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**Центр коллективного пользования «Инструментальные методы в экологии»**

**Перечень публикаций, подготовленных по результатам работ, выполненных с использованием научного оборудования ЦКП за 2019 год**

№ п/п	Вид публикации	Наименование публикации	DOI публикации	Автор(ы)	Издание, номер, год	ISSN / ISBN издания	Индексация издания	Краткое описание научных результатов, полученных на оборудовании ЦКП	Наличие в публикации ссылки на ЦКП	Страница , содержащая ссылку на ЦКП
1	2	3	4	5	6	7	8	9	10	11
1.	научная статья	Influence of Seabird Colonies on Soil Macrofauna Communities at the Black Sea Coast Forests	10.1134/S1067413619060080	Korobushkin D.I., Saifutdinov R.A.	Russian Journal of Ecology, 50, 2019	1067-4136	ВАК; Ринц; Web of Science; Scopus	A seabird ( <i>Phalacrocorax carbo</i> ) colony overwintering for three consecutive years in a pine forest near the Black Sea coast caused severe damage to the vegetation. The impact of excessive nutrients input from this colony increased soil acidity, N, P, Cu and S-content in soil and might therefore affect soil macrofauna. We compared the abundance of main functional trait guilds and the total abundance of soil macrofauna within impact and control pine forests. No significant difference between the sites was noted in taxonomic richness, total macrofauna abundance and abundance of mobile, belowground, phytophagous and predatory invertebrates. However, the abundance of poorly mobile, poorly mobile epibiontic, and these both traits of saprophagous macrofauna guilds was significantly higher in the control sites. We conclude that three-year wintering of a seabird colony in forest can lead to drastic changes in the macrofauna communities structure due to allochthonous input of nutrients.	Да (если в тексте публикации указано название ЦКП или УНУ)	568

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2.	научная статья	Mechanisms of soil macrofauna community sustainability in temperate rice-growing systems	<a href="https://doi.org/10.1038/s41598-019-46733-4">https://doi.org/10.1038/s41598-019-46733-4</a>	Korobushkin D.I., Gongalsky K.B., Gorbunova A.Yu., Palatov D.M., et al.	Scientific Reports, 9, 2019	2045-2322	ВАК; Ринц; Web of Science; Scopus	Rice growing requires highly destructive and highly invasive field management negatively affecting soil biota and its functions. We aimed to compare taxonomic and functional trait compositions of soil macrofauna at different stages of rice cropping cycles in the three temperate rice-growing regions in Russia. Samples were collected in 2016 at four different biotopes in each region: flooded rice paddies; upland crops planted one year after flooded rice; rice paddy bunds; and relatively undisturbed seminatural control grasslands. Collected soil macrofauna were allocated to different traits according to their feeding preferences, vertical distribution, mobility and flood tolerance. The lowest macrofaunal abundance across all regions was observed in rice paddies. Cultivation of upland crops after paddy flooding consistently decreased the abundance of resident macrofauna, but not that of mobile soil macrofauna. In the upland crops, the abundance of belowground and mobile belowground macrofauna was significantly higher than that in control grasslands. The abundance of aboveground phytophages was significantly lower in the upland crops than in control sites. Flood-associated taxa showed low colonization ability after the paddies were drained. In contrast, representatives of other traits recorded in flooded fields increased their abundance at the next stage of crop rotation, demonstrating high resilience within an entire rice-growing system, including bunds. This finding indicates a high potential of seminatural grasslands and especially bunds as sources of rapid restoration of soil macrofauna functional diversity in rice-growing agroecosystems, thus maintaining the sustainability of soil food webs in the rice paddies.	Да (если в тексте публикации указано название ЦКП или УНУ)	9

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3.	научная статья	Soil nematode communities in temperate rice-growing systems	<a href="https://doi.org/10.1016/j.ejsobi.2019.103099">https://doi.org/10.1016/j.ejsobi.2019.103099</a>	Korobushkin D.I., Butenko K.O., Gongalsky K.B., Saifutdinov R.A., Zaitsev A.S.	European Journal of Soil Biology, 93, 2019	1164-5563	ВАК; Ринц; Web of Science; Scopus	We compared soil nematode abundance, genus richness and feeding groups composition between four different biotope types (flooded rice paddies, upland crops planted one year after flooded rice, rice paddy bunds, and seminatural control grasslands) in temperate rice-growing systems in Russia. Our survey covered three major rice producing regions: Krasnodarsky Krai, Republic of Kalmykia in European Russia and Primorsky Krai in the Russian Far East, which have not been studied with this respect so far. Genus richness, C-P, maturity (MI), Enrichment (EI) and Structure (SI) indices, and the total abundance of nematodes were strongly region-specific. The most of the highest values (18 genera, C-P=2.6 ± 0.1, abundance 208.6 ± 10.1 ind. g <sup>-1</sup> soil dwt) were found in Primorsky Krai and the lowest (6 genera, C-P=2.1 ± 0.1, EI=22.0 ± 1.3; SI=55.4 ± 1.2; abundance 64.5 ± 3.3 ind. g <sup>-1</sup> soil dwt) in Kalmykia. The highest values of enrichment and structure indices were discovered in Krasnodar Krai (EI=53.1 ± 6.0 and SI=82.9 ± 1.4 respectively). The abundance of the nematode feeding groups was in opposite rather driven by biotope type than the region. In the flooded rice paddies, the abundance of predatory nematodes was significantly lower than in control grasslands (2.1 ± 1.0 and 9.5 ± 3.0 ind. g <sup>-1</sup> soil dwt, respectively). Alternatively, the abundance of fungivores increased in flooded rice paddies. We conclude that rice growing considerably alters the relative abundance of nematode feeding groups and consequently their role in detrital food webs due to alteration of the overall structure of a micro food web and specifically negative effects of flooding on predatory nematodes. Bunds act as important reservoirs of soil nematode diversity in the rice agroecosystems.	Да (если в тексте публикации указано название ЦКП или УНУ)	2

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4.	научная статья	Enchytraeid Community (Annelida, Clitellata, Enchytraeidae) and Its Dependence on Edaphic Conditions in Rice Agroecosystems in Russia	10.1134/S1067413619040064	Degtyarev M.I., Korobushkin D.I., Gongalsky K.B., Zaitsev A.S.	Russian Journal of Ecology, 50, 2019	1067-4136	ВАК; Ринц; Web of Science; Scopus	Communities of soil animals (meso- and macrofauna) in rice paddies tend to be fragmented, and have extremely low abundance. Nevertheless, some groups, such as enchytraeids, may become dominant in flooded conditions, as shown in tropical rice agroecosystems. However, the fauna and functional composition of enchytraeids (Annelida, Clitellata, Enchytraeidae) under such conditions have not yet been studied at temperate latitudes. We have investigated enchytraeid communities and the ratio of their functional groups in the main rice-growing regions of Russia: Krasnodar krai, Primorsky krai, and the Republic of Kalmykia. Samples were taken in summer-early autumn of 2016 in four habitat types: flooded rice paddies, drained paddies occupied by upland crops, adjacent bunds, and undisturbed grasslands (control). Generalized linear model analysis showed that the factor habitat type and its interaction with the factor region had a significant effect on the total enchytraeid abundance, with the factor region alone having no such effect. Their abundance was the highest in the control habitats and bunds (mean and standard error for all the regions: $3278 \pm 1131$ and $3255 \pm 762$ ind./m <sup>2</sup> , respectively), being insignificantly lower in the paddies under upland crops ( $1282 \pm 850$ ind./m <sup>2</sup> ) and decreasing to a minimum of $415 \pm 323$ ind./m <sup>2</sup> in the flooded paddies. A comparison between the last two habitat types shows that enchytraeids can relatively quickly restore their abundance in the rice paddies after draining. Principal component analysis revealed a positive correlation between the density of enchytraeids belonging to basophilous ecological group and bioavailable phosphorus content. The correlation between the abundance of acidophilous enchytraeids and this parameter was negative. Thus, the abundance ratio of enchytraeid ecological groups could be used as an informative indicator of the concentrations of nutrient elements and depends on physical and chemical characteristics of paddy soils. Despite the low abundance of enchytraeids in these soils, they can be an important component of the detrital food webs during periods of paddy-drainage in intensive rice agroecosystems at temperate latitudes.	Да (если в тексте публикации указано название ЦКП или УНУ)	387

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5.	научная статья	Solid phase extraction of PCDDs/PCDFs and dioxin-like PCBs from edible oils and fats	<a href="https://doi.org/10.1016/j.chemosphere.2019.05.089">https://doi.org/10.1016/j.chemosphere.2019.05.089</a>	Shelepchikov A., Turbabina K., Ovcharenko V., Brodsky E., et al.	Chemosphere, 231, 2019	0045-6535	ВАК; Ринц; Web of Science; Scopus	We have studied the feasibility of solid phase extraction of PCDDs/PCDFs and dioxin-like PCBs from oils and fats as the first step of a sample preparation procedure that would not involve the chemical decomposition of the matrix. A few experimental setups using dual-layer columns packed with various brands of active carbon were tested. The use of a dual-layer microcolumn with AX-21 and Carboxen 1000 carbons for dioxins extraction from animal fats, vegetable oils and powdered milk gave satisfactory recoveries which met the European Union Commission Regulation 2017/644 criteria for dioxin analysis. The developed method of solid phase extraction on a dual-layer carbon column requires lower amounts of solvents and sorbents, tolerates high amounts of fat and can be used in both manual and automated sample preparation procedures. The recoveries obtained for the most toxic congeners (2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 2,3,4,7,8-PeCDF) are within 79e119%.	Нет	0
6.	научная статья	НОВЫЙ МЕТОД ОЧИСТКИ ЖИРОСОДЕРЖАЩИХ ЭКСТРАКТОВ ПРИ ОПРЕДЕЛЕНИИ ПОЛИБРОМДИФЕНИЛОВЫХ ЭФИРОВ	10.1134/S044450219040133	Шелепчиков А.А., Овчаренко В.В., Кожушкевич А.И., Бродский Е.С., и др.	Журнал Аналитической Химии, 74, 2019	0306-7319	ВАК; Ринц; Web of Science; Scopus	Разработан метод пробоподготовки для определения полибромированных дифениловых эфиров (ПБДЭ) (от одного до десяти атомов брома) в пробах кормов и пищевых продуктов, содержащих около 0.5 г животного жира или растительного масла, методами хромато-масс-спектрометрии высокого разрешения и тандемной масс-спектрометрии. Изучена возможность использования различных реактивов для очистки экстрактов путем химических реакций и фракционирования. Показано, что физико-химические свойства ПБДЭ и полихлорированных бифенилов (ПХБ) имеют существенные различия, и для определения полного спектра ПБДЭ необходимо использовать иные методы пробоподготовки, чем в случае ПХБ. Выбранные условия очистки экстрактов на колонке, содержащей силикат калия, флорисил и импрегнированный серной кислотой силикагель, и фракционирования на активированном нейтральном оксиде алюминия обеспечивают степень извлечения ПБДЭ не менее 75%. Очистка экстрактов может быть проведена без использования галогенорганических растворителей. Описаны также практические аспекты выполнения инструментального анализа и обеспечения качества измерений.	Нет	0

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7.	научная статья	A new species of <i>Moina</i> Baird, 1850 (Cladocera: Moinidae) from Thailand	<a href="https://doi.org/10.11646/zootaxa.4554.1.6">https://doi.org/10.11646/zootaxa.4554.1.6</a>	Alonso M., Neretina A.N., Sanoamuang L-O, Saengphan N., Kotov A.A.	Zootaxa, 4554, 2019	1175-5326	ВАК; Ринц; Web of Science; Scopus	A new species of <i>Moina</i> Baird, 1850 (Cladocera: Moinidae) is described based on material collected from Thailand (South-East Asia). In tropical Asia, <i>Moina siamensis</i> sp. nov. could be confused easily with <i>M. weismanni</i> Ishikawa, 1896, because of morphological similarities in parthenogenetic females and males of both species. The outstanding difference between these two taxa concerns the structure of the ephippium in gamogenetic females, which is highly visible under light and scanning electron microscopes. The mature ephippium of <i>M. weismanni</i> is strongly tuberos, with distinct borders between cells, whereas the ephippium of <i>M. siamensis</i> sp. nov. is significantly less tuberos, with prominent longitudinal lines in its central region. Since gamogenetic females only appear sporadically in moinid populations, distribution ranges of <i>M. siamensis</i> sp. nov., <i>M. weismanni</i> and sibling taxa must be clarified precisely using genetic markers in the future. Preliminary investigations of the ephippium structure may be useful for estimating the differences between populations, thus revealing much diversity within Moinidae.	Да (если в тексте публикации указано название ЦКП или УНУ)	216
8.	научная статья	Larval spirurids in a supralittoral amphipod in the north-east of Russia and the identification of the intermediate host of <i>Antechiniella septentrionalis</i> (Spirurida: Acuariidae), parasitic in a tundra vole	<a href="https://doi.org/10.1017/S0022149X19000750">https://doi.org/10.1017/S0022149X19000750</a>	Ivanova E.S. , Dokuchaev N.E., Spiridonov S.E.	Journal of Helminthology, 0, 2019	0022-149X	ВАК; Web of Science; Scopus	The supralittoral amphipod <i>Traskorchestia ditmari</i> (Derzhavin, 1923) was identified as the intermediate host for <i>Antechiniella septentrionalis</i> Ivanova, Dokuchaev & Spiridonov, 2019, a parasite of the tundra vole <i>Microtus oeconomus</i> and <i>Skrjabinocerca</i> sp. (both Spirurida: Acuariidae) in Magadan Oblast in north-eastern Russia. Joint infection by both larval spirurids was not observed. The infective stage of <i>A. septentrionalis</i> was the encysted larvae, while larvae of <i>Skrjabinocerca</i> sp. were free in the amphipod's coelom. The identity of <i>A. septentrionalis</i> was confirmed using <i>cox1</i> mtDNA gene analysis, performed on adult stages from a tundra vole and on larvae from amphipods. Possible transmission routes of <i>A. septentrionalis</i> are discussed.	Да (если в тексте публикации указано название ЦКП или УНУ)	8

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9.	научная статья	Two new species of <i>Phasmarhabditis</i> Andrassy, 1976 (Nematoda: Rhabditidae) associated with land snails in Northwest Caucasus, Russian Federation: description and molecular affiliation	10.1163/15685411-00003299	Ivanova E.S., Geraskina A.P., Spiridonov S.E.	Nematology, 0, 2019	1388-5545	ВАК; Ринц; Web of Science; Scopus	Two new nematode species of <i>Phasmarhabditis</i> were isolated from land snails in North and West Caucasus, Russian Federation. <i>Phasmarhabditis circassica</i> sp. n. originated from <i>Oxychilus</i> sp. collected by the Nickel settlement in the Adygea Republic while <i>P. clausiliiae</i> sp. n. came from <i>Clausiliidae</i> gen. sp. in the Stavropol district. <i>Phasmarhabditis circassica</i> sp. n. is characterised morphologically by male spicules with a hollow tip, a widely conoid, spicate female tail, ensheathed dauer juveniles 896 (813-982) µm long with a tiny but distinct cuticular apical cap and a long filamentous tail, and exsheathed dauers 773 (670-950) µm long with a tail half as long as in the ensheathed dauers and with a rounded tip. <i>Phasmarhabditis clausiliiae</i> sp. n. is very close to <i>P. circassica</i> sp. n. in having similar morphological traits and is differentiated mainly in having a longer female tail of 94 (79-111) vs 82 (54-125 µm) and the much smaller ratio c of 13.7 (10.3-18.4) vs 22.7 (16.8-27.5) and by its molecular characteristics. The molecular analysis based on partial sequences of LSU rDNA, and ITS rDNA regions has been performed and showed that the closest match for both new species was <i>P. bohémica</i> . Despite the morphological similarity between the species described, significant difference between these two new species was reported both for LSU rDNA and ITS rDNA.	Да (если в тексте публикации указано название ЦКП или УНУ)	17
10.	научная статья	Ephippia of the Daphniidae (Branchiopoda: Cladocera) in Late Caenozoic deposits: untapped source of information for palaeoenvironment reconstructions in the Northern Holarctic	10.15298/invertzool.16.2.06	Kotov A.A., Kuzmina S.A., Frolova L.A., Zharov A.A., et al.	Invertebrate Zoology, 16, 2019	1812-9250	ВАК; Ринц; Web of Science; Scopus	Cladoceran remains, mostly ephippia of the Daphniidae (Crustacea: Branchiopoda), are widespread in the permafrost deposits of Northern Eurasia. We may expect their presence in all types of Quaternary deposits from all regions of the permafrost zone. Cladoceran remains could be used for reconstruction of the past environment, climate and condition of the sediment accumulation, and cladoceran analysis could potentially be widely applied in Quaternary ecology. Moreover, resting eggs of <i>Daphnia</i> and other cladocerans could be good material for DNA studies and even hatching of specimens. Therefore, the ephippia could potentially be an important source of quantitative information for palaeoecological reconstructions. But for such efforts they need to be studied specially instead of as a byproduct of palaeontological or palaeobotanical studies. Moreover, special studies of recent taxa aiming to elucidate their identification based on ephippia are needed urgently. The impetus for this paper is to attract the attention of the Quaternary science community to ephippia as a new source of information about the past of inland waters.	Да (если в тексте публикации указано название ЦКП или УНУ)	195

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1	2	3	4	5	6	7	8	9	10	11
11.	научная статья	A record of <i>Disparalona hamata</i> (Birge, 1879) (Cladocera: Chydoridae) in phytotelmata of <i>Tillandsia aguascalentensis</i> Gardner, 1984 (Poales: Bromeliaceae)	<a href="https://doi.org/10.11646/zootaxa.4567.2.7">https://doi.org/10.11646/zootaxa.4567.2.7</a>	Neretina A.N., Garibian P.G., Romero M., Mondragon D.M., Silva-Briano M.	Zootaxa, 4567, 2019	1175-5334	ВАК; Ринц; Web of Science; Scopus	Bromeliads (Bromeliaceae) are an extremely diverse family of the angiosperms widely distributed in the tropical and subtropical regions of the Americas and West Africa. They often serve as phytotelmata, accumulating rainwater between leaves. Such water reservoirs can be inhabited by diverse organisms. But to date not much attention is paid to inventory of these organisms, with careful identification of each taxon. We found a microcrustacean <i>Disparalona hamata</i> (Birge, 1879) (Crustacea: Cladocera) in the bromeliad <i>Tillandsia aguascalentensis</i> Gardner, 1984 in Mexico. Investigated population included parthenogenetic females, gamogenetic females and males. Hereby the population apparently can pass the full life cycle under conditions of phytotelmata. Along with ecological observations, we provide additional taxonomic notes on the genus <i>Disparalona</i> Fryer, 1968 itself. Recently a series of morphological revisions was conducted for this genus. It was subdivided into two subgenera: <i>Disparalona</i> s.str. and <i>Mixopleuroxus</i> Hudec, 2010. But, in fact, the second taxon is a junior synonym of <i>Leptorhynchus</i> Daday, 1905. In this regard here we provide an updated list of taxonomic synonyms for the subgenus <i>Leptorhynchus</i> .	Нет	0

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12.	научная статья	A new case of false "wide" distribution for tropical cladocerans: the genus <i>Notoalona</i> Rajapaksa & Fernando, 1987 (Crustacea: Cladocera) in the Old World	<a href="https://doi.org/10.11646/zootaxa.4615.3.5">https://doi.org/10.11646/zootaxa.4615.3.5</a>	Neretina A.N., Kotov A.A. , Van Damme K.	Zootaxa, 4615, 2019	1175-5326	ВАК; Ринц; Web of Science; Scopus	Members of the genus <i>Notoalona</i> Rajapaksa & Fernando, 1987 (Cladocera: Chydoridae: Aloninae) are small-sized chydorids, inhabiting tropical water bodies around the World. Based on morphological features two species, <i>N. globulosa</i> (Daday, 1898) and <i>N. pseudomacronyx</i> Van Damme, Maiphae & Sa-Ardrit, 2013, were revealed in tropical Asia, but the status of African populations has remained unclear for a long time. Some authors identified African specimens as <i>N. globulosa</i> , others considered them as potentially new species awaiting description. Here we reexamined morphology of <i>Notoalona</i> populations from tropical Asia (Thailand, Laos) and Africa (Ethiopia, Kenya, Sudan and Madagascar). Although parthenogenetic females from Asia and Africa are basically similar, a single stable difference was found. In <i>N. globulosa</i> , the length of the basal spine and claw base are almost equal to each other, while in all investigated African specimens the basal spine is two times longer than base of postabdominal claw. This feature allows us to identify African populations as <i>N. pseudomacronyx</i> . Length of the setules in the basal group near the postabdominal basal spine, which was previously discussed in the literature as a specific feature for African populations, in fact, is overly variable and cannot be considered as diagnostic characteristic for the description of African populations as a separate taxon. Thus, the distribution range of <i>N. pseudomacronyx</i> is hereby expanded from South Africa to South East Asia, while <i>N. globulosa</i> s.l. occupies water bodies from tropical Asia to Australia. The same distribution patterns, when sibling species occur together in tropical Asia, have been shown for some other cladocerans as well. No doubt, the Asian tropics may be a particularly interesting area for future investigations on co-occurrence of sibling cladocerans, their ecology, behavior, genetics and potential hybridization.	Да (если в тексте публикации указано название ЦКП или УНУ)	507

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1	2	3	4	5	6	7	8	9	10	11
13.	научная статья	A redescription of <i>Moina australiensis</i> Sars, 1896 (Cladocera: Moinidae) with short notes on Australian moinids	<a href="https://doi.org/10.11646/zootaxa.4577.1.10">https://doi.org/10.11646/zootaxa.4577.1.10</a>	Neretina A.N., Kirdyasheva A.G.	Zootaxa, 4577, 2019	1175-5326	ВАК; Ринц; Web of Science; Scopus	Australia harbors numerous peculiar organisms, but microscopic aquatic invertebrates remain scarcely studied here. Cladocera (Crustacea: Branchiopoda) is considered as one of the most important models for freshwater biogeography, but the lack of adequate species identifications devalues large-scale biogeographical conclusions. In this paper we redescribe morphology of rare and poorly known <i>Moina australiensis</i> Sars, 1896 based on material from its terra typica. Among Australian moinids, <i>M. australiensis</i> is similar to <i>M. tenuicornis</i> Sars, 1896. These two taxa reliably differ from each other in (1) proportions of the antenna I and (2) armature of the inner margin of valve. <i>M. australiensis</i> has a relatively short antenna I and setulae near ventral setae on inner side of the valve grouped into bunches. <i>M. tenuicornis</i> has an elongated antenna I and setulae on described region forming a uniform, continuous row. Presumably, distribution ranges of both species are restricted to Australia. Also, according to literature data, <i>M. baylyi</i> Forró, 1985, <i>M. flexuosa</i> Sars, 1896 and <i>M. propinqua</i> Sars, 1885 may be considered as peculiar Australian taxa. At the same time, <i>M. micrura</i> Kurz, 1875, <i>M. aff. weismanni</i> Ishikawa, 1896 and <i>Moinodaphnia macleayi</i> (King, 1853) have significantly broader distribution ranges. In fact, distribution ranges of all these taxa should be re-evaluated in the future based on careful identification of species in the original samples. In this sense, newly conducted morphological redescrptions of some rare and poorly known taxa are only first steps to evaluation of moinid biodiversity in Australia and in the global scale.	Да (если в тексте публикации указано название ЦКП или УНУ)	176
14.	научная статья	The System of Diagnostic Signs of Body Feathers in Birds of the Order Charadriiformes	10.1134/S1062359019040125	Silaeva O.L.	BIOLOGY BULLETIN, Biology Bulletin, 2019	1062-3590	ВАК; Ринц; Web of Science; Scopus	This paper reveals the complexes of structural signs of body feathers in Charadriiformes bird species that have a taxonomical value. The complexes of structural signs are united in a system of diagnostic signs, which is used to identify bird taxa by one body feather, a part of a feather, and/or feather fragments. It is noted that the successful definition of a taxon requires the use of signs within the system.	Нет	0

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15.	научная статья	Redescription and molecular characterisation of <i>Comephoronema werestschagini</i> Layman, 1933 (Nematoda: Cystidicolidae) from the endemic Baikal fish <i>Cottocomephorus grewingkii</i> (Dybowski, 1874) (Scorpaeniformes: Cottocomephoridae) with some comments on cystidicolid phylogeny	10.24411/0869-6918-2019-10007	Sokolov S.G., Voropaeva E.L., Malysheva S.V.	Russian Journal of Nematology, 27, 2019	0869-6918	ВАК; Ринц; Web of Science; Scopus	The nematode <i>Comephoronema werestschagini</i> (Chromadorea: Cystidicolidae) is redescribed from the Baikal yellowfin <i>Cottocomephorus grewingkii</i> (Dybowski, 1874). Important morphological features, such as the presence of four submedian cephalic papillae, four well developed bilobed sublabia, two large lateral pseudolabia, pairs of rounded deirids, as well as the position of phasmids are reported for the first time in this species. The SSU rDNA-based phylogeny of the cystidicolids is defined according to the sequences obtained for <i>C. werestschagini</i> , <i>C. oshmarini</i> and <i>Capillospirura ovotrichuria</i> . The polyphyly of the Cystidicolidae is herein confirmed. All three studied species appear as members of Cystidicolidae s. str. clade; however, <i>C. werestschagini</i> and <i>C. oshmarini</i> are not phylogenetically related.	Да (если в тексте публикации указано название ЦКП или УНУ)	64

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16.	научная статья	First ultrastructural study of the formation of the hypodermic radula teeth of <i>Conus</i> (Neogastropoda: Conidae)	10.1093/mollus/eyz010	Vortsepneva E., Tzetlin A., Kantor Yu	Journal of Molluscan Studies, 0, 2019	0260-1230	ВАК; Ринц; Web of Science; Scopus	The morphology of the headfoot, foregut, radular sac, teeth and tooth formation of <i>Conus pulicarius</i> were studied using light and electron microscopy, as well as 3D-reconstruction techniques. The anterior digestive system of <i>C. pulicarius</i> is similar to that of other studied cone snails, consisting of a proboscis with numerous retractors, single salivary gland with paired ducts, accessory salivary gland, massive venom gland with very large elongate and fusiform muscular bulb and radular sac. The radular sac is divided by a narrow waist into long and short curving arms with a long duct leading to the oesophagus. The hypodermic teeth (marginal radular teeth) of <i>C. pulicarius</i> are similar to those of other vermivorous species. Neither a continuous subradular membrane nor the membranoblasts that secrete it in other Gastropoda were found. The teeth are formed by odontoblasts in the terminal part of the radular sac, appearing first as thin undifferentiated semi-enrolled plates, which only attain their final enrolled shape in the third or fourth row. The supradular epithelium contains numerous bundles of tonofilaments, which presumably play a part in the final shaping of the teeth and alteration of their chemical composition. Epithelial cells of the radular sac were absent inside newly formed teeth, but migrate into the lumen after the anterior shift of the tooth. A ligament connects the tooth bases in the sequential rows in the fully formed part of the radula and is formed by cells morphologically different from odontoblasts. This work on <i>C. pulicarius</i> is the first ultrastructural study of tooth formation in <i>Conus</i> , but largely agrees with an earlier histological description of <i>C. lividus</i> , a species belonging to another subgenus.	Да (если в тексте публикации указано название ЦКП или УНУ)	13
17.	научная статья	Dependence of epiphytic community on autochthonous and allochthonous sources of nitrogen in three forest habitats of southern Vietnam	<a href="https://doi.org/10.1007/s11104-019-04252-1">https://doi.org/10.1007/s11104-019-04252-1</a>	Eskov A.K., Onipchenko V.G., Prilepsky N.G., et al.	Plant and Soil, 0, 2019	0032-079X	ВАК; Ринц; Web of Science; Scopus	At the ecosystem level, the epiphytic community can have different degree of dependence on autochthonous and external nitrogen sources. Both, bulk $\delta^{15}N$ values and the correlation between $^{15}N$ content of epiphytes and phorophytes can indicate a relative contribution of autochthonous and allochthonous nitrogen in the nutrition of epiphytic plants.	Да (если в тексте публикации указано название ЦКП или УНУ)	5

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18.	научная статья	Anthropogenic carbon as a basal resource in the benthic food webs in the Neva Estuary (Baltic Sea)	<a href="https://doi.org/10.1016/j.marpolbul.2019.06.037">https://doi.org/10.1016/j.marpolbul.2019.06.037</a>	Golubkov S.M., Golubkov M.S., Tiunov A.V.	Marine Pollution Bulletin, 146, 2019	0025-326X	ВАК; Ринц; Web of Science; Scopus	Organic pollution is a serious environmental problem for the coastal zones of seas. The study tested the hypothesis that allochthonous organic carbon derived from St. Petersburg wastewaters is a significant basal resource of carbon for the benthic food webs. We analyzed stable isotope composition of carbon and nitrogen in suspended organic matter in the Neva Estuary and in the tissues of macroinvertebrates and fish. The Stable Isotope Bayesian mixing model showed that waste waters were an important source of carbon for the most of consumers in the Neva Estuary. The autochthonous carbon produced by phytoplankton was a significant source of carbon only for some macroinvertebrates. The main consumers of the carbon derived from waste waters were tubificid worms, chironomid larvae and alien polychaete, which currently dominate in the zoobenthos of the estuary. These species replaced the former dominants, native crustaceans, which to a lesser extent use anthropogenic carbon.	Да (если в тексте публикации указано название ЦКП или УНУ)	192

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19.	научная статья	Adaptive radiation of barbs of the genus <i>Labeobarbus</i> (Cyprinidae) in an East African river	10.1111/fw.b.13364	Levin B.A., Casal-López M., Simonov E., Dgebuadze Y.Y., et al.	Freshwater Biology, 00, 2019	0046-5070	ВАК; Ринц; Web of Science; Scopus	1. Large African barbs of the genus <i>Labeobarbus</i> constitute a hexaploid lineage ( $2n = 150$ ). This group is widely distributed in African freshwaters, and exhibits profound phenotypic variation that could be a prerequisite for adaptive radiation. 2. Using morphological, molecular, and stable isotope analyses, we investigated whether an adaptive radiation has occurred in a riverine assemblage of the <i>Labeobarbus gananensis</i> complex. This complex is composed of six phenotypically distinct sympatric forms inhabiting the Genale River (Ethiopian highlands, East Africa) in the Juba and Wabe-Shebelle drainages (Indian Ocean basin). 3. Of the six forms, five were divergent in their mouth morphology, corresponding to generalised, lipped, scraping (two forms), and large-mouthed phenotypes. One form had no mouth specialisation, but differed from the others in body shape (short and deep body; short form). Stable isotope analysis revealed differences in $^{15}N$ among these forms, representing different foraging strategies (omnivorous, scraping, and piscivorous). Phylogenetic analysis of two mitochondrial DNA markers confirmed the monophyly of <i>L. gananensis</i> , suggesting an intra-riverine radiation. 4. However, the Genale assemblage appears to have originated through a combination of allopatric and sympatric events. Some of the specialised forms within the Juba and Wabe-Shebelle drainage originated independently from the local generalised forms in three different river regions. Each of these cases could be considered as a small species flock composed of two or three sympatric forms. Our study shows that adaptive radiation in rivers can be enhanced by a combination of sympatric speciation and temporal geographic isolation, leading to local sympatric speciation followed by migration.	Нет	0

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20.	научная статья	Trophic consistency of supraspecific taxa in below-ground invertebrate communities: Comparison across lineages and taxonomic ranks	10.1111/1365-2435.13309	Potapov A.M., Scheu S., Tiunov A.V.	Functional Ecology., 33, 2019	0269-8463	ВАК; РИНЦ; Web of Science; Scopus	1. Animals that have similar morphological traits are expected to share similar ecological niches. This statement applies to individual animals within a species and thus species often serve as the functional units in ecological studies. Species are further grouped into higher-ranked taxonomic units based on their morphological similarity and thus are also expected to be ecologically similar. On the other hand, theory predicts that strong competition between closely related species may result in differentiation of ecological niches. Due to high diversity and limited taxonomic expertise, soil food webs are often resolved using supraspecific taxa such as families, orders or even classes as functional units. 2. Here, we tested the trophic differentiation and consistency of supraspecific taxa across major lineages of temperate forest soil invertebrates: Annelida, Chelicerata, Myriapoda, Crustacea and Hexapoda. Published data on stable isotope compositions of carbon and nitrogen were used to infer basal resources and trophic level, and explore the relationship between taxonomic and trophic dissimilarity of local populations. 3. Genera and families had normal and unimodal distributions of isotopic niches, suggesting that supraspecific taxa are trophically consistent. The isotopic niche of local populations varied considerably resulting in large overlap of niches among species. Within the same genus, the effect of species identity on stable isotope composition of populations was not significant in 92% of cases. More than 50% of the variability in $\Delta^{15}\text{N}$ values (trophic level) across lineages was explained by classes and orders, while the variability in $\Delta^{13}\text{C}$ values (basal resources) was explained mostly by families and genera. The variability in stable isotope composition in Chelicerata and Hexapoda was explained by lower taxonomic ranks than in Myriapoda. 4. We compiled a comprehensive list of mean $\Delta^{13}\text{C}$ and $\Delta^{15}\text{N}$ values of invertebrate taxa from temperate forest soils allowing to refine soil food web models when measurements of trophic niches of local populations are not feasible. Supraspecific taxa are meaningful as trophic nodes in food web studies, but the consistency varies among taxa and the choice of taxonomic resolution depends on the research question; generally, identification of taxa should be more detailed in more diverse taxonomic groups.	Нет	0

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21.	научная статья	Trophic position of consumers and size structure of food webs across aquatic and terrestrial ecosystems.	10.1086/705811	Potapov A., Brose U., Scheu S., Tiunov A.	American Naturalist, 0, 2019	0003-0147	ВАК; Ринц; Web of Science; Scopus	Do large organisms occupy higher trophic levels? Predators are often larger than their prey in food chains, but empirical evidence for positive body mass - trophic level scaling for entire food webs mostly comes from marine communities based on unicellular producers. Using published data on stable isotope compositions of 1093 consumer species, we explored how trophic level scales with body size, food-web type (green vs. brown) and phylogenetic group across biomes. In contrast to widespread assumptions, the relationship between body size and trophic level of consumers, from protists to large vertebrates, was not significant per se, but varied among ecosystem types and animal groups. The correlation between body size and trophic level was strong in marine, weak in freshwater and absent in terrestrial consumers, which was observed also at the scale of local food webs. Vertebrates occupied higher trophic positions than invertebrates and green trophic chains were longer than brown ones in aquatic (primarily marine) but not in terrestrial food webs. Variations in body size of top predators suggest that terrestrial and many freshwater food webs are size-compartmentalized, implying different trophic dynamics and responses to perturbations than in size-structured marine food webs.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
22.	научная статья	Combining bulk and amino acid stable isotope analyses to quantify trophic level and basal resources of detritivores: a case study on earthworms	<a href="https://doi.org/10.1007/s00442-018-04335-3">https://doi.org/10.1007/s00442-018-04335-3</a>	Potapov A.M., Tiunov A.V., Scheu S., Larsen T., Pollierer M.M.	Oecologia, 0, 2019	0029-8549	ВАК; Ринц; Web of Science; Scopus	Quantification of the bacterial, fungal, and plant energy channels to the nutrition of detritivores is methodologically challenging. This is especially true for earthworms that ingest large amounts of litter and soil mixed with microorganisms. Novel methods such as compound-specific stable isotope analysis (CSIA) of C and N of individual amino acids promise major progress in this field in comparison with bulk stable isotope analysis (bulk SIA). Here, we combine CSIA and bulk SIA of carbon and nitrogen to quantify the linkage of epigeic and endogeic earthworm species to different energy channels across boreal and temperate forest ecosystems. The results showed pronounced flux of energy directly from plants to earthworms (33-50% of essential amino acids, EAA) refining the position of earthworms in soil food webs as both competitors and consumers of microorganisms. Epigeic earthworm species primarily relied on plant litter and endogeic species primarily relied on bacteria and soil organic matter. The linkage of both groups to plant or microbial energy channel was likely driven by the quality of detritus. Both bulk <sup>15</sup> N and <sup>13</sup> C enrichments were related to the trophic level of earthworms. Furthermore, <sup>15</sup> N enrichment was related to the proportions of bacterial and plant EAA in the diet. Strong negative correlation between trophic level (CSIA of nitrogen) and the proportion of plant EAA (CSIA of carbon) suggests that both novel methods can indicate the degree of microbivory in detritivores. CSIA of amino acids provide detailed and baseline-independent information on basal resources and trophic levels of detritivores.	Да (если в тексте публикации указано название ЦКП или УНУ)	3

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23.	научная статья	Trophic structure of a tropical soil- and litter-dwelling oribatid mite community and consistency of trophic niches across biomes	<a href="https://doi.org/10.1007/s10493-019-00374-4">https://doi.org/10.1007/s10493-019-00374-4</a>	Tsurikov S.M., Ermilov S.G., Tiunov A.V.	Experimental and Applied Acarology, 78, 2019	0168-8162	ВАК; Ринц; Web of Science; Scopus	The trophic positions of the most abundant soil- and litter-dwelling oribatid mite species in a tropical monsoon forest in Dong Nai (Cat Tien) National Park, southern Vietnam, were estimated using stable isotope analysis. Previously published data and Layman's metrics were used to compare the structure of the 'isotopic trophic niches' and the range of resources used by Oribatida in the tropical forest to those observed in temperate forests. The range of trophic levels occupied by oribatid mites, as reflected in their nitrogen isotopic compositions, did not differ between tropical and temperate forests. In contrast, the range of $\delta^{13}C$ values of oribatid mites in the tropical community was smaller than that typically observed in temperate forests. This was due to the lack of $^{13}C$ -enriched species with strongly calcified integuments. The diversity of trophic niches and the range of resources consumed did not differ between temperate and tropical communities of Oribatida. Moreover, similar $\delta^{15}N$ values were observed for oribatid mite families across temperate and tropical ecosystems, suggesting that the taxonomic system of soil- and litter-dwelling Oribatida is ecologically consistent and supporting the 'taxonomic sufficiency' principle.	Да (если в тексте публикации указано название ЦКП или УНУ)	33
24.	научная статья	Stable Isotope Trophic Fractionation ( $^{13}C/^{12}C$ and $^{15}N/^{14}N$ ) in Mycophagous Diptera Larvae	10.1134/S1062359019050157	Zuev A.G., Rozanova O.L., Tsurikov S.M., Panchenko P.L., et al.	BIOLOGY BULLETIN, 5, 2019	1062-3590	ВАК; Ринц; Web of Science; Scopus	The use of isotopic analysis for reconstructing the structure of food webs requires determination of the trophic fractionation of carbon and nitrogen stable isotopes ( $\Delta^{13}C$ and $\Delta^{15}N$ ). Fungi and mycophagous animals play a key role in soil communities, but there are very limited field data on the degree of isotope fractionation in animals that feed on fungi. We studied the bulk isotopic composition of mycetophagous Diptera larvae inhabiting fruit bodies of saprotrophic and mycorrhizal macromycetes, as well as larva feeding on parasitic rust fungi. Trophic enrichment in $^{13}C$ and $^{15}N$ was at the minimum (0.0 and 0.9‰, respectively) in the larvae of gall midges <i>Mycodiplosis</i> sp. feeding on rust fungi (Pucciniales). In the larvae of dipterans inhabiting fruiting bodies of saprotrophic and mycorrhizal macromycetes, the $\Delta^{13}C$ and $\Delta^{15}N$ values averaged 0.9 and 3.4‰, respectively. This corresponds to the values usually observed in grazing food chains. The accumulation of $^{15}N$ was more pronounced in the larvae that fed on saprotrophic fungi, but no clear relationship was found between the degree of trophic fractionation and the taxonomic affiliation of animals or fungi. As suggested by our data and the analysis of published studies, the variations in the trophic fractionation in mycophages are strong, but they are not likely to impede the identification of the "mycorrhizal" and "saprotrophic" energy channels in the soil food webs.	Да (если в тексте публикации указано название ЦКП или УНУ)	458

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1	2	3	4	5	6	7	8	9	10	11
25.	научная статья	Collecting fungal mycelium using in-growth mesh bags: Effects of the sand particle size and seasonality	<a href="https://doi.org/10.1016/j.pedobi.2019.150591">https://doi.org/10.1016/j.pedobi.2019.150591</a>	Zuev A.G. , Khmeleva M.V., Tiunov A.V.	Pedobiologia, 77, 2019	0031-4056	ВАК; Ринц; Web of Science; Scopus	In-growth mesh bag technique is widely used for assessing production and turnover of the fungal mycelium in soil, but remains poorly standardized. This research aims at testing the use of quartz sand of different particle size, as a filling for in-growth mesh bags, in order to obtain a maximum amount of fungal mycelium. Mesh bags were incubated in a Norway spruce forest in Central Russia in June and September. Mycelial biomass was higher in sand of coarse (> 0.5 mm) particle size and reached maximum (up to 798 µg of mycelium dry weight g <sup>-1</sup> sand) in June. A relatively short incubation time (up to 30 days) was sufficient for estimating mycelium biomass and for collecting mycelium for isotopic analyses. The δ13C and δ15N values of fungal mycelium collected at the depths of 10 and 25 cm did not differ. Mycelium was depleted by 2.5‰ in δ15N compared to mycorrhizal and by 3.0‰ in δ13C compared to saprotrophic fruit bodies. This observation should be taken into account in the isotope based reconstructions of belowground food webs.	Да (если в тексте публикации указано название ЦКП или УНУ)	3
26.	тезисы	Использование перьевого коллекция Института проблем экологии и эволюции им. А.Н. Северцова РАН в прикладной и фундаментальной науке		Силаева О. Л., Варакин А. Н., Чубракова А. С., Богданова Ю. А.	Бутурлинский сборник: Материалы VI Международных Бутурлинских чтений, 2019, ООО «Принт» Ижевск, 2019	-	Ринц	Перьева коллекция Лаборатории экологии и управления поведением птиц Института проблем экологии и эволюции им. А. Н. Северцова Российской Академии наук (ЛЭУПП ИПЭЭ РАН) используется в основном для идентификационных исследований в авиационной орнитологии и для создания автоматического идентификатора таксономической принадлежности птицы по одиночному покровному перу или его останкам. Состав коллекции: перья 1 858 особей 304 видов птиц, крылья 102 видов птиц, 544 препарата для микроскопических исследований. Основу коллекции составляют покровные перья, все перья систематизированы по птерилиям. Приводятся результаты подготовки идентификатора.	Да (если в тексте публикации указано название ЦКП или УНУ)	225
27.	тезисы	ТАКСОНОМИЧЕСКАЯ ИДЕНТИФИКАЦИЯ ПТИЦЫ ПО ОДИНОЧНОМУ ПЕРУ		Силаева О.Л., Богданова Ю.А., Чубракова А.С.	Сборник по зоокультурам, 2019, 2019	0	Ринц	Разработан комплекс качественных и количественных характеристик, пригодных для определения вида или систематической группы. Кроме анализа перьевого материала изучаются данные по обстоятельству столкновения из отчетов пилотов и авиационных инженеров (предполагаемое место события, время года и суток), эколого-биологические сведения по предполагаемому виду-виновнику столкновения (в частности, встречаемость и ареал распространения вида).	Да (если в тексте публикации указано название ЦКП или УНУ)	206

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1	2	3	4	5	6	7	8	9	10	11
28.	научная статья	СИСТЕМАТИКА И РАСПРОСТРАНЕНИЕ ВО ВЬЕТНАМЕ ХОРЬКОВЫХ БАРСУКОВ РОДА <i>Melogale</i> (Mammalia, Mustelidae): ПЕРВЫЕ ГЕНЕТИЧЕСКИЕ ДАННЫЕ	10.31857/S0869-56524854523-528	Рожнов В.В., Кораблев М.П., Абрамов А.В.	ДОКЛАДЫ АКАДЕМИИ НАУК, 485, 2019	0012-4966	ВАК; Ринц; Web of Science; Scopus	Впервые проведённые генетические исследования хорьковых барсуков <i>Melogale</i> Вьетнама показали, что на его территории обитают три вида — <i>M. moschata</i> , <i>M. personata</i> и <i>M. cucphuongensis</i> , которые могут быть отнесены к категории видов-двойников (криптовидов). Установлено, что <i>M. personata</i> широко распространён не только в южном и центральном Вьетнаме, но и в северных провинциях (Лангшон, Хазянг, Ниньбинь), а <i>M. cucphuongensis</i> , кроме провинции Ниньбинь, откуда был описан, отмечен в провинциях Лангшон, Хазянг, Каобанг и Даклак. Полученные данные свидетельствуют о симпатричном распространении всех трёх видов на территории Вьетнама, а для <i>M. personata</i> и <i>M. moschata</i> подтверждают ранее установленную по морфологическим данным симпатрию в южном Вьетнаме.	Нет	0
29.	научная статья	CO <sub>2</sub> Fluxes at the Clear-Cut in the Southern Taiga of European Russia	10.1134/S1995425519050081	Mamkin V.V., Avilov V.K., Ivanov D.G., et al.	Contemporary Problems of Ecology, V.12 №5, 2019	1995-4255	ВАК; Ринц; Web of Science; Scopus	Forest disturbances induced by clear-cutting (CC) lead to the transformation of the natural biogeochemical processes determining the main greenhouse gas fluxes (primarily CO <sub>2</sub> ) between forest ecosystems and the atmosphere. Effects of CC on CO <sub>2</sub> exchange substantially vary depending on local environmental and climate conditions. This study focuses on an estimation of the net ecosystem exchange of CO <sub>2</sub> (NEE), gross primary production (GPP), and total ecosystem respiration (TER) and soil respiration in the southern taiga in European Russia. The results are based on continuous eddy covariance measurements during two growing seasons (2016 and 2017). The research has shown that CC was a consistent source of CO <sub>2</sub> for the atmosphere during the first years following harvest (NEE from May to October is 553.3 gC m <sup>-2</sup> in 2016 and 193.3 in 2017). Interannual variability of the cumulative NEE showed increase of GPP (777.5 gC m <sup>-2</sup> in 2016 and 1020.5 gC m <sup>-2</sup> ) and decrease of TER (1330.9 gC m <sup>-2</sup> in 2016 and 1213.7 gC m <sup>-2</sup> in 2017). The results of chamber measurements have shown that soil respiration in the midday hours in summer varied between 3.6 ± 0.7 and 11.8 ± 3.0 μmol m <sup>-2</sup> s <sup>-1</sup> in 2016 and between 6.0 ± 1.3 and 14.8 ± 3.5 μmol m <sup>-2</sup> s <sup>-1</sup> in 2017 at the different plots within the clear-cut site. The estimates of the cumulative GPP at the clear-cut in the southern taiga of European Russia exceed the GPP rates obtained previously in the other clear-cut forest ecosystems in boreal and subboreal ecozones.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
30.	научная статья	Energy and co2 exchange in an undisturbed spruce forest and clear-cut in the southern taiga	10.1016/j.agrformet.2018.11.018	Mamkin V., Kurbatova J., Avilov V., Ivanov D., et al.	Agricultural and Forest Meteorology, 265, 2019	0168-1923	ВАК; РИНЦ; Web of Science; Scopus	Effects of clear cutting and other forest disturbances on surface radiative properties and the energy and CO <sub>2</sub> fluxes between land surface and the atmosphere can vary significantly depending on local climatic and moisture conditions, forest structure and species composition, soil properties and many other factors. In this study we analyzed the influence of clear-cutting on the energy, water vapor and CO <sub>2</sub> fluxes in the still very poorly investigated part of the boreal forest community in the European part of Russia. This issue has become particularly relevant due to intensified logging in the region during recent decades. The sensible (H) and latent (LE) heat, as well as CO <sub>2</sub> fluxes were continuously measured at recently clear-cut and undisturbed mature spruce forest sites using eddy covariance technique during the first growing season following harvest. Because of their close location they are characterized by similar meteorological conditions. The results of our field measurements showed that the clear-cut strongly influenced the energy balance and CO <sub>2</sub> fluxes between the land surface and atmosphere. Energy fluxes (LE and H) at the undisturbed forest site were consistently larger than at the clear-cut throughout the period of measurements. The Bowen ratio ( $\beta=H/LE$ ) varied significantly over time, though was similar at both sites. Whereas H was almost equal to LE at both sites in spring, the LE significantly exceeded H over the summer ( $\beta=0.2$ -for mature spruce forest and $\beta = 0.4$ -for clear-cut). The mean $\beta$ for the entire period was similar ( $\beta\approx 0.5$ ) at both sites. Analysis of CO <sub>2</sub> fluxes showed that the clear-cut was a consistent source of CO <sub>2</sub> to the atmosphere. Net ecosystem exchange (NEE) at the clear-cut averaged $3.3 \pm 1.3 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ ( $\pm 1 \text{ SD}$ ), while average NEE at the undisturbed mature forest was close to zero ( $0.1 \pm 1.9 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ ). Differences in NEE were mainly governed by differences in gross primary productivity (GPP) between sites ( $7.0 \pm 4.1 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ and $4.1 \pm 3.0 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ , for the undisturbed forest and clear-cut, respectively). Total ecosystem respiration (TER) did not significantly ( $p < 0.05$ ) differ between sites ( $7.1 \pm 3.6 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ at the undisturbed mature forest and $7.4 \pm 3.4 \text{ gC}\cdot\text{m}^{-2}\cdot\text{d}^{-1}$ at clear-cut). TER at the undisturbed forest showed higher sensitivity to changes in soil temperature, whereas GPP at the clear-cut was characterized by higher light-use efficiency. Our measurements showed that TER rates were relatively high in the southern taiga in comparison with other boreal sites where CO <sub>2</sub> fluxes were previously investigated.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
31.	научная статья	Covariations between plant functional traits emerge from constraining parameterization of a terrestrial biosphere model	10.1111/geb.12937	Peaucelle M., Bacour C., Ciais P., Vuichard N., et al.	Global Ecology and Biogeography, 28 (9), 2019	1466-822X	ВАК; Ринц; Web of Science; Scopus	Our approach validates some biological processes implemented in the model and enables us to study ecological properties of vegetation at the canopy level, in addition to some traits that are difficult to observe experimentally. This study stresses the need for: (a) implementing explicit trade-offs and acclimation processes in TBMs; (b) improving the representation of processes to avoid model-specific parameterization; and (c) performing systematic measurements of traits at FLUXNET sites in order to gather information on plant ecophysiology and plant diversity, together with micro-meteorological conditions	Нет	0
32.	научная статья	Solar-induced chlorophyll fluorescence exhibits a universal relationship with gross primary productivity across a wide variety of biomes.	10.1111/gcb.14565	Xiao J., Li X., He B., et al.	Global Change Biology, 25 (4), 2019	1354-1013	ВАК; Ринц; Web of Science; Scopus	It is important to recognize that the SIF-GPP relationship at the biome level could be different from that at the site level, particularly given the representativeness of an individual site and a very limited number of observations available at each site. Viewing geometries of the OCO-2 instrument could influence the SIF-GPP relationship at individual sites but do not alter the near universality of the relationship between SIF and GPP across a wide variety of biomes found in our study.	Нет	0
33.	научная статья	Оценка термодинамических параметров ландшафтного покрова по мультиспектральным измерениям отражённой солнечной радиации (Landsat) на основе неэкстенсивной статистической механики	<a href="https://doi.org/10.31857/S0869-56524873310-316">https://doi.org/10.31857/S0869-56524873310-316</a>	Пузаченко Ю.Г., Кренке А.Н., Пузаченко М.Ю., Сандлерский Р.Б., Широия И.И.	ДОКЛАДЫ АКАДЕМИИ НАУК, Том 487, № 3, 2019	0012-4966	ВАК; Ринц; Web of Science; Scopus	Обосновывается использование аппарата неаддитивной статистической механики для оценки термодинамических переменных экосистем на основе мультиспектральных измерений отражённой солнечной радиации. Параметр $q$ принимается соответствующим условиям максимальной организации Фёрстера. На основе дистанционной информации (Landsat) рассчитываются энтропия, информация Кульбака, мера организации Фёрстера, свободная энергия, эксергия, связанная и внутренняя энергии, затраты энергии на эвапотранспирацию и фотосинтез для значений $q$ -индекса, измеренного для каждого пикселя сцен спутника. Показано, что сезонная динамика $q$ -индекса и меры организации полностью соответствуют следствиям, вытекающим из теории открытых неравновесных систем, и термодинамические переменные хорошо отражают текущее состояние экосистем.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
34.	научная статья	Soil respiration in paludified forests of European Russia	10.1007/s11676-019-00963-4	Ivanov D., Tatarinov F., Kurbatova J.	Journal of Forestry Research, 0, 2019	1007-662X	ВАК; Ринц; Web of Science; Scopus	Soil respiration studies in paludified forests of the European part of Russia are quite rare in comparison with those of open peat bogs, which make long-term observations in this region highly relevant. In this study, soil CO2 emissions were measured by the close chamber method in different microlandscapes of paludified forests. For four summer seasons with different environments, soil respiration ranged from 1078 to 248 mg CO2 m-2 h-1 in a paludified spruce forest site with coarse woody debris to 659-820 mg CO2 m-2 h-1 in a paludified boggy pine forest. The most intensive soil respiration was observed during the hot summer of 2013 and the lowest in the hot and humid summer of 2016. Annual total soil CO2 emissions in paludified forests in 2015-2016 were approximately 2000-3000 g CO2 m-2. During the year, the lowest CO2 emission values were observed from November to April (14-84 mg CO2 m-2 h-1) and the maximum were in July and August (522-1205 mg CO2 m-2 h-1). The contributions of CO2 emissions in the cold November-April period were 6-8.5%. The impacts of temperature on soil respiration were higher ( $r^2 = 0.45-0.57$ ) than those of groundwater levels ( $r^2 = 0.17-0.49$ ). Soil respiration in the paludified spruce forest and in the pine bog generally were higher than emissions from ecosystems with similar hydrothermal conditions in the boreal zone.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
35.	научная статья	PEAT-CLSM: A Specific Treatment of Peatland Hydrology in the NASA Catchment Land Surface Model	10.1029/2018MS001574	Bechtold M., De Lannoy G.J.M., Koster R.D., Reichle R.H., et al.	Journal of Advances in Modeling Earth Systems, 11 (7), 2019	1942-2466	ВАК; Ринц; Web of Science; Scopus	Peatlands are poorly represented in global Earth system modeling frameworks. Here we add a peatland-specific land surface hydrology module (PEAT-CLSM) to the Catchment Land Surface Model (CLSM) of the NASA Goddard Earth Observing System (GEOS) framework. The amended TOPMODEL approach of the original CLSM that uses topography characteristics to model catchment processes is discarded, and a peatland-specific model concept is realized in its place. To facilitate its utilization in operational GEOS efforts, PEAT-CLSM uses the basic structure of CLSM and the same global input data. Parameters used in PEAT-CLSM are based on literature data. A suite of CLSM and PEAT-CLSM simulations for peatland areas between 40°N and 75°N is presented and evaluated against a newly compiled data set of groundwater table depth and eddy covariance observations of latent and sensible heat fluxes in natural and seminatural peatlands. CLSM's simulated groundwater tables are too deep and variable, whereas PEAT-CLSM simulates a mean groundwater table depth of -0.20 m (snow-free unfrozen period) with moderate temporal fluctuations (standard deviation of 0.10 m), in significantly better agreement with in situ observations. Relative to an operational CLSM version that simply includes peat as a soil class, the temporal correlation coefficient is increased on average by 0.16 and reaches 0.64 for bogs and 0.66 for fens when driven with global atmospheric forcing data. In PEAT-CLSM, runoff is increased on average by 38% and evapotranspiration is reduced by 19%. The evapotranspiration reduction constitutes a significant improvement relative to eddy covariance measurements.	Нет	0
36.	научная статья	Short Note First Encounter of the North Pacific Right Whale ( <i>Eubalaena japonica</i> ) in the Waters of Chukotka	10.1578/A.M.45.4.2019.425	Filatova O.A., Fedutin I.D., Titova O.V., Meschersky I.G., et al.	Aquatic Mammals, 45, 2019	0167-5427	ВАК; Ринц; Web of Science; Scopus	Первая встреча кита <i>Eubalaena japonica</i> в водах Чукотки	Да (если в тексте публикации указано название ЦКП или УНУ)	426

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1	2	3	4	5	6	7	8	9	10	11
37.	научная статья	ВЫСОКОЕ АЛЛЕЛЬНОЕ РАЗНООБРАЗИЕ ГЕНА DRB3 (КЛАСС II ГКГ) У САЙГАКА ( <i>saiga tatarica</i> L., 1766), ПОЛУЧЕННОЕ С ПОМОЩЬЮ СЕКВЕНИРОВАНИЯ НОВОГО ПОКОЛЕНИЯ	10.1134/S016675819020140	Тарасян К.К., Сорокин П.А., Кашина Н.В., Холодова М.В.	Генетика, 55, 2019	0016-6758	не индексируется	Впервые описаны нуклеотидные последовательности аллелей гена DRB3 Главного комплекса гистосовместимости (класс II) сайгака. Для исследованной выборки получена высокая степень гетерозиготности. Результаты анализа согласуются с гипотезой сверхдоминирования гетерозигот. Филогенетические связи аллелей гена DRB3 сайгака и других полорогих не соответствуют систематическому положению сайгака в сем. Bovidae. Предполагается, что полиморфизм аллелей гена DRB3 ГКГ сайгака в первую очередь обусловлен разнообразием возбудителей заболеваний (бактерий, простейших, гельминтов и др.), воздействующих на популяцию сайгаков в ходе эволюционной истории.	Нет	0
38.	научная статья	ВНУТРИАСОВОЕ РАЗНООБРАЗИЕ КАРПАТСКОЙ РАСЫ МЕДОНОСНОЙ ПЧЕЛЫ <i>Apis mellifera carpatica</i>	10.1134/S002332919050096	Сафонкин А.Ф., Триселева Т.А., Быкова Т.О.	ИЗВЕСТИЯ РАН. СЕРИЯ БИОЛОГИЧЕСКАЯ,, 5, 2019	1026-3470	ВАК; Ринц; Web of Science; Scopus	Проведено морфометрическое и молекулярно-генетическое исследование внутривидовых различий карпатской расы медоносной пчелы из России и Таджикистана по сравнению со стандартом расы (Вучковская линия из Закарпатской обл. Украины). Отмечено, что наиболее информативные признаки "кубитальный индекс" и "дискоидальное смещение" значительно отклоняются от стандарта, хотя расчет генетической дистанции между выборками из разных регионов свидетельствует о единстве карпатской расы пчелы по ареалу. По нуклеотидному составу в гене COI мтДНК длиной 1535 п.н. выделено две группы гаплотипов, связанных со временем формирования пасеки и различающихся по аминокислотному составу белка COI (группа I - аспарагин, группа II - серин). Обнаружено, что группа I помимо образцов пчел из разных регионов включает в себя пчел изолированной пасеки из горно-лесной зоны Крыма, сформированной на основе пчел линии 77 из Закарпатья, а группа II - образцы пчел современной линии стандарта "Вучковский".	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
39.	научная статья	ГЕНЕТИЧЕСКАЯ ПРЕДРАСПОЛОЖЕННОСТЬ К БОЛЕЗНИ ХРОНИЧЕСКОГО ИЗНУРЕНИЯ (CHRONIC WASTING DISEASE) СЕВЕРНЫХ ОЛЕНЕЙ Rangifer tarandus ЕВРОПЕЙСКОГО СЕВЕРА РОССИИ	10.1134/S002332919060079	Холодова М.В., Баранова А.И., Мизин И.А., Панченко Д.В., и др.	Известия РАН. Серия биологическая, 6, 2019	1026-3470	ВАК; Ринц; Web of Science; Scopus	Для оценки потенциальной генетической предрасположенности к заражению смертельно опасным прионным заболеванием хронического изнурения (CWD) для трех региональных группировок дикого и двух домашнего северного оленя Rangifer tarandus европейского Севера России получены нуклеотидные последовательности гена прионного белка PRNP. Обнаружено семь однонуклеотидных полиморфизмов, соответствующих заменам в шести кодонах прионного белка PrP - 2(V/M), 129(G/S), 138(S/N), 169(V/M), 176(N/D) и 225(S/Y), описано шесть аллелей белка PrP. Генотипы с аспарагином (N) в кодоне 138 (138NN и 138SN), ассоциированные с повышенной устойчивостью к заражению CWD, в группировках диких северных оленей Новой Земли, Кольского п-ова и лесных районов Архангельской обл. и Республики Коми обнаружены у 8.7, 14.3 и 18.2% особей. Установлено, что частота встречаемости этих генотипов у домашних оленей Республики Коми и о. Колгуев была выше - 37.5 и 42.1% соответственно. Отмечено, что в связи с преобладанием генотипов PrP с серином в кодоне 138 (138SS), ассоциированных с повышенной восприимчивостью к заражению CWD, а также с появлением этого заболевания среди северных оленей, лосей и благородных оленей в Скандинавии существует реальная угроза распространения CWD среди северных оленей европейской части России.	Нет	0

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1	2	3	4	5	6	7	8	9	10	11
40.	научная статья	Появление летяги <i>Pteromys volans</i> L., 1785 (Sciuridae, Mammalia) в заказнике «Озеро Глубокое» (Московская область)	10.35885/1684-7318-2019-1-114-122	Решетников А.Н., Мещерский И.Г.	ПОВОЛЖСКИЙ ЭКОЛОГИЧЕСКИЙ ЖУРНАЛ, 1, 2019	1684-7318	ВАК; Ринц	Список млекопитающих природного заказника «Озеро Глубокое», расположенного в Рузском районе на западе Московской области, пополнился обыкновенной летягой ( <i>Pteromys volans</i> ). Современная граница естественного ареала летяги проходит по северо-востоку Московской области, в то время как в западных районах области вплоть до конца XX в. представителей этого вида не встречали. Однако в последнее время в окрестностях Звенигородской биостанции МГУ сформировалась популяция летяги, произошедшая от зверьков, завезенных на биостанцию с научными целями. Как показали генетические исследования, особи этой популяции принадлежат к филогенетической линии, эндемичной для Дальнего Востока. К этой же линии относятся зверьки, встречаемые в последнее время в других местах в западной части Московской области. Нуклеотидная последовательность гена цитохрома b митохондриальной ДНК, определенная в образце ткани особи, найденной в июле 2013 г. на территории заказника «Озеро Глубокое», идентична последовательности, известной для зверьков из района Звенигородской биостанции МГУ и других мест находок летяги на западе Московской области. Новая находка является самой западной из всех известных ранее, что подтверждает продолжающееся расширение звенигородского субареала вида. Несмотря на то, что популяция летяги в окрестностях оз. Глубокое возникла вследствие интродукции, она находится под защитой Красной книги Московской области.	Нет	0
41.	монография	STUDY AND MONITORING OF BIG CATS IN RUSSIA		Rozhnov V.V., Yachmennikova A.A., Hernandez-Blanco J.A., Naidenko S.V., et al.	KMK Scientific Press, 0, 2019	978-5-907213-12-8	не индексируется	This monograph provides a comprehensive review and analysis of the available literature on the monitoring of big cats. Special attention is paid to the most up-to-date methods based on recent advances in technology, resulting in useful tools to remotely and noninvasively study animals in natural habitats, essential when working with rare species. Existing large- and small-scale approaches to monitoring big cats are described. Methods of monitoring the habitat conditions of the species and their dynamics, as well as the basics of modeling territories with suitable conditions for leopards, are suggested. The whole range of field sampling methods that enable data to be processed using contemporary techniques is described. Moreover, methods of processing collected data (obtained via GPS collars, photo and video recorders, and hormonal and molecular genetic analysis) as well as examples of results are considered.	Да (если в тексте публикации указано название ЦКП или УНУ)	105

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1	2	3	4	5	6	7	8	9	10	11
42.	научная статья	High Allelic Diversity of the DRB3 Gene (MHC Class II) in Saiga ( <i>Saiga tatarica</i> ) L., 1766), Obtained by Next Generation Sequencing Method	10.1134/S1022795419020133	Tarasyan K.K., Sorokin P.A., Kashinina N.V., Kholodova M.V.	Russian Journal of Genetics, 55 №2, 2019	1022-7954	ВАК; Ринц; Web of Science; Scopus	The nucleotide sequences of the alleles of the DRB3 gene of the major histocompatibility complex (class II) of saiga antelope are described. A high degree of heterozygosity is found. The results of the analysis are consistent with the hypothesis of overdominance of heterozygotes. Phylogenetic relations of the DRB3 gene alleles of the saiga antelope and other Bovidae species do not correspond to the systematic position of <i>Saiga tatarica</i> . It is assumed that the polymorphism of the DRB3 gene alleles of saiga is primarily due to the variety of extracellular pathogens (bacteria, protozoa, helminths, and others) affecting its population during the evolutionary history of the species.	Да (если в тексте публикации указано название ЦКП или УНУ)	213

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43.	научная статья	Three-year variability of energy and carbon dioxide fluxes at clear-cut forest site in the european southern taiga	10.24057/2071-9388-2019-13	Mamkin V.V., Mukhartova Y.V., Diachenko M.S., Kurbatova J.A.	Geography, environment, sustainability, 12 (2), 2019	2071-9388	ВАК; Ринц; Scopus	Forest clearing strongly influences the energy, water and greenhouse gas exchange at the land surface - atmosphere interface. To estimate effects of clear cutting on sensible (H), latent heat (LE) and CO2 fluxes the continuous eddy covariance measurements were provided at the recently clear-cut area situated in the western part of Russia from spring 2016 to the end of 2018. The possible effects of surrounding forest on the air flow disturbances and on the spatial pattern of horizontal advection terms within the selected clear-cut area were investigated using a process-based 3D momentum, energy and CO2 exchange model. The modeling results showed a very low contribution of horizontal advection term into total turbulent momentum fluxes at flux tower location in case of the southern wind direction. The results of field flux measurements indicated a strong inter- and intra-annual variability of energy and CO2 fluxes. The energy budget is characterized by higher daily and monthly LE fluxes throughout the entire period of measurements excepting the first two months after timber harvest. The mean Bowen ratio ( $\beta=H/LE$ ) was 0.52 in 2016, 0.30 - in 2017 and 0.35 - in 2018. Analysis of CO2 fluxes during the first year following harvest showed that the monthly CO2 release at the clear-cut area consistently exceeded the CO2 uptake rates. The mean net ecosystem exchange (NEE) in the period was $3.3 \pm 1.3 \text{ gC} \cdot \text{m}^{-2} \cdot \text{d}^{-1}$ . During the second and the third years of the flux measurements the clear-cut was also a prevailed sink of CO2 for the atmosphere excepting short periods in June and in the first part of July when daily CO2 uptake was higher than CO2 release rates. The mean NEE rates averaged for the entire warm period of corresponding years were $1.2 \pm 2.3 \text{ gC} \cdot \text{m}^{-2} \cdot \text{d}^{-1}$ in 2017 and $2.8 \pm 2.5 \text{ gC} \cdot \text{m}^{-2} \cdot \text{d}^{-1}$ in 2018, respectively. The mean ratio between gross primary production (GPP) and ecosystem respiration (TER) was 0.58 in 2016, 0.84 - in 2017 and 0.74 - in 2018.	Нет	0

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44.	научная статья	Hot spots of soil respiration in a seasonally dry tropical forest in southern vietnam: a brief study of spatial distribution	10.24057/2071-9388-2018-87	Avilov V.K, Ivanov D.G., Avilov K.K., Kotlov I.P., et al.	Geography, environment, sustainability, 12(2), 2019	2071-9388	ВАК; Ринц; Scopus	Many studies report asymmetrical spatial distribution of soil respiration caused by presence of areas with significantly higher emission rates (so-called hot spots). For seasonally dry tropical forest soil respiration was measured on 1 ha plot with 20m, 5m and 1 m scale in the first half of dry season. 457 measurements made in 9 series at 54 sampling points. The results suggest that lognormal spatial distribution model appears to be much more supported rather than the normal one. A statistical method proposed for estimation the mean value and its confidence interval of lognormally distributed data. The mean emission rate E(RS) for the lognormal distribution amounted to 4.28 $\mu\text{mol m}^{-2} \text{s}^{-1}$ , the 95% confidence interval is 3.93 to 4.76 $\mu\text{mol m}^{-2} \text{s}^{-1}$ . However, the standard sample mean can be used as an estimator of the mean of lognormally distributed values of soil respiration if their coefficient of variance remains approximately the same as in our study (CV=0.35). Based on the data obtained and literature sources, recommendations are given on the number of sampling points for estimating the spatial average value with a given accuracy.	Нет	0
45.	научная статья	Тепловое поле южно-таежного ландшафта Русской равнины	10.31857/S2587-55662019251-68	Пузаченко Ю.Г., Байбар А.С., Варлагин А.В., Кренке А.Н., Сандлерский Р.Б.	Известия Российской академии наук. Серия географическая., 2, 2019	2587-5566	ВАК; Ринц; Scopus	Рассмотрена технология выделения параметров порядка (инварианты) пространственной структуры теплового поля южно-таежного ландшафта (Центрально-Лесной заповедник), полученных на основе анализа временной серии измерений в длинноволновом канале спутников серии Landsat с 1986 по 2017 гг. и отражающих его стационарное состояние. Показано, что со спутника измеряется тепловой поток не непосредственно от кроны леса, а от приземного слоя атмосферы, состояние которого определяется параметрами ландшафта. Установлено, что инвариантная составляющая пространственно-временного варьирования теплового поля отображается двумя параметрами порядка: первый преимущественно отражает температуру зимних месяцев, второй - летних. Выявлен вклад рельефа и растительности в определении инварианта и автохтонные составляющие теплового поля, определяемые переходными зонами между контрастными по тепловому излучению элементами ландшафта. Показано, что тепловое поле, измеряемое со спутника, отражает тепловой поток от приземного слоя атмосферы, находящийся в прямом взаимодействии с ландшафтным покровом.	Нет	0

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46.	научная статья	Application of a three-dimensional model to assess the effect of clear-cutting on carbon dioxide exchange at the soil - vegetation - atmosphere interface	10.1088/1755-1315/368/1/012036	Mukhartova Y. V., Dyachenko M. S., Mangura P. A., Mamkin V. V., Kurbatova J. A., Olchev A. V.	IOP Conference Series: Earth and Environmental Science, 368, 2019	1755-1307	ВАК; Ринц; Scopus	A three-dimensional hydrodynamic model was applied to derive the spatial patterns of the air flows and CO2 fluxes within and around a recently clear-cut area. Results of modeling experiments show a strong influence of the clear-cut on the spatial air flow and vertical and horizontal CO2 flux patterns. The CO2 fluxes at the soil surface, within and above a forest canopy varied significantly depending on weather conditions, prevailed wind direction and influenced by the geometry and size of the forest clearing, tree density and the distance from the forest edges. The rates of horizontal CO2 exchange near the ground surface especially within the downwind forest area and at the leeward forest edge were relatively large and comparable with vertical CO2 fluxes.	Нет	0

№ п/п	Вид публикации	Наименование публикации	DOI публикации	Автор(ы)	Издание, номер, год	ISSN / ISBN издания	Индексация издания	Краткое описание научных результатов, полученных на оборудовании ЦКП	Наличие в публикации ссылки на ЦКП	Страница, содержащая ссылку на ЦКП
1	2	3	4	5	6	7	8	9	10	11
47.	научная статья	Применение метода сбалансированной идентификации для заполнения пропусков в рядах наблюдений за потоками CO <sub>2</sub> на сфагновом верховом болоте	10.20537/2076-7633-2019-11-1-153-171	Соколов А.В., Мамкин В.В., Авилов В.К., Тарасов Д.Л., Курбатова Ю.А., Ольчев А.В.	Компьютерные исследования и моделирование, V.11(1), 2019	1684-7318	ВАК; Ринц	В работе рассматривается применение метода сбалансированной идентификации для построения многофакторной функциональной зависимости нетто CO <sub>2</sub> -обмена ( NEE ) от факторов внешней среды и ее дальнейшего использования для заполнения пропусков в рядах наблюдений за потоками CO <sub>2</sub> на верховом сфагновом болоте в Тверской области. Измерения потоков на болоте проводились с помощью метода турбулентных пульсаций в период с августа по ноябрь 2017 года. Из-за дождливых погодных условий и высокой повторяемости периодов с низкой турбулентностью на протяжении всего периода наблюдений доля пропусков в измерениях NEE на исследуемом болоте превысила 40 %. Разработанная для заполнения пропусков модель описывает NEE верхового болота как разность экосистемного дыхания ( RE ) и валовой первичной продукции ( GPP ) и учитывает зависимость этих параметров от приходящей суммарной солнечной радиации ( Q ), температуры почвы ( T ), дефицита упругости водяного пара ( VPD ) и уровня болотных вод ( WL ). Используемый для этой цели метод сбалансированной идентификации основан на поиске оптимального соотношения между простотой модели и точностью повторения измерений - соотношения, доставляющего минимум оценке погрешности моделирования, полученной методом перекрестного оценивания. Полученные численные решения обладают минимально необходимой нелинейностью (кривизной), что обеспечивает хорошие интерполяционные и экстраполяционные свойства построенных моделей, необходимые для восполнения недостающих данных по потокам. На основе проведенного анализа временной изменчивости NEE и факторов внешней среды была выявлена статистически значимая зависимость GPP болота от Q, T и VPD, а RE - от T и WL. При этом погрешность применения предложенного метода для моделирования среднесуточных данных NEE составила менее 10 %, а точность выполненных оценок NEE была выше, чем у модели REddyProc, учитывающей влияние на NEE меньшего числа внешних факторов. На основе восстановленных непрерывных рядов данных по NEE была проведена оценка масштабов внутрисуточной и межсуточной изменчивости NEE и получены интегральные оценки потоков CO <sub>2</sub> исследуемого верхового болота для выбранного летне-осеннего периода. Было показано, что если в августе 2017 года на исследуемом болоте скорость фиксации CO <sub>2</sub> растительным покровом существенно превышала величину экосистемного дыхания, то, начиная с сентября, на фоне снижения GPP и исследуемое болото превратилось в устойчивый источник CO <sub>2</sub> для атмосферы.	Нет	0
19.03.2020				Центр коллективного пользования	Инструментальные методы в экосистемной физиологии					32 из 33

