

Devedeset godina znanstvenog časopisa *Acta Adriatica* (1932. – 2022.)*

Ninety years of the scientific journal *Acta Adriatica* (1932–2022)*

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SAŽETAK

Acta Adriatica je primarna znanstvena publikacija s međunarodnom recenzijom, duge tradicije, koju Institut za oceanografiju i ribarstvo u Splitu neprekidno izdaje od 1932. U početku je časopis bio interno glasilo institucije, a danas je to ugledni znanstveni časopis u kojem svoje radove objavljuju znanstvenici i stručnjaci iz gotovo cijelog svijeta. Do kraja 2022. objavljena su ukupno 62 sveska s ukupno 1 048 znanstvena rada u čijem je pisanju sudjelovalo oko tisuću autora. Uključivanje časopisa u svjetske znanstvene tijekove zahtijevalo je i međunarodnu vidljivost i prepoznatljivost, stoga je uredništvo ulagalo i dalje ulaže velike napore da se časopis uključi u gotovo sve svjetske baze podataka, kako bi objavljeni radovi postali što dostupniji širokoj znanstvenoj zajednici. Unatoč svim pro-

SUMMARY

Acta Adriatica is the primary scientific publication with an international review, a long tradition, which the Institute of Oceanography and Fisheries in Split has been publishing continuously since 1932. In the very beginning, the journal was an internal journal of the institution, and today it is a reputable scientific journal in which scientists and experts from almost all over the world publish their works. By the end of 2021, a total of 62 volumes with a total of 1,048 scientific papers were published, in the writing of which about 1,000 authors participated. The inclusion of the journal in the world scientific trends required both international visibility and recognition, so the Editorial Board has made and continues to make great efforts to include the journal in almost all global databases, as published papers become more accessible to the general scientific community. Despite all the changes and future

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mjenama i budućim težnjama, glavni je cilj izdavanja časopisa *Acta Adriatica* ostaje nepromijenjen: objavljivati kvalitetne izvorne znanstvene i pregledne radove na multidisciplinarnoj razini koji će pomoći još boljem razumijevanju Jadranskoga i Sredozemnog mora i tako postati još bogatija riznica znanja o njima. *Acta Adriatica* je časopis u otvorenom pristupu, što znači da je sadržaj časopisa u cijelosti besplatno dostupan.

KLJUČNE RIJEČI

Acta Adriatica

– Institut za oceanografiju i ribarstvo Split
– 90 godina izlaza (1932. – 2022.)

Sadržaj znanstvenih članaka

Od ukupno dosad objavljenih radova oko 70 % ih je iz područja biologije (**biologija mora**, i to uglavnom biologija i ekologija riba u Jadranskom i Sredozemnom moru). Od toga se 11 % članaka bavi temama važnim za gospodarski ribolov, procjena biomase riba izravnim i neizravnim metodama, marikultura, lagunarno ribarstvo i uzgoj školjkaša), 10 % su teme iz **fizike mora** (fizička oceanografija, optika mora, geostrofička strujanja, „jadranske ingresije“ i ostalo), a 10 % je iz **kemije mora** i zagađenja mora (količina i raspodjela hranjivih tvari, eutrofikacija, teški metali u morskoj vodi i sedimentima, utjecaj čovjeka i njegovih aktivnosti na morski ekosustav, sadržaj polutanata: ulja, deterdženta i pesticida). Preostalih oko 10 % članaka su prilozi iz raznih područja – geologija mora, alati i tehnike ribolova, povijest istraživanja mora, interdisciplinarnosti i drugo.

aspirations, the main goal of *Acta Adriatica* remains unchanged: to publish quality scientific original and review papers at a multidisciplinary level that will help to better understand the Adriatic and Mediterranean Seas and thus become an even richer treasure trove of knowledge about them. *Acta Adriatica* is an open access journal, the content of the journal is available free of charge.

KEYWORDS

Acta Adriatica, journal

– Institute of Oceanography and Fisheries Split
– 90 years of publication (1932–2022)

Content of scientific papers

Of the total papers published so far, about 70% are from the field of **biology** (marine biology, mainly the biology and ecology of fish in the Adriatic and Mediterranean Seas). Of these, 11% of articles deal with topics important for commercial fishing, estimation of fish biomass by direct and indirect methods, mariculture, lagoon fisheries and shellfish farming), and 10% are topics from **marine physics** (physical oceanography, marine optics, geostrophic currents, „Adriatic ingressions“ and others), and 10% is from **marine chemistry** and marine pollution (amount and distribution of nutrients, eutrophication, heavy metals in seawater and sediments, the impact of man and the impact of man and his activities on the marine ecosystem, the content of pollutants: oil, detergents and pesticides). The remaining 10% of the articles are contributions from various fields – marine geology, fish-

Bilo bi vrlo zahtjevno i preopširno predstaviti sadržaj svih objavljenih članaka pojedinačno pa je stoga prikazan pregled najvažnijih tema s naznakom nekih važnih rezultata. Članci iz znanstvenog polja biologija (područje prirodnih znanosti) (poglavito iz sistematike i ekologije) od samog početka imali moderan i multidisciplinarn pristup,

U seriji *Monografija* do sada je objavljeno pet priloga: *Ecology of plankton stages of the anchovy in the central Adriatic; Ecological study of Prosobranchiata in the eastern part of the Adriatic sea; The taxonomy, distribution, and ecology of Adriatic Foraminifera; Biology, population dynamics and fisheries case study of anchovy; Tintinnids (Tintinnida, Choerotruchia, Ciliata) in the Adriatic Sea, Mediterranean, Part I Taxonomy and Part II Ecology.*

Istraživanja flore i faune Jadranskoga i Sredozemnog mora bila su predmet brojnih radova, uključivala su inventarizaciju, katalogizaciju, revizije te ključeve za određivanje različitih taksonomskih kategorija. Istraživane su neke nove ili slabo poznate vrste bentoskih algi uz revizije nekih obitelji i opisane posve nove vrste. Na osnovi florističkih i ekoloških istraživanja litoralni pojas Jadranskoga mora je podijeljen u nekoliko bionomskih stepenica. U neposrednoj blizini nekih većih gradova uočene su promjene u sastavu i raspodjeli bentoskih algi kao posljedica intenzivnih zagađenja. Objavljena su i istraživanja epifitskih algi u naseljima cvjetnice *Posidonia oceanica* u nekim dijelovima Jadranskoga mora. Također su objavljeni rezultati istraživanja prehrane ribe salpe *Sarpa salpa*, inače herbivorne vrste, kao i

ing tools and techniques, history of marine research, interdisciplinary sciences and others.

It would be very demanding and too extensive to present the content of all published papers individually, so an overview of the most important topics with an indication of some important results is presented. Papers from the scientific field of biology (field of natural sciences) (mainly from systematics and ecology) had a modern and multidisciplinary approach from the very beginning,

So far, five articles have been published in the *Monograph* series: *Ecology of plankton stages of the anchovy in the central Adriatic; Ecological study of Prosobranchiata in the eastern part of the Adriatic sea; The taxonomy, distribution, and ecology of Adriatic Foraminifera; Biology, population dynamics and fisheries case study of anchovy; Tintinnids (Tintinnida, Choerotruchia, Ciliata) in the Adriatic Sea, Mediterranean, Part I Taxonomy and Part II Ecology.*

Investigations of the flora and fauna of the Adriatic and Mediterranean Seas were the subject of numerous papers, including inventory, cataloging, revisions and keys for determining different taxonomic categories. Some new or poorly known species of benthic algae were investigated, along with revisions of some families and completely new species were described. On the basis of floristic and ecological research, the littoral zone of the Adriatic Sea is divided into several bionomic steps. In the immediate vicinity of some larger cities, changes in the composition and distribution of benthic algae have been observed as a result of intense pollution. Research on epiphytic algae in the settlements

utjecaja kaveznog uzgoja riba na makroben-toske zajednice.

Od ukupno dosad objavljenih rado-va oko 70 % članaka je iz područja bio-logije (**biologija mora**, i to uglavnom biologija i ekologija riba u Jadranskom i Sre-dozemnom moru), od toga se 11 % člana-ka unutar biologije bavi temama važnim za gospodarski ribolov, procjena biomase riba izravnim i neizravnim metodama, marikul-tura, lagunarno ribarstvo i uzgoj školjkaša), 10 % su teme iz **fizike mora** (fizička ocea-nografija, optika mora, geostrofička stru-janja, „jadranske ingresije“ i ostalo), a 10 % je iz **kemije mora** i zagađenja mora (količi-na i raspodjela hranjivih tvari, eutrofikacija, teški metali u morskoj vodi i sedimentima, utjecaj čovjeka i njegovih aktivnosti na mor-ski ekosustav, sadržaj polutanata: ulja, de-terdženta i pesticida). Preostalih oko 10 % članaka su prilozi iz raznih područja – geo-logija mora, alati i tehnike ribolova, povijest istraživanja mora, interdisciplinarni znanosti i drugo.

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of the flowering plant *Posidonia oceanica* in some parts of the Adriatic Sea has also been published. Also published were the results of research into the feeding of salpa fish *Sarpa salpa*, otherwise a herbivorous species, as well as the impact of cage farming of fish on macrobenthic communities. Original scientific works on the biochemical composition of some Adriatic algae and flower-ing plants have also been published.

In volume 46, appendix 1, from 2005, the re-sults of a long-term study (1947–1971) of the morphology, systematics and ecology of the ge-nus *Sargassum* collected along the eastern coast of the Adriatic sea were presented (The genus *Sargassum* in the Adriatic sea: Morphology, sys-tematics and ecology), while the results of the benthos survey in the Senj Archipelago area were published in the second issue of the journal in the same year (*A benthos survey of the Senj Archi-pelago*).

A significant number of works are devo-ted to phytoplankton research, primarily to re-search on the relationship between different species and groups, biomass and primary pro-duction. The results are based on constant sam-pling at certain control stations in the middle Adriatic, along with monitoring the fluctuations of the phytoplankton community in space and time. Papers were also published on the results of research into the structure and size of phyto-plankton in relation to density, biomass and pri-mary production, with the aim of better under-standing food chains in the marine ecosystem. Such research enables the calculation of the den-sity, biomass and production of phytoplankton during the process of eutrophication, as well as

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Objavljeni su i originalni znanstveni radovi o biokemijskom sastavu nekih jadranskih algi i cvjetnica. Objavljeni su i originalni znanstveni radovi o biokemijskom sastavu nekih jadranskih algi i cvjetnica. U svesku 46., dodatku 1, iz 2005. izneseni su rezultati dugoročne studije (1947. – 1971.) morfologije, sistematike i ekologije svoje *Sargassum* sakupljene uzduž istočne obale Jadranskoga mora (*The genus Sargassum in the Adriatic sea: Morphology, systematics and ecology*), dok su drugom broju časopisa iste godine objavljeni rezultati istraživanja

the occurrence of characteristic species in coastal waters. A little later, such research was also carried out in the open waters of the Adriatic Sea. The results of research into the impact of the Suez Canal on phytoplankton communities in Egyptian waters and the impact of Black Sea water in the coastal zone along the Greek coast are also significant.

The early developmental stages of fish were also a very frequent topic of scientific papers published in the journal *Acta Adriatica*, as well as the taxonomic composition and seasonal and long-term fluctuations of zooplankton biomass under the influence of the environment. One of the most important zooplankton groups Copepoda is also significantly represented in published works. Most of the works on zooplankton refer to the Adriatic Sea, but we should not ignore the works relating to the Eastern Mediterranean and the Aegean Sea.

Various aspects of microbiological research are described in more than twenty original scientific papers. The daily, seasonal, horizontal and vertical distributions of heterotrophic bacteria and their role in the sulfur and nitrogen cycle in the central and southern Adriatic were investigated. There are also papers presenting the results of the relationship between heterotrophic bacteria, phytoplankton and zooplankton. The presence of *Rhodospseudomonas* sp. (which contains a red pigment of carotenoid nature) explains the appearance of the „red tide“ phenomenon in the upper layers of the „sea lakes“ on the island of Mljet. In 2013, a paper was published on the structure of the microbial community in anchialine caves on the island of Mljet. There are

bentosa na području Senjskog arhipelaga (*A benthos survey of the Senj Archipelago*).

Značajan broj radova posvećen je istraživanjima fitoplanktona, prije svega istraživanju odnosa između različitih vrsta i skupina, biomase i primarne proizvodnje. Rezultati se temelje na stalnom uzorkovanju na određenim kontrolnim postajama u srednjem Jadranu uz praćenje kolebanja fitoplanktonske zajednice u prostoru i vremenu. Također su tiskani i radovi o rezultatima istraživanja strukture i veličine fitoplanktona u odnosu na gustoću, biomasu i primarnu proizvodnju, a u svrhu boljega poznavanja hranidbenih lanaca u morskom ekosustavu. Takva istraživanja omogućuju izračun gustoće, biomase i proizvodnje fitoplanktona tijekom procesa eutrofikacije, kao i pojave karakterističnih vrsta u priobalnim vodama. Nešto kasnije takva su istraživanja obavljena i u otvorenim vodama Jadranskog mora. Značajni su i rezultati istraživanja utjecaja Sueskog kanala na fitoplanktonske zajednice u egipatskim vodama te utjecaja crnomorske vode na priobalni pojas uzduž grčke obale.

Rani razvojni stadiji riba također su bili vrlo česta tema znanstvenih radova tiskanih u časopisu *Acta Adriatica*, kao i taksonomski sastav te sezonska i dugoročna kolebanja biomase zooplanktona pod utjecajem okoliša. Jedna od najvažnijih zooplanktonskih skupina Copepoda također je značajno zastupljena u objavljenim radovima. Većina radova o zooplanktonu se odnosi na Jadransko more, no ne treba zanemariti ni radove koji se odnose na istočno Sredozemlje i Egejsko more.

Različiti aspekti mikrobioloških istraživanja opisani su u više od dvadeset origi-

more and more works on the quality of seawater and shellfish in relation to the presence of bacteria, as well as those that indicate the influence of various factors on the dispersion and duration of fecal pollution.

There are also numerous works on the biology and ecology of pelagic and demersal fish species, those in the Adriatic Sea, and those in the waters of Italy, Israel, Egypt, North Africa, the Aegean Sea, and the Senegalese coast. Some species, such as mackerel, pilchard, mullet, some crustaceans and the crab shrimp *Neprophs norvegicus*, have been investigated in more detail. In 26 papers, it was written about the nutrition of fish in almost all parts of the Adriatic, in the eastern Mediterranean and along the coast of the northern part of Africa. In these papers, there are also those on the estimation of fish biomass indirect and direct methods used in fisheries biology. Works from the fields of mariculture, shellfish farming and lagoon fisheries have also been published.

Volume 40 (issue 3) 2005 is dedicated to the famous Croatian ichthyologist Juraj Kolombatović, who is noted in world ichthyological science for the first description of seven species of fish. In the same issue, a paper titled *Evolutionary steps in ichthyology and new challenges* was published, one of the few in the field of history of science that provides a brief overview of the development of ichthyology.

Numerous investigation of benthos has been published for almost all areas of the Adriatic and some parts of the Mediterranean. Volume 37 (issue 1/2) published the results of interdisciplinary research in the northern Adriatic, where

nalnih znanstvenih radova. Istraživane su dnevne, sezonske, horizontalne i vertikalne distribucije heterotrofnih bakterija i njihove uloge u ciklusu sumpora i dušika u srednjem i južnom Jadranu. Također su zastupljeni radovi u kojima se iznose rezultati odnosa između heterotrofnih bakterija, fitoplanktona i zooplanktona. Prisutnošću vrste *Rhodospseudomonas* sp. (koja sadrži crveni pigment karotenoidne prirode) objašnjava se pojava fenomena „red tide“ u gornjim slojevima „morskih jezera“ na otoku Mljetu. Godine 2013. objavljen je rad o strukturi mikrobnе zajednice u anhialinim špiljama na otoku Mljetu. Sve su brojniji radovi o kvaliteti morske vode i školjkaša u odnosu na prisutnost bakterija, kao i onih koji ukazuju na utjecaj različitih čimbenika na disperziju i trajanje fekalnih onečišćenja.

Također su brojni i radovi o biologiji i ekologiji pelagičkih i demersalnih vrsta riba, onih u Jadranskom moru, i onih u vodama Italije, Izraela, Egipta, Sjeverne Afrike, Egejskog mora i Senegalske obale. Neke vrste, kao što su skuša, srdela, cipli, neke hrskavičnjače te rak škamp *Neprophs norvegicus*, su detaljnije istraživane. U 26 radova pisano je o prehrani riba u gotovo svim dijelovima Jadrana, u istočnom Sredozemlju te uzduž obale sjevernog dijela Afrike. U tim radovima ima onih o procjeni biomase riba neizravnim i izravnim metodama koje se koriste u ribarstvenoj biologiji. Također su objavljeni i radovi iz područja marikulture, uzgoja školjkaša te lagunarnog ribarstva.

Svezak 40 (sveščić 3) iz 2005. posvećen je znamenitom hrvatskom ihtiologu Juraju Kolombatoviću koji je zabilježen u svjetskoj ihtiološkoj znanosti zbog prvog opisa sedam

the IKA and IVANA oil platforms were installed. Papers were also published on the results of ecological research within the framework of certain projects, for example, the Vir-Konavli project.

Numerous works on physical oceanography from the area of the entire Adriatic and parts of the Mediterranean (Egypt, Greece, Turkey) have also been published, which include the influence of the intermediate Levantine water („Adriatic ingression“) on the hydrographic properties of the Adriatic Sea. One whole issue (Vol. 47, Supplement, 2006) is devoted to physical oceanography („The ADRICOSM Pilot Project: I ADRICOSM Pilot Project: a coastal and river basin prediction system for the Adriatic Sea, Variations of thermal conditions in the southern Adriatic from XBT measurements in the period October 2002 – June 2003, South Adriatic phenomena observable through VOS XBT and other ADRICOSM data, The large scale observing system component of ADRICOSM: the satellite system, The Northern Adriatic Sea hydrographic conditions from October 2002 – September 2003, including the climatic heating anomaly of summer 2003 coastal scale observing system component of ADRICOSM: Gulf of Trieste network, Surface fluxes and thermohaline variability over the ADRICOSM polygon Pelješac–Vis–Drvenik, The S1 buoy station, Po River delta: data handling and presentation, Automatic meteo-ocean station (AMOS): real-time data acquisition, validation, archiving and numerical modeling; Nested modeling of the east Adriatic coastal waters...“).

vrsta riba. U istom broju objavljen je i rad pod naslovom *Evolutionary steps in ichthyology and new challenges*, jedan od rijetkih iz područja povijesti znanosti koji iznosi kratki pregled razvoja ihtiologije.

Objavljena su i brojna istraživanja bentosa u gotovo svim područjima Jadrana i nekim dijelovima Sredozemlja. U svesku 37 (sveščić 1/2) objavljeni su rezultati interdisciplinarnih istraživanja u sjevernom Jadranu, gdje su bile postavljane naftne platforme IKA i IVANA. Tiskani su i radovi o rezultatima ekoloških istraživanja u okviru određene projekata, npr. Projekt Vir-Konavli.

Objavljeni su i brojni radovi iz fizičke oceanografije s područja cijeloga Jadrana i dijelova Sredozemlja (Egipat, Grčka, Turska), koji obuhvaćaju utjecaj intermedijarne levantinske vode („jadranske ingresije“) na hidrografska svojstva Jadranskog mora. Jedan cijeli broj (Vol. 47, Supplement, 2006) posvećen je fizičkoj oceanografiji (The ADRI-COSM Pilot Project: I ADRI-COSM Pilot Project: a coastal and river basin prediction system for the Adriatic Sea, Variations of thermal conditions in the southern Adriatic from XBT measurements in the period October 2002 – June 2003, South Adriatic phenomena observable through VOS XBT and other ADRI-COSM data, The large scale observing system component of ADRI-COSM: the satellite system, The Northern Adriatic Sea hydrographic conditions from October 2002 – September 2003, including the climatic heating anomaly of summer 2003 coastal scale observing system component of ADRI-COSM: Gulf of Trieste network, Surface fluxes and thermohaline variability over the ADRI-COSM po-

In 2017, a paper on Lagrangian coherent structures of the current field in the Rijeka Bay was published, and in 2018, a paper on eutrophication monitoring using Landsat 8 in the Boka Kotor Bay.

There are more and more works of a multidisciplinary nature that include long-term fluctuations of salinity, transparency and chlorophyll in relation to „Adriatic ingressesions“. A certain number of works refer to the optics of the sea in the area of the central and southern Adriatic and to the fluctuations of optical properties over time. Investigation of the dynamics of water masses is represented in more than 25 issues of the journal. The whole area of the Adriatic is spatially covered, from the Gulf of Trieste all the way to the Otranto Gate. Calculations of geostrophic currents in the Adriatic and the eastern Mediterranean have been published for the first time. A paper was also published that shows the impact of the construction of the Aswan Dam on the oceanographic and fishing characteristics of the waters of the Nile River Delta and its somewhat wider surroundings.

Papers in marine chemistry primarily include discussions on the amount and distribution of nutrients and their role in biological cycles. During the last two decades, published results indicate the eutrophication of some areas in the Adriatic, often coastal areas, primarily near larger cities. At the same time, various biochemical entities were investigated, and the pollution process in some areas was also determined. Some studies have established the existence of heavy metals in the sea, in water and sediment, and in organisms. The content of some other pollutants

lygon Pelješac–Vis–Drvenik, The S1 buoy station, Po River delta: data handling and presentation, Automatic meteo-ocean station (AMOS): real-time data acquisition, validation, archiving and numerical modeling; Nested modeling of the east Adriatic coastal waters...).

Godine 2017. objavljen je rad o Lagrangevim koherentnim strukturama strujnog polja u Riječkom zaljevu, a 2018. rad o monitoringu eutrofikacije primjenom Landsat 8 u Bokotorskom zaljevu.

Sve su zastupljeniji radovi multidisciplinarnog karaktera koji obuhvaćaju dugoročnu fluktuaciju saliniteta, transparentnosti i klorofila u odnosu na „jadranske ingresije“. Određeni se broj radova odnosi na optiku mora u području srednjeg i južnog Jadrana te na kolebanja optičkih svojstava u vremenu. Istraživanje dinamike vodenih masa zastupljeno je u više od 25 svezaka časopisa. Prostorno je pokriveno cijelo područje Jadrana, od Tišćanskoga zaljeva pa sve do Otrantskih vrata. Po prvi puta su objavljeni izračuni geostrofičkih strujanja u Jadranu i istočnom Sredozemlju. Objavljen je i rad koji prikazuje utjecaj izgradnje Asuanske brane na oceanografske i ribarstvene značajke voda u delti rijeke Nil i nešto šire okolice.

Radovi iz kemije mora ponajprije obuhvaćaju rasprave o količini i raspodjeli hranjivih tvari te njihovoj ulozi u biološkim ciklusima. Tijekom posljednja dva desetljeća objavljeni rezultati ukazuju na eutrofikaciju nekih područja u Jadranu, često je to obalno područje, primarno u blizini većih gradova. Istodobno su istraživani i različiti biokemijski subjekti, a utvrđen je i proces zagađenja u nekim područjima. Neke su studije utvrdi-

such as oil, detergents and pesticides was also determined. In most of the works, the fact that man is increasingly affecting the marine ecosystem is highlighted.

Marine geology is represented in works related to sedimentation (lakes on the island of Mljet, the channel area of the eastern coast of the Adriatic, Kaštela Bay), hydrogeology (fresh water sources), as well as chalk-foraminifera (Adriatic, waters of Lebanon and Yemen). In 2016, a paper was published on the characterization of the fine-grained surface sediment fraction in the channel area of the eastern side of the Adriatic Sea.

In the last five or six years, a number of very interesting review papers and original scientific articles have been published, such as: *Concentrations and origin of polycyclic aromatic hydrocarbons in sediments of the Middle Adriatic Sea; To what extent the size fraction affects an interpretation of planktonic foraminiferal assemblages – case study from Southern Adriatic; A long term (1949–2010) study of catch and effort in Israeli trawl fishery, Eastern Mediterranean Sea; The abundance, distribution and speciation of mercury in waters and sediments of the Adriatic Sea – a review; Wind storminess in the Adriatic Sea in a climate change scenario; The presence of Tetradontidae species in the Central Mediterranean: an update from the southern Adriatic Sea; Progress in Mediterranean bioinvasions two years after the Suez Canal enlargement, The abundance and speciation of mercury in the Adriatic plankton, bivalves and fish – a review; Setting-up a billboard of marine invasive species in the ESENAS area: current situation and future expectancies; A*

le postojanje teških metala u moru, u vodi i sedimentu i organizmima. Također je utvrđen i sadržaj nekih drugih zagađivača poput ulja, deterdženata i pesticida. U većini radova istaknuta je činjenica kako čovjek sve više utječe na morski ekosustav.

Geologija mora je zastupljena u radovima vezanim uz sedimentaciju (jezera na otoku Mljetu, kanalsko područje istočne obale Jadrana, Kaštelanski zaljev), hidrogeologiju (izvori slatke vode), kao i krednjake-foraminifere (Jadran, vode Libanona i Jemena). Godine 2016. objavljen je i rad o karakterizaciji sitno-zrnaste frakcije površinskog sedimenta u kanalskom području istočne strane Jadranskog mora.

Posljednjih pet-šest godina objavljen je niz vrlo zanimljivih preglednih radova i originalnih znanstvenih članaka, kao što su: *Concentrations and origin of polycyclic aromatic hydrocarbons in sediments of the Middle Adriatic Sea; To what extent the size fraction affects an interpretation of planktonic foraminiferal assemblages – case study from Southern Adriatic; A long term (1949–2010) study of catch and effort in Israeli trawl fishery, Eastern Mediterranean Sea; The abundance, distribution and speciation of mercury in waters and sediments of the Adriatic Sea – a review; Wind storminess in the Adriatic Sea in a climate change scenario; The presence of Tetraodontidae species in the Central Mediterranean: an update from the southern Adriatic Sea; Progress in Mediterranean bioinvasions two years after the Suez Canal enlargement, The abundance and speciation of mercury in the Adriatic plankton, bivalves and fish – a review; Setting-up a billboard of marine invasive species in the ESENIAS*

comparative approach to the Croatian and Montenegrin small-scale fisheries (SSF) in the coastal eastern Adriatic Sea: fishing gears and target species; Seaweeds of the Greek coasts: Rhodophyta excluding Ceramiales; Oil seeps detection and mapping by SAR imagery in the Adriatic Sea; A review of reproduction biology and spawning /nursery grounds of the most important Adriatic commercial fish species in the last two decades and Reproductive traits of the European hake, Merluccius merluccius (L. 1758), in the Adriatic Sea.

Languages in the journal *Acta Adriatica*

The language of the papers published in the journal changed in different periods. At the beginning, the works were printed in the then accepted world languages (French, English, German). Around the 1960s and 1970s, politics required articles in the Croatian language (or Serbo-Croatian). Since the 1980s, English has been the predominant language with a few exceptions, and today only works in English are published. In total, more than 60% of works have been published in English so far. In the earlier period, the titles of articles were printed in the language of the article and in Croatian. Later, the papers were printed only in the language of the journal, and the Croatian title and Croatian summary were printed at the end of the article. Since 2000, the only official language of the journal is English.

Although foreign authors have also published works in *Acta Adriatica* from the very beginning, their share is growing, especially in recent times when it reaches almost more than 50% of works. In the beginning, in most cases,

area: current situation and future expectancies; A comparative approach to the Croatian and Montenegrin small-scale fisheries (SSF) in the coastal eastern Adriatic Sea: fishing gears and target species; Seaweeds of the Greek coasts: Rhodophyta excluding Ceramiales; Oil seeps detection and mapping by SAR imagery in the Adriatic Sea; A review of reproduction biology and spawning/nursery grounds of the most important Adriatic commercial fish species in the last two decades i Reproductive traits of the European hake, Merluccius merluccius (L. 1758), in the Adriatic Sea.

Jezici u časopisu *Acta Adriatica*

Jezik objavljenih radova u časopisu mijenjao se u različitim razdobljima. U početku su radovi tiskani na tada prihvaćenim svjetskim jezicima (francuski, engleski, njemački). Oko 1960-ih i 1970-ih politika je zahtijevala članke na hrvatskom jeziku (ili pak srpsko-hrvatskom). Od 1980-ih engleski jezik je prevladavajući uz nekoliko iznimki, a danas se objavljuju isključivo radovi na engleskom jeziku. Ukupno je do sada na engleskom jeziku objavljeno više od 60 % radova. U ranijem razdoblju su naslovi članaka bili tiskani na jeziku članka i na hrvatskom jeziku. Kasnije su radovi tiskani samo na jeziku časopisa, a hrvatski naslov i hrvatski sažetak tiskani su na kraju članka. Od 2000. godine jedini službeni jezik časopisa je engleski jezik.

Premda su strani autori od samog početka objavljivali radove u *Acta Adriatica*, njihov udjel raste, osobito u novije vrijeme kada doseže gotovo više od 50 % radova. Na početku to su u većini slučajeva bili domaći autori.

these were domestic authors. However, the journal is gradually growing towards international authors, even though they are mostly from the Mediterranean (Egypt, Greece, Italy, Israel, France, Turkey, Malta, Lebanon, Spain, Tunisia), but there are also authors from other countries (Great Britain, Poland, Sweden, Norway, Denmark, Romania, Hungary, USA, India, Senegal, Japan, UAE).

Editorial Office

Since 1932, the editor-in-chief of the journal usually has been the director of the Institute of Oceanography and Fisheries (**Figure 1**). At the beginning of 1973, in addition to the *Editor-in-Chief*, the function of *Technical Editor* was introduced. Already in 1979, the *Editorial Board* was introduced, and in 1992, the *Publishing Board* was introduced, which was united in 1999 into a single *Editorial Board*.

Today, the Editorial Board is divided into three parts (Senior Associate Editors – higher assistant editors, Associate Editors – assistant editor, and Subject Editors – contributions editors in the sections).

World databases

The processing a journal *Acta Adriatica* in the world scientific publications also required international recognition. Therefore, the Editorial Board also strives to include the journal in the world's databases in order to make the published works as accessible as possible to the wider scientific community. Since 2007, works published in *Acta Adriatica* have been indexed in a number

Međutim, časopis postupno prerasta prema međunarodnim autorima, iako su i oni pretežito iz Sredozemlja (Egipat, Grčka, Italija, Izrael, Francuska, Turska, Malta, Libanon, Španjolska, Tunis), no tu su i autori iz drugih zemalja (Velika Britanija, Poljska, Švedska, Norveška, Danska, Rumunjska, Mađarska, USA, Indija, Senegal, Japan, UAE).

Uredništvo

Od godine 1932. glavni i odgovorni urednik časopisa u pravilu je bio ravnatelj Instituta za oceanografiju i ribarstvo (**slika 1**). Početkom 1973. pored glavnoga i odgovornog urednika (*Editor-in-Chief*) uvodi se i funkcija tehničkog urednika (*Technical Editor*). Već od 1979. godine uvodi se i Urednički odbor (*Editorial Board*), a 1992. se uvodi Savjetodavni odbor (*Advisory Board*), koji se 1999. objedinjuje u jedinstveni Uređivački odbor (*Editorial Board*).

Uređivački odbor je danas podijeljen na tri dijela (*Senior Associate Editors* – viši suradnici urednika, *Associate Editors* – suradnici urednika, *Subject Editors* – urednici tema).

Svjetske baze podataka

Uključivanje časopisa *Acta Adriatica* u svjetske znanstvene publikacije zahtijevalo je međunarodnu prepoznatljivost. Stoga Urednički odbor nastoji uključiti časopis u svjetske baze podataka kako bi objavljeni radovi postali što dostupniji široj znanstvenoj zajednici. Od 2007. su radovi objavljeni u *Acta Adriatica* indeksirani u nizu baza podataka: Agricola, ASFA (CSA) – Aquatic Science & Fisheries Abstracts CSA, CAB

of databases: Agricola, ASFA (CSA) – Aquatic Science & Fisheries Abstracts CSA, CAB Abstracts, CNRS – INIST, Dialog, DOAJ, EBSCOhost, Fish & Fisheries Worldwide produced by NICS, South Africa, Georeference, HRČAK, ISI Web of Knowledge, Oceanic Abstracts, Pollution Abstracts, Referativnij Zhurnal, SCI Expanded (WoS-Web of Science), SCOPUS, Water Resources Abstracts and Zoological Record. *Acta Adriatica* got its first impact factor (Impact Factor) in 2009, which was 0.459, and already in 2011 it was 0.500. The last value of the impact factor (IF) is 0.739.

In addition, the number of citations of articles from the journal *Acta Adriatica* in SCI (Science Citation Index) was analyzed for the period between 1975 and 2001 (1). Compared to 119 Croatian scientific journals dealing with all fields, except medicine, *Acta Adriatica* ranked second based on data on the number of citations in the SCI database, and including medical journals, it ranked sixth among 142 scientific journals. Today, in relation to all Croatian scientific journals, *Acta Adriatica* ranks fourth, based on the criteria of the Ministry of Science and Education of the Republic of Croatia (Silobričić, oral communication).

Conclusion

In addition to technological modernization, scientific publishing is characterized by a relatively large increase in the number of scientific journals in the world, which also increases the number of competitors. The *Acta Adriatica* journal, which is celebrating 90 years of continuous

Abstracts, CNRS – INIST, Dialog, DOAJ, EBSCOhost, Fish & Fisheries Worldwide produced by NICS, South Africa, Georeference, HRČAK, ISI Web of Knowledge, Oceanic Abstracts, Pollution Abstracts, Referativnij Zhurnal, SCI Expanded (WoS-Web of Science), SCOPUS, Water Resources Abstracts i Zoological Record. *Acta Adriatica* dobiva svoj prvi čimbenik odjeka (Impact Factor) 2009. godine koji je iznosio 0.459, a već 2011. bio je 0.500). Zadnja vrijednost čimbenika odjeka (Impact Factor – IF) je 0.739.

Osim toga, broj citata članka iz časopisa *Acta Adriatica* u SCI (Science Citation Index) je analiziran za razdoblje između 1975. i 2001. godine (1). U usporedbi sa 119 hrvatskih znanstvenih časopisa koji se bave svim poljima, osim medicine, *Acta Adriatica* je zauzimala drugo mjesto na temelju podataka o broju citata u bazi SCI, a uključivo časopise iz područja medicine zauzimala je šesto mjesto među 142 znanstvena časopisa. Danas, u odnosu na sve hrvatske znanstvene časopise *Acta Adriatica* zauzima četvrto mjesto, na temelju kriterija Ministarstva znanosti i obrazovanja Republike Hrvatske (Silobričić, usmeno priopćenje).

Zaključak

Osim tehnološke modernizacije, znanstveno izdavaštvo obilježava



SLIKA 1. Izgled naslovnica časopisa *Acta Adriatica* od godine 1930. do danas (šesta po redu)

FIGURE 1. The layout of *Acta Adriatica* journal covers from 1930 to today (sixth in order)

va razmjerno velik porast broja znanstvenih časopisa u svijetu, čime raste i broj konkurenata. S nadolazećom konkurencijom časopis *Acta Adriatica*, koji slavi 90 godina neprekidnog izlaženja, moći će se takmičiti jedino s poboljšanjem kvalitete objavljenih radova i samog izdavačkog procesa. Samo tako časopis može računati s porastom scijentometrijskih pokazatelja, koji časopis čine atraktivnijim, osigurava veći priljev radova, njihovu bolju selekciju i kvalitetu. Jedino tako časopis može očekivati nove uspjehe u budućnosti i sljedeće velike obljetnice.

publishing, will be able to compete with the upcoming competition only by improving the quality of published works and the publishing process itself.

This is the only way the journal can count on an increase in scientometric indicators, which make the journal more attractive, and ensure a greater influx of papers, their better selection and quality. This is the only way the journal can expect new successes in the future and the next big anniversaries.

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