the politician who *is said* to have established an all-time record of three errors in only two words: "Them's them." But I could see no way to do it, because I could not positively document the story.

I also had the intention, when I sat down to write, to stress the modern lack of drill in school training (what child nowadays learns to parse or diagram a sentence?). Those who are not taught to distinguish between counterfeit and genuine verbal coins, who find half-a-dozen repetitions of "you know" quite acceptable in a spoken sentence, can hardly be expected to be skillful at writing. But then, in my reading, I found that LANE (1935) was quoting an editor who as long ago as 1915 deplored the then poor quality of English training in the schools! It may be that anyone, with determination, can learn to write; but writing, like any other craft, requires practice. That practice must be coupled with a constant awareness: we learn only when we begin to notice our own mistakes.

ACKNOWLEDGMENTS

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STRUCK, H. R.
1954. Recommended diet for padded writing. Science 119 (3095): 522 - 525 (23 April 1954)

NOTES & NEWS

Soviet Contributions to Malacology in 1976

BY

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WE ONCE AGAIN provide a listing of malacological publications which appeared in the Soviet Union and were abstracted in the Referativnyy Zhurnal during the year 1976. This annual resumé has appeared previously (see The Veliger 19 (4): 440 for last year's report and reference to earlier ones). The editors of the Referativnyy Zhurnal have altered the arrangement of the categories in their format, and we have followed their procedures herein.

Published malacological research in the Soviet Union shows no marked departure in quantity or quality during 1976. Several important papers appeared concerning the phylogeny, and thus, the evolutionary biology and systematics of the Mollusca during the last year. Most noteworthy is probably Shileiko's study of the excretory apparatus of the stylommatophoran Pulmonata. Since the higher categories in the taxonomy of this group are defined largely in reference to the configuration of visceral organs, especially the ureter, any evidence which questions the stability or phyletic importance of these structures demands attention. Shileiko points out that the sigmurethrous condition found among the higher pulmonates may have been independently derived more than once from the more primitive, simple orthurethrous stocks.

Minichev and Starobogatov propose a rather questionable system for the phylogeny of the Mollusca, deriving the phylum from *Dinophilus*-like annelids; such a scheme seems somewhat dated when very strong evidence indicates direct molluscan-turbellarian affinities. Starobogatov also wrote a review of the phyletic relationship among the Lymnaeidae while Zuev and his colleagues discussed the systematics of a number of cephalopod genera. Sirenko

also provided some phyletic re-arrangements within the Polyplacophora.

Several new taxa were introduced and many of these in turn are doubtful, being established not only on typological criteria but rather weak biological evidence. Sirenko introduced a new subfamily, several new genera and a number of new species of chitons. Among terrestrial pulmonates, Sklyar described a new *Deroceras* from the Crimea and Shileiko established a couple of new subgenera and several new species of lauriine pupillids as well as two further new subgenera of orculids. Krivosheina added 5 new species of *Euglesa* (Sphaeriidae) from montane lakes in the Altai while Timms studied and 'revised' the finger-nail clams of an Estonian lake-reservoir system, introducing 3 more new *Euglesa*. Nominally the remarkable malacofauna of Lake Baikal has been increased by the introduction of about 4 new subgenera and 13 new species of freshwater gastropods, both pulmonate and prosobranch (see the paper by Bekman and Starobogatov).

However, several other studies tended more fully to appreciate species as biological entities with their concomitant genetic, populational, and behavioral characteristics: Alimov on *Sphaerium*, Chukhchin on hydrobiids, Mikulich and Biryulina on *Crenomytilus*, Khokhutkin on polytypy in terrestrial gastropods, and Bogatov on variability in *Lymnaea stagnalis*.

The molluscan faunas of zoologically poorly known geographical regions were studied in some detail: Arutyunova on terrestrial mollusks in the Crimea, Izzatullaev on Central Asian and Tadzhikistani land snails, Gul'bin on shallow water marine gastropods of the Kurile Islands, and Uvalieva and Mukhitdinov on Kazakhstan. Several investigations dealt with physiological problems attendant upon the adaptation to waters of varying salinities, especially in the White and Barents Seas.

Researches which reviewed or discussed other regional faunal assemblages include Govberg on the White Sea and Ignat'ev *et al.* on the Okhotsk Sea and the Sea of Japan. Roginskaya investigated the Opisthobranchia of Sosnovets Island in the White Sea, while Zuev *et al.* studied the populations of various cephalopods in the Atlantic Ocean.

Certain researches centered on the autoecology of marine and freshwater forms: Shustov on *Bythinia leachi*, Klebovich on *Hydrobia ulvae*, Spiridonov on *Dreissena*, Berger on *Littorina*, Potafeev on *Lymnaea truncatula* and Zhuravleva and Prazdnikov on *Mytilus edulis*.

Biochemical analyses stressed adaptations to new environments: Petkevich *et al.* on *Mya arenaria* in the Black Sea, while several papers were concerned with physiological parameters, most notably those concerning the reproductive biology of squids (Shevtsov) and scallops (Mal'tsev).

Several studies reported the occurrences of mollusks introduced into the territory of the USSR; namely *Mya arenaria* in the Black Sea (Petkevich *et al.*), *Melanoides tuberculatus pamirensis* in the Pamirs (Akhrorov and Churshina) and *Physodon integrum* in Tadzhikistan (Izzatullaev).

We have provided below a listing of abbreviations and acronyms which we have utilized in this compilation.

AN – Akademiya nauk (Academy of Science)
Biol. Morya – Biologiya Morya (Marine Biology)
Biol. Morya Resp. Mezhved. sb. – (Interrepublic Marine Biology Collection)
BSV – Biol. Shel'fa Tezisy dokl. Vses. Konf. Vladivostok (Scientific theses on ocean shelf biology from the All Union Conference in Vladivostok)
ES – English summary.
GZ – Gidrobiol. Zhurnal (Hydrobiological Journal)
IANT – Izvestiya Akad. Nauk Tadzh. SSR. Otd. biol. (Bulletin of the Academy of Sciences of Tadzhikistan, Department of Biological Sciences)
IFML – Issled. fauny morei, Leningrad, Nauka (Studies of marine fauna, Leningrad Science Press)
ITNIIRKO – Izv. Tikho-okeansk. nauch.-issled instituta rybn. khoziaistva i okeanogr. (Bulletin of the Pacific Scientific Research Institute of Fisheries and Oceanography)
LMA – Lietuvos TSR mosklu Akademija DARBAI (Trudy Akademiya Nauk Litovskoi SSSR). Vilna. (Works of the Academy of Sciences of the Lithuanian Republic of the USSR)
NDVS – Nauch. Dokl. Vyssh. Shkol. Biol. Nauk. (Scientific Reports of the Higher Educational School for Biological Sciences)
TLOE – Trudy Leningradskogo Obshchestva Estestvoispytatelei (Works of the Society of Leningrad Naturalists)
TRO – Trudy Instituta Okeanologii. Akademiya Nauk SSSR. (Works of the Institute of Oceanology, Academy of Science, USSR)
TVNIIMRXO – Trudy Vsesoiuznogo Nauchno-Issledovatel'skogo Instituta morskogo rybnogo Khozyaistva i okeanografii. (Articles of the All-Union Research Institute of Marine Fisheries and Oceanography)
Vestn. Zool. – Vestnik Zoologii (Zoological News)
VLGU – Vestnik Leningr. Gosudarstvennogo Universiteta (News from Leningrad State University)
ZOB – Zhur. Obshch. Biol. (Journal of General Biology)
ZZ – Zoologicheskii Zhurnal. (Zoological Journal)

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GENERAL

GOLIKOV, A. N.

1976. Regularities in the growth and variability of some mollusks. Gidrobiol. issled. samoochishcheniya vodoemov (Hydrobiological investigations of self-cleaning reservoirs), Leningrad, pp. 97 - 118

[Variability is reflected in phenotypical modifications correlated with environmental influences, of which temperature is of prime importance]

GOVBERG, L. I.

1975. The formation of the mollusk fauna of the White Sea. BSV, pp. 28 - 29

[Four faunistic complexes are distinguished, beginning in pre-boreal times and corresponding to 4 stages of development. The malacofauna derives from the Barents Sea]

IGNAT'EV, A. V., E. V. KRASNOV & V. E. SHEIGUS

1975. The determination [of the effects] of temperature on growth of mollusks in the Sea of Japan and the Sea of Okhotsk by the isotopic oxygen method. BSV, pp. 62 - 63

[Analyses of isotopic oxygen in the calcite of the shells of 7 species of bivalves were made]

IZZATULLAEV, Z.

1975. Little known land mollusks (Mollusca, Gastropoda) of the fauna of Central Asia. IANT, No. 2, pp. 39 - 45

[A description of the shell and partial genital anatomy, as well as the ecology, taxonomy, and geographic distribution are represented for 4 species of terrestrial mollusks]

KOZLITINA, L. M.

1976. Cellular stability in certain mollusks to changes in salinity. Biol. Morya, No. 1, pp. 36 - 40 (ES)

[The stability of ciliated epithelium and isolated muscle of marine mollusks was studied. The damaging effect of low salinity depends on its low tonicity. Addition of saccharose to the saline solution considerably increases the duration of tissue sensitivity]

KRIVOSHEINA, L. V.

1976. On the molluscan fauna of the mountain lakes of South Altai. KazSSR Fylym Akad. Khabarlary Izv. AN KazSSR (Bulletin of the Khabarlary Academy of Science of Kazakhstan) (Biol.) No. 3, pp. 26 - 32

[5 new species of *Euglesa* (Sphaeriidae) are proposed. Remarks on the distribution of mollusks and the reduced diversity along the gradient, plains-foothills-montane lakes, are provided]

MINICHEV, YU. S. & YA. I. STAROBOGATOV

1976. On the phylogeny of mollusks. TLOE 84 (1): 37 - 42

[The hypothesis is proposed that the mollusks were derived from a *Dinophilus*-like ancestor. A new system of mollusks is proposed: 2 basic branches appeared at different stages of evolution, 1) mollusks with an internal cavity (coelom?) — the subtype Cochleophora; and, 2) mollusks without such an internal cavity – the subtype Peltophora. The latter diverged into 2 lineages: the Bivalvia and the Loricata, from which the Aplacophora developed. The Cephalopoda and Monoplacophora arose independently within the limits of the Cochleophora, and the latter, in turn, led to the Gastropoda]

STAROBOGATOV, YA. I.

1975. 5th All-Union Conference on the study of mollusks. Symposium: 'New methods of studying mollusks.' ZZ 54 (9): 1423

[56 reports were given on the biology of mollusks]

VOROB'EV, V. I.

1975. Dynamics of trace elements in the mollusks of the Volga Delta. Nekotoriye probl. ekol. zhivotnikh Nizhn. Povolzh'ya i sev. Kavkaza (Some problems of the ecology of the fauna of the lower Volga and northern Caucasus), Volgograd, pp. 3 - 13

[Aluminum, cobalt, manganese, nickel, molybdenum, zinc, lead, vanadium, titanium and silver were detected both in gastropods and bivalves. These elements were also noted in the sediments and waters of reservoirs]

ZHGENTI, E. M.

1976. The Lutetiidae of the Middle Miocene, their evolution and stratigraphic significance. Metsniereba Tbilisi, 156 pp.

[The systematics, phylogeny, ecology, extinction and geochronological distribution of the family are reviewed]

APLACOPHORA AND POLYPLACOPHORA

SIRENKO, B. I.

1975. On the systematics of the chiton genus *Lepidozona* Pilsbry. Biol. Morya, No. 3, pp. 13 - 28 (ES)

[Seven species of *Lepidozona* inhabit the seas of the USSR: data are provided on their distribution (including Asiatic and American waters), ecology and biology. *Gurjanovillia* is synonymous with *Lepidozona*, and the species *G. derjugini* with *L. kobjakovae*. New taxa are *L. thielei*, *L. multigranosa*, *L. ima* and *L. kobjakovae kamtchatkana*]

1975. A new chiton subfamily — Juvenichitoninae (Ischnochitonidae) from the northwest Pacific. ZZ 54 (10): 1442 - 1451 (ES)

[A new subfamily with 3 new genera (*Juvenichiton*, *Micichiton* and *Nanichiton*) and 5 new species is erected primarily on the basis of the radula's having only 11 to 13 teeth per transverse row rather than, as the author states, the usual 17. Sirenko terms this putative reduction in the number of teeth: hypomorphosis]

1976. The systematics of the chiton genus *Spongioradsia* Pilsbry, 1893 (Ischnochitonina, Ischnochitonidae). Vestn. Zool. No. 2, pp. 50 - 55 (ES)

[The status of the genus is verified and a diagnosis given. *Spongioradsia* includes 3 species distributed in the Pacific, including a new one from the shores of the Kuril Islands]

GASTROPODA, GENERAL

AKHROROV, F. & N. M. CHURSHINA

1976. The tropical mollusk *Melanoides tuberculatus pamirensis* Lindh. in the Pamirs. ZZ 55 (5): 767 - 768 (ES)

[In 1973 and 1974, large numbers of this snail, described from excavated material, were found living in Dzhaushangoz Springs in the Pamirs]

BEER, S. A., A. V. LIFSHITS, L. K. MASLOVA & V. D. ZAVOIKIN

1976. Localized distribution and ecology of *Bythinia inflata* in the northern Tomsk Region. Report 1: The influence of abiotic factors on the distribution of *Bithynia*. Med. parazitol. i parazitar bolezni (Medical parasitology and parasitic diseases) 45 (1): 74 - 81 (ES)

[Abiotic, hydrological factors affect the occurrence of *B. inflata* which was found locally at 54 of 439 stations throughout the flood plain of the Ob River]

GAVRILOV, S. I. & I. I. DESYATIK

1975. The gastropods of Naroch' Lake. Vestn. Belorus. un-ta (Reports of the White Russian University), ser. 2, No. 3, pp. 47 - 50

[28 species are listed, most of which are littoral; greatest population densities are found in lightly silted substrates with rich vegetation]

GUL'BIN, V. V.

1975. The distribution and biogeographical composition of the gastropod fauna of the higher portions of the Middle Kurile Shelf (Urup and Simushir). Biol. Morya, No. 4, pp. 46 - 50 (ES)

[The complex of hydrological conditions, especially water temperature, influences most the vertical and horizontal distribution of the 81 species of snails]

UVALIEVA, K. K.

1976. The land mollusks of Kazakhstan and the problem of their further study. Chteniya Pamyati akad. E. N. Pavloskogo Dokl. prochit. na 8-om (1973) i 9-om (1974) ezhegodn. chteniyakh. Nauka (Lectures of the Memorial Academy of E. N. Pavlov. Reports delivered at the 8th (1973) and 9th (1974) Annual Lectures (Science). Alma-Ata, pp. 25 - 35

[Discussed are the roles of land mollusks in agriculture, in geology, and in the dispersal of helminths]

PROSOBRANCHIA

BEKMAN, M. YU. & YA. I. STAROBOGATOV

1975. Deep water Baikal mollusks and their related forms. Tr. Limnol. in-ta. sib. Otd. Acad. Nauk. SSSR (Works of the Limnological Inst. of the Siberian branch of the AN SSSR) 18 (38): 92 - 111

[6 new deep water species (from up to 200 m) and 7 new shallow water species are described from Baikal. The latter, while showing clear relationship with the deep water forms, nevertheless point to the formation of an abyssal Baikal fauna. Intraspecific subdivisions of the genera *Benedictia* and *Choanomphalus* are discussed. Within the limits of the latter, 4 new subgenera are established. A revision of the systematics of the Baikal species of the subgenus *Gyraulus* of the genus *Anisus* shows that the only species of this genus in the "sors" zone (shallow peripheral lagoons) is *A. (G.) ignotellus* with 2 subspecies. It is also observed that among the Baikal deep water species there are certain ones not present in shallow water forms]

BERGER, V. YA.

1976. On the adaptation to decreasing salinity of several littoral White Sea mollusks. IFML, AN SSSR 17 (25): 59 - 111

[The molecular, cytological, and organismic reactions to changing salinity by *Littorina littorea, L. obtusata, L. saxatilis* and *Hydrobia ulvae* were studied, especially in differing ecological settings]

1976. A comparison of the reactions of Barents Sea and White Sea *Littorina* to variations in environmental salinity and a discussion of the criteria of physiological races. IFML, AN SSSR 17 (25): 112 - 123

[In regard to respiratory and hematological activity, *L. obtusata* and *L. littorea* transferred from one sea to another adapted phenotypically to the different salinity regimes]

1976. Seasonal changes in the sensitivity of White Sea *Littorina obtusata* (L.) to salinity in its habitat. IFML, AN SSSR 17 (25): 155 - 159

BERGER, V. YA. & N. N. CHERNYSHEVA

1975. A comparative study of the reaction of White Sea and Barents Sea *Littorina* to altered salinities. Ekologiya 5: 49 - 53

[Samples from populations of *L. littorea* and *L. obtusata* eventually acclimatize to salinity regimes of respective seas]

CHUKHCHIN, V. D.

1976. The systematic placement and ecology of Hydrobiidae of the Black Sea. Biol. morya Resp. mezhved. sb. vyp. 36, pp. 65 - 75

[Black Sea hydrobiids are closely related to *H. ventrosa* of the Atlantic. Several ecological varieties appear and are correlated with such factors as depth distribution, growth, sexual dimorphism and parasitical gigantism. There are species with pelagic larvae (*H. acuta*) and those with direct development (*H. ventrosa* and *H. pusilla*). Although *H. acuta* has the greatest geographical distribution, *H. ventrosa* exhibits a wider salinity tolerance]

1976. The life cycle and growth rate of *Hydrobia acuta* (Drap.) and *H. ventrosa* (Mont.) in the Black Sea. Biol. morya Resp. mezhved. sb., vyp. 37, pp. 85 - 90

[Both species have a one-year life cycle. From numerous diminutive eggs, benthic larvae develop directly in *H. ventrosa* while they become pelagic in *H. acuta*]

KHLEBOVICH, V. V. & A. P. KONDRATENKOV

1976. The influence of hydrolized albumen on the adaptability of *Hydrobia ulvae* to reduced salinities. IFML, AN SSSR 17 (25): 132 - 135

1976. Influence of catabolic products of some marine organisms

on the saline adaptability of *Hydrobia ulvae*. IFML, AN SSSR 17 (25): 136 - 141

[The generation of metabolic products of low molecular weight facilitates adaptability to different salinity regimes]

KHLEBOVICH, V. V. & O. YU. MIKHAILOVA
1975. The influence of periodic changes in salinity on the activity of *Hydrobia ulvae*. ZZ 54 (10): 1452 - 1456 (ES)

[Experimental evidence illustrates the acclimatization of this euryhaline snail to different and variable salinity regimes (6 - 24‰)]

KONDRATENKOV, A. P.
1976. Analysis of inter-populational differences of *Hydrobia ulvae* using gradual acclimatization. IFML, AN SSSR 17 (25): 124 - 131

[Between populations, clear differences in salinity tolerances are shown]

KORZHUEV, P. A. & I. O. ALYAKRINSKAYA
1976. Biochemical characteristics of the hemolymph of some hemocyanin-bearing gastropods. Dokl. AN SSSR (Reports, AN USSR) 228 (1): 239 - 241

[The quantitative contents of hemocyanin in the hemolymph of *Littorina littorea* and *Viviparus contectus* were examined]

POLISHCHUK, V. V. & I. B. LYURIN
1976. The occurrence of *Potamopyrgus jenkinsi* (Smith, 1889) in the Pripyatskii Forest. Dokl. AN SSSR (Reports, AN USSR) (B) No. 4, pp. 367 - 369 (ES)

[*P. jenkinsi*, usually an inhabitant of zones near the ocean, was collected in the Pripyatsky River]

RADOMAN, PAVLE
1975. Species formation in the genus *Belgrandiella* and related genera in the Balkans. Glasnik Prir. Muzeya Beogradu (Public Natural History Museum of Belgrade) (B) 30: 29 - 69 (Serbian, ES)

[A new monotypic genus (*Sarajana*) and 13 new species of the 3 other genera in the subfamily Horatiinae, family Orientaliidae, are introduced. The name *Frauenfeldia* Clessin (*non* Eger) is replaced by *Graziana* (*novum*). Some remarks on the distribution of the forms are provided]

SHUSTOV, A. I.
1975. Characteristics of the biology of *Bithynia leachi* (Shep.) in the reservoirs of Central Kazakhstan. Inst. Zool. AN KazSSR, Alma-Ata, pp. 131 - 141

[Snails are active from the end of April to early October. Data on their abundance and some of their environmental tolerances are provided]

OPISTHOBRANCHIA

KHARAZOVA, A. D. & V. V. ROSTOVA
1976. A study in the changes of synthesis of albumens and RNA in the tissues of the White Sea *Coryphella rufibranchialis* in reduced environmental salinity. IFML, AN SSSR 17 (25): 142 - 154

[Synthesis is reduced in hyposaline conditions and sharply restored with the return to normal salinities]

ROGINSKAYA, I. S.
1976. Opisthobranchia of Sosnovets Island (White Sea). ZZ 55 (1): 23 - 28 (ES)

[Three littoral opisthobranchs, along with data of their ecology and reproductive biology, are recorded from Sosnovets: the sacoglossan *Acteonia cocksi* and the nudibranchs, *Onchidoris fusca* and *Ancula cristata*]

PULMONATA, LAND

ARUTYUNOVA, L. D.
1975. Notes on some land mollusks along the southern shore of Crimea. Biol. zh. Armenia (Biological Journal of Armenia) 28 (10): 104 - 109 (Armenian Summary)

[8 species of stylommatophorans are noted; descriptions of genital morphology and anatomical variability are provided]

BRATCHIK, R. YA.
1976. A method for the rapid fixation of land snails. ZZ 55 (7): 1078 - 1079 (ES)

HARRIS, S. V.
1976. The vertical stratification of the distribution of land mollusks on the Iraqi slope of the Persian Mountains and in the Skaly Hills of Alberta, Canada. Vysokogorn. Geoekologiya (High Mountain Ecology), Moscow, pp. 101 - 102

IZZATULLAEV, Z.
1975. Some notes on the biology of slugs (Mollusca; Pulmonata) which are harmful to agriculture in Tadzhikistan. IANT, No. 4, pp. 22 - 24

[*Deroceras caucasicum* and *Parmacella levanderi* are especially deleterious to agriculture in the autumn and spring, respectively]

1975. Characteristics of the distribution of land mollusks in the Gissarskii Mountain Ridge and contiguous regions of Tadzhikistan. Zool. sb. ch. 1 (Zool. Coll. Pt. 1), Dushanbe "Donish", pp. 212 - 224

[The malacofauna falls into 5 groups: 15 widely spread species, 7 species from the mountain areas of Europe and Eastern Asia, 27 Central Asian endemics, 6 tropical species or endemics with tropical relationships, and 3 introduced species]

1975. A study of the molluscan fauna in the environs of Khorog City. Zool. sb. ch. 2 (Zool. Coll. Prt. 2), Dushanbe "Donish", pp. 5 - 7

[On the plains of the Gunt, Shakhdara, and Pyandzh Rivers, 9 species of land mollusks occur. *Nesovitrea petronella* is reported for the first time and 3 species of freshwater pulmonates are also recorded]

KHOKHUTKIN, I. M.

1975. Polymorphisms and [population] structure of land snail taxa in the molluscan fauna of the USSR. Trudy in-ta ekol. rast. zhivotnikh. Uralsk nauch. tsentr AN SSSR (Transactions of the Institute of floral and faunal Ecology, Ural Sci. Center, Acad. Sci. USSR) 96, pp. 116 - 138

[Polytypic land mollusks have large numbers of subspecies]

1976. On the physiological differentiation of populations of the molluscan genus *Bradybaena*. NDVS, No. 7, pp. 54 - 57

[No differences were detected in carbon dioxide respiration between *Bradybaena fruticum* and various morphs of *B. lantzi*]

KHOKHUTIN, I. M. & A. I. LAZAREVA

1975. Polymorphism and imitative coloring in populations of land mollusks. ZOB 36 (6): 863 - 869 (ES)

[Polymorphism occurs more frequently than usually appreciated. A complex of phenotypic variants in 3 helicid species in the Caucasus is discussed]

LYURIN, I. B.

1975. Seasonal changes in several morphological and physiological features in mollusks from the Loess of the Ukraine. Prirod. obstanovka i fauny proshlogo (Natural Conditions and Fauna of the Past) 9, Nauk dumka, Kiev, pp. 57 - 67

[An investigation of the tempo of evolution in land and freshwater mollusks of the Loess shows that changes in temperature to extremely high or low values led to a reduction in the range of phenotypic variations]

MUKHITDINOV, A. B.

1975. Zoogeographical characteristics of the land molluscan fauna of northern Tadzhikistan. IANT, No. 4, pp. 18 - 21 (Tadzhik Summary)

[42 species, some endemic, are listed from this mountainous region of Central Asia. Notes on local distribution in the Gissaro-Darvaskii Region of the Afghano-Turkestani frontier are presented]

NAMATOV, T. N.

1976. Respiration of some land mollusks at various temperatures. Perekrestn. adaptatsii k prirod. faktoram sredy (Correlation of adaptations to natural environmental factors), Frunze, Ilim, pp. 59 - 65

[Metabolic rate depends on body weight. Respiratory rates are lower at 20° C than at 10° C]

OSTROUMOVA, N. K.

1976. The fine structures of neural fibres terminating in the pericardium of the cardiac muscles of *Achatina*. Fiziol. i biokhimiya mediator. protsessov. (Physiology and Biochemical Mediating Processes), Moskva, pp. 99 - 100

PAKHORUKOVA, L. V.

1976. A quantitative assay of feeding in *Deroceras agrestis* and *D. reticulatum*. ZZ 55 (1): 29 - 33 (ES)

[Feeding and assimilation were studied in these 2 species of slugs. Bioenergetically, *D. agrestis* was more efficient. As total weight of the animals increases, the amount of food consumed decreases]

RUNKOVA, G. G., V. N. MAKSIMOV, L. A. KOVAL'CHUK & I. M. KHOKHUTKIN

1975. Extra-mitochondrial and mitochondrial oxidative pathways in sinistral and dextral morphs of the snail, *Bradybaena lantzi*, at various temperatures. Trudy Inst. Ekol. rast. i zhivotnikh, Uralsk, nauch. tsentr AN SSSR (Transactions of the Inst. of floral and faunal Ecology, Ural Sci. Center, Acad. Sci. USSR) 97: 113 - 116

1975. Thyroxin sensitivity of endogenous oxidase in homogenates of 2 morphs of *Bradybaena lantzi*. Trudy Inst. Ekol. rast. i zhivotnikh, Uralsk, nauch. tsentr AN SSSR (Transactions of the Institute of floral and faunal Ecology, Ural Sci. Center, Acad. Sci. USSR) 97: 117 - 120

[Although some distinctions were shown, no consistent differences occur between sinistral and dextral snails]

SHILEIKO, A. A.

1975. The mollusks of the subfamily Lauriinae in the USSR (Pulmonata, Pupillidae). ZZ 54 (12): 1767 - 1782 (ES)

[The Caucasian Lauriinae show considerable conchological and anatomical variation, especially in the structure of the male sexual apparatus. In the Caucasus the Lauriinae include the genus *Euxinolauria* with 4 subgenera: *Matschachelia* (new subgenus), *Caucasipupa*, *Euxinolauria*, and *Neolauria* (new subgenus), and the single species *Lauria cylindracea* in the genus Lauria. The subfamily Argninae has the single Carpathian species *Orna bielzi*. 3 new species of the genus *Euxinolauria* are also described]

1976. Characteristics of the organization and systematics of the family Orculidae (Gastropoda). NDVS, No. 4, pp. 47 - 58

[In conchological characteristics and in genital anatomy, the family is one of the more unique groups of Paleoarctic Orthurethra. The complex of shell characters indicates the primitiveness of the group while the structure of the penial appendix testifies to an advanced degree of specialization. The family is composed of 2 subfamilies, the Orculinae and the Pagodulininae, the former with 3 genera, the latter with 1. Two new subgenera are introduced: *Mesorculella* (of *Orculella*) and *Crystallifera* (of *Pagodulina*)]

1976. Evolutionary pathways and the phylogenetic significance of the excretory apparatus of the Pulmonata. ZZ 55(2): 215 - 225 (ES)

[Really limited to the Stylommatophora, this study points out that from the primitive orthurethrous condition, wherein the ureter consists of open ciliated grooves, several advance stages in the evolution of the excretory apparatus can be recognized: Mesurethra (shortened kidney); Sigmurethra (ureters closed); Heterurethra (lung shorter and wider). The Orthurethra represent a phylogenetically primitive unit whereas the other presently recognized taxonomic grouping may consist of heterogeneous components independently evolved]

SKLYAR, I. YA.

1975. A new slug of the genus *Deroceras* (Gastropoda, Limacidae) from the Crimea. Vestn. zoologii, No. 6, pp. 79 - 82 (ES)

[Distinguished chiefly by its penial structure, *D. ramosum* is described as new from the forest zone on the Crimean peninsula]

PULMONATA, AQUATIC

Bogatov, V. V.

1975. Variability of *Lymnaea stagnalis* L. in small reservoirs. Vopr. ekol. zhivotnykh (Problems in animal ecology) 2, Kalinin, pp. 3 - 10

[Populations of snails in 6 small reservoirs in the Kalinin Region were studied. The shape of the shell is influenced by the OLA (Oscillating Level of Amplitude) of the reservoir. As the OLA increases, the shell increases in length; this effect is especially marked from May 1 to September, the period of the major blooms of macrophytes upon which the snails feed]

Izzatullaev, Z.

1975. On the discovery of the freshwater mollusk *Physodon integrum* (Haldeman) (Mollusca, Basommatophora, Physidae) in Tadzhikistan. Zool. sb. ch. 2 (Zool. Coll. Prt. 2), Dushanbe "Donish", pp. 8 - 12

[This is the first recorded occurrence of the species in Central Asia in the Plain of Vakhshskya; the shell and the genital anatomy are illustrated]

Kamardin, N. N.

1976. The structure and cellular organization of the osphradium of *Lymnaea stagnalis* L. Arkhiv anatomii gistologii, i embriologii 71 (8): 87 - 90 (ES)

[The osphradium consists of epithelial canals composed of 3 types of cells (secretory, filamentous, and epithelial) connected to basal ganglia which provide fine sensory innervations]

Kruglov, N. D.

1975. On an analysis of contemporary methods of molluscan systematics and the limit of their applications in the case of the lymnaeids. Vopr. Biol. i sistematiki zhivotnikh Smolensk. i sopredel'n obl. (Problems of biology and faunal systematics of Smolensk and the surrounding region), Smolensk, pp. 12 - 28

Kruglov, N. D., S. D. Drozdova & T. N. Makarova

1975. An ecological and morphological study of *Lymnaea corvus* (Gmelin, 1778) and *L. corviformis* (Bourgignat in Servain, 1881). Vopr. biol. i sistematiki zhivotnikh Smolensk. i sopredel'n obl. (Problems of biology and faunal systematics of Smolensk and the surrounding region), Smolensk, pp. 29 - 35

Leibson, N. L. & L. T. Frolova

1975. Localization of cell division in the intestinal epithelium of marine animals. 1. *Crenomytilus grayanus*. Biol. Morya, No. 5: 15 - 22 (ES)

[Autoradiographic methods using thymidine-H^3 noted no special localization of mitoses along the gut of the mussel, a condition unlike that found in higher vertebrates]

Maiorova, V. G. & I. V. Chernova

1976. Selective sensitivity to traces of acetylcholine in separate neurons in the large parietal and visceral ganglia of pond snails. Fiziol. i Biokhimiya mediator. protsessov. (Physiology and Biochemical Mediating Processes), Moskva, pp. 85 - 86

Potafeev, N. E.

1975. Some data on the ecology of *Lymnaea truncatula* in the Kursk region. Ekol. i eksperim. parazitol. (Ecology and experimental parasitology), Leningrad Univ., 1: 154 - 160 (ES)

[*L. truncatula* is an intermediate host of *Fasciola hepatica*. Its seasonal and diurnal activity was studied; 2 main biotopes, based on hydrological conditions, were recognized and infected snails were limited to one of the biotopes]

Potapina, N. V.

1976. A study of the amebocytes in the blood of *Lymnaea stagnalis* by autoradiography. Materialy III. Nauch. Konf. molodykh uchenykh-morfologov Moskvy (Materials of the 3rd scientific conference of young student morphologists), First Moscow Med. Inst., Mosk. Univ., pp. 34 - 37

Starobogatov, Ya. I.

1976. The systematics and phylogeny of the Lymnaeidae (Gastropoda, Pulmonata, Basommatophora). Probl. zoologii, Leningrad, Nauka, pp. 79 - 81

BIVALVIA

Alimov, A. F.

1976. Notes on the variability of some mollusks of the family Sphaeriidae. Gidrobiol. issled. samoochishcheniya vodoemov (Hydrobiological investigations of self-cleaning reservoirs), Leningrad, pp. 119 - 128

[Variability in the shells of *Sphaerium corneum*, *S. scaldianum*, *S. solidum* and *Sphaeristrum rivicola* was examined. As might be expected, stenotopic species exhibited little variation while eurytopic species, such as *S. corneum*, exhibited the greatest variability]

Belogrudov, E. A. & V. N. Mal'tsev

1975. The spawning of scallops in Pos'et Bay. ITNIIRKO 96: 273 - 278 (ES)

[Spawning takes place earlier in shallow water coves than in the open parts of the bay. Spawning continues for about 10 days in each different portion of the bay and lasts about 1.5 months in the bay as a whole]

Berger, V. Z.

1976. The effect of several physiologically active materials on the adaptive reaction of ciliated epithelial cells on the ctenidia of mussels in changing saline conditions. Tsitologiya 18 (8): 981 - 984 (ES)

Egereva, I. V.

1976. Novelties in the fauna of the Kuibyshev Reservoir. Ryb. khozyaistvo (Fisheries), No. 3, p. 29

[From 1966 to 1970 1 615 000 specimens of *Monodacna colorata* from Taganrogsky Bay were introduced, and in September 1975, only 12 specimens, measuring 4 to 22 mm, were recovered]

Gorbarenko, S. A. & A. V. Ignat'ev
1975. Changes in isotopic oxygen concentration in shells [in relation] to temperatures during growth of deep-water bivalves in the Japan Sea. BSV, pp. 32 - 33

Gurina, V. I.
1976. An autoradiographic study of the synthesis of albumen and RNA in the intestinal epithelium of White Sea mussels in relation to differing degrees of salinity. VLGU, No. 3, pp. 59 - 63 (ES)

Ivantsiv, V. V.
1975. Features of the distribution of the Unionidae in Kremenchusky Reservoir. Vestn. zoologii. No. 6, pp. 82 - 84

Kafanov, A. I.
1975. General conformity of variability in marine bivalves. BSV, pp. 74 - 75

1975. On the interpretation of the logarithmic spiral in connection with the analysis of the variability and growth of bivalve mollusks. ZZ 54 (10): 1457 - 1467 (ES)

[Equations are provided which describe the dynamics of growth components in bivalves]

Kharchenko, T. A.
1975. The Dniepr sea-roach as a factor in the control of dreissenids in the canals. Biol. samoochishchenie i formir. kachestva vody (Biological methods for producing cleaner water). Nauka, pp. 73 - 74

[Since the sea-roach feeds on *Dreissena polymorpha* and *D. bugensis*, introduction of this fish into the Kakhovsky reservoir and elsewhere would help in the control of the bivalve]

Kodolova, O. P. & B. M. Logvinenko
1976. Electrophoresis of muscle albumens of freshwater unionids. NDVS, No. 4, pp. 142 - 144

[Differences were detected in the 2 different contractile elements of the adductor muscle]

Korchagin, V. P. & E. V. Krasnov
1975. A comparative study of the amino acid contents of albumen of the shells and byssus of several species of mussels in Peter the Great Bay (Sea of Japan). BSV, pp. 87 - 88

[*Mytilus edulis*, *Modiolus modiolus*, and *Crenomytilus grayanus* were studied; the amino acid contents of the periostracum, the byssus and the ligament are species specific]

Kulakovskii, E. E.
1976. The influence of reduced salinity on the neuro-secretory system of *Mytilus edulis* (L.). IFML, AN SSSR 17 (25): 160 - 166

[In the cerebral ganglia, 3 morphologically and topographically distinct types of neurosecretory cells occur. Although neurosecretion is altered under reduced salinity, our data are insufficient to quantify the response]

Kuz'movich, L. G., I. V. Shust & I. M. Kostnik
1976. Histological characteristics of the gonads of *Anodonta piscinalis* Nilss. NDVS, No. 6, pp. 63 - 68

[Histochemical analysis of lipids, neutral fats, and polysaccharides of unparasitized sex cells]

Mal'tsev, V. N.
1975. Some regularity in the settling of *Pecten* larvae in collectors in Pos'et Bay. ITNIIRKO 96: 179 - 282 (ES)

[The extent, date, and density of spat by depths are given for Peter the Great Bay; data on the dependence of the date of settling on the temperature of the water are provided]

Mikulich, L. V. & M. G. Biryulina
1975. On the problem of the species-concept for *Crenomytilus grayanus* (Dunker). Trudy Tikhookean. in-ta (Transactions of the Pacific Ocean Institute) 9: 114 - 118

[The length/width index varies between 1.4 and 2.7 in populations from various localities and different ecological stations. These differences in the form of the shell reflect the range of intraspecific variation, and all individuals with different indices form a single species]

Naumov, A. D.
1976. Variability of *Portlandia arctica* (Gray) in the complex of [environmental] characteristics of the White Sea. Probl. zoologii, Leningrad, Nauka, pp. 67 - 69

1976. The adaptation of *Portlandia arctica* var. *portlandica* (Taxodonta) of the White Sea to waters of lower salinity. ZZ 55 (3): 449 - 453 (ES)

[Differences were noted in the physiological activity of individuals from shallow and deep water; it is suggested that in the White Sea there are 2 races, with the deep water one being euryhaline]

Petkevich, T. A., R. P. Kandyuk & I. A. Stepanyuk
1975. On the biochemistry of the mollusk *Mya arenaria* (L.), newly discovered in the Black Sea. GZ, 11 (5): 101 - 106

Rakov, V. A.
1975. Changes in the shell shape of *Swiftopecten swifti* during growth. ITNIIRKO 96: 302 - 304 (ES)

Sanina, L. V.
1975. Preliminary estimates of the nutrient requirements for filter-feeding mollusks in the northern Caspian. TVNIIMRXO 107: 43 - 47 (ES)

Skirkyavichene, Z. Yu.
1975. Amino acid content of the soft parts of dreissenids in Kurshyu-Mares Bay. 2. Free amino acids at various times of the year. LMA (B), No. 3 (71): 127 - 133 (ES)

[Chromatographs from dreissenid tissue taken in 1967 and 1968 showed a content of 21 free amino acids; seasonal variations were noted]

Spiridonov, Yu. I.
1975. The growth structure of a population and persistence of life of *Dreissena* in the Volgograd reservoir. Tr. kompleks. ekspeditsii Saratov. un-ta po izuch. Volgogr. i Saratov vodokhranilishch. (Transactions of the Combined Expedition of Saratov University to Study Volgograd and Saratov Water Reservoirs) 5, pp. 84 - 86

TADIĆ, ANTE

1975. Some *Unio* and *Anodonta* species in various habitats. Glasnik. Prir. Muzyea Beogradu (Public Natural History Museum of Belgrade) (B), 30: 103 - 118 (Serbian, German S.)

[Studies of 10 species of *Anodonta* and 2 species of *Unio* show that shell morphology is correlated with environmental conditions]

TIMM, VIIVI

1976. On the Pisidiidae of the lakes of the Chudsky-Pskov Region (Lake Peipsi-Pihkva). Izv. AN EstSSR, Biologiya (Bulletin of the Academy of Science of Estonia, Biology) 25 (1): 37 - 52 (ES)

[30 species of 6 genera were collected from 1964 to 1974: *Sphaerium*, 1; *Amesoda*, 1; *Musculium*, 1; *Pisidium*, 2; *Euglesa*, 22; *Neopisidium*, 3. 26 species were collected for the first time in reservoirs, 2 of which are new to Estonia, and 3 species are new to science (*E. peipsi*, *E. pihkva*, and *N. stelfoxi*). Although the majority of species occurs in all the reservoirs, none appears in large numbers. Data are provided on the depth distribution and bottom preferences of *Pisidium*]

ZHURAVLEVA, N. G. & E. V. PRAZDNIKOV

1975. The ecology, reproduction, and development of the mussel *Mytilus edulis* in the Barents Sea. BSV, pp. 52 - 53

CEPHALOPODA

BITYUKOVA, YU. E. & G. V. ZUEV

1976. The asymmetrical eyes of the Histioteuthidae in connection with their ecology. Biol. morya. Resp. mezhved. sb., vyp. 38, pp. 63 - 67

[It is concluded that the larger eye functions on the surface, the smaller in the depths]

NESIS, K. N.

1975. Evolution of adaptive forms in Recent cephalopods. TRO 101: 124 - 142 (ES)

[The morphological adaptations to diverse habitats (*i. e.* benthopelagic, nectobenthic, nektonic, benthic and planktonic) are considered]

1976. Stimulation of bioluminescence in cephalopods. Okeanologiya 16 (1): 150 - 154 (ES)

[A weak solution of hydrogen peroxide intensifies the luciferin-luciferase reaction and was used on ship-board to stimulate the photophores in several species of epipelagic squids]

SHCHEPKIN, V. YA., G. E. SHUL'MAN & T. G. SIGAEVA

1976. Features of the lipid content in Mediterranean squids in various ecologies. GZ 12 (3): 76 - 79

SHEVTSOV, G. A.

1975. Spawning in the Pacific Ocean squid, *Todarodes pacificus* Steenstrup, in the southern part of the Sea of Okhotsk. ITNII RKO 96: 121 - 127 (ES)

[A population appears in the Okhotsk in autumn; length-weight measurements are given for males and females]

ZUEV, G. V.

1975. Some notes on the intraspecific grouping of *Ommastrephes pteropus* (Cephalopoda, Mollusca) in the tropical Atlantic. Biol. issled. v. tropich. zonye okeana (Biological studies of the tropical zone of the ocean), Kiev, Nauk dumka, pp. 68 - 76

[In this zone, the epipelagic *Ommastrephes pteropus* forms 3 biologically specific populations: Canarian, mid-passage and equatorial]

ZUEV, G. V., K. N. NESIS & CH. M. NIGMATULLIN

1975. The systematics and evolution of the squid genera *Ommastrephes and Symplectoteuthis* (Cephalopoda, Ommastrephidae). ZZ 54 (10): 1468 - 1479 (ES)

[The authors claim that photophores are the most significant taxobases in deducing the phylogenetic relationships of several ommastrephid squids. As is general in teuthology, most of the genera are monotypic. Some paleontological speculation based on the modern distribution of the species as well as a phylogenetic dendrogram are provided]

1976. The distribution of the genera *Ommastrephes* d'Orbigny 1835, *Stenoteuthis* Verrill 1880, and *Todarodes* Steenstrup, 1880 (Cephalopoda, Oegopsidae) in the Atlantic Ocean. Biol. Mosk. ob-va ispyt. prirody (Bull. Moscow Naturalists Soc.) 81 (4): 53 - 63 (ES)

[From field observations and the literature, it is concluded that *S. pteropus* consists of no fewer than 9 partially sympatric populations mainly equatorial, that *O. bartrami* is subtropical, and that *T. sagittatus* occurs in subtropical and boreal waters of the northwestern Atlantic. Another species of *Todarodes, T. angolensis*, is of a more southerly distribution in sub-Antarctic waters]

ZUEV, G. V. & CH. M. NIGMATULLIN

1975. The spatial structure of the distribution of the ocean squid *Ommastrephes pteropus* Steenstrup in the Eastern Atlantic. Biol. issled. v tropich. zonye okeana (Biological studies of the tropical zone of the ocean), Kiev, Nauk dumka, pp. 56 - 67

[The Atlantic distribution of the species includes the entire tropical zone with northern limits in Africa at 20° to 22° N in winter and in summer to 30° or 32° N. The southern limit is 20° - 23° S throughout the year. Productivity depends on variations of the vertical circulation of the water, and the population density of the squid increases in the winter]