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Центр коллективного пользования «Инструментальные методы в экологии»

Перечень публикаций, подготовленных по результатам работ, выполненных с использованием научного оборудования ЦКП за 2017 год

№ п/п	Вид публикации	Наименование публикации	DOI публикации	Автор(ы)	Издание, дата выхода	ISSN издания	Индексаторы издания	Краткое описание научных результатов, полученных на оборудовании ЦКП	Наличие в публикации ссылки на использование оборудования ЦКП
1	2	3	4	5	6	7	8	9	10
1.	научная статья	A new genus and species of clearwing moths (Lepidoptera: Sesiidae) from South Sudan	https://doi.org/10.11646/zootaxa.4276.2.8	Oleg G Gorbunov, Vladimir O Gurko	ZOOTAXA, 2017	1175-5334	ВАК; Ринц; Web of Science; Scopus	A new clearwing moth genus and species is described and illustrated from South Sudan: <i>Lolibaia salimi</i> gen. nov. et sp. nov.. This is the first record of the family Sesiidae from that country. The holotype is deposited in the collection of the A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, Russia.	Да (если в тексте публикации имеется соответствующая ссылка)
2.	научная статья	A new species of <i>Bembecia</i> from China, with a catalogue of Chinese species of the genus (Lepidoptera: Sesiidae)	https://doi.org/10.11646/zootaxa.4273.4.6	Oleg G Gorbunov, Anatoly V Krupitsky, Anatoly A Marusov	ZOOTAXA, 2017	1175-5334	ВАК; Ринц; Web of Science; Scopus	A new species, <i>Bembecia altyntaghica</i> sp. nov. from the Altyn-Tagh Mts., Gansu, West China, is described and illustrated. The data on its biotope and host plant are presented and illustrated as well. An annotated catalogue of the Chinese members of the genus <i>Bembecia</i> is added to this paper. The catalogue contains the following information: the references to the original descriptions, information on name-bearing types, complete bibliographies of the presented taxa, data on host plants and distribution. Here below the Oriental species <i>Bembecia fortis</i> Diakonoff, 1967 is transferred to the genus <i>Oligophlebia</i> Hampson, 1893 comb. nov. (Sesiidae: Paraglosseciini).	Да (если в тексте публикации имеется соответствующая ссылка)

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3.	научная статья	Diversity and distribution of the Macrothrix paulensis species group (Crustacea: Cladocera: Macrothricidae) in the tropics: what can we learn from the morphological data?	10.1051/limn/2017022	Anna N Neretina, Alexey A Kotov	Annales de Limnologie, 2017	0003-4088 - eISSN: 2100-000X	ВАК; Ринц; Web of Science; Scopus	In this paper we redescribe <i>M. capensis</i> (Sars, 1916) based on material from the Republic of South Africa, and describe a new species, <i>M. australiensis</i> sp. nov. from Australia. A cladistic analysis of 19 morphological characters in 12 taxa (including <i>M. triserialis</i> Brady, 1886 as an outgroup) derived from our analysis of original samples and literature data, resulted in 18 equally-parsimonious trees. Within the <i>M. paulensis</i> group, we can recognize a basal section with five taxa (<i>M. atahualpa</i> Brehm, 1936, <i>M. smirnovi</i> Ciroso-Pérez and Elías-Gutiérrez, 1997, <i>M. agsensis</i> Dumont, Silva Briano and Subhash Babu, 2002, <i>M. capensis</i> , <i>M. australiensis</i> sp. nov.) which are both biogeographical and phylogenetic relicts. They occur exactly in well-known zones of cladoceran endemism: Australia, South Africa, the Andean highlands and Mexican Plateau with surrounded territories. In contrast, the crown group is widely distributed in tropical lowlands. No truly "Pantropical" taxa were found, all taxa could be classified as: (1) exclusively Neotropical; (2) exclusively Australian; (3) Palaeotropical (Afro-Asian); (4) endemics of Mexican Plateau. Probably a combination of scenarios took place during history of the <i>M. paulensis</i> group, but we can conclude that all possible scenarios are old, which confirms antiquity of the <i>M. paulensis</i> group. Australia and Tasmania could be a source of additional species from this group.	Да (если в тексте публикации имеется соответствующая ссылка)
4.	научная статья	Old World-New World differentiation of so-called "circumtropical" taxa: the case of rare genus <i>Grimaldina</i> Richard, 1892 (Branchiopoda: Cladocera: Macrothricidae)	https://doi.org/10.11646/zootaxa.4291.2.4	Anna N Neretina, Alexey A Kotov	ZOOTAXA, 2017	1175-5326	ВАК; Ринц; Web of Science; Scopus	We carefully examined specimens of <i>Grimaldina</i> from different tropical water bodies, redescribed morphology of <i>G. brazzai</i> based on new material from Africa, supplemented the genus diagnosis, and demonstrated that <i>G. brazzai</i> is limited to the Old World (Africa and Asia). Population from New World tropical regions are described as <i>Grimaldina freyi</i> sp. nov., based on material from the collection of Prof. Dr David G. Frey and named in his honor. It clearly differs from <i>G. brazzai</i> in: (1) antenna II with longest endopod seta bearing more densely set spinulae and (2) limb V medial portion with a smaller ratio of seta 2 to seta 3. These traits in <i>G. freyi</i> sp. nov. are presumably plesiomorphic, while <i>G. brazzai</i> has more apomorphies. Divergence between American (<i>G. freyi</i> sp. nov.) and Old World (<i>G. brazzai</i>) populations could be related to the ancient vicariant events (Gondwana breakup) or to more recent trans-continental dispersal events.	Да (если в тексте публикации имеется соответствующая ссылка)

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5.	научная статья	Non-indigenous amphipods and mysids in coastal food webs of eastern Baltic Sea estuaries	10.1017/S0025315416000643	Nadezhda a Berezina, Arturas Razinkovas-baziukas, Alexei V Tiunov	Journal of the Marine Biological Association of the United Kingdom, 2017	14697769, 00253154	ВАК; Ринц; Web of Science; Scopus	Stable isotope analysis (d15N values) and gut contents analysis of field-collected specimens were used to estimate trophic level and trophic links of the newly established malacostracan crustaceans, while their consumption rates when feeding as carnivores were measured experimentally. The d15N analysis allocated four trophic levels (TL) in the coastal food webs of both studied ecosystems with the lowest d15N (2-4‰) for detritus and algae and the highest for fish (12-14‰). Through their high abundance, non-indigenous crustaceans (<i>Pontogammarus robustoides</i> , <i>Gmelinoides fasciatus</i> , <i>Obessogammarus crassus</i> , <i>Gammarus tigrinus</i> , <i>Limnomysis benedeni</i> and <i>Paramysis lacustris</i>) have become important members of food chains of the studied ecosystems. Their trophic position varied significantly within species during ontogenesis. This suggests that they turned from being typically detritivores/plantivorous (TL 2-2.4) at juvenile stages to omnivores (2.5-3) or to carnivores (.3) as adults. Assessment of the predation pressure by the adult amphipods on other coexisting invertebrates (in the example of the Neva Estuary) showed a low or medium impact, depending on species of predator and productivity of its potential prey organisms.	Да (если в тексте публикации имеется соответствующая ссылка)
6.	научная статья	Trophic position and seasonal changes in the diet of the red wood ant <i>Formica aquilonia</i> as indicated by stable isotope analysis	10.1111/een.12384	Ivan K Iakovlev, Tatiana A Novgorodova, Alexei V Tiunov, Zhanna I Reznikova	Ecological Entomology, 2017	03076946	ВАК; Ринц; Web of Science; Scopus	1. Stable isotope analysis was applied to study the trophic position of <i>Formica aquilonia</i> and reveal seasonal changes in its trophic links with both myrmecophilous aphids and other invertebrates in a mixed forest of western Siberia. 2. The	Да (если в тексте публикации имеется соответствующая ссылка)
7.	научная статья	Flexible trophic position of polyphagous wireworms (Coleoptera, Elateridae): A stable isotope study in the steppe belt of Russia	http://dx.doi.org/10.1016/j.apsoil.2017.09.026	Ekaterina S Samoylova, Alexei V Tiunov	Applied Soil Ecology, 2017	09291393	ВАК; Ринц; Web of Science; Scopus	We hypothesized that polyphagous wireworm species inhabiting three types of steppe (grassland) ecosystems should be more phytophagous in dry conditions. To assess the trophic position of wireworms, we compared their isotopic signatures with those of plants and the soil, as well as of reference species including carnivorous centipedes and Diptera larvae, herbivorous weevils and saprophagous earthworms. Larvae of <i>Agriotes obscurus</i> , <i>Agriotes lineatus</i> , <i>Selatosomus aeneus</i> and <i>Selatosomus latus</i> inhabiting well-drained soils were 3-4‰ enriched in 15N compared to larvae inhabiting wet floodplains, suggesting a difference in at least one trophic level. A comparison with soil animals with known trophic positions indicates that omnivorous wireworms tend to be phytophagous and saprophagous in floodplain, but carnivorous in well-drained habitats. The capability of changing the diet is confirmed by the age-related shift in the trophic position of some species. Elder <i>A. obscurus</i> larvae are significantly depleted in 13C and enriched in 15N, likely indicating a switch from saprophagy to carnivory. Overall, our data suggest a considerable flexibility in the feeding behavior of elaterid larvae in steppe habitats.	Да (если в тексте публикации имеется соответствующая ссылка)

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8.	научная статья	Trophic segregation of anuran larvae in two temporary tropical ponds in southern Vietnam		Anna B Vassilieva, Artem Y Sinev, Alexei V Tiunov	Herpetological Journal, 2017	00034088	BAK; Web of Science; Scopus	Trophic differentiation of tadpoles of four anuran species (<i>Hoplobatrachus rugulosus</i> , <i>Microhyla fissipes</i> , <i>M. heymonsi</i> , <i>Polypedates megacephalus</i>) with different oral morphologies was studied in temporary ponds in a monsoon tropical forest in southern Vietnam. All tadpole species were found to be omnivorous, including filter-feeding microhylids. Both gut contents analysis and stable isotope analysis provided enough evidence of resource partitioning among coexisting species. Gut contents analysis supported the expected partitioning of food resources by tadpoles with different oral morphologies and showed differences in the food spectra of filter-feeding and grazing species. Stable isotope analysis revealed more complex trophic niche segregation among grazers, as well as amongst filter-feeders. Tadpole species differed mainly in $\delta^{13}C$ values, indicating a dependency on carbon sources traceable to either of aquatic or terrestrial origins. Furthermore, tadpoles with generalised grazing oral morphology (<i>P. megacephalus</i>) can start feeding as suspension feeders and then shift to the rasping mode. Controlled diet experiment with <i>P. megacephalus</i> larvae showed a diet-tissue isotopic fractionation of approximately 1.9‰ and 1.2‰ for $\Delta^{13}C$ and $\Delta^{15}N$, respectively. In natural habitats, the difference in $\delta^{13}C$ and $\delta^{15}N$ values between body tissues and gut contents of four tadpole species averaged 2.8‰ and 1.0‰, respectively.	Да (если в тексте публикации имеется соответствующая ссылка)
9.	научная статья	ПОЛОЖЕНИЕ ЧУЖЕРОДНОГО КРАБА RHITHROPANORPEUS HARRISII (CRUSTACEA DECAPODA PANORPEIDAE) В ТРОФИЧЕСКОЙ СЕТИ ТАМАНСКОГО ЗАЛИВА АЗОВСКОГО МОРЯ	10.7868/S0030157417020216	А К Залота, Г А Колючкина, А В Тиунов, С В Бирюкова, В А Спиридонов	Океанология (Oceanology), 2017	0030-1574	BAK; Ринц; Web of Science; Scopus	В работе рассматривается положение чужеродного краба <i>Rhithropanopeus harrisi</i> и ряда других массовых видов водных беспозвоночных и рыб в трофической сети прибрежной экосистемы Таманского залива Азовского моря. Основу трофической сети залива составляют фитопланктон, макрофиты (водоросли и морские травы), а также тростник, использующий для фотосинтеза атмосферный углерод. С помощью анализа изотопного состава азота и углерода показано, что хотя в заливе доминируют морские травы, консументы низших трофических уровней (такие как <i>Cerastoderma glaucum</i> , <i>Porifera</i> gen. sp., <i>Gammarus aequicauda</i> , <i>Deshayesorchestia deshayesii</i> и <i>Idotea balthica</i>) только частично зависят от органического углерода высшей водной растительности, используя совокупность разнообразных источников первичной продукции. Выявлена преимущественная роль объектов животного происхождения в питании краба-вселенца. В Таманском заливе <i>R. harrisi</i> занимает тот же трофический уровень, что и хищники/падальщики: рыбы-бенитофаги (<i>Syngnathus nigrolineatus</i> , <i>Gobius</i> spp.), аборигенный краб <i>Pilumnus hirtellus</i> и креветка <i>Palaemon adspersus</i> .	Да (если в тексте публикации имеется соответствующая ссылка)

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10.	научная статья	Микориза грушанковых (<i>Pyrola rotundifolia</i> , <i>P. media</i> и <i>Orthilia secunda</i>): состав грибных симбионтов и трофический статус растений		Малышева ВФ, Малышева ЕФ, Воронина ЕЮ, Федосова АГ, бибииков НМ	Микология и фитопатология, 2017	0026-3648	ВАК; Ринц; Scopus	Арбутоидная микориза изучена весьма слабо по сравнению с иными типами микоризных симбиозов, несмотря на то что она играет значительную роль в лесных сообществах, объединяя древесный и кустарничковый ярусы, что особенно важно при существенных нарушениях функционирования сообщества, вызываемых сплошными рубками и лесными пожарами. Растения грибы грушанковых (<i>Pyroloaeae</i>) являлись предметом исследования, показавшего их взаимосвязь с древесными породами через общие виды грибов-микоризообразователей и частичную гетеротрофию (заимствование углерода) посредством образования мицелиальной сети, объединяющих их с древесными породами. В результате было выявлено 28 таксонов грибов видового и внутривидового ранга, обитающих внутри подземных органов растений как симбионты и эндифиты. Выявление роли большинства из них в жизни растений требует проведения дальнейших исследований.	Да (если в тексте публикации имеется соответствующая ссылка)
11.	другое	Long-term changes in primary production and mineralization of organic matter in the Neva Estuary (Baltic Sea)	http://dx.doi.org/10.1016/j.jmarsys.2016.12.009	Sergey Golubkov, Mikhail Golubkov, Alexei Tiunov, Vera Nikulina	Journal of Marine Systems, 2017	09247963	ВАК; Ринц; Web of Science; Scopus	The Neva Estuary situated in the eastern part of the Gulf of Finland is one of the largest estuaries of the Baltic Sea. At present, heavy nutrient and organic matter loading, mainly from the Neva River and point sources in the upper estuary are the most serious environmental problem for the Neva Estuary and adjacent parts of the eastern Gulf of Finland. Long-term studies of mid-summer primary production and mineralization of organic matter were conducted in upper and middle parts of the Neva Estuary. A considerable increase of production and biomass of phytoplankton was observed in the middle part of the estuary during the last decades mainly due to an increase in biomass of cyanobacteria. However, they are mostly concentrated in the upper water layers and only a small part of them reached the near bottom water layers and may be used as a food by zoobenthos. The mineralization of organic matter in the water column was twice higher than primary production that indicates the importance of allochthonous organic matter in the carbon budget of the both parts of the estuary. The carbon isotope signature of seston and most of the zoobenthic species in the upper part of the estuary was close to the signature of allochthonous carbon leaking from watershed (-27‰). Higher values of $\delta^{13}C$ of seston in the upper mix layer of the Middle estuary indicate intensive primary production in mid-summer. The carbon isotopic signature of zoobenthos in this part of the estuary was also in general lower than in the Neva Bay reflected higher importance of autochthonous organic matter in food webs of the estuary.	Да (если в тексте публикации имеется соответствующая ссылка)

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12.	научная статья	Forest fires alter the trophic structure of soil nematode communities	http://dx.doi.org/10.1016/j.soilbio.2017.02.006	Konstantin O Butenko, Konstantin B Gongalsky, Daniil I Korobushkin, Klemens Ekschmitt, Andrey S Zaitsev	Soil Biology & Biochemistry, 2017	00380717	ВАК; РИНЦ; Web of Science; Scopus	На оборудовании ЦКП (Изотопный масс-спектрометр Finnigan DELTA V Plus с элементным анализатором Flash 1112+MAS 200) измерено содержание углерода и азота в образцах почвы горелых и негорелых лесов. Результаты исследования: The impact of fires on nematode diversity, abundance and biomass was assessed in 20 burnt forests and 20 adjacent control plots across a 3000-km-long north-south transect in European Russia. The transect covered five main forest types (Mediterranean and broadleaved forests, southern, middle, and northern taiga). In spring 2015, we assessed major abiotic parameters of soil, soil microbial PLFA markers, and nematode community characteristics (genus richness, abundance, biomass and trophic structure) in the burnt and control plots. Generic richness was the highest in the southern taiga (22 genera) declining both northwards (down to 16) and southwards (down to 13 genera). The highest abundance of nematodes was recorded in the Mediterranean forests (139.4 ± 15.1 ind. g ⁻¹ soil dwt, control site) and the lowest in the northern taiga (10.8 ± 1.2 ind. g ⁻¹ soil dwt, burnt site). Biomass followed the same pattern with slight deviations. Abundance and biomass of soil nematodes was not significantly affected by fires in any ecoregion with the exception of Mediterranean forests. We detected consistent fire effects on the abundance of particular nematode feeding groups. Trophic groups abundance of soil nematode communities were considerably modified in burnt forests due to the increase in abundance of bacterial-feeding nematodes and reduced number of hyphal-feeding, plant-associated and plant-feeding nematodes. This increase in bacterial-feeding nematode biomass coincided with the growth of the ratio between bacterial and fungal biomass in pyrogenic soils. pH of soil solution and actual denitrification rate in the burnt forests correlated with the biomass of predatory nematodes. We conclude that, five years after fire, the structure of the microbial community, pH of soil solution and denitrification activity correlate with the ratio of feeding groups of belowground nematode communities in these forests. Taking into account considerable nematode biomass in soil, shifts in the ratio of trophic groups after fires induced by these factors may potentially lead to changes in the level of ecosystem functions which they deliver in burnt forests.	Нет

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13.	научная статья	Forest fires increase variability of soil macrofauna communities along a macrogeographic gradient	http://dx.doi.org/10.1016/j.ejsobi.2017.04.001	A Yu Gorbunova, D I Korobushkin, AS Zaitsev, KB Gongalsky	European Journal of Soil Biology, 2017	11645563	ВАК; РИНЦ; Web of Science; Scopus	На оборудовании ЦКП (Изотопный масс-спектрометр Finnigan DELTA V Plus с элементным анализатором Flash 1112+MAS 200) были проведены измерения содержания углерода и азота в почве горелых и негорелых лесов. Результаты исследования: We assessed the impact of forest fires on macrofauna taxonomic richness, abundance and total biomass in 20 forests burnt five years ago and 20 respective control plots along a 3000-km-long north-south transect in European Russia that covered five major forest types (Mediterranean and broadleaved forests, southern, middle, and northern taiga). In parallel we assessed basic soil abiotic parameters in these stands. Within forest type, the spatial variance of macrofauna total biomass was 1.8 times higher in the burnt forests than in the controls. Due to this increase of variance in the burnt forests, the main effect of forest type on soil macrofauna parameters was generally weaker. Among different soil abiotic parameters, higher level of uniformity of macrofaunal community parameters between different forest types was explained by the labile P and N content in the soil, water-holding capacity and soil moisture. Presence of open areas within the burnt forests seems to be the leading driver of the increased similarity of soil macrofauna communities across different forest types. Forest fires thus act as a powerful force that raises within-forest-type soil macroinvertebrate beta-diversity and associated biomass fluctuations. At the same time burning reduces soil macrofauna gamma-diversity due to increased faunistic similarity between different forest types. This has potentially important implications for the functioning of soil macroinvertebrate communities in the pyrogenic forests and its dependency on macroclimatic conditions.	Нет
14.	научная статья	Reduced Functionality of Soil Food Webs in Burnt Boreal Forests: a Case Study in Central Russia	10.1134/S199542551703012X	AS Zaitsev, KB Gongalsky, DI Korobushkin, KO Butenko, IA Gorshkova	Contemporary Problems of Ecology, 2017	1995-4255	ВАК; РИНЦ; Web of Science; Scopus	Functionality of soil food webs after forest fires remains generally unexplored. We address this question by studying both burnt and unburnt spruce forests in Central European Russia (Tver Region). In August 2014 we sampled two spatially distant blocks consisting of forest areas burnt in 2010 and the respective unburnt controls. We analyzed biomass and structure of soil food webs as well as carbon mobilization with respect to carbon stocks in the dead wood, litter and soil after burning. The biomass of soil fauna was moderately reduced in the burnt plots. For some groups like testate amoebae and enchytraeids, however, this decrease was highly significant and corresponded with the decreased C-stock in litter. For the other taxa changes in biomass were insignificant. At the same time C-flow through the soil food web after fire was strongly reduced mainly due to the reduction of biomass of active fungi and secondary decomposers. The overall consumption rate of detritus by the soil food web strongly decreased in the burnt forests and was maintained predominantly by the decomposition activity of bacteria instead of fungi. This resulted in the reduction	Да (если в тексте публикации имеется соответствующая ссылка)

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15.	научная статья	Phylogeographic structure of the Common hamster (<i>Cricetus cricetus</i> L.): Late Pleistocene connections between Caucasus and Western European populations	https://doi.org/10.1371/journal.pone.0187527	Natalia Yu Feoktistova, Ilya G Meschersky, Pavel L Bogomolov, Alexandra S Sayan, Natalia S Poplavskaya	PLOS ONE, 2017	19326203	ВАК; Ринц; Web of Science; Scopus	На оборудовании ЦКП (Genetic analyzer 3500 и Thermal Cycler, Applied Biosystems) проведено секвенирование ДНК. Результаты исследования: The Common hamster (<i>Cricetus cricetus</i>) is one of the most endangered mammals in Western and Central Europe. Its genetic diversity in Russia and Kazakhstan was investigated for the first time. The analysis of sequences of an mtDNA control region and cytochrome b gene revealed at least three phylogenetic lineages. Most of the species range (approximately 3 million km ²), including central Russia, Crimea, the Ural region, and northern Kazakhstan, is inhabited by a single, well-supported phylogroup, E0. Phylogroup E1, previously reported from southeastern Poland and western Ukraine, was first described from Russia (Bryansk Province). E0 and E1 are sister lineages but both are monophyletic and separated by considerable genetic distance. Hamsters inhabiting Ciscaucasia represent a separate, distant phylogenetic lineage, named "Caucasus". It is sister to the North phylogroup from Western Europe and the contemporary phylogeography for this species is discussed considering new data. These data enabled us to develop a new hypothesis to propose that in the Late Pleistocene, the continuous range of the Common hamster in the northern Mediterranean extended from the central and southern parts of modern France to the Caucasus; however, its distribution was subsequently interrupted, likely because of climate change.	Да (если в тексте публикации имеется соответствующая ссылка)
16.	научная статья	ПОТОКИ СО2 НА ВЕРХОВОМ БОЛОТЕ В ЮЖНОТАЕЖНОЙ ЗОНЕ ЕВРОПЕЙСКОЙ ЧАСТИ РОССИИ В ЛЕТНИЙ ПЕРИОД	10.15372/SEJ20170201	Иванов ДГ, Авилов ВК, Курбатова ЮА	Сибирский экологический журнал, 2017	0869-8619	ВАК; Ринц; Web of Science; Scopus	С помощью высокоточного программно-аппаратного измерительного комплекса для мониторинга турбулентного обмена основных парниковых газов и метеорологических параметров проведены измерения потоков СО2 на верховом болоте. Результаты работы: Проведен анализ эмиссии и баланса потоков СО2 между атмосферой и поверхностью верхового болота южнотаежной зоны европейской части России для летних периодов 2013-2015 гг. Измерения потоков выполнены с периодичностью 7-10 дней методом статических камер на трех однородных по условиям почвенно-грунтового увлажнения и типу растительного покрова экспериментальных площадках. Найлены статистически значимые различия в потоках и баланс СО2 между разными экспериментальными площадками. Установлено, что оценку роли болот в балансе СО2 с атмосферой необходимо проводить с учетом пространственной неоднородности болотных массивов.	Нет

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17.	научная статья	Radiative Entropy Production along the Paludification Gradient in the Southern Taiga	10.3390/e19010043	Olga Kuricheva, Vadim Mamkin, Robert Sandler, Yuriy Puzachenko, Andrej Varlagin	Entropy, 2017	1099-4300	ВАК; РИНЦ; Web of Science; Scopus	С помощью универсального высокоточного программно-аппаратного измерительного комплекса (оборудование ЦКП) был проведен мониторинг турбулентного обмена основных парниковых газов и метеорологических параметров в лесных экосистемах. Результаты работы: Entropy production (s) is a measure of ecosystem and landscape stability in a changing environment. We calculated the s in the radiation balance for a well-drained spruce forest, a paludified spruce forest, and a bog in the southern taiga of the European part of Russia using long-term meteorological data. Though radiative s depends both on surface temperature and absorbed radiation, the radiation effect in boreal ecosystems is much more important than the temperature effect. The dynamic of the incoming solar radiation was the main driver of the diurnal, seasonal, and intra-annual courses of s for all ecosystems; the difference in ecosystem albedo was the second most important factor, responsible for seven-eighths of the difference in s between the bog and forest in a warm period. Despite the higher productivity and the complex structure of the well-drained forest, the dynamics and sums of s in two forests were very similar. Summer droughts had no influence on the albedo and s efficiency of forests, demonstrating high self-regulation of the taiga forest ecosystems. On the contrary, a decreasing water supply significantly elevated the albedo and lowered the s in bog. Bogs, being non-steady ecosystems, demonstrate unique thermodynamic behavior, which is fluctuant and strongly dependent on the moisture supply. Paludification of territories may result in increasing instability of the energy balance and entropy production in the landscape of the southern taiga.	Нет
18.	научная статья	Arthropods in the subsoil: Abundance and vertical distribution as related to soil organic matter, microbial biomass and plant roots	dx.doi.org/2F10.1016/2Fj.ejsobi.2017.09.001	Anton M Potapov, Anton A Goncharov, Eugenia E Semenina, Anastasiya Yu Korotkevich, Sergey M Tsurikov	European Journal of Soil Biology, 2017	11645563	ВАК; РИНЦ; Web of Science; Scopus	С помощью элементного анализатора Thermo Flash 1112 в ЦКП определено общее содержание углерода и азота в органических материалах. Основные результаты работы: In this study, we described the vertical distribution of total Corg, microbial biomass, root biomass and the density of soil arthropods in deep layers (down to 110e210 cm depth) of three soils formed under the south taiga, broadleaved forest and forested steppe vegetation. By modeling the vertical distribution of animal population we estimated the soil depths above which 90% of the animals live (SD90 values). These values were the highest for Collembola, Protura and Symphyla (43e116,69e144 and 54e95 cm, respectively, across the study locations), but relatively low for Acari (32e55 cm). In the forested steppe, less than 50% of all microarthropods and less than 10% of all insects inhabited litter and the uppermost 10 cm of mineral soil. Using generalized linear mixed-effect models we showed that the distribution of Collembola in the subsoil (below 30 cm) depended on root biomass and total Corg content, while the distribution of mites was affected by total Corg content and microbial biomass. The density of collembolans correlated significantly with root biomass both in the upper and lower parts of the soil profile. This suggests that soil fauna are involved in deep soil C cycling largely via grazing on root-associated microorganisms.	Нет

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19.	другое	Indication for Genetic Diversity of European Roe Deer <i>Capreolus capreolus</i> (L.) in Southeastern Europe Revealed By mt DNA Markers		Georgi G Markov, Elena Zvychnaynaya, Alexei Danilkin, Marina Kholodova, Laszlo Sugar	ACTA ZOOLOGICA BULGARICA, 2017	03240770	BAK; Ринц	A molecular-genetic analysis of a control region (936 np) and cytochrome b gene (1140 np) of the mtDNA roe deer from Pannonian mixed forests ecoregion in Central south-eastern Europe (Hungary) and roe deer of Rila-Rhodope biogeographical region in Balkan Peninsula (Bulgaria) has been carried out. It was found that 97.02% of the samples from Pannonian mixed forests ecoregion had a mitotype typical for European roe deer (<i>Capreolus capreolus</i>). In the roe deer population inhabiting this region, 2.98% of animals possessed a mitotype typical for Siberian roe deer (<i>Capreolus pygargus</i>). The roe deer inhabiting in Rila-Rhodope biogeographical region in Balkan Peninsula also had typical for the European roe deer mtDNA sequences. Because of the assessment of biochemical-genetic uniqueness of the investigated roe deer, it was postulated that its populations in Pannonian mixed forests ecoregion and Rila-Rhodope biogeographical region represent distinct gene pools. This conclusion formed the basis of incurred recommendation to avoid admixing populations in both studied European bio-geographical regions by introductions of roe deer from abroad.	Да (если в тексте публикации имеется соответствующая ссылка)
20.	научная статья	ВЛИЯНИЕ СПЛОШНОЙ ВЫРУБКИ ЛЕСА НА ЭМИССИЮ CO ₂ С ПОВЕРХНОСТИ ПОЧВЫ	10.7868/S002332916060126	ФГ Молчанов, ЮА Курбатова, АВ Ольчев	Экология, 2017	16083334, 10674136	BAK; Ринц; Web of Science; Scopus	С помощью оборудования ЦКП определена сезонная и суточная изменчивость эмиссии CO ₂ с поверхности почвы. Выявлена устойчивая зависимость почвенного дыхания от степени поврежденности верхнего почвенного слоя, а также наличия древесного опада и порубочных остатков на поверхности. Найдена зависимость эмиссии CO ₂ с поверхности почвы от температуры и влажности верхнего почвенного слоя. Выявлены различия в интенсивности почвенного дыхания внутри контрольного древостоя на участках, по-разному удаленных от стволов деревьев.	Нет
21.	научная статья	Идентификация эндогенных и техногенных углеводородов в донных отложениях торфяных озер и оценка их вклада в «углеводородный индекс»	10.7868/S0044450217120106	Бродский ЕС, Шелепчиков АА, Мир-Кадырова ЕЯ, Калининкевич ГА	Журнал аналитической химии, 2017	061-9348	BAK; Ринц; Scopus	Методом газовой хроматографии с масс-спектрометрическим детектированием проведен анализ битумов, выделенных из донных отложений торфяных озер, загрязненных нефтепродуктами. Для эндогенных углеводородов характерны n-алканы с нечетным числом атомов углерода в молекуле в характеристической области C ₂₃ -C ₃₃ , отсутствие характерного для нефтепродуктов "горба" на хроматограмме, а также наличие "легких" углеводородов, элюирующиеся в начальной части хроматограммы ("легкие" углеводороды обычно теряются при высушивании образца). Картина распределения нечетных n-алканов использована для оценки вклада эндогенных углеводородов в "углеводородный индекс" с помощью метода распознавания образов. Содержание "легких" углеводородов составляло от 50 и 300-400 до 3500-5000 мг/кг для ряда образцов и даже до 26 000 мг/кг в некоторых образцах. Содержание нефтяных углеводородов и гетероатомных соединений варьировало от практически нулевых значений 30-80 мг/кг до 20 000 мг/кг и выше.	Да (если в тексте публикации имеется соответствующая ссылка)

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22.	научная статья	Об определении полихлорированных бифенилов в электроизоляционных жидкостях	10.26896/1028-6861-2017-83-11-15-20	Бродский ЕС, Шелепчиков АА, Калининкевич ГА, Мир-Кадырова ЯИ	Заводская лаборатория. Диагности ка материалов, 2017	1028-6861	ВАК; Ринц	Проведен сравнительный анализ трех методик определения полихлорированных бифенилов в электроизоляционных жидкостях методом капиллярной газовой хроматографии (ГХ) с детектированием по захвату электронов: ГОСТ Р МЭК 61619-2013, ГОСТ EN 12766-2-2014 и ФР 1.31.2012.13568. Первый метод, требующий определения всех конгенов в анализируемой пробе, сталкивается с невозможностью идентификации многих из них при их относительно малых содержаниях и наличии мешающих примесей в отработанных маслах. Второй метод, основанный на определении шести выбранных индикаторных конгенов (28, 52, 101, 153, 138 и 180) и умножении суммы их содержаний на коэффициент 5, дает более высокие результаты, но не позволяет оценить правильность определения. Третий метод, основанный на использовании для градуировки технических продуктов, а для идентификации типа технического продукта и определения его содержания — произвольного числа конгенов, распределенных по всему интервалу элюирования, дает промежуточный результат по сравнению с двумя предыдущими методами и позволяет оценить неопределенность результата.	Нет
23.	научная статья	Трансформация и форма поступления дихлордифенилтрихлорэтана (ДДТ) в почвы Москвы		Агапкина ГИ, Бродский ЕС, Шелепчиков АА, Артюхова МВ	Вестник Московского университета. Серия 17. Почвоведение, 2017	0137-0944	ВАК; Ринц	Рассмотрены степень и направления трансформации дихлордифенилтрихлорэтана (ДДТ) и формы его поступления в поверхностные слои почв Москвы. Степень трансформации ДДТ в метаболиты - дихлордифенилдихлорэтилен (ДДЕ) и дихлордифенилдихлорметилметан (ДДД) - мала. В 75% почв трансформации подверглось менее половины исходного пестицида. В 67,5% почв образование ДДД превалирует над ДДЕ. В расчете на почвы всей территории города 16% ДДТ превратилось в ДДЕ и 23% ДДТ - в ДДД. Для 95 % почв отношение изомеров о,п'-ДДТ/п,п'-ДДТ < 0,3, а среднее значение этого показателя составляет 0,1, что характерно при применении ДДТ в форме технического препарата. Ключевые слова: урбоэкосистема, почвы Москвы, загрязнение почв, дихлордифенилтрихлорэтан (ДДТ), степень и направление трансформации, форма поступления в почву.	Нет

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24.	научная статья	Phylogeny, systematics, and evolution of the family Costellariidae (Gastropoda: Neogastropoda)	10.1111/zoj.12431	Alexander Fedosov, Nicolas Puillandre, Philippe Bouchet	Zoological Journal of the Linnean Society, 2017	1061-9348	ВАК; Ринц; Web of Science; Scopus	The present work expands the taxon sampling of a previous phylogeny of the mitriform gastropods to resolve earlier problematic relationships, and thus establish a robust framework of the family, revise its taxonomy, and uncover major trends in the evolution of costellariid morphology. A multicuspidate rachidian is shown to have appeared at least twice in the evolutionary history of the family: it is regarded as an apomorphy of the primarily Indo-Pacific Vexillum–Austromitra–Atlantilux lineage, and has evolved independently in the Nodicostellaria–Mitromica lineage of the western hemisphere. The genera Ceratoxancus and Latromitra are transferred from the Ptychactractidae to the Costellariidae. Tosapusia, Protoelongata, and Pusia are ranked as full genera, the latter with the three subgenera Pusia, Ebenomitra, and Vexillena. Vexillum (Costellaria) and Zierliana are treated as synonyms of Vexillum. The replacement name Suluspira is proposed for Visaya Poppe, Guillot de Suduiraut & Tagaro, 2006, non Ahyong, 2004 (Crustacea). We introduce four new genera, Alisimitra, Costapex, Turriplicifer, and Orphanopusia, and characterize their anatomy; 14 new species, mostly from deep water in the Indo-Pacific, are described in the genera Tosapusia, Alisimitra, Costapex, and Pusia. At least two species of Costapex gen. nov. have been collected from sunken wood.	Да (если в тексте публикации имеется соответствующая ссылка)
25.	научная статья	Too familiar to be questioned? Revisiting the Crassispira cerithina species complex (Gastropoda: Conoidea: Pseudomelatomidae)	10.1093/mollus/eyw036	Yuri I Kantor, Peter Stahlschmidt, Laetitia Aznar-Cormano, Philippe Bouchet, Nicolas Puillandre	JOURNAL OF MOLLUSCAN STUDIES, 2017	02601230	ВАК; Ринц; Web of Science; Scopus	Crassispira cerithina (Anton, 1838) is a common shallow water conoidean gastropod species, broadly distributed throughout the Indo-West Pacific. It has a distinctive shell morphology and has been referred to in many publications. It is also the first species of its family to have been studied from the viewpoint of toxinology. However, our molecular phylogenetic analysis based on fragments of the COI and 28 S rRNA genes reveals the existence of two closely related distinct species, one of which is described as new (<i>C. scala</i> n. sp.). These two species are sympatric in several regions of the Indo-Pacific—in the Philippines, Papua New Guinea, Vanuatu and New Caledonia. They can be reliably distinguished by shell morphology and thus cannot be considered truly cryptic species. The radula is very similar in both species and does not permit species delimitation. A conchological reappraisal of further material similar to <i>C. cerithina</i> allows us to recognize two additional species, which are described as new (<i>C. procera</i> n. sp. from the Coral Sea and Philippines, and <i>C. aurea</i> n. sp. from Tahiti). These results demonstrate that even 'well-known' and seemingly well defined species may be species complexes and that molecular techniques should be routinely applied to confirm specimen identification, especially as part of resource-consuming studies, such as toxinology.	Да (если в тексте публикации имеется соответствующая ссылка)

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26.	научная статья	Returning to the roots: morphology, molecular phylogeny and classification of the Olivoidea (Gastropoda: Neogastropoda)		YU I KANTOR, A E FEDOSOV, N PUILLANDRE, C BONILLO, P BOUCHET	Zoological Journal of the Linnean Society, 2017	10963642, 00244082	ВАК; РИНЦ; Web of Science; Scopus	The superfamily Olivoidea is broadly distributed in the world's oceans mostly in coastal waters at tropical and subtropical latitudes. It encompasses around 30 Recent genera and 460 species. Two families - Olividae and Olivellidae - are classically recognized within the superfamily. Their shell is very characteristic due to the presence of a modified callused anterior end and a fasciole. Prior to the present work, neither the monophyly of the superfamily nor the relationships among its genera had been tested with molecular phylogenetics. Four genetic markers [cytochrome c oxidase subunit I (COI), 16S and 12S rRNA mitochondrial genes, and Histone 3 (H3) nuclear gene] were sequenced for 42 species in 14 genera. Additionally, 18 species were sequenced for COI only. The molecular dataset was supplemented by anatomical and radula data. Our analysis recovered, albeit with weak support, a monophyletic Olivoidea, which in turn includes with 100% support, in addition to traditional olivoideans, representatives of a paraphyletic Pseudolividae. The relationships between the former families and subfamilies are drastically revised and a new classification of the superfamily is here proposed, now including five families: Bellolividae fam. nov., Benthobiidae fam. nov., Olividae, Pseudolividae and Ancillariidae. Within Olividae four subfamilies are recognized, reflecting the high morphological disparity within the family: Olivinae, Olivellinae, Agaroniinae and Calyptolivinae subfam. nov. All the recent genera are discussed and reclassified based on molecular phylogeny and/or morphology and anatomy. The homology of different features of the shells is established for the first time throughout the superfamily, and a refined terminology is proposed. Based on a correlation between anatomical characteristics and shell features and observations of live animals, we make hypotheses on which part of the mantle is responsible for depositing which callused feature of the shell. Our results demonstrate that morphological data alone should be used with caution for phylogenetic reconstructions. For instance, the radula - that is otherwise considered to be of fundamental importance in the taxonomy of Neogastropoda - is extremely variable within the single family Olividae, with a range of variation larger than within the rest of the entire superfamily. In the refined classification, Pseudolividae are nested within Olivoidea, which is partially returning to 'the roots', that is to the classification of Thiele (1929).	Да (если в тексте публикации имеется соответствующая ссылка)

Руководитель ЦКП

_____ (Коробушкин Д.И.)