

# КРИТИКА І БІБЛІОГРАФІЯ

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## IMPACT OF HEAVY METALS ON FRESHWATER ECOSYSTEMS. THEMATIC ENGLISH LANGUAGE BIBLIOGRAPHY

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**Purpose.** *Creation of a reference bibliographic list of English-language open access publications from the Internet on the issues of the specific effects of heavy metals on freshwater ecosystems, their bioaccumulation and bioindication, as well as the functions of microelements in the hydrobionts organisms.*

**Methodology.** *In the process of preparing the thematic list, in the course of systemic search, holistic and selective methods were applied. The bibliographic core consists of literature sources from archives of scientific publications, in particular, such world-famous journals as Environmental Contamination Toxicology, Ecotoxicology, Aquatic Science, Aquatic Toxicology, Environmental Bioindicators, Canadian Journal of Fisheries and Aquatic Sciences and many others.*

**Results.** *A thematic bibliographic list of major works has been formed: specialized scientific collections, materials of international scientific conferences, scientific papers, articles and extended dissertation abstracts. It includes 227 sources, all of them are in English and are publicly available on the Internet. The presented publications cover a time interval from 1953 to 2018. However, most of them were published after 2000. In selected works, studies on the bioaccumulation and bioindication of heavy metals in freshwater ecosystems are highlighted, and data on the effect of trace elements on the organism of hydrobionts are given. Literature sources are arranged in alphabetical order according to the author or title, which corresponds to GOST 8302: 2015 "Information and documentation. Bibliography link. General provisions and rules for drafting, as amended (OCD code 01.140.40), as well as in accordance with the requirements for the design of the list of references according to the international standard APA style.*

**Practical value.** *The presented list will be useful for scientists, practitioners, students whose research concerns the analysis of the effects of heavy metals on freshwater ecosystems and patterns of bioindication and bioaccumulation of toxicants in hydrobionts, as well as the role of trace elements in their body.*

**Key words:** *heavy metals, bioaccumulation, bioindication, sedimentation, freshwater ecosystems, hydrobionts, fish, microelements, metalthioneins, Cd, Cr, Cu, Hg, Pb, Zn.*

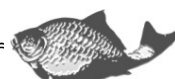
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## ВПЛИВ ВАЖКИХ МЕТАЛІВ НА ПРІСНОВОДНІ ЕКОСИСТЕМИ. ТЕМАТИЧНА АНГЛОМОВНА БІБЛІОГРАФІЯ

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**Мета.** Формування довідкового бібліографічного переліку англомовних публікацій. Розміщених у відкритому доступі в мережі Інтернет, присвячених питанням специфіки впливу важких металів на прісноводні екосистеми, їх біоаккумуляції та біоіндикації, а також функціям мікроелементів в організмі гідробіонтів.

**Методика.** У процесі підготовки тематичного списку, в ході системного пошуку було застосовано цілісний та вибірковий методи. Бібліографічне ядро склали літературні джерела з архівів наукових видань, зокрема таких всесвітньоозначаних журналів як «Environmental Contamination Toxicology», «Ecotoxicology», «Aquatic Science», «Aquatic Toxicology», «Environmental Bioindicators», «Canadian Journal of Fisheries and Aquatic Sciences» та багатьох інших.

**Результати.** Сформовано тематичний бібліографічний перелік основних робіт: спеціалізованих наукових збірників, матеріалів міжнародних науково-практичних конференцій, наукових праць, статей і авторефератів дисертацій. Він налічує 227 джерел, всі вони є англомовними та розміщеними у відкритому доступі в мережі Інтернет. Представлені публікації охоплюють часовий інтервал з 1953 по 2018 рр., але більшість з них видана після 2000 р. В обраних працях висвітлено дослідження стосовно біоаккумуляції та біоіндикації важких металів у прісноводних екосистемах, наведені дані стосовно впливу мікроелементів на організм гідробіонтів. Літературні джерела розміщені в алфавітному порядку за автором чи назвою, описані згідно з ДСТУ 8302:2015 «Інформація та документація. Бібліографічне посилання. Загальні положення та правила складання», із урахуванням поправок (код УКНД 01.140.40), а також відповідно до вимог оформлення списку літератури за міжнародним стандартом APA style.

**Практична значимість.** Представлений перелік буде корисним для науковців, практиків, студентів, сфера досліджень яких стосується аналізу впливу важких металів на прісноводні екосистеми та закономірностей біоіндикації й біоаккумуляції токсикантів у гідробіонтах, а також ролі мікроелементів у організмі останніх.

**Ключові слова:** важкі метали, екосистема, біоаккумуляція, біоіндикація, седиментація, прісні водойми, гідробіонти, риба, мікроелементи, металотіонеїни, Cd, Cr, Cu, Hg, Pb, Zn.

## ВЛИЯНИЕ ТЯЖЕЛЫХ МЕТАЛЛОВ НА ПРЭСНОВОДНЫЕ ЭКОСИСТЕМЫ. ТЕМАТИЧЕСКАЯ АНГЛОЯЗЫЧНАЯ БИБЛИОГРАФИЯ

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**Цель.** Формирование справочного библиографического перечня англоязычных публикаций из открытого доступа в сети Интернет, посвященных вопросам специфики влияния тяжелых металлов на пресноводные экосистемы, их биоаккумуляции и биоиндикации, а также функциям микроэлементов в организме гидробионтов.

**Методика.** В процессе подготовки тематического списка, в ходе системного поиска были применены целостный и выборочный методы. Библиографическое ядро составляли литературные источники из архивов научных изданий, в частности таких всемирноизвестных журналов как «Environmental Contamination Toxicology», «Ecotoxicology», «Aquatic Science», «Aquatic Toxicology», «Environmental Bioindicators», «Canadian Journal of Fisheries and Aquatic Sciences» и многих других.

**Результаты.** Сформирован тематический библиографический перечень основных работ: специализированных научных сборников, материалов международных научно-практических конференций, научных трудов, статей и авторефератов диссертаций. Он насчитывает 227 источников, все они англоязычные и находятся в открытом доступе в сети Интернет. Представленные публикации охватывают временной интервал с 1953 по 2018 гг., но большинство из них изданы после 2000 г. В избранных трудах освещены исследования по биоаккумуляции и биоиндикации тяжелых металлов в пресноводных экосистемах, приведены данные о влиянии микроэлементов на организм гидробионтов.

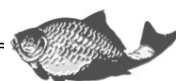


Литературные источники размещены в алфавитном порядке согласно автору или названию, что соответствует ДСТУ 8302:2015 «Информация и документация. Библиографическая ссылка. Общие положения и правила составления», с учетом поправок (код УКНД 01.140.40), а также в соответствии с требованиями оформления списка литературы по международному стандарту APA style.

**Практическая значимость.** Представленный перечень будет полезным для ученых, практиков, студентов, сфера исследований которых касается анализа влияния тяжелых металлов на пресноводные экосистемы и закономерностей биоиндикации и биоаккумуляции токсикантов в гидробионтах, а также роли микроэлементов в организме последних.

**Ключевые слова:** тяжелые металлы, экосистема, биоаккумуляция, биоиндикация, седиментация, пресные водоемы, гидробионты, рыба, микроэлементы, металлотioneины, Cd, Cr, Cu, Hg, Pb, Zn.

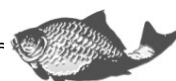
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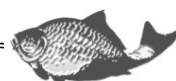
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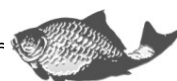


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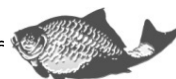
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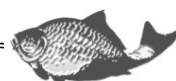
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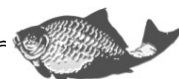
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