

ARCHIVAL DATA ON THE FOUNDER OF THE FIRST ROMANIAN MARINE RESEARCH STATION IN AGIGEA, CONSTANȚA COUNTY

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Abstract. Relevant archival and other reference data about the outstanding attainments of Professor Ioan Borcea (1879–1936) regarding his most valuable achievement – namely the establishment of the first Romanian marine biological research station in Agigea (15 km south of Constanța) in 1926 are reviewed in chronological order. Originating in the State Archives / Constanța County Service and the “Ioan N. Roman” County Library Constanța, the abundant human and professional (organization, administration, research) merits of Professor Borcea become clear and various interesting contemporary people, institutions and events are brought to life.

Keywords: Professor Ioan Borcea, Romanian marine biological research, Agigea station.

INTRODUCTION

Professor Ioan Borcea persists some 135 years since his birth to hold a prominent place among the creators of Romanian oceanography. His most outstanding work remains the foundation of the first Marine Biological Station of King Ferdinand I, by Royal Decree No. 810 dated March 1st, 1926 (Fig. 1), which later on was named the “Professor Ioan Borcea” Marine Zoological Station, along the Black Sea littoral at Agigea near Constanta (Bologa, 2009; Bologa and Charlier, 2011, Lapusan and Ciupina, 2011; Bologa *et al.*, 2013). This Station also belonged to the Romanian Institute for Marine Research (RMRI) between 1970 and 1989. RMRI is known nowadays as the “Grigore Antipa” National Institute for Marine Research and Development; the Station was returned, in 1990, to the “Alexandru I. Cuza” University from Iassy, under whose auspices it had been founded. It faces today appreciable financial difficulties for its survival. The vigorous personality and the prolific carrier of the founder have marked the development of biological oceanography, ecology and general biology in Romania, as well as a remarkable international scientific co-operation for those times, especially with France and Italy, from the early years and much more extensive afterwards.

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Fig. 1. The Marine Biological Station "King Ferdinand I", later on the "Prof. Ioan Borcea" Marine Zoological Station, founded in Agigea (about 15 km south of Constanța) in 1926.

THE ADMINISTRATION OF THE STATION

The peculiar interest of the founder towards the administration of the Marine Zoological Station from Agigea (States Archives / Constanța County Service, 1926–1936) contributed from its founding and permanently during its existence, to the majority of the addresses and written notes (Fig. 2) sent from Iassy to his administrator Ion Gavrilescu¹ and his main employees Polidor and Ecaterina Spiro, Tudor Popa and I. Cucu, as follows: *"so far I achieved what I have promised you, I wish to see your devotion", "put the work in the interest of the station, because I will also force myself for you, if the station will progress well and will have income", "the bringing of incomes to the station through fishing activity not only at the trap net", "Fishery shall remain on the name of the station", "it was intervened at the right place so that the fishery products can be sold by us straight away" (note No. 148/1926), "(6) I wish much that we'll have from agriculture and fishery a nice income for the station and I count on your assiduity" (note No. 181/1926, "1). We received today from the Ministry the decree of your equalization and framing (personnel from Agigea) and consequently on this name I have submitted the payrolls for September and October [1926], you will receive monthly 7065 lei² so that I do hope you will be satisfied as being equaled with museum curator and more than university assistant. I hope that you will submit further the same zeal", "I recommend you care for everything in the interest of the station", "no object from the Station should be taken by anyone".*

Sometimes dissatisfaction of the Station's Director were expressed, such as: *"for no motive and for no consideration are you allowed to change yourself the given dispositions",* or, for instance, the payment in advance of unexecuted works yet, in contra-diction with his instructions, with his lenient remark *"I am sorry that I am not under-stood"* (note No. 3/5 from January 25, 1927). Or, *"I gave you over and over again indications to go out for research outside the station, but again you did not listen to me. Therefore take the horse cart and go with 2 people on the beach between Movila*

¹ Known and invited by the author at RIMR's headquarter, at the occasion of its 20th celebration since the foundation, in 1990.

² Having about the same value as that of today, cf. Costin C. Kirițescu "Sistemul bănesc al leului și precursorii lui", by courtesy of Ec. Florica Prodan (Banca Transilvania).

and Tuzla (lighthouse) collect what you can still collect, especially you'll find crabs, collect carefully as much from the small ones, look if there is not also soldier-crab, when I get in we'll do this excursion again as control between Movila and the lighthouse so search immediately now very carefully and collect as much material as possible. Listen more to what I'm telling and write you. 2) You will inform yourself also in Constanța ... at what date every fish species was caught (and in what peculiar place). 3) You will take daily observations more vigorously than last year by mentioning daily on a sheet of the notebook 1) the water temperature (taken at the trap net at 1 m depth) 2) the wind 3) fish species, their length, state of the roe, every variety [to be] placed in a jar (I guess you have enough formalin and you should have always enough reserve at the station). After each storm research inspection on the beach (what was thrown by the sea) (note No. 26/ April 15, 1919). Other times he is more trenchant and somehow funny as time went on: "I told all the time that idiot Cucu that before anything else the sea water installation does interest me".

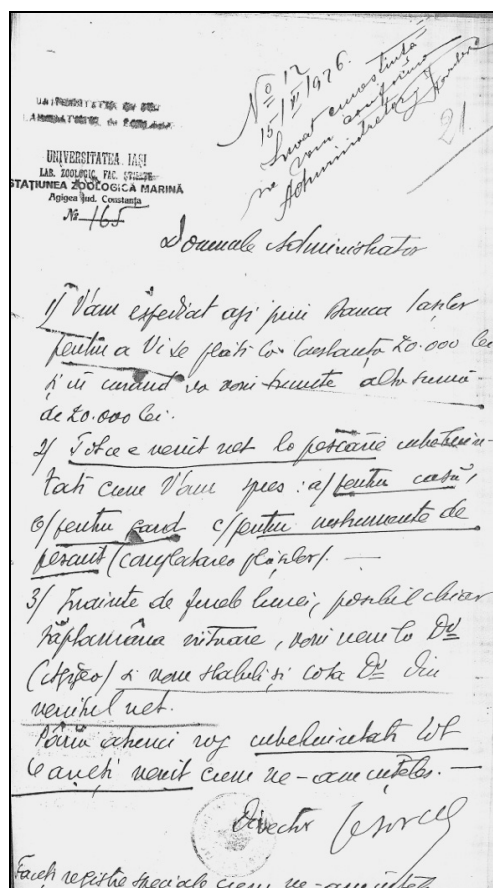


Fig. 2. Example of handwritten letter of the founder and director of the Station (States Archives / Constanța County Service, stock No.323, file No. 1/1926, page No. 21).

The obvious correctness of the leader results predominantly in his clear requirements: *"Sell the crop and for all amounts resulted from the crop and those 22000 lei that you will buy or spend from these sums make legal papers for the station and submit them to me"* or *"For everything you have bought legal documents on behalf of the station in three copies (original and two copies) ... You will keep right records 1) one of expenditures every day, 2) another of incomes everything noted precisely day by day"*, and the obedience of the Station's administrator regarding the compliance with these requests results, e.g., from one of his many reports: *"8) I'll keep the registers for income and expenditures as last year"* (report from February 14, 1927).

The financial difficulties determine him to write, e.g.: *"6) Consider all I have recommended you, because the times are hard. These days the salary approval for November has come but we didn't cash it about next week will we send it immediately"* (probably 1931–1932) or *"Being that hard with the salaries, for material receiving no money since last October, please much economy for the station"* (Wednesday).

The humaneness of the founder concerning the fate of the employee is illustrated by the following example: *"2) For Grigore from Caliacra³, I wish wholeheartedly to hire him – as soon as you'll have a vacancy ... I wouldn't like to lay off somebody but when somebody will leave willingly". 3) You can send Patap, I have spoken to be accepted at the eye clinic perchance he comes over here when Miss Celan is returning. Recommend him to be careful on his way – because he has to change often ..."* (probably 1931–1932).

Commendable are also the concern and care of the administrator for the good functioning of the Station in the spirit alleged and imposed by the Director (Fig. 3), under certain difficult economic circumstances, reflected by various of his warnings to the leadership of the Station, among which, e.g.: *"Mr. Director, ... The time for herring fishing has arrived and we don't have any serious preparation for the beginning of the spring campaign, we haven't hired people, the trap net is not knitted, for the fishing of turbot likewise no measure taken, due to lack of means, if we don't finish as soon as possible with the fixing, hiring of people and the others – we delay the entire fishing campaign. Administrator I. Gavrilescu". "Mr. Director, for the proper running of the Station I have the honor to ask you to kindly intervene with the State Fishery Directorate to exempt us from the fund and the dimes cashed for fishing, with these funds – which accounts annually to 50–60000 lei other improvements could be brought to the station. Administrator I. Gavrilescu"* (note No. 18/March 16, 1927); thus, after such interventions of the administrator, e.g. of that dated March, 1928, the General Administration of Fisheries favorably responded by the address No. 2866/April 3, 1928: *"Mister Director, we inform you with honor that following your intervening No. 144/928 the Administration Board of the State Fisheries has spared you the payment so you are supposed to pay only the enhancement tax which will be retained from the administration of your Station and paid to the state – General Administrator Dr. Daia indecipherable signature"* (Fig. 4).

³ At that time Caliacra in Caliacra county in the *Cadrilater* (south-eastern part of Dobrogea) still belonged to Great Romania, and was lost in 1940, now in Bulgaria.

Capse
 a. gl. al. pescarilor
 1/2 2866.
 5 April 1928.

13

Domnule Director

Cu onoare vă aducem la cunoștință
 că în urma intervenției
 nr. 164/018 Comitetul de Stat al Pescarilor
 Statului a primit de la Statul român
 de plată în mai taxa de intensificare
 care se va plăti de către Statul român
 și se va plăti la Stat.

Această decizie s-a comunicat
 prin Reg. nr. 10.000.000

Administrator General al Statului
 I. Gavrilăscu

Director
 Lucian Popescu

Comitetul Director al Statului
 Marina Negreș -

Fig. 4. The answer of the General Administration
 of the State Fisheries on the payment exemption by the Station
 (State Archives / Constanța County Service, stock No. 323, file No. 5/1928, page No. 13).

“At the same time we report that a boat from the National Office of Physical Education Eforie. Tekirghiol has entered the trap net ruining our nets and taking advantage from it, we have noticed that and brought to the attention of that Mr. Major, we ask to intervene also. Administrator I. Gavrilăscu” (report 27/June 30, 1927).

At a certain point, upon request of the Director of the Station, his administrator informs him: “On the evening of October 30 [1929] the warship of the Sea Division – Capt. Dumitrescu – which guides from Balcic⁴ the cutter “Isprava” of Her Highness Princess Elena and who was personally on board has run aground in front of the fisher hut at 100 m and because we have been asked for help we

⁴ Little town at the Black Sea coast (in the Cadrilater), hosting a beautiful castle as one of the former properties of the Romanian Royal House, belonging to Great Romania, lost in 1940, now in Bulgaria.

provided it with all fishermen and the 2 boats of the Station and we managed that after 2 hours of work to remove her from the rocks, but during the maneuver the ship passed through the middle of the trap net destroying it completely, because it was dark and dense fog it remained to ascertain the damages next day which otherwise Mr. Commander of the vessel has recognized, so that second day I went to Constanța harbor where together with the commander of the vessel we went to the Division in order to require damages produced to the station, we have been asked for a letter to the end that Mr. Commander of the Division go personally to Bucharest and ask for the sum; I delivered an official letter whose copy I forward here with to you whereby we demand a commission to assess the damages and as this commission has not been established and no other response has been received and in order to not pass the time which would be to our disadvantage. I gave a written note about everything they have broken, of which I forward you a copy and another one I can send to the Sea Division – if you think it appropriate – the damages can be seen from the written note and are real. The Navy has to pay, something more as they owe us gratitude because we removed a warship from the rock and we drove her through a small channel until offshore and also saving therefore the honor of the Navy. So now after the above mentioned we ask you with honor Mr. Director to take care of this matter. As the weather is good we'll try to install again the instrument [trap net] in order to proceed with the observations and maybe we'll be able to remove the losses we are incurring” (note No. 43/1929). After this incident the damages have been estimated at an amount of 60000 lei and imputed to the Navy (note No. 5/1929). Later the Navy/Commandment of the Sea Division, Artillery Service communicated the Marine Zoological Station Agigea, Constanța County, after discussions, ultimately, by address No. 33790/December 5, 1929: “With honor we ask you to send an authorized delegate in order to receive the sum of 20000 (twenty thousand) lei granted by the Army Ministry by order No. 1076/November 30 current year as compensation for the damage of your material on October 30 current year by the gun boat Cpt. Dumitrescu which has stranded at point Agigea ... Head of Artillery Service Lt. Commander, indecipherable signature”.

On June 21, 1932 the Ministry of Education, Cults and Arts, through the Directorate for Higher Education, conveyed to Professor I. Borcea, University of Iassy: “We have the honor to send you in copy the address of the General Navy Inspectorate No. 605 from the current year together with a copy of the journal of the Council of Ministers No. 602/932, with the request to take notice of its content. At the same time we inform you that the ministry delegates you to contact urgently the General Inspectorate of the Navy, for the delivery of the land mentioned in the journal of the Council of Ministers, with a view to start the installation works of the battery. Minister, indecipherable signature, Counselor for the Higher Education Director General, indecipherable signature”. Accordingly the Ministry of the Army / the General Inspectorate for the Army by its Headquarters, address No. 1769/23.III. 1933, requested: “Dear Professor, we ask you with honor that during your next transit through Bucharest to be so kind and present yourself at the General

Inspectorate of the Royal Navy – located in the Ministry of National Defence – in order to contact Mister Rear Admiral Buchholtzer C. – Director of the Navy. This for the purpose to mutually agree upon the final convention – written – regarding the installation and functioning of the “Agigea” battery on the territory of the Marine Zoological Station, Chief of the Headquarters Deputy Commander Pais N., Head of Office IV Capt. Popescu F.” So, having no choice, he was obliged to “co-operate” with the Army.

Dr. Lucia Leon Borcea, his wife, Lecturer at the Laboratory of Medical Natural History of the Faculty of Medicine in Iassy, was transferred as Lecturer to the Marine Biological Station “King Ferdinand I” in Agigea (by decision of the Ministry for Public Education / University “Mihaileana” Iassy, Faculty of Sciences by address 170/ April 1, 1936); she also requested the issuance of an “*certificate of determination about the circumstances under which my husband Professor Ion Borcea got sick and died*” (which was delivered by the administrator of the Station I. Gavrilescu as document 6/August 12, 1936).,

Among those who wrote about the disappearance of the founder was also his successor as manager of the Station, Professor Constantin Motas (Motas, 1936): “*On the evening of July 30 Professor Ion Borcea from the University of Iassy, founder of the maritime zoological station from Agigea (Constanta county) closed his eyes forever, on the land of Dobrudja, put into shock by a septicemia acquired at the worktable. The scholar from Iassy, known in the western scientific circles thanks to his numerous articles in the field of zoology in French, dies aged almost 57 year, in full scientific matureness and under so tragic circumstances, which make us deplore more his disappearance. ...The creation of this Station constitutes perhaps Profesor Borcea’s highest achievement. The zoological station from Agigea is for our country and for the University of Iassy, as, for example, is the biological station from Roscoff for France and the Sorbonne. ...By the so untimely death of Professor Borcea the Romanian science has lost one of its most well known representatives; the University “Mihaileana” has lost an eminent professor; the country one of its most worthy sons*”.

The great Romanian historian Nicolae Iorga wrote (Iorga, 1975): *Professor Ion Borcea has fallen in the battle which he fought for years in order to clarify the mysteries of nature. ... He had reached a Romanian chapter on the knowledge of maritime fauna, and through the fruit of his labors it got richer year by year. ... But we’ll be proud whenever a science book will note the enthusiasm and readiness to sacrifice of good Professor Borcea*”.

The contemporary written press (Dobrogea Juna, 1936) recorded immediately this moment: “Thursday afternoon Professor I. Borcea former Minister of in the Federation Government and former Director of the Institute [Station] for Maritime Research from Agigea has died in the “Dr. Sion” Hospital in Constanta. The death is due to a septicemia caused by a sting of a marine creature which Professor has recently found during his research on the Black Sea fauna. ... his death leaves unanimous regrets”.

ATTENTION PAID TO SCIENTIFIC ACTIVITY

The most often repeated instructions to the administrator and employees concerned the ensuring of the living and working conditions for the research personnel as well as the creation of a material, informational and statistical support indispensable to the stringency of scientific research of the marine environment and its associated flora and fauna: *"Please take observations 1) on the appearance of fish species at Agigea and other points as much as possible. 2) collect with the filet net near Zostera and more offshore small jelly fish, small worms, fish larvae ... to be secured in formalin. Especially during this year attention to young fish and throwing of eggs. 3. Miss Celan⁵ who worked on seaweeds last year – wishes to come to Agigea next week, she will work again in the room downstairs the first one near the door as last year, please give her ... that room at her disposal and should she need also a microscope, and it would be fine to make fire there (because it is cold in the rooms in the big building)"* (undated). *"Mister Gavrilesco, I have sent today the iron dredger made for depth ... (Monday August 12 [?]. "5) Note daily in a notebook or register any fish species caught, the length and if possible the quantity (note No.145/1926). "Take notes daily and write in the notebook the seawater temperature, the wind direction, what fishes drop in the trap net, what fishes drop in the nets, the length (as average for each species) and the quantity" (note No.148/1927). "3) Note daily everything you catch, especially for turbot, ...and the size of the pieces (length, weight)" (note No. 152/1927). "I would like to [?] also the turbot nets in order to follow what else is caught together with turbot". "Mister Gavrilesco, we draw very serious your attention to have supply for formalin and immediately after thaw starts and the waves will throw at the shore you will harvest on the sea shore with all personnel of the Station under your surveillance in order to collect all frozen animals thrown on the shore. You can even go with the fishermen on the shore above and below the Station. You will secure according to the species ... fish of any species and any other living creatures. This operation ... undertake with all care and proceed all data in the notebook. If weather will improve ... when the sea will start throwing on the shore you can telegraph me and we'll try – if possible to come myself – in any case I urge you attention and care for this question" (13.II.1929). "Mister Administrator, ...I repeat once more and for the last time – every week on Sunday or Monday draw a detailed report with everything that happened at the Station over the last week, what has been fished, what observations have you carried out, what material has been collected, ...2) keep the notebook with daily observations strictly: a) what quantities of every species has been fished daily, b) special attention when there are isolated specimens, c) dimensions, d) state of the eggs, e) water temperature, f) wind, d[g] if Danube or offshore or depth current is felt" (note No. 36/April 22, 1929).*

⁵ Maria S. Celan, future Associate Professor Dr. at the Pedagogical Institute in Constanța (future "Ovidius" University Constanța), most remarkable Romanian marine algologist (macrophytobenthos), had been warmly recommended by Dr. Grigore Antipa for employment by Professor I. Borcea at Agigea and ended her admirable career aged 90 at the Station.

The preoccupation for achieving the tasks and objectives he had invested with the Station has characterized the founder permanently: "Being in Constanta – until the train left with Gentlemen from the Fisheries – they have confirmed that towards Tuzla (between Movila and the lighthouse) big quantities of fish have been thrown (among which youngsters of Danube sturgeon and stellate sturgeon) as the local agent has also told me, *idem* many crustaceans and others (note No. 26/April 15, 1929). ... If you meet Mr. Calinescu ask him where were frozen stellate sturgeon and Danube sturgeon found. Continue with the observations rigorously as I have said in previous letters. I'm cheerful because you have told me about Mr. Andonachi [?]. Alert him that by August we'll explore in Caliacra region offshore. Ask him to tell you from what distinct point or region does the material he brought you (oysters and [?]) come from otherwise the material has no value. Therefore you will note his responses: water depth (roughly) and distance from the shore wherefrom he collected that material. If we look now for mussels, he should specify at which point are the few oysters. Please write all observations in the notebook daily. Note carefully the appearance of each species (state of the eggs) and from the first specimens put in a jar some specimens with open belly likewise small fishes" (April 26, 1929). (Fig. 5).

IVERSITATEA DE LAȘI
LABORATORUL DE ZOOLOGIE

Lb. Ap. 929

Domnule Calinescu

Mi-primut ați adătat daru plicului
de la Dr. cu rești.

Caștinușii tui răf în ficare
săptămână adădați raportați
de la de uchișu.

Doam uchișii pe se Calinescu
uchișii - l u se pient amine
t u furt a uchișii n' pashușu
uphebiș.

Caștinușii cu observațiile rapoș
Cum am spus în precedentele
scușii.

Fig. 5. Handwritten letter of Professor I. Borcea with mention of Mr. [Dr. R.] Călinescu (collection Dr. Alexandru S. Bologa).

"Mister Administrator, Miss Celan, assistant Botany laboratory, comes to the Station for the study of Algae. You will help her for collection of material. Give her the end room (down floor to my laboratory). She can work in the first room of the laboratory where Mr. Motas has worked or in the student hall to the sea. For eating she will pay like Mr. Dr. Gavrilesco (we consider one person)" (July 11, 1930) (Fig. 6). "Mister Gavrilesco, I) I got your last report, you tell me about everything, except fish embryos" (Wednesday). "Please therefore take observations about everything fished, by you and in the neighbourhood and as soon you can purse seine with the trail net or with the filet net for small things at the Zostera or more offshore. Great attention to the date of spawning and the collection of as small fishes and of as many species. Here big political unrests – still nothing came out. I go tomorrow to Iassy and as soon as ... and the trap net works I come surely to Agigea" (Saturday). "Miss Celan arrived at the Station (Fig. 7); please help her completely in order to collect her material which she needs; the fisherman Vasile will come by boat to serve her (probably 1931–1932).

Journal Administrator
 Do Maria Celan, Asistent
 lab. Botanică la Stația
 pentru studii algele. În vedea
 de cercetare a culpei materiale.
 Să-i camera din capăt (câmp
 deșeu din laboratoriu meu)
 poate lucra în prima cameră din
 laboratoriu unde o luată de la
 sau în sala de studii de la
 pentru mare din un plan
 cu o de Dr. Gavrilesco (material
 permanent)
 Director Prof. Borcea
 11 Jul 1930

Fig. 6. Example of appreciation paid by Professor I. Borcea to Maria S. Celan related to her activity at the Station (collection Dr. Alexandru S. Bologa).

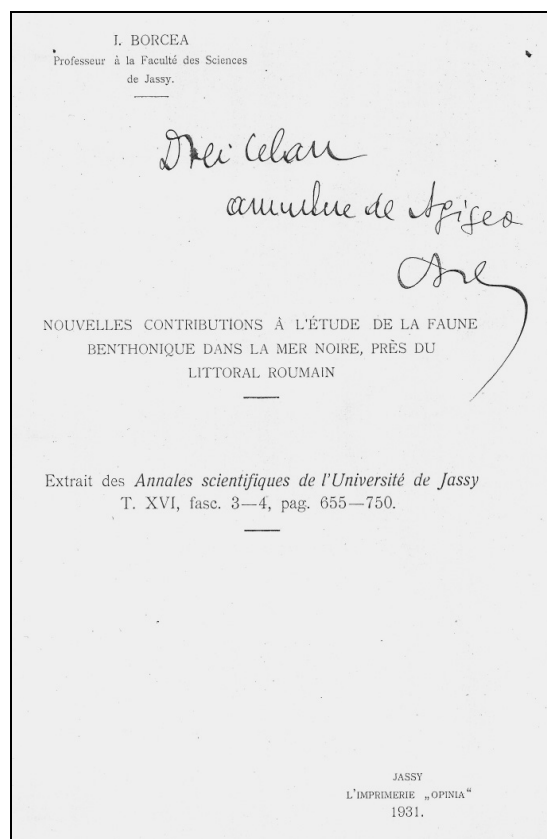


Fig. 7. Reprint of the scientific article “Nouvelles contributions à l’étude de la faune benthique dans la mer Noire près du littoral roumain”, *Annales scientifiques de l’Université de Jassy*, T. XVI, fasc. 3–4, pag. 655–750 (L’Imprimerie “Opinia” Iassy 1931) dedicated handwritten by Professor I. Borcea to Maria S. Celan (collection Dr. Alexandru S. Bologa).

The devotion of the Administrator in the context of the research tasks of the Station results *i.a.* also from following example: “*To the Inspector of the State Fisheries Constanta: Mister Inspector, I have the honor to ask you to kindly give order to the agent from this point to not allow the goby fishermen to fish in front of our observation sector especially in the vicinity of the shore and also not to allow the exit on our shore where there are several locations under scientific observations – he says that the Sea is international and that anyone can fish wherever he likes. In case he cannot stop them at least not encourage them. Administrator I. Gavrilescu*” (letter 18/April 29, 1928).

Of particular value are, inclusively for comparative purposes with the present situation (INCDM, 2013), the regularly gathered data on the fish catches off the Station: “*Mister Director, I have the honor to report that during this week at this station the following fish amounts have been fished:*

| | | |
|----|--------------------|---|
| | June 19–21 | no fishing trap net out because of wind |
| | June 22 | 145 kg small horse mackerel 5 kg bluefish |
| | June 23 | 88 kg small horse mackerel 7 kg bluefish |
| | June 24 | 204 kg small horse mackerel 10 kg Danube sturgeon |
| | June 25 | 438 kg small horse mackerel 11 kg bluefish (report 25/ June 25, 1927), |
| or | July 3 | 284 kg blue mackerel 150 kg small horse mackerel |
| | July 4 | 32 kg horse mackerel 6 kg Azov chad |
| | July 5 | 62 kg horse mackerel |
| | July 6 | 30 kg horse mackerel 4 kg Azov chad (report 29/July 9, 1927), |
| or | April 29 | 53 kg Danube shad 9 kg Azov chad 35 kg small Azov chad |
| | April 30 | 7 kg Danube chad 200 kg Azov chad |
| | May 1 | holyday |
| | May 2 | 98 kg Azov chad |
| | May 3 | 76 kg Azov chad 35 kg [?] |
| | May 4 | 25 kg Danube chad 13 kg Azov chad (report 20/May 4, 1928), |
| or | May 6 | 86 kg Danube chad 295 kg Azov chad |
| | May 7 | 11 kg Danube chad 137 kg Azov chad |
| | May 8 | 33 kg turbot 167 kg Azov chad |
| | May 9 | 36 kg turbot trap net out storm |
| | May 10 | 84 kg Azov chad trap net out |
| | May 11 | 162 kg turbot (report 21/May 12, 1928), |
| or | May 12–31 | |
| | 1. small Azov chad | 217 kg |
| | 2. blue mackerel | 21 kg |
| | 3. anchovy | 6 kg |
| | 4. red mullet | 5 kg |
| | 5. turbot | 34.9 kg |
| | 6. gobies | 14 kg |
| | Total | 612 kg (report 25/May 31, 1928), |
| or | June 13 | 901 kg small horse mackerel 7 kg bluefish |
| | June 14 | 275 kg small horse mackerel 4 kg bluefish |
| | June 15 | 545 kg small horse mackerel 13 kg bluefish |
| | June 16 | 385 kg small horse mackerel 18 kg bluefish |

| | |
|------------------|--|
| June 17 | 294 kg small horse mackerel 43 kg blue mackerel |
| June 18 | 505 kg small horse mackerel 13 kg bluefish |
| June 19 | 243 kg small horse mackerel 33 kg bluefish |
| June 20 | 440 kg small horse mackerel 21 kg bluefish |
| June 21 | 97 kg small horse mackerel 568 kg blue mackerel |
| June 22 | 35 kg small horse mackerel 52 kg blue mackerel |
| June 23 | 180 kg small mackerel |
| June 24 | 327 kg small horse mackerel 65 kg bluefish 12 kg blue mackerel |
| June 25 | 1129 kg small horse mackerel 56 kg bluefish |
| <hr/> | |
| Total | 5943 417 |
| <hr/> | |
| Total June 12–26 | 6360 kg (report 28/June 26, 1928). |

It would certainly be interesting to compare also the contemporaneous price of fish with the present one even if the abundance and frequency of the species along the Romanian Black Sea coast (NIMRD, 2013) significantly differ nowadays compared with the period 1920–1940 (e.g. sturgeons, turbot, shad, a.o.): “*The price was for horse mackerel from 9.50 lei to 15 lei and the blue mackerel was sold between 50 to 90 [lei] kg* (report 28/July 3, 1927).

The concerns and the worries of the scholar became often evident from his rich correspondence, for example: “*If our fishery does not function please take as precise data from other fisheries and from Constanta possibly if somewhere nets are installed, likewise what you can dredge with the trail net (collect any material what is thrown by the sea) or 3) If you have not sent the map of the Black Sea (that one from the collection room to the sea on the wall) send it if Miss Celan will come ...we'll need it even if there is no hurry*” (probably 1931–1932).

All requests for marine biological material for museum collection purposes, such as, e.g., one from the “Unirea” High school for boys from Focsani (1930), in addition to many others, were always fulfilled conscientiously.

EDUCATION BY STUDENT ACTIVITIES

Attention to didactic activities and the training of students through field trips and laboratory works has typified Professor Borcea uninterruptedly from his beginning until his sudden decease; this work has continued through the early '70s. “*2) The rooms evacuated by the border guards will remain for the Messrs. Students, anyway until my arrival, do not give them for any other purpose*” (note No. 148/1926). “*5) The rooms freed by the soldiers stay for the students*” (note No. 152/1926). “*Please take measures in order to prepare the rooms for male and female students, as they will come soon, before them arrives Mr. Caraus who will inhabit his room*

from last year (you feed him on our account) and he works in the lower room of the laboratory ..., if another Professor comes, or Miss Celan, they can work in the room with the big aquaria (My room from the middle to be closed), the aquaria will be put into operation later in August (as because of the elections I can set only in August, we'll come notwithstanding for a few days after the high school graduation ... The Professors who come and ask to visit, students, you can show them something only accompanied by you or Mr. Caraus. The students will work in the hall towards the sea, near the factory" (Wednesday).

RESULTS AND INTERNATIONAL CO-OPERATION

In the accessed archival documents there is no information about the permanently engaged or temporary research staff and/or actual scientific results obtained by the Master or his co-workers, these being submitted directly to the University / Laboratory of Zoology, and very few submittals concern contacts maintained with institutions and/or national or foreign scientists.

The fruitful professional contacts of Professor I. Borcea with France are illustrated, *i.a.*, by the Ministry of Education, Cults and Arts / Directorate for Higher Education through its address No. 96402/November 1, 1933 to the consignment of Mister I. Borcea, professor at the Faculty of Sciences Iași: *"We have the honor to submit you in copy the invitation of Mr. Minister of the French Republic in Romania No. 98/[1]933 to become acquainted. The Ministry of Education has responded by thanking the French Government and the French-Romanian Institute for the solicitude expressed to the maintenance of the scientific relationships between France and Romania. Minister, indecipherable signature, Director General, indecipherable signature"*.

Unfortunately the frequent presence of the Station's Director and Romanian zoologist at the Marine Zoological Station "Anton Dohrn" in Naples / Italy, traced by the author personally on the occasion of his participation in the 8th International Congress of History of Oceanography on the premises of the station and visiting its archives in July, 2008 (Bologa *et al.*, 2013), has not been adequately documented by written material.

The Romanian personalities who have visited the Station have included, *e.g.*, Dr. R.I. Călinescu from the Descriptive Zoology Laboratory in Bucharest (1935), biologist M. Niculescu-Duvaz (1935), Professors A. Borza, I. Grintescu, I. Popescu-Voitești, I. Nyarady from the University of Cluj (1933), Dr. L. Rodewald from the Zoological Institute of the University of Cernăuți [Czernowitz] (1935), Professors G. Marinescu and F. Rainer from the Faculty of Medicine in Bucharest (1935), dr. T. Gane from the Ministry of Labour, Health and Social Care (1936).

Foreign guests such as Professor G.E. Palade – Nobel laureate / USA, E. Slastenenko – Director of the State Fisheries / USSR, A. Valkanov – Director of the Marine Zoological Station Varna / Bulgaria, Professor H.A. Jack – delegate of

the Department Science and Education for the Study of European Maritime Stations / USA, among others, have visited the Station and remained deeply impressed by its contributions, one more reason for the memory of the outstanding merits of Professor I. Borcea up to now.

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REFERENCES

1. Arhivele Statului / Serviciul Județean Constanța, Fond nr. 323 “Stațiunea de Cercetări Marine “Prof. I. Borcea” Agigea, 1926–1970.
2. Bologa A.S., 2009, Prima Stațiune Zoologică Marină la Agigea / Constanța (1926). În *Discursuri de recepție 2008–2009*, AOSR, V. Candea și D.S. Delion (cord.), Ed. AOSR, București, pp. 239–241.
3. Bologa A.S., Charlier R.H., 2011, Romanian marine centennial. *J.Coast.Res.*, 27, 2, pp. 364–367.
4. Bologa A.S., Bologa A.F., Charlier R.H., 2013, Ioan Borcea and the First Marine Zoological Station at Agigea (1926). In *Places, People, Tools. Oceanography in the Mediterranean and Beyond*, Proc. Eight Int. Congr. Hist. Oceanogr., C. Groeben (Ed.), Giannini Ed., Napoli, pp. 173–184.
5. *Dobrogea Jună*, 1936, Moartea profesorului Borcea – o victimă a științei, XXXXII, 172–173, 2.
6. Institutul Național de Cercetare-Dezvoltare Marină “Grigore Antipa” (INCDM). *Raport asupra stării mediului marin în 2013*, <http://www.rmri.ro>.
7. Iorga N., 1975, Moartea unui învățat: profesorul Ion Borcea. În *Oameni care au fost*, Ed., Militară, p. 233.
8. Lăpușan A., Ciupină V., 2011, Stațiunea zoologică marină de la Agigea – primul așezământ de cultură universitară din Dobrogea. În *Cititorii spirituale dobrogene: Universitatea “Ovidius” din Constanța*, Ed., Dobrogea, pp. 49–73.
9. Motaș, C., 1936, Profesorul Ion Borcea fondatorul primei Stațiuni zoologice maritime din România (1879–1936), *Analele Dobrogei*, XVII, pp. 152–160.