newborns in the spaces depends on the quality of the saiga.

One-year-old babies detained in October-November in the Ural population (n = 3991) were 47.1 % of male and 52.9 % female saiga. In Betpakdala, these figures (n = 1418) were 49.5 % for mothers and 50.5 % for females. Sexual proportions of one-year-olds of 5–6 months were close to each other. Even older adult animals have been characterized by the presence of abundant saiga antelopes. The reason for this is the fact that in the winter, there were cases of mass mortality among saigas and the slaughter of male saiga antelopes. In the autumn, 2–26.5 % of adult males were included in the control group, while the share of adult females was 26.48 %, the share of young females was 38 %, the share of young females was 15.4–36 %.

As a result of recent calculations, it has been observed that significant changes have occurred in the saiga population in our country. In particular, the number of adult saiga antelopes has significantly decreased in terms of age and sex. In Betpakdala, the population will be 13.5 % in 2014, 14.7 % in 2015, 12.5 % in 2016, and 10 % in 2014. In 2014–2015, the proportion of adult males in the population has dropped significantly under the influence of traumatic care. As a result of hunting for saigas over the past 5 years, the proportion of adult populations in Kazakhstan amounted from 2.3 % to 17.9 %, adult females — 47.6–78 %, and annual females to 18.1–46.6 %.

Conclusion

Finally, saiga antelopes indicate a rise in illegal hunting for horns. Therefore, the findings suggest that the increase in the proportion of saiga antelopes in the population is a legal phenomenon characteristic of the animal species. This type of sexuality is primarily determined by the deaths of adult saiga antelopes in all age groups. As a result of the checkup, the proportion of the total number of deaths among the deceased died at 55 %. These figures were observed in all populations. This tendency also increased in upper age groups. Specifically, many populations are killed during the winter, and the proportion of adult saiga antelopes in the spring does not exceed 3–5 %. Recent research shows that the use of a new catch method is aimed at selecting individual saiga populations and is aimed at selecting active populations in the population. Table shows the sexual structure of the saiga at different ages.

We believe that it is appropriate to conduct and strengthen research activities on the method of monitoring the saiga population growth by identifying the annual and seasonal growth dynamics of the Betpakdala saiga populations, populated by steppe and semi-arid regions of Kazakhstan, and their subsequent growth and retention of the population.

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Бетпақдала ақбөкендерінің көбеюі мен жыныстық құрамы

Мақалада ақбөкендердің ерте заманда мекендеген жерлері, таралуы жайлы айтылды. Қазіргі уақытта ақбөкендердің негізгі популяциялары Қазақстан жерлерінде ғана сақталған. Елімізде қорғалатын аймақтары, жыл мезгілдеріне байланысты ауысулары және миграцияланатын жолдары көрсетілген. Ақбөкендердің жаппай құртуға ұшырауы, олармен күресу шаралары және сақтап қалу мәселелері жазылған. Ерекше қорғалатын табиғи аймақтары жұмыстарын одан әрі жетілдіру, яғни ақбөкендерді сақтап қалу үшін, 2013 ж. «Алтын дала» Қазақстанның Биоалуантүрлілігін сақтау қауымдастығы құрылған. Табиғатты қорғау бастамасы аясында табиғатты қорғау қызметкерлеріне арнайы құрал-жабдықтар мен сәйкес тренигтер жүргізілген туралы айтылды. Қараша айының соңы – желтоқсан айының басы — ақбөкендер үшін өте жауапты уақыт, әсіресе аталық бөлігі үшін. Аналықтардың саны текелерден бірнеше есе басым болғандықтан, күйек кезінде кейбір әліне қарамайтын, тәжірибесіз жас текелер әлсіреп, зорығып өледі немесе түлкі, қарсақ сияқты кішігірім жыртқыштарға жем болады. Осы жабайы жануардың аналықтары мен аталықтарында тіршілік ету ұзақтығы әртүрлі. Аталықтардың тіршілік мерзімі 3–4 жыл, ал аналығында бұл жас 9 жасқа дейін жетуі мүмкін. Сол себепті жабайы антилопалар тез көбейеді. Аналық ақбөкендер 7 айынан төлдей бастайды. Аталықтары екі жылда жыныстық жетіледі. Ақбөкендердің ішкі органдарының морфометриялық сипаттамасы, басқа морфологиялық белгілеріне қарағанда, аз зерттелген (экстерьерлік, краниометриялық және т.б.).

Кілт сөздер: полигамды, морфометриялық, морфологиялық, экстерьерлік, краниометриялық көрсеткіштер, қасқойлық.

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Размножение и половой состав бетпакдалинских сайгаков

В статье приведены данные о населении и распространении сайгаков. В настоящее время основные популяции сайгаков сохранились только в казахских степях. В стране обозначены охранные зоны, переходы в зависимости от времени года и пути миграции. Описаны вопросы массового истребления сайгаков, меры борьбы с браконьерами и сохранения. Для дальнейшего совершенствования работы особо охраняемых природных территорий, сохранения сайгаков, в 2013 г. создана Ассоциация сохранения биоразнообразия Казахстана «Алтын дала». В рамках природоохранной инициативы работникам охраны природы было рассказано о проведении соответствующих тренингов и специального оборудования. Конец ноября – начало декабря — ответственное для сайгаков время, особенно для самцов. Численность самок в несколько раз превышает самцов, однако самки часто умирают или становятся кормом для хищников, таких как лиса, корсак. У самцов и самок этого дикого животного продолжительность жизни разнообразна. Продолжительность жизни у самцов составляет 3–4 года, у самок может достигать до 9 лет. Поэтому дикие антилопы быстро размножаются. Самки начинают окот с 7 месяцев. Самцы достигают полового созревания в течение двух лет. Морфометрическая характеристика внутренних органов сайгака была изучена меньше, чем другие морфологические признаки (экстерьерная, краниометрическая и др.).

Ключевые слова: полигамные, морфометрические, морфологические, экстерьерные, краниометрические показатели, браконьерство.

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