فهرست مقالات زیست شناسی دریای خزر

از شماره ۱ - ۶۵

مرکز مدارک علمی
مؤسسهٔ تحقیقات و برنامه ریزی علمی و آموزشی

فروردین ۱۳۵۱
تهران

پیشگفتـــــار

شناخت منابع طبیعی ایران به منظور حفاظت هر چه بیشتر و بهره برداری صحیح از آنها ، نقش مهمی در پیشرفت کشور ما دارد . برای نیل به این هدف لازم است نتیجه تحقیقات و مطالعات گذشته گرد آوری و شناسانده شـــــود تا از دوباره کاری و صرف وقت و هزینه جلوگیری شود .

از آنجا که دریای خزر و سواحل آن یکی از عظیم ترین منابع طبیعی ســـر زمین ما است و تحقیق درباره ی آن در سالهای اخیر مورد توجه فـــــراوان دانشمندان و پژوهندگان زیست شناسی و سازمانهای مسئول قرار گرفته است مرکز مدارك علمی بر آن شد تا به گرد آوری تدریجی کلیه ی مطالب تحقیقـــی که در این زمینه منتشر شده بپردازد و آنها را به صورت فهرستی ادواری منتشر سازد . تهیه و تدوین این فهرست به عهده خانم مهرخ ملکیان کارشنـــاس زیست شناسی مرکز مدارك علمی محول گردید که شماره اول آن بکوشش ایشان در آبان ۱۳۵۰ منتشر گردید و اینك شماره دوم فهرست مذکور تقدیم علاقمنـــدان میگردد .

مرکز مدارك علمـــــــــی

راهنمای استفاده از چکیده

الف ـ هر چکیده با مشخصات زیر معرفی شده است:

۱ـ شماره ردیف چکیده ها

۲ـ نام یا نامهای مولفین

۳ـ عنوان مقاله به زبان انگلیسی

٤ـ نام نشریه

٥ـ دوره انتشار

٦ـ شماره نشریه

۷ـ شماره صفحات

۸ـ سال انتشار

۹ـ نام ماخذ اولیه

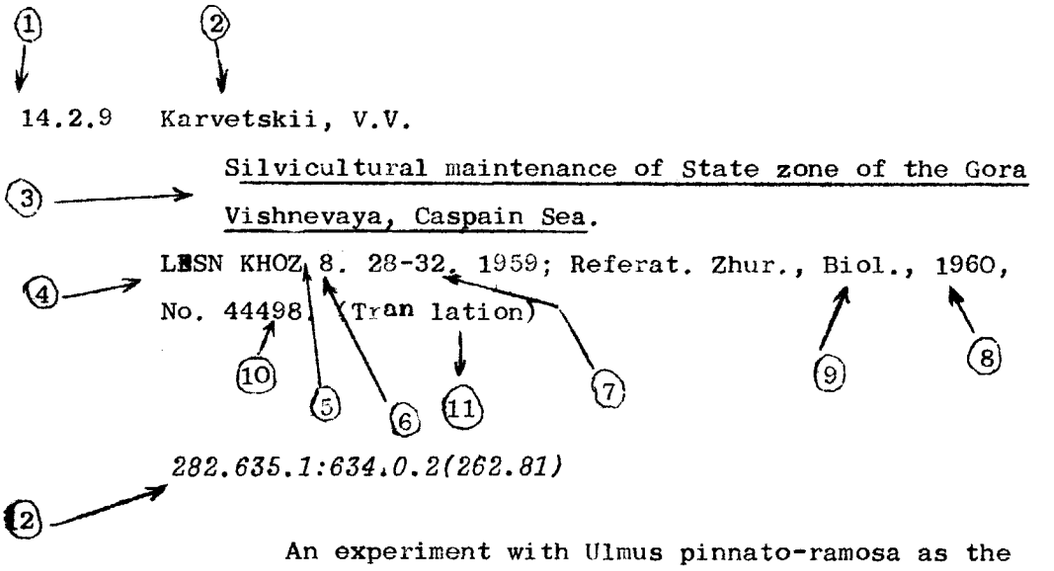
۱۰ـ شماره ماخذ

۱۱ـ اگر مقاله دارای چکیده به زبان انگلیسی باشد علامت [Eng.Sum] آمده است. برای مقالاتیکه تماماً به زبان انگلیسی ترجمه شده است (Translation) ذکر شده است. سایر مقالات به زبان اصلی اند.

۱۲ـ شماره طبقه بندی

۱۳ـ متن چکیده

تبصره : در مورد اختصارات از روش Biological Abstracts استفاده شده است.



ب - روش طبقه بندی

چکیده های مندرج در این نشریه بر اساس طبقات اصلی روش طبقه بندی دهدهی جهانی (Univereal Decimal Classification) یا UDC مرتب شده است.

ضمناً فهرست الفبائی موضوعی به انگلیسی در آخر نشریه آمده است.

ج- نحوه دریافت اصل مقالات:

مرکز مدارك علمی میتواند با همکاری کتابخانه های بزرگ خارجی اصل مقالات یا ترجمه آنها بیکی از زبانهای بین المللی را- در صورتیکه موجود باشد- جهت علاقمندان تهیه نماید • چنانکه مایل به دریافت اصل مقاله باشید شماره ردیف و عنوان مقاله دلخواه خود را باطلاع این مرکز برسانید تا به تهیه ی آن اقدام گردد • بهای هر صفحه فتوکپی ۵ ریال است•

بخش دکومانتاسیون

فهرست مطالب

* Universal Decimal Classification طبقه بندی دهدهی جهانی

bibliography of caspian sea

(BIOLOGY)

Item No. 1 - 65

Compiled by
M . Malekiyan

Volume 2
No. 1
April 1972

Published by
Iranian Documentation Centre
Institute for Research and Planning
In Science and Education

I N T R O D U C T I O N

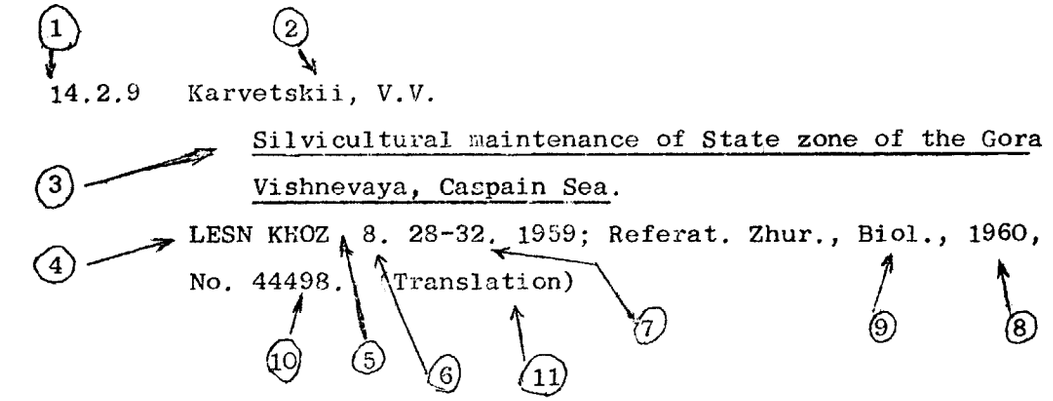
The biology of the Caspian Sea is a subject which has been little studied. As there are some people who take an interest in doing research in this field, the Iranian Documentation Centre has decided to publish indexes of the abstracts of articles and books which have been published on the subject of the biology of the Caspian Sea. The first Volume of this bibliography containing 71 abstracts, came out in October 1971. The second volume is presented, consisting of 65 abstracts of articles, as well as books published in foreign languages.

Indexes:-

A. The following information has been listed for each abstract;

1. Serial number of the abstract
2. Name of the author or authors
3. Title of the article in English
4. Name of the publication
5. Volume
6. Number
7. Number of pages
8. Date of publication
9. Name of original sources
10. Number of sources.
11. If the abstract of an article is available in English, the abbreviation Eng. sum is given. The word (Translation) shows that the article has been completely translated into English. Other articles are in the original languages.
12. Number of Classification
13. Abstract

Notice: for abbreviation, the method empolyed in Biological Abstracts has been used.



14.2.9 Karvetskii, V.V.

Silvicultural maintenance of State zone of the Gora Vishnevaya, Caspain Sea.

LESN KHOZ, 8. 28-32. 1959; Referat. Zhur., Biol., 1960, No. 44498. (Translation)

282.635.1:634.0.2(262.81)

An experiment with Ulmus pinnato-ramosa as the dominant species located 25 km northeast of the town Uralsk is described the necessity of maintenance measures arose from damage to elms by snow. Free passage of wind through the forest zone was ensured by planting shrubs around stumps, cutting down some of the elms, and clipping the branches up to the height of 1.75-2 m. The technique of work is described in detail, and economical computations are given.

65.46.13061

B. Classification:

The abstracts in this volume have been classified according to the Universal Decimal Classification (U.D.C.) system. An alphabetical subject index has been given at the end of the volume.

C. How to receive the original articles;

The Iranian Documentation Centre in cooperation with libraries abroad can supply readers with the full text of the articles.

If you wish to receive the full text of the article, please indicate the serial number and the title of the article. The cost for the photocopying service is Rls. 5(approximately C6) per page.

Table of Contents

14.2.1 Ivanov, V.V.

[A key to the plant families of the northern Caspian Sea area.]

In: Materialy po flore i rastitel'nosti Severnogo prikaspiya. [Information on the flora and vegetation of the northern Caspian Sea area.] Leningrad. 188-217. 1964. From: REF ZH BIOL, 1964, No. 22V155.

58(262.81) 65.46.90894

14.2.2 Nesvetailova, N.G.; Rodman, L.S.

[On ecology of some plant communities as indicators of salinization in the Caspian region.]

BYUL MOSK OBSHCH ISPYTAT PRIRODY OTD BIOL 68(5): 44-50. Illus. 1963

581.5:631.42(262.81)

Several hundred soil samples were analyzed to find relationships between frequency of occurrence of Artemisia lercheana, A. pauciflora, Anabasis

salsa, Halocnemum strobilaceum and Salicornia sp. in various associations and the quantitative and qualitative salinity characteristics of subsoils on which these plants occur. The soils were termed very strongly salinized, strongly salinized, medium salinized weakly salinized or unsalinized, based on a dry residue percentile scale ranging from 0.25 to above 2%. The association groups were found to fall into a type of natural ecologic series in relation to salinity. The A. lercheana group varied widely in terms of intensity and quality of subsoil salinization. A. pauciflora associations varied as widely from the qualitative standpoint, but the range was narrower in terms of intensity. It was even narrower for A.salsa, the variations for different areas of the region relating only to qualitative structure of salinity. Salinity factors for associations with H. strobilaceum exhibited minimal variations, which related only to phase differences within one type of salinity. Finally, Salicornia plants were found almost exclusively within environments with very strong NaCl type of soil salinization.

65.49.18849

14.2.3 Lysenko, S.V.

[Soil-geobotanical studies of the lower plants in the semi-deserts of the western area along the Caspian Sea.]

BOT ZHUR 48(11):1610-1622. Maps. 1963. [English Summ.]

581.5:631.48(262.81)

Some species of lower plants and their synusiae in the semideserts of the Western Cis-Caspian Area can be used as indicators in establishing the direction and the stage of the process of soil-formation. Thus, the synusiae of the mushroom (Agaricus campestris) are characteristic of the communities inhabiting the brown soils, while the synusiae with the prevalance of Gasteromycetes (Bovista plumbea, Bovista sp., Tulostoma volvaletum and Phellorina inquinans) are typical for the alkali (solonetz) soils. The synusiae of the lichen Parmelia vagans and the presence of live specimens of the diatoms Mastogloia Braunii and Mastogloia sp. are indicative of the process of stratification of quasi-saline takyr-like soils, the synusiae of Stratonostoc commune (Cyanophyta) and of the lichens Parmelia ryssolea and P. Vagans are indicative of the secondary salinification or regradation of the alkali soils of the depressions subjected to suffusion.

65.46.18845

581.526 *Planktons and Benthos* پلانکتونها و بنتوزها

14.2.4 Makhmudov, A.M.

[Chemical composition of the benthos of the central and southern Caspian Sea.]

ZOOL ZH 43(9): 1265-1275. 1964. [Engl. summ.]

581.526.323:66.014(262.81)

The paper presents the chemical compostion of several organisms: Mytilaster lineatus, Cardium edule, Abra (Syndesmya) ovata, Pontogammarus maeoticus, Dikerogammarus caspius, Balanus improvisus and Rithropanopeus harrisi var. tridentata collected from different regions of the Mid-and South Caspian. With an increase in moisture the fat content decreases and vice versa. In calorie values P.maeoticus and D. caspius are highest (4.3-3.35 kcal per dry weight), followed by R. harrisi (2.23), B. improvisus (1.94), Syndesmya (1.43). M. lineatus (1.28) and C.edule (0.36). The higher the content of mineral substances of the dry matter, the lower the caloric value .By content of mineral substances the highest is C. edule (92.2%) and the lowest P. maeoticus (24.98%). The mollusc shell, apart from the mineral substances, contains nitrogen whose amount fluctuates from 0. 03% (C.edule) to 0.21% (M. lineatus). The iodine number of fat in the organisms studied fluctuates in a wide range, from 17.5 to 80. 1 which shows specificity (unsaturation) of fats of single species of food organisms.

65.46.78524

14.2.5 Kusmorskaya, A.P.

Zooplankton of the Northern Caspian.

In: Ekologiya bespozvonochnykh yuzhnykh morei SSSR. Invertebrate ecology in southern seas of the USSR. Nauka: Moscow. 94-147. 1964. From: REF ZH BIOL, 1965, No.1D242. (Translation)

581.526.325(262.81)

In the zooplankton of the Northern Caspian 84 species were found (6 Protozoa, 1 Hydroidea, 28 Rotatoria, 20 Cladocera, 5 Calanoida, 13 Cyclopoida, 11 Harpacticoida, and 2 parasitic Copepoda). In addition there were oligochaetes, polychaetes, amphipods, Cumacea, Mysidacea, mollusc larvae, and Polyzoa statoblasts which were not identified by species. On the basis of their biomass, salt-water forms predominate, while fresh-water forms are not highly developed. The maximum biomass is reached in summer. Development begins in May. The sea was divided into regions with low biomass (the pro-estuarine parts and the central region which has the highest salinity) and regions of abundant food where fresh and salty water meet (salinity=8-9%), the western shoals and the Lake Tyulen'e region, the region between the pro-estuarine regions of the Volga and Ural Rivers, and a region at 53° E longitude, 46° N latitude. Regions with a large biomass of zooplankton are characterized by a high

concentration of sprat young.

65.46.92179

14.2.6 Badalov, F.G.

[Some data on the daily vertical migrations of zooplankton in the Caspian Sea.]

IZV AKAD NAUK AZERBAIDZH SSR-SER BIOL MED NAUK 6.67-72 Illus. 1963.

581.526.325.3(262.81)

In May, 1960-1961, 445 samples were collected from the S Caspian at Sal'yansk Roads. Samples were taken every 4 hrs along standard horizons with a Juday plankton net having a No. 38 mesh. There were 16 species with copepods dominating. Daily vertical migration is described for Calanipeda aquaedulcis, Eurytemora grimmi, Halicyclops sarsi, nauplia copepoda, Cladocera, Podoneuadne trigona typica, Lamellibranchiata, and Cirripedia. Although the amplitude of vertical migration differed widely among the species, there was a daily vertical migration which was compared with the behavior of Clupeonella spp., a commercially important fish in this region. During the dark hours fish were found chiefly at 10-25 m; in the light, 80-120 m. This corresponds almost exactly with the concentration of zooplankton which was heaviest in the top 25 m during darkness and from 100-136 m during light.

65.46.14275

14.2.7 Vinogradova, Z.A.

[Some biochemical aspects of a comparative study of the plankton in the Black, Azov, and Caspian Sea.]

OKEANOLOGIYA 4(2): 232-242. Maps. 1964.

581.526.325.3(262.81+262.5+Azov Sea)

In 1962 a study showed that the concentration of organic and inorganic matter in all 3 seas was similar. Blue-green alga (Cyanophyceae) were very similar in their biochemical composition and in the qualitative composition of their pigments and their concentrations but these values were quite different for green and diatomaceous algae. Species of phyto-and zooplankton in the Black Sea are capable of concentrating a number of chemical elements. Their content in plankton may be many times higher than in ocean water (10-100 times more Sr, Mg, and Ca; 1000-10,000 times more Mn and Li; 10,000-100,000 times more Cu, Zn, and Ba; and 100,000-1,000,000 times more Fe, Al, Ag, P, and Si). This shows that plankton play a very important role in the migration of chemical elements in the system plankton water bottom.

65.46.55609

14.2.8 Erpert, S.D.

[Water consumption due to transpiration in Ulmus pinnatoramosa under conditions of optimal irrigation in the regions to the northwest of the Caspian Sea.]

In: Fiziologiya drevesnykh rastenii. [The physiology of woody plants.] Akad. Nauk SSSR: Moscow. 48-51. 1962. Referat. Zhur., Biol., 1963, No. IG82. (Translation)

582.635.1:581.116:(262.81)

In 1958-59, at the Dzhanybekstation of the USSR Academy of Sciences, the author studied the relation between the evaporation rate from an exposed body of water and transpiration in 5-year-old specimens of Ulmus pinnatoramosa growing on an irrigated area, mulched with sawdust, containing 12 trees with a distance of 1.5x1. 5 m between them. The evaporation rate was calculated by Davydov's formula, while the water consumption by the trees was calculated by the balance method. The transpiration rate of the elms was 3.5. times as great as the evaporation from an exposed body of water with an area equal to the area under the trees. The author believes that the reasons for such a marked discrepancy in favor of transpiration are the larger surface area for the absorption of solar

energy, which affects transpiration, as well as the species characteristics of the elm(a high transpiration rate) and the local specificity of the experimental conditions.

65.46.8511

14.2.9 Karvetskii, V.V.

[Silvicultural maintenance of State zone of the Gora Vishnevaya, Caspian Sea.]

LESN KHOZ 8.28-32. 1959; Referat. Zhur., Biol.,1960, No. 44498. (Translation)

282.635.1:634.0.2(262.81)

An experiment with Ulmus pinnato-ramosa as the dominant species located 25 km northeast of the town Uralsk is described. The necessity of maintenance measures arose from damage to elms by snow. Free passage of wind through the forest zone was ensured by planting shrubs around stumps, cutting down some of the elms, and clipping the branches up to the height of 1.75-2 m. The technique of work is described in detail, and economical computations are given.--Courtesy NSF (PL 83-480)1963.

65.46.13061

14.2.10 Zevina, G.B.; Kuznetsova, I.A.; Starostin,I.V.

[Overgrowth composition in the Caspian Sea.]

TR INST OKEANOL AKAD NAUK SSSR 70:3-25. 1963.[Engl summ.]

From: REF ZH BIOL, 1963, No. 12D319. (Translation)

59:58(262.81)

Forty-eight species of animals and 28 forms of algae were found to compose the overgrowth organisms in the Caspain Sea. The majority of these organisms setted in this sea comparatively recently, after the opening of the Volga-Don canal. Leading overgrowth forms from among the new settlers were Balanus improvisus, B.eburneus, Mercierella enigmatica, and Electra crustulenta. The appearance of new settlers considerably increased the overgrowth biomass in the sea.

65.46.14284

591.9 *Fauna*

14.2.11 Lebedev, L.I.

[Facies zones and the extent of neo-Caspian deposits in the Central Caspian.]

OKEANOLOGIYA 3(6): 1029-1038. Illus. 1963.

591.9:55(262.81)

Recently in connection with research and development of mineral resources 120 cores up to 9 m long were collected from the Central Caspian. A study of the micro-and macrofauna contained in these cores indicated that the Quaternary deposits form 4 layers, the upper layer being related to the neo-Caspian anthropogenic formation. These deposits are characterized by gray and yellow-gray silt; the carbon content of the silt generally increases from the top down. The deposits are not uniform throughout the Caspian but form 4 facies zones closely related to the gross relief of the bottom and the physico-geographical conditions of the adjoining land. The cores indicate that with regard to composition and distribution the neo-Caspian deposits in the Central Caspian have many characteristics in common with early pre-Ural formations.

65.46.18886

14.2.12 Gromov, I.M.

[Data from the history of rodent fauna of the lower Ural and northern coast of the Caspian Sea.]

Tr. Zool. Inst. Akad. Nauk SSSR 22: 192-245. 1957. Referat. Zhur., Biol., 1960, No. 15844. (Translation)

591.9:569.32(262.81)

Eight collected papers based on osteological studies on the Russian Plain (1951-1955). The following subjects were reviewed: Taman, Upper Pliocene (with passage to lower anthropogenic) mammals; rodents from the Upper Pliocene fauna from the Kama-Kuibyshev section of the bank of the Volga River (25 spp); specific composition and numbers of bone remants of 7 animal spp. from a Mousterian camping site near Stalingrad; the graphic situation of the paleolithic stratum. Data are discussed on the relation of age and preservation type of the bones of small mammals from river-bed alluvium, conditions of fossilization and, the accumulation of bone remnants of Upper Quaternary rodents of Samarskaya Luka (the remnants originate mostly from owl regurgitations and from the excrements of predatory mammals). The results are given of the morphological taxonomic analysis of the data on the history of rodent fauna of lower Ural, northern coast of Caspian Sea, lower Don River and Volga-Don watershed.-- Courtesy NSF (PL 83-480)1963.

65.46.64164

14.2.13 Maslovets, R.D.

[Formation of rodent fauna in the deserts of the northwestern area of the Caspian Sea in relation to the recent regression of the Caspian Sea.]

ZOOL ZH 43(5): 744-748. 1964. [Engl. summ.]

591.9:569.32(262.81)

Identification of sub fossil bones of small sized mammals from the survey mark Prorva showed that some 150 years ago in the period of high water level in the Caspian Sea hydrophilous spp., such as Arvicola terrestris L. (91.1%)and Microtus arvalis Pall.(3.1%)were prevailing in the rodent fauna.A relative abundance of desert rodent spp. was comparatively low. On the contrary, bone remnants in recent eagle-owls pellets belong exclusively to desert rodent spp., such as Rhombomys opimus Licht. (38.0%), Meriones erythrourus Gray. (33.9%), Meriones meridianus Pall. (7.0%), Ellobius talpinus Pall. (7.6%) and others. With the drop of the sea level and with the penetration of desert spp. westwards the ranges of the foci of especially dangerous infections also extend.

65.46.41253

14.2.14 Aligadzhiev, G.A.

[Acclimatization of Azov Sea and Black Sea fauna in the Caspian Sea.]

ZOOL ZH 43(6): 801-808. Illus. 1964. [Engl. summ]

591.9(262.5+Azov Sea):(262.81)

During the past 40 years 18 animal and 11 plant species immigrated by different ways into the Caspian Sea as a result of which many biocoenoses underwent radical reconstruction. The greatest development in biomass was achieved by immigrants to the Caspian from the Azov and Black Seas: Mytilaster lineatus, Syndesmia ovata and Nereis diversicolor. Changes in average biomass and range of Mytilaster, Nereis Syndesmia and Balanus improvisus from June 1960 to Oct. 1961 were analyzed. Nereis diversicolor and Syndesmia ovata have settled slimy grounds and slime-sandshell rocks that earlier were of very low productivity. Only in the case of Mytilaster can one speak of concurrent relations with the local forms and of the replacement of some Caspian Dreissena species by this immigrant from the Azov and Black Sea.

14.2.15 Mordukhai-Boltovskoi, F.D.

[The past, present, and future of the fauna of the Caspian Sea.]

In: Zoogeografiya sushi. [The zoogeography of the land. Tashkent. 196-197. 1963. From: REFERAT ZHUR BIOL, 1964, No. 4D290. (Translation)

591.9(262.81)

The fauna consists of 4 groups: freswater; Arctic (20 spp. entering from the north at the beginning of the Holocene); Mediterranean (27 spp. from the Sea of Azov via the Manych and the Volga-Don Canal); and the dominant autochthonous fauna cosisting of 323 spp. of metazoans. The last is almost completely endemic and 75-80% of it is of marine origin; it came together as a result of prolonged speciation from a number of original forms, relicts of fauna which had died out; its formation began in the Pontic Sea during the Pliocene. In the Azov-Black Sea Basin 140 spp. are autochthonous and are very closely related to the Caspian Species. They are not descended from the Pontic fauna, which has died out completely in the Pontoasiatic Basin, but immigrated from the Caspian Sea via the Manych before the Wurmain glaciation at the same time as the appearance of the autochthonous fauna (31 spp.) in the Aral Sea. These species are quite tolerant of fresh water and spread up the rivers. About 20 spp.

have resettled in the basins of the Mediterranean, Baltic, and other seas, displacing the ecologically related freshwater species. In the future an increasing number of species of Mediterranean fauna will resettle in the Caspian and displace the local fauna, but the latter will continue to disperse (owing also to acclimatization measures) into new waters in such a way that their ranges and population sizes will increase.

65.46.55594

14.2.16 Zhuravel, P.A.

[Composition of reservoir fauna in the southern part of the USSR with regard to acclimatization measures as a means for converting them into fauna of the lagoon complex (Caspian, relict type).]

In: Materialy Pervogo Nauchno-tekhnicheskogo soveshchaniya po izucheniyu kuibyshevskogo vodokhranilishcha. [Information on the first Scientific and Technical Meeting on Study of the Kuibyshev reservoir.] Kuibyshev. 3.62-66. 1963. From: REF ZH BIOL, 1964, No. 6D227. 'Trnaslation)

591.9(262.81)

The author presents a list of animal species in the lagoon complex which live in reservoirs in the southern USSR, indicating the extent to which the fauna of these reservoirs have been converted into

fauna of the lagoon complex of the Caspian relict type.

65.46.37218

14.2.17 Zhuravel', P.A

[Significance of canals and reservoirs in the southern USSR in the settlement of representatives of fauna belonging to the lagoon complex (Caspian, relict type). Preliminary report.]

TR VSES GIDROBIOL OBSHCHEST 14:263-268. From: REF ZH BIOL, 1964, No. 6D226. (Translation)

591.9(262.81)

Canals and reservoirs built in the process of hydraulic reconstruction play an important role in the settlement of autochtonous Caspian fauna along river systems in the Ponto-Caspian basin. Wide dispersion has occurred among the hydroid, Cordylophora; the molluscs Dreissensia polymorpha and D. bugensis; and the fish Syngnathus typhle, some gobies, Clupeonella d. delicatula, and C.d. caspia. These have settled in a number of reservoirs in the Dnepr, Don, and other rivers. Many Caspian crustaceans and fish have been introduced and have acclimatized well to many reservoirs in the Ponto-Caspian rivers. These include Gammaridae, Cumaceae, Mysidaceae, Ampharetidae, and some species of sturgeons, Rutilus rutilus heckeli, Chalcalburnus chalcoides, and Vimba vimba. The majority

of these forms are beneficial, but some, particularly Clupeonella d. delicatula, which first settled along the Dnepr in large numbers and have probably reached the Baltic basin, are deleterious.

65.46.41696

592 /599 *Systematic Zoology* رد ه بند ی جانوری

14.2.18 Mordukhai-boltovskoi, F.D.

[Autochthonous Caspian invertebrates as a stock for acclimatizing.]

In: Akklimatizatsiya zhivotnykh v SSSR. [The acclimatization of animals in the USSR.] Akad. Nauk Kazakhsk. SSR: Alma-Ata. 22-23. 1963. From: REFERAT ZHUR BIOL, 1964, No 1D232. (Trnaslation)

592/595(262.81)

That such Caspian fauna constitutes a good stock for acclimatizing in bodies of fresh water is shown by the distribution in such bodies of more than 100 of them. The invertebrates living on the surface of the bottom of the Caspian Sea are easily accessible to fishes, and considerably enrich the plankton and and the benthos of both hard and sandy bottoms. Under favorable conditions of oxygenation the Caspian invertebrates can reproduce quickly in fresh water and dis-

place the local forms. Little use is being made at present for acclimatization purposes of the Caspian benthal invertebrates (polychaetes, bivalve mollusks, amphipods) required by benthophagic fishes which themselves make little use of the mysids of the plankton and benthos.

65.46.18887

14.2.19 Gasyunas, I.I.

[The acclimatization of fish-food invertebrates originating in the Black and Caspian Seas in lakes and reservoirs in Lithuania (the Baltic Sea Basin).]

In: Akklimatizatsiya zhivotnykh v SSSR. [The acclimatization of animals in the USSR.] AKAD NAUK KAZ SSSR ALMA-ATA 234. 1963. From: REF ZH BIOL, 1964, No. 2D283. (Translation).

592/595(262.81+262.5):(261.24)

Chironomid larvae predominate in the food benthos of the lakes and reservoirs of Lithuania. In summer at the time of pupation and emergence, the food supply drops sharply, but can be improved by acclimatization. In 1960 and 1961 Mesomysis kowalewskyi, Limnomysis benedeni, Chaetogammarus warpachowskyi Pontogammarus crassus, and P. robustoides were introduced into the reservoir of the Kaunas hydroelectric station from reservoirs in the Southern Ukraine. Several generations have already been produced and they have spread

widely.

65.46.14328

14.2.20 Lognenko, B.M.; Starobogatov, Ya. I.

[The mollusk fauna of the Caspian Sea and its zoogeographic connections.]

In: Mollyuski. Voprosy teoreticheskoi i prikladnoi mollusks. Problems of theoretical and applied malacology. Moscow-Leningrad. 176-186. 1964. From: REF ZH BIOL, 1964, No. 9D34. (Translation)

594:591.9(262.81)

Gives brief information about the composition of the mollusk fauna of the Caspian Sea. Detailed vertical and horizontal breakdowns of the Caspian Sea are given as well as a list of forms characteristic for each part. Ten areas are distinguished which are considered to be provinces of the Pontocaspian brackish-water zoogeographic region. There is a discussion of the relation of the mollusks of the Caspian Sea with the brackish-water mollusks of the basin of the Sea of Azov and Black Sea; the water areas populated by these Caspian species should be distinguished as an 11th province of the region. Because of the wide distribution of relatives of the Caspian-Sea gastropods in the springs and subterranean waters of the eastern Mediterranean area, they conclude that the Caspian Sea

gastropods originated in fresh water.

65.46.63946

14.2.21 Gasyunas, I.I.

[The acclimatization of food crustaceans (of a Caspian relict type) in the reservoir of the kaunas hydroelectric station and the possibility of resettling them in other lakes and reservoirs of Lithuania.]

TR AKAD NAUK LIT SSR BI (30): 79-85. 1963. From: REF ZH BIOL, 1964, No. 2D282. (Translation)

595.3(262.81)

The Caspian relict crustaceans Corophium curvispinum Gammarus (Chaetogammarus) ischus, Astacus leptodactylus, and the mollusk Dreissena polymorpha have penetrated from the Don Basin through the Oginsk Cana into the Niemen River and other fresh waters of Lithuania. They have all become acclimatized and quite numerous, showing the possibility of introducing Caspian relicts into Lithuania. In 1960 and 1961 the Caspian relicts Mesomysis kowalewskyi, Limnomysis benedeni, Chaetogammarus warpachowskyi, Pontogammarus crassus, and P. robustoides were introduced into the reservoir of the Kaunas hydroelectric station from the Dnepropetrovsk and Simferopol reservoirs. By Oct. 1961 all of the crustacean species had reproduced at a high rate although they still occupy only a small area.

65.46.18909

14.2.22 Mordukhai- Boltovskol, P.D.

[Polyhemidae of the Pontocaspian basin.]

HYDROBIOLOGIA 25(1/2): 212-220. Illus. 1965.

595.324.5(262.81)

Twenty-three species of this group of Cladocera occur in the area. Except for one spcies all are endemic. The others fall into two groups : those of freshwater and those of marine origin. The differneces between the two groups are discussed. The present knowledge of the life histories of the species is reviewed.

65.46.73919

14.2.23 Shornikov, E.I.

[Description of the Caspian elements of Ostracoda in the Azov-Black Sea Basin.]

ZOOL ZH 43(9): 1276-1293. Illus. 1964. [Engl. summ.]

595.33:565.33(262.81:(262.5+Azov Sea)

In delta parts of the rivers in the Azov-Black Sea basin 8 Ostracods of Caspian origin were found. Five of them, Candona schweyeri nom. n., Leptocythere striatocostata, L. quinquetuberculata, L. longa, Loxoconcha lepida, were known by fossil remnants from the deposits of the Upper Pliocene and Postpliocene of the

south of USSR and were found living for the first time. The other 3, Leptocythere lopatici, L. relicta, L. gracilloides are new. Bythocypris elongata schweyer was found to belong to the genus Candona but since transferring this species into the Candona genus its name Candona elongata (Schweyer) becomes a younger homonym of C. elongata Herrick, 1879, and of C. elongata Vavra, 1891=C. detecta (O.F.Müller),a new name is suggested for it, Candona schweyeri. Loxoconcha unodensa Mandelstam is a synonym for L. lepida tepanaitys since the shells of a male and a female of the same spp. were described under these 2 names.

65.46.86874

14.2.24 Osadchikh, V.E.

[The biology and ecology of Northern Caspian mysids.]

TR KASPIISK NAUCHN-IISLED INST RYBN KHOZ OKEANOG 17.3-11 1962 1963 .From: REFERAT ZHUR BIOL, 1963, No. 8D140. (Translation)

595.383.3:577.4(262.81)

Material was gathered in the northern Caspian in 1954, 1955,and 1958. A total of 101 samples were examined. The biology and ecology of 4 species were studied: Paramysis baeri, Metamysis ullskyi, Mesomysis kowalewskyi, and M. intermedia. The reproductive period of these species is from April to Oct. The fertility

of the different species depends on the size of the female. The size of the young is determined by the species size. The sex ratio during the growing period is not uniform; in the majority of cases the females predominate. During the reproductive period one pair of P. baeri can produc 430,823 young; M. ullskyi, 103,718; M. kowalewskyi, 64,105; M.intermedia, 6527. The corresponding total weights are 129,243 mg, 20,744 mg, 12,822 mg, and 651 mg. The mysids can be divided into 3 groups by their ecological features.

65.46.14281

14.2.25 Vil'baste, Yu.

[Cicada fauna of the western part of the Caspian depression.]

EZHEG OBSHCHEST ESTESTVOISPYT AKAD NAUK EST SSR 55: 129-151. 1962 [1963] [Engl. and Ger.summ.] From: REF ZH BIOL, 1964, No. 9E35. (Translation)

595.753.1(262.81)

Systematic list of 72 spp. with an indication of the place and date of collection, the number and sex of the individuals collected, and the plant species on which the cicadas were collected. The author presents information on the spp. and quantitative composition of the collections (in 10 sweeps of the insect net) in various biotopes.

65.46.13508

14.2.26 Bykov, L.T.; Belkina, N.B.

Ways of catching fleas from gerbil burrows in inspection for plague in the sands of the northern Caspian Sea area.

MED PARAZITOL PARAZITARN BOLEZNI 33(5): 621. 1964.

595.77(262.81)

14.2.27 Aliev, F.F.; Khanmamedov, A.I.

[Settlement of land vertebrates in the area along the western shore of the Caspian Sea and its islands.]

In zoogeografiya sushi.[Zoogeography of the land] TASHKENT 11-12. 1963. From: REFERAT ZHUR BIOL 1964, No. 71280

65.46.14236

596/599(262.81)

597 *Fishes* ماهی ها

14.2.28 Kozhin, N.I.

[Current status of the problem of reproduction of Caspian fish stocks.]

In: Materialy Vsesoyusnogo soveshchaniya po problemam Kaspiiskogo morya, 1960.[Contributions to the All-Union Conference on Caspian Sea problems. 1960] AKAD NAUK AZERBAIDZH SSR: Baku.129-134. 1963. From: REF ZH BIOL, 1964, No. 4I92. (Translation)

597:339.6(262.81)

During the past 30 years the flow-off (that of the Volga in particular) decreased, and the water level of the sea dropped 2.5 mm; volume and area of the water were sharply reduced. This caused a marked reduction in the abundance of animal food and fish. In 1935-37 the Caspian average annual catch (without sprat) was 4.2 million metric centners in contrast to 2.2 million metric centners in 1956-58. The fishery for sprat developed during the past 10 years. Fish stocks declined as a result of destructive methods of fishing, hydrological construction and industrial pollution of rivers and various parts of the sea. No serious deterioration of marine food reserves is expected in the near future. Recruitment is limited by reproductive conditions. To conserve and increase the stocks, it is essential to protect natural propagation, to direct a part of the flow of northern rivers (Pechora and Vychegda) into the Volga basin, to improve the natural spawning grounds, and to intensify artificial propagation. At the present time there is only one unfinished Kizan sturgeon-breeding plant. For the upkeep of existing stocks of beluga sturgeon, Russian and stellate sturgeon, 9-10 fish hatcheries should be constructed.

65.46.23391

14.2.29 Piskunov, I.A.

[The state of fish stocks of the Caspian basin and methods for their rational utilization.]

TR KASPIISK NAUCHN-IISLED INST MORSK RYBN KHOZ OKEANOG 17. 75-83. 1962 [1963] Referat. Zhur., Biol., 1963 No. 17I54. (Translation)

597:339.6(262.81)

During the past 20 years a decrease has been observed in the stocks of bream (Abramis brama), carp (Cyprinus carpio), zander and anadromous shads. Despite the great abundance of roach, its catches declined sharply as a result of a decrease in its growth rate. The abundance of Acipenseridae was subjected to sharp fluctuations from intensive utilization and subsequent complete prohibition of their catches. At present the number of young sturgeons has markedly increased. Decreased river flow and lower sea water level have led to a marked decline in the catches. The fish supply was adversely affected by exploitations, by erection of hydraulic works, and by pollution of water with sewage. Present-day catches are characterized by considerable numbers of young and immature fish. For the Caspian Sea the author recommends, in addition to the fishery for kilka (Clupeonella), the use of trap nets for spring catches of shad, drift-net fishing for south-Caspian shad,

fishery for Rutilus frisii kutum and mullet, and also spring fishery for the larger cyprinids and percids in the north Caspian. The main fishery for anadromous and semi-anadromous species should be concentrated in the rivers. Prohibition of marine catching of Acipenseridae is recommended.

65.46.5242

14.2.30 Zubrik, K.M.

[On the possibility of utilizing the Volga-Akhtubin flood-plain for the production and increase of fish stocks in the Caspian Sea]]

In: Materialy Vsesoyuznogo soveshchaniya po problemam Kaspiiskogo morya, 1960. [Materials of the All-Union conference on Caspian Sea problems, 1960] Akad. Nauk Azerbaidzhansk. SSR: Baku. 182-184. 1963. From: Referat Zhur Biol, 1964,No.2I69 (Translation)

597:339.6(262.81)

The installation of the dam at Volgograd brought about substantial changes in the conditions for the reproduction of sturgeon, great sturgeon (Huso huso), stellate sturgeon (Acipenser stellatus), herrings, lampreys and others. The conditions in the tailwater of the Volgograd hydroelectric power plant were found to be unfavorable for the natural reproduction of Acipenseridae. The author recommends cutting off the

polluted main Volga channel from the Volga-Akhtubin flood plain and the use of the latter, together with the Volga branches (Akhtubin River and side channels) and shallows and lakes of the flood-plain for the production of sturgeons, clupeoids and whitefish (Stenodus l. leucichthys).

65.46.5272

14.2.31 Baimov, U.A.

[The increase in abundance of the Caspian atherinids in the Aral Sea.]

DOKL AKAD NAUK UZ SSR 9. 57-59. 1963. From: REF ZH BIOL, 1964, No. 14I71. (Translation)

597(262.81)

The abundance and distribution of Aral Sea atherinids were studied in 1959 and 1960. Atherinids comprised 26.3% of the 1959 catch, and 46.1% of the 1960 catch. Data are presented on the atherinid catches in different parts of the coastal zone of the Aral Sea. Despite mass mortalities from sharp fluctuations in water level, atherinids are the most numerous fish in the Aral Sea today.

14.2.32 Kazancheev, E.N.

[Fishes of the Caspian Sea.]

180 P. Illus. Rybn. Khoz. : Moscow. 1963. Pr. 1 ruble, 4 kopecks. From: REF ZH BIOL, 1964, No. 1411K.

65.46.18248

597(262.81)

14.2.33 Khusainova, N.Z.; Falomeeva, A.P.

[Contribution to the biology of the Caspian atherinid, acclimatized in the Aral Sea.]

In: Rybnye zapasy Aral skogo morya i puti ikh ratsional' nogo ispol'zovaniya. Fish resources of the Aral Sea and means for their rational utilization. Nauka: tashkent. 124-127. 1964. From: REF ZH BIOL, 1964, No. 22I52. (Translation)

597(262.81)

Age (determined from vertebrae), growth in length and weight, and food were studied. The largest specimens were 11.7 cm long and weighed 8.1 g. The growth rate of the Aral atherinid is lower than that of the Caspian form; their food habits are similar. The Aral Sea atherenid causes serious damage to the food supply of young commercial fishes, and consumes spawn and fry of valuable species. In addition it competes with adult Aral Sea fishes for food.

65.46.83053

14.2.34 Kozhin, N.I.

[Propagation of the fish stocks in the Caspian, in connection with hydroelectric construction.]

Tr. Okears Komis. Akad. Nauk SSSR 5.251-256 1959; Referat. Zhur., Biol., 1960, No.66330.

597(262.81)

Courtesy NSF (PL 83-480) 1963.

65.46.69371

14.2.35 Aleev, Yu. G.

[Some morphological features of fishes from the Caspian, Azov and Black Seas, and their causes.]

Tr. Sevastopl'sk. Biol. Sta. Akad. Nauk SSSR 10: 82-89. 1958; Referat. Zhur., Biol., 1960, No. 55907. (Translation)

597(262.81+262.5)

In Caspian forms of the spp. in question (Clupeonella delicatula, Alosa caspia, A. brashnicovi, A. kessleri, Atherina mochon pectoral, ventral, dorsal and anal fins are shorter than in the Azov-Black Sea varieties of the same spp. This is due to the fact that Caspian varieties are larger than varieties from the Azov and Black Sea. The velocity of their movement is greater, being proportional

to body size and this increases head-on resistance. The larger size of the Caspian varieties results from the more rapid growth, i.e. depends on temperature conditions. The Caspian varieties have relatively smaller eyes, as is usual in larger forms in comparison with related smaller ones.

65.46.106227

14.2.36 Berdichevskii, L.S.

[Biological bases for the rational utilization of commercial supplies of fishes in the Caspian basin.] In: Materialy Vsesoyuznogo soveshchaniya po problemam Kaspiiskogo morya 1960. [Data of the All-Union conference on Caspian Sea problems 1960.] Akad. Nauk Azerbaidzhansk. SSR: Baku. 135-147. 1963; Referat. Zhur., Biol., 1963, No. 23153. (Trnaslation)

597.003.2(262.81)

Based on analyses of biological data (onset of sexual maturity, age composition, growth rate) on zander (Stizostedion lucioperca), bream (Abramis brama), roach (Rutilus rutilus), kutum (R.frisii kutum), sturgeons (Acipenseridae), herrings (Clupeidae) and black-backed shad (Alosa kessleri kessleri) present-day exploitation of valuable commercial species by the Caspian fishery was found to be irrational. It was noted that young of commercial species were

taken in large numbers and that spawners were taken at their spawning grounds. This has resulted in a strong rejuvenescence of the stocks and caused a drop in (1) the productivity of the waters, (2) the total commercial fish stocks, and (3) the quality of the catches.

14.2.37 Babushkin, N.Ya.

[Biology and fishery of the Caspian beluga sturgeon Huso huso.]

TR VSES NAUCH ISSLED INST MORSK RYBN KHOZ OKEANOGR. 52: 183-258. 1964. From: REF ZH BIOL, 1964, No. 20I76. (Translation)

597.442(262.81)

The beluga fishery in the Caspian has changed considerably during the 30 years prior to 1959. Size and weight composition of the H. huso catches is presented. Maximum size was 5.5-5.7m. Females of the Volga delta ranged in length from 200 to 290 cm and males from 170 to 230 cm. Smaller fish occurred in the sea catches. The largest females weighed 1229 kg, the largest males 1004 kg. Data are presented on the condition, sex ratio and ages of fish from various regions over a number of years. Individuals from 107 to 118 years old have been recorded. Age of

females captured in the Volga usually varied from 15 to 61 years; of males, from 12 to 30. Younger fish were captured in the sea. Beluga grow more slowly in the Kura than in the Volga. Reproductive capacity is retained for an extended period of time. Absolute fecundity of the Volga beluga varies from 224,300 to 2,953,400 eggs (average 855,100). There is both a spring and a fall run up-river, the former being heavier in the Kura and the latter in the Volga. The distribution of the spawning grounds prior to regulation of the river flow is described Spawning in the Volga takes place mainly between May and the 2nd half of July. Young H. huso usually descend to the sea in the first year of life. Information is presented on the diet of H. huso of various sizes. In addition to species used by man, large amounts of non-commercial fishes are used as food by beluga. Sites where the fish aggregate during various seasons are indicated. To increase the stocks, the sea fishery for sturgeons should be discontinued. With the present regulation of the Volga, attention should be given to the artificial rearing of young up to an age of 2-3 months.

65.46.78566

14.2.38 Demin, D.Z.

[The production of Caspian sturgeons in Daghestan Rivers.]

In: Osetrovoe khozyaistvo v vodoemakh SSSR. [The sturgeon fishery in Russian waters.] Akad. Nauk SSSR: Moscow. 102-107. 1963. From: REF ZH BIOL, 1964, No. 3I68. (Trnaslation)

597.442(262.81)

Changes in the hydrographic structure of the lower Terek and the appearance of a new river bed caused a decrease in the abundance of sturgeons. As a result, the migration route to spawning grounds now passes through a 30-km zone of the Agrakhan Bay shallows. The vast shoals in the pro-estuarine zone presented a substantial barrier to spawners migrating into the Terek. A national-economic plan calls for improvements aimed at allowing sturgeon access to their spawning grounds. The role of the Salaka River in replenishing the Caspian sturgeon stock is small. The access of sturgeons to the spawning grounds will be facilitated by directing the Salaka waters through an artificial channel into the southern bay of the sea. The unstable hydrological regime in the Samara River, coupled with frequent rearrangements of the river bed, makes it impossible to improve the sturgeon spawning grounds in the river.

On the other hand, the high degree of ripeness of sexual products of osetr and stellate sturgeon that enter the river permit organization of their artificial propagation.

65.46.9682

14.2.39 Korobochkina, Z.S.

[The Main stages in the development of the sturgeon fishery in the Caspian basin.]

TR VSES NAUCH-ISSLED INST MORSK RYBN KHOZ OKEANOGR 52: 59-86. 1964. From: REF ZH BIOL, 1964, No. 19I100. (Translation)

597.442(262.81)

During the period of the river fishery (from the 17th to the 19th century) the sturgeon catch reached a maximum of 500,000 metric centners. The sea fishery for the sturgeon began in 1865. As a result of intensified fishing, the catch declined to 280,000 centners by 1914, as compared with 350-390 thousand centners in 1901-03. In 1919, owing to a reduction in the amount of fishing, the sturgeon catches dopped to 26,000 metric centners. Fishing increased in 1922, but was conducted with less gear than in 1913. Fishing took place in rivers and in proestuarine parts of the sea. By 1927 the catch reached 85,000 metric centners. Between 1931 and

1940 fishing was extended to the marine feeding grounds, and its rate steadily increased. In the period 1936-37 the catch reached 210,000 metric centners. Then signs of overfishing started to appear in the Caspian basin. In 1938-40, due to protective legislation and to the reduction in the abundance of the stock, the sturgeon yield decreased by almost 50%. Fishing declined in 1941-45, and the yield dropped to 35,000 centners. From 1946 the catches started to increase (over 100,000 centners), even though the fishing rate was low. In 1951 commercial sturgeon fishing was discontinued, and the catch remained more or less constant at 120,000 metric centners; in 1962 it reached 200,000 centners. The stocks are bound to increase in the near future owing to the strong 1957 year-class. The fishery is based on the Russian sturgeon (A. güldenstädti) and the stellate sturgeon (A. stellatus). The number of great sturgeon (Huso huso) has been reduced. Regulation of the flow of the Kura River (1951) and of the Volga (1958) requires strenthening of conservation measures and expansion of artificial propagation.

65.46.60323

14.2.40 Batychkov, G.A.

[Some results of the mass tagging of the Volga-Caspian sturgeon in the Volgograd Reservoir and below the dam of the Volgograd hydroelectric power plant.]

In: Osetroevoe khozyasistvo v vodoemakh SSSR. [Sturgeon fisheries in the USSR.] Acad. Nauk SSSR: Moscow. 83-89 1963. From: Referat. Zhur., Biol., 1964, No.2I50. (Translation)

597.442(262.81+282.247.41)

Spawners of hiemal sturgeon (Acipenser guldenstadti) were tagged prior to their transfer to the Volgograd Reservoir. Ring-shaped brass tags were attached to the anterior ray of the left pectoral fin. Of the spawners transferred to the reservoir in the spring, the majority migrated to the upper parts that same spring. Sturgeons released in Aug. at the time of over-wintering succeeded in ascending to Kuibyshev during the year. The bulk of spawners transferred in Sept.and Oct. remained for over-wintering in the vicinity of Saratov. Sturgeon moved up the reservoir at the rate of 11 to 25 km in a 24-hr period. In Aug. the sturgeon migration rate was twice as fast as in Sept. and Oct. Migratory sturgeon spawners occasionally descended from the reservoir into the downstream part. After spawning, sturgeons migrated

from the reservoir and were caught in the upper and lower parts of the hydroelectric power plant, and in the northern and southern Caspian Sea. In contrast to ascending sturgeon, the rate of descent of downstream-migrant sturgeons is higher in Sept. and Oct. Than in Aug. The bulk of sturgeon descend into the sea after spawning. Some migratory spawners remain in the river and at spawning grounds for a period of several months to a year or more.

65.46.538

14.2.41 Sadlaev, K.A.

[Prospects of production of Acipenseridae in the Caspian basin.]

In: Osetrovoe khozyaistvo v vodoemakh SSSR. [Sturgeon fisheries in the waters of the USSR.] Akad. Nauk SSSR: Moscow. 157-159. 1963. From: REF ZH BIOL, 1964, No. 7I69. (Translation)

597.442(262.81+282.247.41)

For the production of 100,000 metric centners of Acipenseridae the author recommends construction in the Volga delta of 5 sturgeon hatcheries having a capacity of 5-6 million young each, with 2 harvests and a yield of 200,000 metric centners per pond. Improvement of permanent natural spawning grounds in the Volga channel is also suggested,

Along with acclimatization of Akhtuba River Acipenseridae to the spawning grounds, as a result of which a yield of 100,000 metric centners might be obtained.

65.46.23424

14.2.42 Furman, T.I.

[Temperature conditions during the approach of shad to the western coast the Middle Caspian (Khudat fisheries group).]

TR INST GEOG AKAD NAUK AZERBAID ZHANSK SSR 11:49-66. 1963; Referat. Zhur., Biol., 1964, No. 1I110.(Translation)

597.553.1(262.81)

The horizontal temperature distribution in the surface waters at various distances from the coast was studied, together with fluctuations in shad catches during the spring fishing season. A positive temperature gradient (when the inshore water is warmer) was found to stimulate the approach of shad to the fishing zone. The highest rate of temperature decrease (0.1°C per 100 m) was observed at a distance of up to 1 km from the shore; in zones located 1 to 3 km from the shore, the temperature gradient dropped to 0.05°C at 100 m. Fluctuations of catches during the spring fishing season are conditioned by hydrometeorological factors, especially by the

temperature.

65.46.9693

14.2.43 Kazancheev, E.I.

[Migration paths of shad in the Northern Caspian under present-day water level conditions.]

In: Materialy Vsesoyuznogo soveshchaniya po problemam Kaspiiskogo morya, 1960. [Data of the All-Union conference on Caspian Sea problems.] Akad. Nauk Azerbaidzhansk. SSR: Baku. 155-157. 1963; Referat. Zhur., Biol., 1963, No. 23I41. (Translation)

597.553.1(262.81)

The drop in the Caspian Sea level did not lead to changes in the migration seasons of shad, but migration paths and places of aggregation of the fish were displaced. Prior to the drop in level, the migration paths were distributed along the coastal waters; today they are found in the central part of the Northern Caspian. There was an increase in the number of joint migrations, as well as in joint aggregations and spawning, of a series of shad species that formerly lived apart from one another. As a consequence, hybridization among them increased, and concentrations and catches rose.

65.46.561

14.2.44 Prikhod'ko, B.I.

[Seasonal variations in the behavior of (Clupeonella) Caspian sprats in areas illuminated by electric light.

TR KASPIISKOGO NAUCH-ISSLED INST MORSKOGO RYBN KHOZ OKEANOGR 17: 58-64. 1962 [1963]. From : REF ZH BIOL, 1964, No. 8I36. (Translation)

597.553.1(262.81)

Sprat catches in illuminated areas are highest in summer and lowest in winter and spring. The high summer catches of anchovy sprat (Clupeonella engrauliformis) are explained by the fact that these fish always stay within the limits of the thermocline. Consequently, the depth at which these sprats are caught is determined by the position of this layer. Under the homothermal conditions in winter, the distribution of these sprats is not temperature-dependent, and they frequently distribute themselves vertically, aggregating not only above the lamp but also beneath it. This results in smaller catches. Large specimens of anchovy sprat are not attracted to the light. The common Caspian sprat (C.delicatula) goes deeper than the anchovy sprat. Its catches are lowest in May owing to the turbidity of the coastal zone. The behavior of bigeye sprat (C.abrau). which lives in deep water layers, varies little from sea-

son to season. Highest catches of C.abrau can be obtained in near-bottom layers. Since this fish rises into upper layers in summer, its catches at that time are always higher than in winter and spring. The steady increase in the catch in upper water layers from the beginning to the end of the night is due, apparently, to the sprats becoming adapted to the bright light.

65.46.32646

14.2.45 Svetovidov, A.N.

[The abundance of Atlantic herring (Clupea harengus harengus) and Caspian anchovy (Clupeonella engrauliformes) and some factors determining abundance of Clupeidae.]

VOP IKHTIOL 5(1): 30-37. 1965.

597.553.1(262.81) 65.46.96988

14.2.46 Popova, A.A.

[Stages of development of Rutilus rutilus caspicus of the southeastern part of Caspian Sea.]

VOP IKHTIOL 4(4): 644-657. Illus. 1964.

597.554.3(262.81) 65.46.106263

598 *Birds* پرنـــــدگان

14.2.47 Vorobev, K.A.

[The bird fauna and the ecology of birds of the Volga delta and the Caspian Sea littoral.]

423P. Illus. Volga: Astrkhan. 1963. Pr. 1 ruble 98 kopecks. TR ASTRAKHANSKOGO ZA POVEDNIKA 8. 1-423. Illus. 1963. From: REF ZH BIOL, 1964, No. 19I164K. (Translation)

598.2:577.4(262.81+282.247.41)

A collection of papers on problems of making censuses (pheasant, mute swan); overwintering (aquatic and other birds); banding (ducks at molting places); and migration (shore birds); there are also ecological -faunistic studies of predatory birds and gulls. A complete list of the bird fauna of the Delta is given. The collection ends with papers on the regionalization of the Delta.

65.46.97039

14.2.48 Krivonosov, G.A.

[The overwintering of birds at the northern part of the Caspian Sea, 1960-1961, according to observations from the area of Iskusstvennyi Island.]

TR ASKTRAKHANSKOGO ZAPOVEDNIKA 8.377-391. 1963. From: REF ZH BIOL, 1964,No.23I197. (Translation)

598.2(262.81)

Gives information on the population size and fluctuations in it during the winter, and on the distribution, nutrition, and weight of 33 spp. of wintering birds. The nucleus of this group consists predominantly of birds which eat fish, mollusks, or carrion (laughing gull, smew, goosander, tufted duck, whooper swan, white-tailed eagle, and carrion crow). There are characteristic nonperiodic shifts in an easterly or westerly direction for most of the individuals; they are caused by changes in temperature and icing conditions and sometimes by winds before the formation of stable ice. The remoteness of the wintering place from land guarantees security against 4-legged predators. On a 30-km route along the Volga-Caspian Ship Canal counts were made of 14,000 smews, 12,000 goosanders, 250 whooper swans, and 390 tufted ducks. Indications are given of the scale of poaching on the wintering area--50-70 birds per day per hunter.

65.46.96248

14.2.49 Lugovoi, A.E.

[The formation of groups of wintering birds in the north Caspian area.]

TR ASTRAKHANSKOGO ZAPOVEDNIKA 8.373-376. 1963. From: REF ZH BIOL, 1964, No. 23I196 (Transaltion)

598.2(262.81)

Gives the results of 9 aerial reconnaissances of wintering birds in 1958-1959. As the area becomes more widely iced over and ice develops on the shore of the Sea, the swans and ducks concentrate in the permanent Artemisia bushes of the Volga-Caspian Ship Canal and near it; the gulls gradually migrate south to the shore ice. With very cold spells, when the Artemisia thickets and the Canal freeze, most of the birds migrate southwards. In spring, as the iced-over area becomes smaller, the wintering bird groups shift gradually toward the east and northeast after the shore ice.

65.46.96250

14.2.50 Poslavskii, A.N.

[An analysis of the bird population of the Ural-Emba interfluve as related to the regression of the Caspian Sea.]

In: ornitologiya. Ornithology. Moscow. 6.195-203. 1963.

From: REF ZH BIOL, 1964, No. 15I247. (Translation)

598.2(262.81)

Data from surveys in 1960 and 1962 on north-south and east-west routes were used. Floodplain depressions dry out, become overgrown with vegetation and are populated by birds from the nearest biotopes (the saltwort-Halocnemum zone) and this

results in an enlargement of the range of the 16 desert spp. of birds. Species native to the steppe zone spread out to the south, while the dendrophilic species spread along the lowland forests of the Ural River. Human activities and the direct extermination of some species have led to a decrease in their populations and limitation of the range of the game birds, the Ciconiiformes, pelicans, and large predacious birds; the number of synanthropic birds is increasing. The results of recording 19 spp. are given.

65.46.87593

14.2.51 Poslavskii, A.N.

[New data on the bird fauna of the area north of the Caspian.]

TR INST ZOOL AKAD NAUK KAZ SSR 20: 194-201. 1963. From: REF ZH BIOL, 1964, No. 4I157. (Translation)

598.2(262.81)

Results of observations and of analysis of a collection of nearly 400 birds taken between July 1959 and Jan. 1962 in the central part of the Volga-Ural Sands and in the southern part of the Ural-Emba Interfluve. Data are given on 21 spp. of birds with precise indications of their spp. composition and distribution in the area north of the Caspian.

Statements are made in particular about the displacement to the north along the Ural River valley of the little egret and the night heron and to the south of the little bustard, the white-winged lark, and, probably, the skylark and the gyrfalcon. There is evidently alternate expansion and contraction of the range of the wood pigeon and evidently also of the twite, common teal, pintail, and pochard. The great bustard, ruffed bustard, and demoiselle crane are at the point of complete extinction. Ducks are beginning to nest in smaller numbers. The grey leg goose has disappeared completely from the Ural River Lowlands up to the Inder area. On the other hand, there have been increases in the numbers of the great white heron, little bustard,and wood pigeon; the red-headed bunting has become common at nesting sites.

65.46.4548

14.2.52 Poslavskii, A.N.; Postnikov, G.B.

[The wintering of birds in the area north of the Caspian Sea and the Mangyshlak Peninsula.]

TR INST ZOOL AKAD NAUK KAZ SSR 24: 157-180 1964. From: REF ZH BIOL, 1964, No.23I194. (Translation)

598.2(262.81)

The territory north of the Caspian includes

The Volga-Ural and the Ural-Emba interfluves. Four types of overwintering habitats are distinguished: open, forest, cultivated, and aquatic. The distribution of birds among the wintering places is determined by the thickness and duration of the snow cover. A characterization is given of the climatic conditions and the snow cover of the area north of the Caspian and the Mangyshlak Peninsula. Also given are the times of arrival and departure and the nature of the sojourn of 104 spp. of birds. Data on the winter avifauna of these places are compared with those of orenburg Oblast.

65.46.96261

14.2.53 Zaletalev, V.S.

[Data on the biology of fish-eating birds of the eastern and north-eastern Caspia.]

In: Okhrana prirody i ozelenenie. [Conservation of nature and landscaping.] Moscow. 4.11-14. 1960; Referat.Zhur., Biol., 1963, No. 4I156. (Trnaslation)

598.2(262.81)

The summer distribution of the cormorants, terns and gulls in the eastern Caspia depends on the presence of satisfactory nesting places and on food. At nesting time, cormorants feed almost exclusively on gobies. Crabs, fish, and by-products of the fish-

ing industry are significant in the diet of gulls. All terns, with the exception of the gull-billed, feed on small fish. During periods other than the nesting time, the distribution of cormorants and gulls is determined by the presence of food fish shoals. The population of gulls, terns and cormorants in eastern and northeastern Caspia is greatly reduced because of uncontrolled collection of eggs and nestlings by the local population. Under present-day conditions the population of fish-eating birds, requiring 300-400 gms of feed per day (mainly fish) cannot affect the productivity of the fishing industry. In this connection, in addition to the problems of conserving the fish wealth, it is necessary to consider the problem of conserving the birds.

65.46.19002

14.2.54 **Zaletaev, V.S.**

[The wintering of aquatic birds in the northern, eastern, and southeastern Caspian areas.]

TR ASTRAKHANSKOGO ZAPOVEDNIKA 8. 349-372. 1963. From: REF ZH BIOL, 1964, No. 23I195. (Translation)

598.2(262.81)

Gives the habitats, spp. composition, numbers, and distribution features of wintering aquatic birds at different locations around the Caspian Sea on the

basis of aerovisual and field observations from 1954 to 1959.

65.46.96272.

14.2.55 Zablotskii, V.I.; Zablotskaya, L.I.

[An ecological -faunistic survey of the gulls of the southwest Caspian [Sea] and their importance for fisheries.]

TR ASTRAKHANSKOGO ZA POVEDNIKA 8. 309-348. 1963.

From: REF ZH BIOL, 1964, No. 16I208. (Translation)

598.422.1:639.2(262.81)

Data from 1954-1956 are the basis of a survey of the nature of the existence, seasonal distribution and population size, ecdysis, diet, and importance for fisheries of 13 spp. of gulls and terns in the area of the Kyzyl-Agach Preserve. During the year the number of gulls fluctuated from 300-7000, with maxima in March and Aug.-Sept. The principal food of the migrating southern herring gull is refuse from fisheries; that of the wintering short-billed gull, insects and rodent. The great black-headed gull consumes fish (Caspian roach in 33.3% of the cases, and kutum and pike in 22.2%). The laughing gull and insects, eat migrating, or, rarely, overwintering slender-billed gulls, eat the dried-up young of fish, and refuse from fisheries. Nesting white-

winged black terns, eat insects and trash fish. In the spring diet of the most numerous of the birds on the nesting ground, the whiskered tern, insects are by far predominant; in summer, fish (consuming less than 0.08% of the young of commercial fishes from the spawning grounds. The diet of the black tern consists of insects and trash fish (96.3% of the fish it eats are atherinids); that of the migrating Caspian terns consists of insects (75% of them acridids). Of the rarer birds on the nesting grounds the common tern has a diet underyearlings of the wild carp constitute 47.6% of the total number of edible fish. When their total population sizes are low and their diets varied, the individual species of gulls do not damage the fishing industry.

65.46.97042

599 *Mammals.* پستانـــداران

14.2.56 Petrov, P.A.; Pavlov, V.D.; Simanovskii, V.L.
[Formation of animal groupings in the dried out northwestern shore of the Caspian Sea.]
ZOOL ZHUR 42(7): 1080-1087. Illus. 1963. [Engl. summ.]

599(262.81)

As a result of the recent rapid drop of the

level of the Caspian Sea at the northwestern shore, a new territory has been forming during the past 25-30 years in the watershed of the Volga and Kuma of some 160,000 ha. Ecologically this territory can be subdivided into 4 belts as follows: Typha-Phragmites brushwood, saline soil meadows, deserted saline soil meadows and Kochia prostrata-Artemisia semidesert. Mammals are represented by 18 rodent species, 2 insectivores, 8carnivores and 2 artiodactyls. Terrestrial animals on the dried territory are sometimes exposed to flooding due to periodically recurrent winds from the sea.-- Authors.

65.46.5104

14.2.57 Zhironov, L.V.

[Experiment on the use of large-scale tagging for a study of the distribution and migration of saiga in the western Caspian regions (Preliminary communication).]

In: Migratsii zhivotnykh. [Migration of animals.] Akad. Nauk SSSR: Moscow. 3. 40-61. 1962; Referat. Zhur.,Biol., 1963, No. 15I279.(Translation).

599.735.5:591.52(262.81)

During 1957-1959 in the Kalmytskaya ASSR and the Astrakhanskaya Oblast at sites of large-scale calving of saiga (Saiga tatarica) 18,270 newly born

were tagged, primarily with ear tags used for tagging sheep. On the basis of returns of 367 tags, a map was constructed of the distribution of saiga in different seasons of the year in the western Caspian regions. The summer habitat is mainly the southwestern part of the Caspian lowlands. The maximum range of young saiga is 420 km, the average 270 km from the birthplace. The penetration of saiga into the Caucasus foothills was noted. The winter habitat is limited to an area of 215 thousand ha within the limits of the Caspian lowlands, and they inhabit part of the eastern slopes of the Ergenei, Primanychskie and Prikumskie steppes. Saiga range much farther following considerable summer drouth; the limit of occurrence in such years is shifted to the south by 150-300 km. The extent of the fall-winter migration fluctuates from year to year by 350-600 km. The more severe the winter, the more extensive is the shift.

65.46.641

14.2.58 Zhirnov, L.V.

[Counting saigas from an airplane and the saiga stocks of the area west of the Caspian Sea.]

In: Resursy fauny promyslovykh zverei v SSSR i ikh uchet. [The resources of game animals in the USSR and counting them.] Akad. Nauk SSSR: Moscow. 92-98. Maps. 1963. From: REFERAT ZHUR BIOL, 1964, No. 5I230. (Translation)

599.735.5(262.81)

Visual counts from two aircraft flying fixed paths are possible only with the even distribution of animals. From 1956 to 1960 such a count of small groups of saigas was undertaken simultaneously with counts of large groups. From 1958 the counts were made in spring when the area of the range was smaller than in summer. The maximum was 50,000-70,000/km^2 in the Caspian lowland north of the Kuma River. On the first day of the count, at an altitude of 200-250 m and a speed of 200 km/hour, the entire territory was observed and herd concentrations were spotted. On the second day, counts were made by counters on each side of the plane along strips 1.5 km on each side of the route. Counting of concentrations was done separately from counting along strips. Determinations were made according to the speed of the aircraft with an error of 12-15% on the area occupied by the concentrations. Then 10-25 aerial photographs were made on the basis of which the population density per km^2 was calculated. In 1958 the saiga population was estimated at 540,000, 50.5% of them counted along strips and 49.5% in concentrations, but in 1960 there were 186,000 (38% and 62%, respectively). Data are given on saiga population dynamics. The causes of the population decline are analyzed.

65.46.23522

14.2.59 Shcheblanov, V.G.

[Some questions on the regulation of seal hunting in the Caspian Sea.]

In: 2-e Vsesoyuzone soveshchanie po izucheniyu morskikh mlekopitayushchikh, 1963. [Second All- Union Conference for the study of Marine Mammals, 1963. Akad.Nauk SSSR: Moscow-Leningrad. 49. 1963. From: REF ZH BIOL, 1964, No. 9I296

599.745:591.611(262.81) 65.46.23508

14.2.60 Badamshin, B.I.

[Biological and technical prerequisites for increasing the bag of Caspian seals on island rookeries.]

In: 2-e Vsesoyuzone soveshchanie po izucheniyu morskikh mlekopitayushchikh, 1963.[Second All-Union Conference for the Study of Marine Mammals, 1963.] Akad. Nauk SSSR: Moscow-Leningrad. 3-4. 1963. From: REF ZH BIOL, 1964, No. 9I295.

599.745(262.81) 65.46.23449

14.2.61 Kirpichnikov, A. A.

[Origin of the Caspian seal (Phoca caspica Gmelin).]

BYUL MOSKOV OBSHCHEST ISPYTATELEI PRIRODY OTD BIOL 69(5): 136-139. 1964.

599.745(262.81) 65.46.82532

634-0 *Forestry* جنگلداری

14.2.62 Vlasov, S.I.

[Shelterbelt tree-plantations on irrigated land in in the Caspian lowlands (north of the Caspian Sea.)] In: Molodye lesovody, sorokaletiyu Velikogo Oktyabrya. [Symposium by the young sylviculturalists, in commemoration of the 40th Anniversary of the communist revolution.] Moscow. 195-204. 1957, Referat. Zhur; Biol., 1959, No, 29466. (Translation)

634.0.266(262.81)

Observations on the growth and development of various tree and shrub species for 4 years after planting on test plots and in forest strips on lands of the Arshan-Zelmen irrigation system within the Stalingrad (now Volgograd) Oblast. The observations indicate the possibility of shelterbelt plantations on irrigated soils of the solonets complex in the western part of the Caspian lowlands .The best regime for such tree growth is when the moisture content of soils is maintained at 70%-100 of the field capacity. This may be achieved during the first 2 years after planting by an irrigation rate of 3500-4000 m^3/ha and during the 3rd and 4th years by a rate of 4000-5000 m^3/ha. It is suggested that during the first half of the growing season the water

be allowed to flow between the ridges in the plantation strip; in the second half of the season when the roots have penetrations deeper, regular furrow irrigation is required. On solonets soils the following species have proved successful: Chinese elm (Ulmus parvifolia), golden currant (Ribes aureum), Russian olive (Elaegnus augustifolia), white mulberry (Morus alba), Lombardy poplar (Populus pyramidalis), common apricot (Prunus armeniaca vulgaris), and in part- false acacia (Robinia pseudo-acacia). The English oak (Quercus robur) grows slowly or even dies on irrigated solonets, unless the soil has been prviously improved in its biological properties by sowing lucerne. It seems advisable to grow oak, ash (Faxinus sp.), smoke tree (Rhus continus), common pear (Pyrus communis), and the pearleaf crab apple (Malus prunifolia) only on the better varieties of soil. --Courtesy NSF (PL 83-480)1963

65.46.77420

14.2.63 Vlasov, S.I.

[Shelterbelt afforestation in the irrigated northwestern part of the Caspian lowlands.]

Inst. Lesa Akad. Nauk SSSR: Moscow. 1959; Referat. Zhur., Biol., 1960, No. 10250 D.

634.0.266(262.81)

Courtesy NSF(PL 83-480) 1963.

65.46.82072

639.2 *Fisheries* شیـــــلات

14.2.64 Demin, D.Z.

[Measures for the reconstruction of the hydrographic structure of the Terek River delta for fishery purposes under the conditions of low water levels of the Caspian Sea.]

In: Materialy Vsesoyuznogo soveshaniya po problemam Kaspiiskogo morya 1960. [Materials of the All-Union conference on Caspian Sea Problems, 1960.] Akad. Nauk Azerbaidzh. SSR: Baku. 170-175. 1963. From: REF ZH BIOL, 1964, No.11I95. (Translation)

639.203:551.48(262.81)

During the past 30 years the total area of lakes adjoining the Terek and Agrakhan Bay decreased from 80-85 thousand ha to 19-20 thousand ha, and the annual catch of fish from 50-80 to 5-6 thousand metric centners. This is related to the deterioration of spawning and feeding grounds. The yield of fish can be increased through reconstruction of the spawning and feeding grounds, as well as through allowing migratory and semimigratory fishes free access to their spawning grounds. A scheme is presented for the reconstruction of the fisheries of the Terek delta.

65.46.32625

14.2.65 Berdichevskii, L.S.

[Protection of the stock of economically valuable fish of the Caspian basin.]

Priroda 10. 51-54. 1958. Referat, Zhur., Biol, 1959, No. 71813. (Translation)

639.203(262.81)

The causea of abrupt decrease in catches of valuable Caspian fish are considered to be the following: climatic conditions causing the reduction of the river water run-off and lowering of sea level; soiling of reservoirs and hydroconstructions on the rivers of the basin; irrational fishing. In order to improve the state of fish stock it is proposed to review the entire organization of Caspian fishing and the fishing rules. Because of extensive catching of young fish it is suggested that the catch in the North Caspian be prohibited or minimized; better equipment and fishing methods must be elaborated. --Courtesy NSF(PL 83-480)1963.

65.46.73971

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