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Romuald CZERPAK

The effect of CCC and diethylamine hydrochloride on certain species of algae belonging to Cyanophyceae, Chlorophyceae, and Diatomeae.

Acta Hydrobiol., 12, 143-151.

Abstract - The effect of chlorocholine chloride (CCC) and diethylamine hydrochloride on the concentration of cells, their size, total chlorophyll content and the dynamics of the growth of nine species of algae belonging to Cyanophyceae, *Merismopedia glauca* and *Anabaena cylindrica*, Chlorophyceae, *Chlamydomonas nivalis*, *Scenedesmus quadricauda*, *S. acuminatus*, *S. basiliensis* and *S. bijugatus*, and Diatomeae, *Gomphonema parvulum* and *Nitzschia palea* were investigated. Diethylamine (the chemical analogue of CCC) had similar effect (even a somewhat stronger one) to that of CCC as a typical growth retardant in more or less the same concentrations. Both growth regulators had an inhibitory effect on the cell concentration, their growth dynamics, and the total chlorophyll content of Chlorophyceae from a concentration of 10^{-2} - 10^{-4} or 10^{-5} M, of Diatomeae in concentrations of 10^{-2} - 10^{-7} or 10^{-8} M and of Cyanophyceae 10^{-3} - 10^{-6} or 10^{-7} M. The Diatomeae and filamentous Cyanophyceae were found to be the most sensitive to the regulators investigated. On the other hand, a slight stimulatory effect was observed with Chlorophyceae when the chemicals were applied in concentrations of 10^{-5} - 10^{-7} M. The effect of CCC and diethylamine hydrochloride chiefly depended on the size of the dose and the species of algae investigated.

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Varkey JOHN and K.M. ALEXANDER

A preliminary report on the pollution of Beypore river with effluents from Mavur rayon pulp factory during 1964.

Acta Hydrobiol., 12, 153-159.

Abstract - The wastes from the factory (located ca 30 km above the mouth of the river to the Arabian Sea) reduce the dissolved O₂ content in the water from 6.0 mL L⁻¹ in the unpolluted region to 0-1.7 mL L⁻¹ at the surface throughout the year, and to 0-1.9 mL L⁻¹ at the bottom during summer and 2.5-3.9 mL L⁻¹ during monsoons. The influence of tides and of monsoon rains was also observed.

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Barbara KAWECKA

Algae on the artificial substratum in the Wielki Staw in the Valley of the Five Polish Lakes (High Tatra Mountains).

Acta Hydrobiol., 12, 423-430.

Abstract - The algae species which during two seasons settled on artificial substratum suspended at the various depths in the lake are assembled.

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Maria KLIMCZYK-JANIKOWSKA

Die Elritze (*Phoxinus phoxinus* L.) aus der finnischen Bucht.

Acta Hydrobiol., 12, 285-294.

Abstract - An investigation was carried out on the rate of growth and the biometrics of 103 specimens of minnow (*Phoxinus phoxinus* L.) from the Gulf of Finland. A comparison was drawn between the minnow population from the Gulf of Finland and that from the Carpathian stream Mszanka. The minnow from the Gulf of Finland were smaller in size than those from the Mszanka and their colour was lighter. The females from the Gulf had more curved backs and spawned roe smaller in diameter and also in smaller quantities than those from the Mszanka. The differences between the two populations were probably due to the different living conditions in their respective environments.

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Maria KLIMCZYK-JANIKOWSKA

Die Rotfeder (*Scardinius erythrophthalmus* L.) aus den Staubecken Przeczyce und Chechło.

Acta Hydrobiol., 12, 263-284.

Abstract - The rate of growth, biometrics, and food of the rudd were worked out. The rudd from the reservoir at Przeczyce had a higher annual rate of growth, a higher condition coefficient, and a higher coefficient of filling of the alimentary canal. The rudd from Chechło had rather flatter backs and longer fins. It is probable that these differences are due to the different living conditions of the fish.

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Henryk KLIMOWICZ

Microfauna of activated sludge. 1. Assemblage of microfauna in laboratory models of activated sludge.

Acta Hydrobiol., 12, 357-376.

Abstract - Five separate experiments were carried out, differing mainly in the various loading of impurities contained in the sewage, influent to the activated sludge. A markedly greater difference in the number of individuals of particular species than in the species assemblage could be observed. At high loadings the most numerous were: *Paramecium caudatum*, *Vorticella putrina*, *V. microstoma*, *V. extensa*, *Opercularia microdiscum* and *O. coarctata*. At medium loadings: *Trachelophyllum pusillum*, *Cephalodella picta*, *Amphileptus claparedei* and *Litonotus fasciola*. At low loadings: *Vorticella picta*, *Zoothamnium arbuscula*, *Z. simplex*, *Coleps hirtus*, *Peranema trichophorum*, *Monostyla bulla* and *Actinosphaerium eichhorni*. At varying loadings, a similar number of individuals was presented by the species: *Vorticella convallaria*, *Aspidisca costata*, *Habrotrocha bidens*, *Nematodes* sp., *Litonotus crinitus* and *Urostyla weissei*.

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Władysław KOLDER

Die Fischfauna des Piburger Sees.

Acta Hydrobiol., 12, 329-355.

Abstract - In 1966, limnological and ichthyobiological research was carried out on Lake Piburg (915 m above sea level), Austria, within the framework of ecological investigations by the Obergurgl Alpine Research Station of Innsbruck University. By means of fishing with net and rod the presence of 7 species of fish was established in the lake: the roach (*Rutilus rutilus* L.), the chub (*Leuciscus cephalus* L.), and the rudd (*Scardinius erythrophthalmus* L.) of the carp family; the rainbow trout (*Salmo irideus* Gibb.) and brown trout (*Salmo trutta* m. *fario* L.) and *Salmo trutta* m. *lacustris* L. of the Salmonidae family; and finally, the perch (*Perca fluviatilis* L.). The age of the fish, their growth, weight variability, and coefficient of condition were studied. On the basis of the results obtained, the future of the fishery economy of the lake and its exploitation were defined.

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Łucja KRZECZKOWSKA-WOŁOSZYN and Halina BUCKA

The species *Dinobryon suecicum* Lemm., new for Poland.

Acta Hydrobiol., 12, 457-460.

Abstract - The first locality in Poland for the species *Dinobryon suecicum* Lemm., found in 1967 in the dam reservoir of Porąbka and in the River Soła beneath the reservoir, is discussed.

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Edward KRZYŻANEK

Dr Anna Rumek (1909-1969).

Acta Hydrobiol., 12, 325-327.

Abstract - [Biography; in Polish].

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Edward KRZYŻANEK

Formation of bottom fauna in the Goczałkowice dam reservoir.

Acta Hydrobiol., 12, 399-421.

Abstract - The formation of bottom fauna in the Goczałkowice reservoir has been observed since 1955. According to published works and to the author's own investigation, there were three stages in the formation of bottom fauna. The first stage (1955-1957) was characterized by the escape and death of land forms and the appearance of new ones; the second (1958-1961) was characterized by a mass development of Chironomidae; and the third (1962-1964) and last period, showed a general decrease in the number of bottom fauna and an increase in the number of pelophilous forms. In the Chironomidae group some forms disappeared while new ones appeared. There was also an increased development of such forms as *Procladius*, *Chironomus plumosus*, and various species of the genus *Cryptochironomus*.

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Tadeusz KUFLIKOWSKI

Fauna in vegetation in carp ponds at Goczałkowice.

Acta Hydrobiol., 12, 439-456.

Abstract - Investigation on the fauna living in the vegetation of carp ponds at Goczałkowice were carried out in 1966. The aim of the work was to study qualitatively, and to some extent quantitatively, the fauna living in the vegetation and to show the similarities and dissimilarities between the pond fauna and that of the Goczałkowice dam reservoir. In the investigation the following plant species were taken into consideration: *Elodea canadensis*, *Polygonum amphibium*, *Glyceria aquatica*, *Phragmites communis*, and communities of heterogenous land and aquatic plants, especially the grasses forming submerged meadows.

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Antoni KULAMOWICZ¹ and Krzysztof JAŹDŹEWSKI²

Morphology of *Phoxinus phoxinus* (L., 1758) - Osteichthyes, Cyprinidae - from the Sowlinka stream of the basin of the upper Vistula.

Acta Hydrobiol., 12, 251-262.

[in Polish with English summary]

Abstract - A morphological and taxonomical analysis was carried out, the main proportions of the body and meristic characters being considered. The description of plastic characters was based on 24 measurements. Among meristic characters, the number of scales on the lateral line, the number of fin-rays, the number of vertebrae, the number of gill-rakers, and the number of pharyngeal teeth were studied. Sexual dimorphism was observed in some plastic characters and in the proportions of the pectoral girdle. The sample examined differed from all hitherto investigated samples in the smaller number of non-branched rays in the ventral fins.

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Olga MATLAK

Vorläufiger Bericht über Missbildungen des Kopfes beim Karpfenstrich.

Acta Hydrobiol., 12, 391-398.

Abstract - The paper deals with deformations of the head - pug-like head and round head - in 27 days old carp fry caught in "nursery ponds I". A comparison with normally developed fry showed a number of essential morphological differences. The author puts forward hypothesis that these deformations might be the effect of some disturbance caused by mechanical action on the spawn in the period of its greatest vulnerability. The spawn was obtained by artificial spawning and hatched in Weiss apparatuses.

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Krystyna OLEKSYNOWA

Geochemical characterization of the waters in the Tatra Mountains.

Acta Hydrobiol., 12, 1-110.

[in Polish with English summary]

Abstract - The Author, on the basis of the most recent world literature, discusses the structure of water, its physico-chemical properties, and the resulting geochemical processes. She then describes the chemical composition of waters in 17 basins of the Tatra Mts. In the water composition three types of basins are reflected, i.e., those built of crystalline and sedimentary rocks, and mixed ones. Computations are made on the system $\text{CO}_2\text{-H}_2\text{O-CaCO}_3$ and disturbances in its equilibrium are ascertained; there is more CaCO_3 in water than would result from the partial pressure of CO_2 in the air. Also, an attempt to calculate the chemical erosion of the Tatra Mts is made, based on empirical data. Finally, the analytical materials (about 900 analyses with six features) were worked out by four statistical methods applied by geochemists to rocks and waters, and interpreted on the background of the literature.

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Kazimierz PASTERNAK

Bottom sediments of the polluted dam reservoir at Otmuchów.

Acta Hydrobiol., 12, 377-390.

Abstract - Investigations were carried out on the physico-chemical properties of sediments of the sub-Sudetic dam reservoir, from the point of view of their relation to the kind and actual degree of pollution of the river water (wastes of the cellulose paper and sugar industries), on the background of some earlier data. It was found that the material accumulating in the reservoir consists almost exclusively of suspended matter. As a result of the inflow of polluted water for many years, the sediments of the Otmuchów reservoir contain several times more organic matter and mineral phosphorus than those of the other Polish dam reservoirs with pure water. The organic matter of the investigated sediments is characterized by a certain specific composition. Apart from a considerable mass of cellulose fibres resistant to decomposition, it contains an unusually high percentage of free fulvic and humic acids, undergoing relatively easy dissolution in water and mineralization. The less complex fulvic compounds prevail. In some zones of the reservoir hydrogen sulphide and phenols were detected in the sediments. Moreover, the sediments are characterized by a very high content of bitumens, a relatively low content of calcium and sulphates, an acid reaction, and an increased iron content. The paper concludes with consideration on the detrimental effect of this kind of sediment and of the water of the river on the environment and biocenosis of the reservoir.

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Kazimierz PASTERNAK¹ and Anna ANTONIEWICZ²

Preliminary investigations on the content of some trace components in surface waters of Southern Poland.

Acta Hydrobiol., 12, 111-124.

Abstract - The paper presents the results of investigations on the occurrence of copper, zinc, and manganese in pure and polluted waters of some rivers, streams, drainage ditches, and ponds on the territory of southern Poland. The trace components were determined with the method of atomic absorption spectroscopy. Their content in flowing waters is fairly differentiated and in spite of the considerable influence of the biological factor it shows a dependence on the physico-chemical properties of the substratum of the catchment basin and on the water of the given stream, or on the kind and degree of its pollution. In pond waters the amount of the investigated trace elements usually varies less, presumably being related in a greater measure to the biological production of the pond and the quality of its bottom than to the character of the substratum of the catchment basin of the supply and its pollution.

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Andrzej W. SKALSKI

The hypogeous gammarids in Poland (Crustacea, Amphipoda, Gammaridae).

Acta Hydrobiol., 12, 431-437.

Abstract - The following troglobiontic gammarids have been recorded and found in Poland: *Synurella ambulans* f. *tenebrarum* Wrześn. - as yet known from Zakopane only; *Crangonyx paxi* Schell. - known as endemic from the region of Śnieżnik Kłodzki; *Niphargellus arndti* (Schell.) - distributed in the Sudety Mts; ? *Niphargus equilex* Schiödte - recorded only from Krosno on the Oder; ? *N. inopinatus* Schell. - found in Jaszczurówka near Zakopane (new species of Polish fauna); *N. leopoliensis* Jaw. - found recently in the Bieszczady Mts (new species of Polish fauna); *N. tatrensis* Wrześn. - widely distributed in the Tatra Mts, Beskid Mts, and Sudeten Mts. Kazimierz Dolny on the Vistula is the locality of *Niphargus* sp. *N. kochianus polonicus* Schell. was formerly believed to be from Stanisławów near Warszawa, but it has now been found that this species comes from a locality near Stanisławów (now Ivano-Frankovsk, USSR).

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Krystyna STANGENBERG-OPOROWSKA

Forms of phosphorus in the bottom of carp ponds.

Acta Hydrobiol., 12, 125-142.

Abstract - Using chemical and partly chromatographic methods, the fractions and forms of phosphorus occurring on the background of the total phosphorus in the surface (0-5 cm) bottom deposits were identified. In the acid-soluble phosphorus fraction the presence of orthophosphates was established and the participation of readily hydrolysing esters of phosphates was excluded. The presence was observed of compounds of phosphorus with aluminium, calcium, and iron with their maximum share 33%, 65% and 90% of the amount of mineral phosphorus. The role of the compounds of phosphorus with aluminium and the positive correlation with pond productivity is stressed. The phospholipid fraction was a negligible percentage of the total phosphorus. The phospho-protein fraction amounted to 22-80% of the total phosphorus content. The chromatogram indicated a wide variety of amino acids, among others serine and arginine. The chemical balance performed on the chemically determined fractions gave very consistent results within the total phosphorus content. This gives the possibility of rapid determination of the amount of the two basic fractions for purposes of orientation in pond practice.

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Karol STARMACH

***Chrysodesmis gloeophila*, a new genus and a new species of Chrysophyceae.**

Acta Hydrobiol., 12, 191-196.

Abstract - A new genus, *Chrysodesmis*, with a new species, *Ch. gloeophila*, belonging to the family Stichogloeaceae (Stichogloeales order) is described. It was found growing epiphytically on the thalli of *Batrachospermum Boryanum* in the Mszanka, a small Carpathian stream.

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Roman SYCH

Some comparisons on the background of an eleven-year study on the growth of sea-trout (*Salmo*

trutta L.)

Acta Hydrobiol., 12, 225-249.

Abstract - Growth studies on sea-trout from the River Vistula river made by various authors in different years were compiled and discussed. Variations of mean sizes in the Baltic salmon as compared with that of sea-trout were analysed and the impact of the variations on catches was shown. Finally, the author discusses the correlation between successive annual length increments and actual sizes of fish and relates his findings to the problems of rearing fish.

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Gábor UHERKOVICH

Über das Wisła-Phytoseston zwischen Kraków und Tczew.

Acta Hydrobiol., 12, 161-190.

Abstract - The samples were collected on 16-28 August 1968. Qualitative and quantitative data are given. Most numerous were diatoms and green algae. In the investigated distance three zones were distinguished: an upper zone (from Cracow to Zawichost) relatively deficient in algae; a middle zone (from Zawichost to Toruń) with a large number of specimens; and a lower zone (from Toruń to Tczew) with a reduced number of phyto-seston.

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Stanisław WÓJCIK

An attempt at a quantitative evaluation of Chironomidae larvae in Lake Warniak.

Acta Hydrobiol., 12, 309-323.

[in Polish with English summary]

Abstract - Studies were carried out on the quantitative and qualitative distribution and seasonal variations of the Chironomidae larvae as compared with other groups of bottom fauna in Lake Warniak (area 39.52 ha., max. depth 3.7 m, Mazury Lakeland). In the macrobenthos the Chironomidae larvae are the most numerous, amounting to 50% of the entire bottom fauna. Prevalent among them are larvae from the group *Tanytarsus* ex. gr. *gregarius* (14.2%) and *Microtendipes* ex. gr. *chloris* (13.1%).

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Urszula WÓJCIK

Distribution of crustacean plankton in Lake Dgał Mały.

Acta Hydrobiol., 12, 295-307.

[in Polish with English summary]

Abstract - Studies were carried out on the distribution, number, and biomass of plankton crustaceans in a small eutrophic water body (14.4 ha, Mazury Lakeland) with a thick layer of hydrogen sulphide. A direct correlation was found between the vertical distribution and the thermal and oxygen stratification, and an inverse correlation between the number of Crustacea and quantitative hydrogen sulphide. Two growth peaks of the crustaceans were observed during the year.

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Krystyna ZAĆWILICHOWSKA

Diptera larvae in the River San and in some of its tributaries.

Acta Hydrobiol., 12, 197-208.

Abstract - Species dominating in the whole San basin were distinguished as well as individual groups of Diptera: 1) in the mountain part of the San basin (rheophilous and ubiquitous species), 2) in the submontane reaches of the San and in the lower sectors of its tributaries (species with various ecologic demands), 3) in the lower course of the San and in the lower Tanew (mostly ubiquitous, psammophilous, and pelophilous species), and 4) in the upper Tanew (a preponderance of rheophilous species).

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Krystyna ZAĆWILICHOWSKA

Larvae of Trichoptera in the River San and in some of its tributaries.

Acta Hydrobiol., 12, 209-224.

Abstract - In small and medium-sized streams of the Bieszczady Range in the Carpathian Mts rheophilous, krenophilous, and ubiquitous species prevailed; in the upper San and the lower course of the Solinka stream rheophilous and ubiquitous species were mainly found; the submontane reaches of the San had a poor fauna (ubiquitous, rheophilous, and a few limnophilous larvae); in the lower course of the San only a few ubiquitous and limnophilous species were noted.

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