

# Eastern Adriatic in the Work of Beautemps-Beaupré

*Mithad Kozličić*

Charles François Beautemps-Beaupré was a French hydrographer and cartographer (Neuville-au-Port, Marne, August 6, 1766 - Paris, March 13, 1854). He became a hydrographic engineer of the Hydrographic Institute of Paris Navy in 1785. In 1791, he went aboard a ship named *La Recherche* which was searching for *La Pérouse's* missing expedition in the west Pacific. On that journey, he was using astronomic and geodetic observations to determine certain positions, he was determining point coordinates using a new arithmetic method and he was performing geophysical measurements. From 1799 to 1805, he was surveying the mouth of the Rhine river concerning Napoleon's intention of building a war harbour at that location. By Napoleon's order in 1806, as a replacement director of Navy's Hydrographic Institute, he performed a hydrographic survey of coasts and harbours of the Adriatic Sea.

When he returned to France, Beautemps-Beaupré carried out a survey of the coast between the Rhine and Elbe rivers, and from 1816 to 1838 a survey of the French coast. In 1848, when he was 82,

he retired. Through 63 years of his prolific work, he founded the principles of precise hydrography and brought up generations of engineers, that is the reason the French and the English named him "the father of hydrography". He was the first to apply the geometric rules of perspective in practice. He was a member of the French Academy of Sciences.

He came to the conclusion that charts made at that time, based on log-books, were incorrect, so he decided to improve the methods for the production of charts.

Istria and Dalmatia together with the Dubrovnik Republic came under the rule of Napoleon in 1806. After Napoleon had decided to fortify Istria and Dalmatia, Beautemps-Beaupré came to the Eastern Adriatic at the beginning of 1806. His task was to carry out hydrographic, oceanographic and geomagnetic survey, as well as topographic recording and geostrategic observations to define which existing ports, bays, anchorages and channels could be appropriate for temporary or permanent deployment of the French naval fleet. Based on results of his campaigns in 1806 and 1808-1809, he pro-

duced numerous charts of Adriatic ports, channels and bays from Piran to Boka Kotorska.

He also made an extensive "Reconnaissance hydrographique des ports du Royaume d'Italie" on all the results of his own scientific investigations. The work was published for the first time in 1849 in the first issue of the French Hydrographic Annual. Beautemps-Beaupré's works are not kept in one place but in numerous European libraries and archives.

The Republic of Croatia, with its Hydrographic Institute as the direct successor of the results of Beautemps-Beaupré's hydrographic and related investigations initiated in 1806, two centuries ago, is among few countries in the world boasting such a long tradition in the scientific evaluation of the sea to ensure utmost safety of navigation in its waters. With the purpose of making a mark related to this significant anniversary of the first systematic scientific hydrographic, oceanographic and other marine multidisciplinary investigations in Eastern Adriatic, Mithad Kozličić wrote *Eastern Adriatic in the work of Beautemps-Beaupré*.

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ISTOČNI JADRAN U DJELU BEAITEMPS-BEAUPRÉA  
EASTERN ADRIATIC IN THE WORK OF BEAITEMPS-BEAUPRÉ

Hrvatski hidrografski institut

# Istočni Jadran u djelu Beautemps-Beaupréa

*Mithad Kozličić*

Charles François Beautemps-Beaupré francuski je hidrograf i kartograf (Neuville-au-Port, Marne, 6. VIII. 1766 - Pariz, 16. III. 1854). Hidrografskim inženjerom Hidrografskog instituta Mornarice u Parizu imenovan je 1785. Ukrcao se 1791. na brod La Recherche koji je išao u potragu za nestalom ekspedicijom La Pérousea u zapadnom Pacifiku. Na tom putovanju upotrebljavao je astronomska i geodetska opažanja za određivanje pojedinih položaja, određivao koordinate točaka novom računskom metodom te izvodio geofizička mjerenja. U razdoblju od 1799. do 1805. izvodio je mjerenja na području ušća Rajne u vezi s Napoleonovom namjerom da na ušću Rajne izgradi ratnu luku. Po nalogu Napoleona, 1806. u svojstvu zamjenika direktora Hidrografskog instituta Mornarice izveo je hidrografska mjerenja obale i luka Jadranskog mora, odnosno Mletačkog zaljeva.

Po povratku u Francusku, Beautemps-Beaupré proveo je izmjeru obale između Rajne i Labe, a od 1816. do 1838. obale Francuske. Godine 1848. umirovljen je u 82 godini života. Tijekom 63 godine svoga plodnog rada utemeljio je načela precizne

hidrografije i odgojio generacije inženjera, pa su ga zato Francuzi i Englezi nazvali "ocem hidrografije". Prvi je u praksi primijenio geometrijska pravila perspektive. Bio je član Francuske akademije znanosti.

Došavši do zaključka da su pomorske karte onog vremena, izrađene prema podacima iz brodskih dnevnika, netočne, odlučio je usavršiti metodu izradbe.

Od 1806. Istra i Dalmacija zajedno s Dubrovačkom Republikom dolaze pod vlast Napoleona. Kad je Napoleon odlučio utvrditi Istru i Dalmaciju, Beautemps-Beaupré na početku 1806. dolazi na istočni Jadran. Njegova je zadaća bila hidrografski izmjeriti, oceanografski i geomagnetski istražiti, te topografski snimiti i uočiti geostrateški značaj luka, zaljeva, sidrišta i kanala tog akvatorija, u svrhu privremenog ili trajnog stacioniranja francuske ratne mornarice. Na temelju dobivenih rezultata tijekom 1806. i 1808-1809. izrađuje mnogobrojne pomorske karte jadranskih luka, kanala i zaljeva od Pirana do Boke kotorske.

K tomu, napisao je Reconnaissance hydrographique des ports du Royaume

d'Italie o svim rezultatima vlastitih znanstvenih istraživanja. To je djelo prvi put objavljeno 1849. godine u prvom broju francuskog Hidrografskog godišnjaka. Beautemps-Beaupréovi radovi danas nisu očuvani na jednom mjestu, već se čuvaju u nekoliko europskih knjižnica i arhiva.

Hrvatski hidrografski institut, kao izravni sljedbenik rezultata Beautemps-Beaupréovih hidrografskih i drugih znanstvenih istraživanja, započeti 1806., tj. prije puna dva stoljeća, među rijetkim je državama svijeta koja ima tako dugu tradiciju znanstvene valorizacije mora radi maksimalne sigurnosti plovidbe njegovim akvatorijem. U cilju obilježavanja značajne obljetnice prvih sustavnih znanstveno utemeljenih hidrografskih, oceanografskih, geomagnetskih i drugih marinskih multidisciplinarnih istraživanja istočnog Jadrana, Mithad Kozličić napisao je knjigu Istočni Jadran u djelu Beautemps-Beaupréa.

Autor knjige, Mithad Kozličić, doktorirao je povijesne znanosti 1988. godine na Filozofskom fakultetu u Zagrebu. Od 1994. u stalnom je radnom odnosu na

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The author, Mithad Kozličić, has a doctorate on history of science (1988 Faculty of Philosophy, University of Zagreb). Since 1994, he has worked as a full professor at the Philosophical Faculty in Zadar (now University of Zadar), Department of History. He teaches historical geography, history of navigation and history of cartography. He has published ten scientific books and over a hundred studies and articles so far.

The book *Eastern Adriatic in the Work of Beautemps-Beaupré* was published in 1000 copies in 2006. It has 496 pages, 256 out of which contain charts and panoramic maps as an appendix. The book is written in Croatian and English, and therefore available to a wider circle of readers. The book is hardback with dimensions 350×255 mm. The book's code is ISBN 953-6165-48-1, and the publisher is the Hydrographic Institute of the Republic of Croatia in Split.

The work contains five chapters:

1. Introduction
2. Beautemps-Beaupré Navigational Characteristics of the Adriatic
3. Beautemps-Beaupré about the Eastern Adriatic Ports, Anchorages and Channels
4. Conclusion
5. Sources and References

The author has presented some important appendices at the end of the book:

- original of Beautemps-Beaupré's "Report" on his campaigns in 1806 and 1808-1809 published in the *Annales hydrographiques* (the printed issue is very rare in libraries, so its facsimile was included)
- Beautemps-Beaupré's charts and panoramic maps of Eastern Adriatic and comparative cartographic material
- list of geographic names on Beautemps-Beaupré's charts and panoramic maps
- list of geographic names according to Beautemps-Beaupré's "Report" from 1849
- list of persons, nations, inhabitants of towns or provinces, names of military ships
- meteorological data

- chronology of major events in connection with the development of hydrography and cartography in the Adriatic from the end of the 18th to the beginning of the 20th century

While rendering the results of the scientific work, numerous doubts arose concerning geographic names, which were recorded in different ways in different historical periods. In those situations, the Croatian translation of the French original was kept where it was possible.

Beautemps-Beaupré's campaigns marked the turning point from a cartographic point of view, as well as in terms of hydrography and other marine investigations. In this respect, 1806 was a pivotal year in any segment of hydrographic investigations and cartographic presentation of the results obtained from the research of Eastern Adriatic. Beautemps-Beaupré's work has been integrated permanently into the fundamentals of the Adriatic hydrography, oceanography, marine geomagnetism and nautical cartography.

Martina Babić



Veruda on a detail of Beautemps-Beaupré's chart from 1806.

Veruda na isječku iz Beautemps-Beaupréova plana iz 1806. godine.



Filozofskom fakultetu u Zadru (sada Sveučilište u Zadru), Odsjek za povijest. Predaje historijsku geografiju, povijest pomorstva i povijest kartografije. Dosad je objavio desetak znanstvenih knjiga i preko stotinjak studija i članaka.

Knjiga Istočni Jadran u djelu Beautemps-Beaupréa izdana je 2006. u 1000 primjeraka. Sadrži 496 stranica, od kojih su, na 256 stranica kao dopuna prikazane karte, planovi i panorame. Pisana je uspojedno na hrvatskom i engleskom jeziku, stoga je dostupna širem krugu čitatelja. Knjiga je tvrdog uveza, dimenzije 350×255 mm. Knjiga nosi oznaku ISBN 953-6165-48-1, a izdavač je Hrvatski hidrografski institut u Splitu.

Knjiga Istočni Jadran u djelu Beautemps-Beaupréa sadrži pet poglavlja:

1. Uvodna razmatranja
2. Beautemps-Beaupréova temeljna plovidbena obilježja Jadrana (osnovni vjetrovi, morske mjene, morske struje i magnetska deklinacija)
3. Beautemps-Beaupré o istočno-jadranskim lukama, sidrištima i kanalima

#### 4. Zaključna razmatranja

#### 5. Izvori literatura

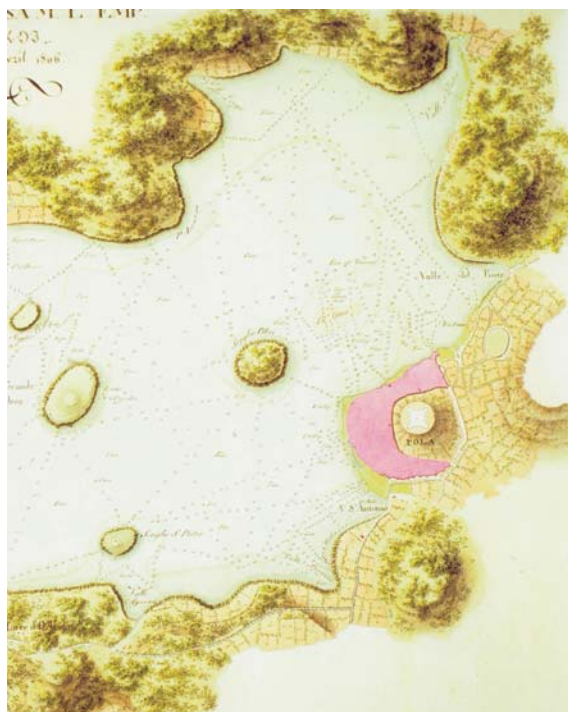
Kao važne priloge, autor je knjizi dodao:

- izvornik Beautemps-Beaupréova Izvještaja o kampanjama 1806. i 1808-1809., objelodanjen u *Annales hydrographiques* (tiskani primjerak je vrlo rijedak po knjižnicama, pa je priložena njegova kopija)
- Beautemps-Beaupréove karte, planovi i panorame istočnog Jadrana te komparativni kartografski materijal
- popis geografskih imena na Beautemps-Beaupréovim kartama, planovima i panoramama
- popis geografskih imena prema Beautemps-Beaupréovom Izvještaju iz 1849. godine
- popis osoba, naroda, žitelja gradova i pokrajina te imena ratnih brodova
- meteorološke podatke
- kronologiju najvažnijih događaja vezanih uz razvoj hidrografije i kartografije na Jadranu od kraja 18. do početka 20. stoljeća

Da bi se postignuti rezultati znanstvenog rada što vjerodostojnije prikazali, bilo je potrebno riješiti dvojbe vezane uz geografsko nazivlje, koje se na toj obali tijekom različitih povjesnih razdoblja raznoliko bilježilo. U takvim situacijama, kad je to zbog jasnoće opisa krajolika luke, zaljeva ili sidrišta bilo moguće, zadržana je hrvatska prevedenica francuskog izvornika.

Beautemps-Beaupréove kampanje su u kartografskom pogledu prekretnica, podjednako kao i za hidrografiju i druga marinska istraživanja. U tom smislu 1806. je prekretnica u svim segmentima hidrografskog istraživanja i kartografskog predočavanja postignutih istraživačkih rezultata za istočni dio Jadranskog mora. Beautemps-Beaupréovo djelo je trajno ugrađeno u temelje jadranske hidrografije, oceanografije, marinskog magnetizma i pomorske kartografije.

Martina Babić



*Beautemps-Beaupré's chart of the port of Pula from 1806 (isječak).*

*Beautemps-Beaupréov plan luke Pula iz 1806. godine (isječak).*



*Beautemps-Beaupré's chart of Pašanski tjesnac from 1806.*

*Beautemps-Beaupréov plan Pašanskog tjesnaca iz 1806. godine.*