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電話0246(73)2525(代表)

発行日

令和3年11月28日(通巻86号) ■●登録の有効期限の末日/2021年11月29日



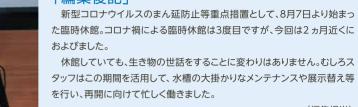


「編集後記」



▲臨時休館中も、オンライン動画を使った 教育普及プログラム等が実施された(詳細は本誌6ページに掲載)。

Educational dissemination programs using online videos were held even during the temporary closure (details are posted on page 6 of this magazine).



Postscript by the editor

Due to preventive measures for the COVID-19 pandemic, AMF was closed for nearly two months from August 7.

There is a saying, Good comes out of evil, but the staff took advantage of this unfortunate closure to carry out major facility maintenance, tanks cleaning, and renewal of exhibits that they wouldn't normally be able to do.

by Editor

(編集担当)



「ボランティアも活動再開」

10月1日、コロナ禍によるまん延防止等重点措置を受けて8月7日より休止して いたボランティア活動が、再開されました。また、昨年は見送ったボランティアの 新規募集を、今年は実施します。

コロナ禍の状況下、依然としてボランティア活動は規模を縮小していますが、 感染対策を十分に行い、頑張っていきます。

(アクアマリンふくしまボランティア 杉山 めぐみ)



▲ボランティアが活動する釣り体験。 密を避けるため、竿と竿の間隔を大きく開けてある。

Fishing experience where volunteers are active. In order to avoid denseness, the distance between the rods is wide.

Volunteer column "Resumption of volunteer activities"

On Oct 1, volunteer activities, which were suspended from Aug 7 in response to the emergency measures taken to prevent the spread of infections caused by the coronavirus pandemic, were resumed. Recruitment of new volunteers which was postponed last year will be carried out this year.

Although the scale of volunteer activities has naturally been curtailed as a result of the coronavirus pandemic, we will try our best to conduct them while taking sufficient infection control measures.

by Megumi Sugiyama









撮影: 菅原貴徳氏(写直家)

カワセミ 学名 Alced atthis

カワセミは、池沼や河川などの水辺付に生息し、日本では本 州以南で留鳥、漂鳥として見ることができます。川魚や川エビ、 カエルや水生昆虫などを餌とし、勢いよく水中に飛び込んで獲 物を捕らえます。蒼緑色の背中はとても美しく、自然の豊かさ 美しさの象徴的な存在となっています。

Alced atthis

Kingfishers inhabit waterside areas such as ponds and rivers. In Japan, you can see it as a resident bird or a drifting bird in all areas except Hokkaido. Kingfishers feed on river fish, river shrimp, frogs, aquatic insects, etc., and jump into the water vigorously to catch their prey. The blue-green back is very beautiful and has become a symbol of the richness and beauty of nature.

希望者には無料でお配りします。 郵送希望の方は140円切手 を同封のうえ、公益財団法人ふくしま海洋科学館 命の教育 グループ宛にお申し込みください。

最新号及びバックナンバーは当館公式ウェブサイト (https://www.aquamarine.or.jp)でもご覧いただけます。



▲ カイメン内で休息するような様子 Scene of creature resting within the glass sponge



▲ ヒロメオキソコエビ Eurthenes aequilatus

7月から親潮アイスボックスコーナーにて「ヒロメオキソコエビ」と「ウオノシラミ属の一種」の展示を始めました。この2種類は、北海道羅臼沖水深800~1200mの刺し網漁で採集された深海に棲む甲殻類です。ヒロメオキソコエビは、ヨコエビの仲間で2017年に新種として公表され、今回が世界初展示です。一方のウオノシラミ属の一種は、魚に寄生し体液を吸い、満腹になると離れる「半寄生性」の生物で、日本近海では7種が知られていますが、種の特定で重要な部分の観察ができていないため、種の同定ができていません。

この2種は、どこの水族館でも展示されにくい「陰の生物」であるうえに、大きさはわずか3~5cm。それでも未知な生物の展示の可能性を見出すべく、世界初展示として意気揚々とお披露目したところ、SNS上で「寿司にそっくり」とまさかの方向で話題に…。意図せぬ展開でしたが、結果的に、光が当たりにくい「生物の存在」を多くの方が知るきっかけとなったのは、嬉しい誤算でした。現在はウオノシラミ属の一種のみの展示ですが、今後も、深海の多様性を表現できる新たな展示と長期飼育に挑戦していきます。最後に、採集にご協力いただいた羅臼漁協協同組合の藤本繁樹氏、藤本繁忠氏、種の特定にご尽力いただいた鹿児島大学の小玉将史氏、水土舎の齋藤暢宏氏にこの場を借りて深く御礼申し上げます。

(海・生命の進化/潮目の海グループ 日比野 麻衣)

▲この正面のつぶらな瞳をみても、寿司とよびますか? Looking at the round and cute eyes at the front, can it be known as sushi?



▲ ウオノシラミ属の一種 Aspecies of the *Rocinela* sp.

World's first exhibited species truly looks like ○○?! - Eurthenes aequilatus and a species of the Rocinela sp.-

July, an exhibition on the "Eurthenes aequilatus" and "A species of the Rocinela genus" was started in the Oyashio Ica Box corner. These 2 species are deep-sea crustaceans caught with gill nets at a water depth of 800 to 1200 m in the open sea off Rausu, Hokkaido. Eurthenes aequilatus as published as a new species in 2017 as a member of the deep-sea Eurtheneidae, and this is the first that it is exhibited in the world. The species of the Rocinela sp. is a "semi-parasitic" creature that absorbs body fluids by attaching itself to a fish but leaves when it is full. Although 7 species are known to live in the coastal waters of Japan, the species is still not clearly known as currently, key parts of it cannot be observed in identifying the species.

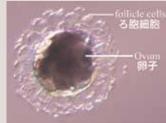
On top of being "shady creatures" that are not exhibited anywhere else in the world, these 2 species have a mere size of 3 to 5 cm. Notwithstanding this, upon unveiling them in high spirits as the world's first exhibits so as to uncover the possibility of exhibiting these unknown creatures, their "uncanny similarity to sushi" unexpectedly became a topic of discussion on SNS. While things did not turn out as expected, in the end it turned out to be a pleasant miscalculation as they provided an opportunity for many people to get to know the existence of creatures that is hardly to come into the spotlight. Currently, although only 1 species of the Rocinela genus is exhibited, in future we would like to take on the challenge of exhibiting and rearing new creatures that represent the diversity of the deep sea. Lastly, we would like to take this opportunity to express our deep gratitude to Mr. Shigeki Fujimoto and Mr.Shigetada Fujimoto from the Rausu Fisheries Cooperative Association who helped us in catching the creatures, and Mr. Masafumi Kodama from Kagoshima University and Mr.Nobuhiro Saito fromSuido-sha Co. Ltd., who received a lot pf cooperation us in identifying the species.

by Mai Hibino





▲ Fig.2 産卵直後の卵
Predatory tunicate spawning in the aquarium



▲ Fig.3 産卵後1日目 Egg of one day after spawning



▲ Fig.4 孵化直後の幼生(産卵後8日) Newly hatched larvae (eight days after spawning)



▲ Fig.5 着底直後の幼生(産卵後12日) Newly bottom-reaching larva (twelve days after spawning)

オオグチボヤは、水深300~1000mの海底の岩盤や沈木に付着して生活しているホヤの仲間です。小型の甲殻類を捕食する大きな口を持つことが特徴で、体が柔らかいため、生きて採集することがとても難しい生き物です。当館では2014年から北海道羅臼町沖の刺し網漁やエビかご漁で採集し飼育展示に取り組んでいます(Fig.1)。

2021年6月に羅臼沖で採集した本種の水槽内で数千個の白色の粒子が確認されました(Fig.2)。 顕微鏡で確認すると、それらの粒子は「ろ胞細胞」が卵子を包むヒマワリのような形状を持ち、直径が0.30~0.35mmであることから、オオグチボヤの卵であることが分かりました(Fig.3)。

同じ水槽内で数度にわたり産卵を確認したため、卵の育成を試みました。卵は、水温約3.0℃の水槽にウォーターバス方式で浮かべ毎日状態を確認しました。産卵後8日目から全長約1mmのオタマジャクシに似た幼生の遊泳を確認し(Fig.4)、着底基質としてプラスチック製の糸を水槽内に入れると、産卵後12日目には着底した個体を観察することができました(Fig.5)。

今回は本種の着底までの育成でしたが、今後、さらに着底基質や幼生のエサの検討を行い、本種の繁殖研究に取り組んでいきたいと思います。

(海・生命の進化/潮目の海グループ 松崎 浩二・石井 輪太郎)

The unknown ecology of predatory tunicate, *Megalodicopia hians*, inhabiting the deep sea - Spawning and rearing -

Predatory tunicate is a member of the sea squirt family which lives at the bottom of the sea at a water depth of 300 to 1000 m by attaching itself to the bedrock and sunken wood. It has a characteristically extraordinarily large oral aperture to feed on small crustaceans and it is extremely difficult obtain undamaged live specimens because of soft-bodied species. Since 2014, Aquamarine Fukushima has carried out continuous sampling of it collecting by using gill nets and commercial shrimp traps in the open sea off Rausu, Hokkaido, for display and reproductive studies (Fig.1).

In June 2021, several thousand white particles were obtained in the tank housing predatory tunicate collected in the off Rausu (Fig2). Upon observing them with a microscope, we found that these particles are the eggs of the predatory tunicates as they are follicle cells having the shape of a sunflower surrounding the eggs and a diameter of 0.30 to 0.35 mm (Fig.3).

We tried rearing the eggs as spawning was observed over several times inside the same water tank. The eggs were kept in a water bath-type water tank (ca. 3.0°C) and their daily condition was observed. 8 days after spawning, we observed larvae swimming like tadpoles with an overall length of about 1 mm (Fig.4), and when we placed threads made of plastic into the water tank as a bottom matrix, we managed to observe specimens reaching the bottom 12 days after spawning (Fig. 5).

In this present study we could rear them until they reached the bottom and in future, we would like to find their suitable bottom matrix and food of larvae in our research so as to breed this species.

by Koji Matsuzaki and Rintaro Ishii





▲それぞれの漁業についての説明を見ながら漁具と採れる生物が わかるようになっています。 Visitors to get to know the fishing tools and creatures caught while looking at the respective descriptions of the fishing industry.

令和3年7月15日より企画展「アクアマリン子ども魚市場」を 開催しています。3つの展示エリアで構成され、子どもたちが 福島県の漁業について遊びながら学ぶことを目的としていま す。最初のエリアは定置網を模したミニチュアの網の中にサ ンマやイカなどの魚のイラストのトンネルを通って漁業の世界 に入っていきます。次のメインエリアでは刺し網、カゴ漁など、7 つの漁業法をテーマにした水槽があります。ここではそれぞ れの漁で採れる生き物が展示されています。そして、漁業が 置かれている現在の状況や海の環境が脅かされていること もパネルで解説されています。

最後のエリアは漁業をモチーフにした体験エリアです。 正しい餌を使わないと対象となる漁獲物のぬいぐるみが釣れ ないようになっている釣りコーナーや、大きなタコカゴに入るこ とができるコーナーなど、採る側と採られる側を遊びながら体 験することができます。

日曜祝日にはオリジナルお魚カードが当たるカプセルトイを 回すことができ、生き物の特徴をわかりやすく解説しています。 お魚カードも展示エリアもイラストレーターの友永たろさんにデ ザインをお願いし、見ているだけでワクワクするような展示エリ アとなりました。

(海・生命の進化/潮目の海グループ 岩田 雅光)



▲釣りコーナーではエギによるイカ、サビキでサバ、 一本釣りでカツオなどが釣れます。 In the fishing corner, squid, mackerel and skipjack tuna can be caught respectively by eging, rigging, pole and line fishing and so on.

Special exhibition "Aquamarine Kids Fish Market"

A special exhibition "Aquamarine Kids Fish Market" is being held from July 15 2021. Composed of 3 display areas, the exhibition aims to let children learn more about the fishing industry of Fukushima Prefecture in a fun way. The first area leads you into the world of the fishing industry after passing through a tunnel illustrated by fishes such as the Pacific saury, squid, etc., in a miniature net simulating a stationary net. In the next main area, there are water tanks that uses 7 types of fishing methods such as gill nets, fishing baskets, etc., as a theme. Creatures caught at each respective catch are exhibited here. The current situation that the fishing industry is in and the threats that the marine environment faces are also explained in the panels.

The area at the end is a hands-on area using the fishing industry as a motif. At the fishing

corner where soft toys of the creature you want to catch cannot be caught unless the right bait is used, or the corner which lets you get into a large octopus cage, visitors can experience what is like catching and being caught while having fun.

On Sundays and holidays, children can turn a capsule toy machine to get original fish cards, which explain the characteristics of living creatures in an easy-to-understand manner. The fish cards and display areas were designed by the illustrator Taro Tomonaga, turning the display areas into visually exciting places.

by Masamitsu Iwata



The state of the photo exhibition meeting place



▲ 日本で見られるカワセミの仲間、 アカショウビン Common kingfisher, ruddy kingfisher seen in Japan



▲オーストラリアで見られるカワセミの仲間、ワライカワセミ Common kingfisher, kookaburra seen in Australia

池沼や河川などの水辺を住処とするカワセミは、日本では留 鳥、漂鳥として本州以南で見ることができます。世界では東南 アジアからアフリカ大陸北部まで幅広く生息しています。

カワセミの名前の由来は諸説ありますが、「セミ」は昆虫の 蝉ではなく「ソニドリ」という言葉を略した「ソニ」が「セミ」へと 変化したそうです。この「ソニドリ(翠鳥)」とは、古事記や日本 書紀に登場する蒼緑色の鳥を表す言葉であり、つまりカワセミ とは「川に棲む蒼い鳥」という意味があると考えられています。

昔から自然の美しさ、豊かさの象徴として親しまれてきたカ ワセミですが、現在では河川開発や湿地の埋め立てなどの影 響を受けてその姿を減らしつつあります。カワセミはテリトリー を持つため、餌場となる池沼等1箇所に対して、共存できる数 が限られています。「カワセミのいる水辺がどこかに1箇所残 っていれば良い」のではなく、「命を繋ぐために、今減りゆく自然 豊かな水辺環境をこれ以上減らすことなく守っていく」ことが

アクアマリンいなわしろカワセミ水族館(AIKA)では、11月6 日から、写真家、菅原貴徳氏のご協力のもと、国内外各地のカ ワセミの仲間14種を紹介する写真展「~世界と日本のカワセ ミたち~」を開催しております。カワセミ科の仲間は世界のほ ぼ全域に100種ほど生息しており、紹介しているカワセミたち はその中のほんの一部ですが、彼らの生態や現状について 発信しています。

(アクアマリンいなわしろカワセミ水族館 永山 駿)

Common kingfisher, a living gem Photo exhibition "- Kingfishers of the World and Japan-"

Inhabiting the waterside of ponds, swamps, and rivers etc., the common kingfisher can be seen in all over Japan except Hokkaido as non-migratory and wandering birds. It is found widely throughout the world from Southeast Asia to the northern part of the American continent.

Rumor has it that the Japanese name of the common kingfisher is derived not from the "semi" in the Japanese name of the insect "cicada" but from a transformation of the abbreviation "soni" in "sonidori". This "sonidori" is a term representing the blue-green bird that appears in the historical records and chronicles of Japan, in other words, common kingfisher can be thought of as a "blue bird living in the river".

Since olden days, the common kingfisher has been well-loved as a symbol of natural beauty and affluence, but currently, its appearance is diminishing due to the impact of river development, reclamation of wetlands and so on. As the common Kingfisher is a territorial creature, the number that can co-exist in a single feeding ground such as a pond or swamp etc. is limited Therefore, instead of thinking it is alright as long as there is a waterside remaining somewhere for the common kingfisher, it is important to protect its life by ensuring that waterside environments rich in nature that are disappearing are not reduced further beyond this.

Starting Nov6, a photo exhibition titled "Common Kingfishers of the World and Japan" that introduces 14 species of common kingfishers in Japan and overseas will be held with the cooperation of the photographer Takanori Sugawara at the Aquamarine Inawashiro Kingfishers Aquarium (AIKA). Approximately 100 members of the common kingfisher family live all over the world and while the common kingfisher that we introduced is just a small part among these, information on their ecology and current situation was shared.

by Shun Nagayama

主なできごと 2021.7月~9月

7月6日	第2回理事会決議により、新理事長兼館長に古川健(統括学芸員)が就任。
7月10日	キッズプログラム「いわきの郷土料理「ウニの貝焼き」をおうちで作って
	みよう」(オンライン講座)開催
7月12日	古川健新館長、安部義孝前館長、福島県知事を表敬訪問。
	福島県より、安部義孝前館長に感謝状贈呈。
7月13日	シラユキモロトゲエビ、シレトコモロトゲエビ、シレトコモロトゲエビの
	親子展示を開始
7月15日	企画展「アクアマリンこども魚市場」オープン (~2022 5/8)
	安部義孝前館長にアクアマリンふくしま名誉館長の称号授与
7月17日	キッズプログラム「蛇の目ビーチで潮干狩り体験」開催
	第2回「アクアマリン・アカデミートーク」参加者募集開始(~8/31)
	企画展「夏はやっぱりカブトムシ」開催(AIKA ~8/31)
7月18日	累計入館者1,500万人達成
	キッズプログラム「蛇の目ビーチで潮干狩り体験」開催
7月20日	ヒロメオキソコエビ、ウオノシラミ属の一種 (同定中)を展示
7月21日	小名浜応援キャンペーン開始
7月22日	「黄金シーラカンスのつぶやき」絵画お披露目式開催
7月25日	キッズプログラム「川の生き物観察会」
7月30日	オオグチボヤの産卵から孵化、遊泳の様子を撮影した動画を公開
8月2日	教員セミナー(1回目)開催
8月3日	教員セミナー(2回目)開催
8月7日	COVID-19蔓延防止等重点措置により、臨時休館(~9/30)
9月8日	企画展「猪苗代のトンボ ~横井直人写真展~」開催 (AIKA ~10/24)
9月11日	キッズプログラム「おうちでヤドカリを飼ってみよう」
	(オンライン講座)開催

Major Events (July - September)

July 6	Mr. Takeshi Furukawa is appointed as the new director
	and curator by a resolution at the 2nd board of directors'
	meeting.
July 10	Kids' Program "Local cuisine of Iwaki - Let's make 'sea
	urchin baked in its shell' at home" (online course) held
July 12	Courtesy visit by new director Takeshi Furukawa, ex-director
	Yoshitaka Abe and Governor of Fukushima Prefecture
	Presentation of certificate of appreciation to ex-director
	Yoshitaka Abe from Fukushima Prefecture.
luly 19	Parent and shild exhibits of the Pandalus princens

July 13 Parent and child exhibits of the *Pandalus princeps*, Pandalus houyuu, and Pandalus houyuu started Opening of special exhibition "Aguamarine Kids Fish

> Market" (till 2022 5/8) Conferment of the title of honorary director of Aquamarine Fukushima on ex-director Yoshitaka Abe

July 17 Kids' Program "Shell Gathering at Low Tide in Janome Recruitment of participants for the 2nd "Aquamarine Academy Talk" starts (till 8/31) Special exhibition "Rhinoceros Beetles in Summer" held (AIKA till 8/31)

July 18 Total number of visitors to the aquarium reached 15 million Kids' Program "Shell Gathering at Low Tide in Janome

July 20 Exhibit on a species of the Eurthenes aequilatus from the Rocinela genus (under identification)

July 21 Start of "Onahama Support Campaign" Opening ceremony of the "Murmurings of golden July 22

coelacanth" painting held July 25 Kids' Program "River Creature Watching"

July 30 A video capturing the creatures Predatory tunicate hatching and swimming after spawning was released

Instructor seminar held 2nd

Aug. 3 Aug. 7 Temporary closure of aquarium due to key measures to prevent the spread of COVID-19 (till 9/30)

Sep. 8 Special exhibition "Dragonfly of Inawashiro - Naoto Yokoi Photo Exhibition -" held (AIKA till 10/24)

Kids' Program "Let's try keeping hermit crabs at home" (online course) held

からは好

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▲作成した動画 Video produced



▲参加者から頂いた、ヤドカリを観察する様子 Scene of participants observing hermit crabs that was received from a participant

As an infection control measure this time, the kids' program "Let's Raise a Hermit Crab at Home" was held online using YouTube. The method of rearing hermit crabs was explained in a video uploaded to the website, and the comments column of the video was used to answer questions posed by the participants.

The purpose of this program is not only to teach children the ecology of the hermit crabs through actual breeding, but also to get them to enjoy the fun of breeding living creatures and feeling responsible for their lives. Fortunately, it was well received by the participants, but as it was an online program that we are not used to, we still feel there are lots of room for further improvement. by Subaru Jyokura

キッズプログラム

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2021年12月11日(土) 13:30~15:00 nを紹介する新企画「アクアマリン・ア バァー 東3弾は、謎が多い深海ザメ、ラブカの解剖をおこ 東3弾は、謎が多い深海ザメ、ラブカの解剖をおこ

海・生命の進化 目 \vec{o} 内 信弥)

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▲ 写真2:第3回「ラブカの秘密~謎だらけ 深海ザメの生態に迫る~」のチラシ

Leaflet on the 3rd "Secrets of the Frilled Shark - Investigating the Ecology of the Mysterious Deep-Sea Shark'

Since June 2021, the staff of Aquamarine Fukushima has been conducting a new event called "Aquamarine Academy Talk" to present their research on living creatures and scenes from the fishing expeditions to the public. Out of the 3 times scheduled, the event has already been held 2 times. The first event was titled "Survival Strategy of Eggs and Fry - Have you ever seen oarfish eggs? -", and the second event was titled "Treasure trove of new species! Seas of Shiretoko - What a waste with just clione! -" (Photo 1).

The 3rd and last "Secrets of the Frilled Shark - Investigating the Ecology of the Mysterious Deep-Sea Shark" is shown in Photo 2. The event introduces the research that the aquarium conducts on the ecology of the deep-sea frilled shark which is still largely unknown. The seminar is known as a hybrid seminar as participants can either come to Aquamarine Fukushima to participate in it, or participate online in their own homes. As the 3rd course will be held on Dec 11, we look forward to the participation of everyone

▲ 入館者 1500万人達成記念セレモニー

attendance.

by Shinya Yamauchi



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▲ 写真1: 第1回と第2回の告知チラシ 1st and 2nd announcement leaflets



AMF TOPICS

八日

入館者 記念セレキ Commemoratic for reaching 15 〇万 n ceremony million visitors 達

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Once again, we would like to express our gratitude to Kuwasawa family who attended the ceremony, and everyone who visited the aquarium over the last 21 years. Thank you for visiting the aquarium. We look forward to your continued support in future. by Akiko Tsuchihashi

nemoration ceremony for reaching 15 million visitors

On July 18, 2021, three days after welcoming its 21st anniversary, the aquarium

broke through the milestone of a total of 15 million visitors since its opening. In

commemoration of this milestone, the 15 millionth visitor Kuwasawa family were

invited to the modest ceremony, which was held in the Fukushima-Kuwait

Friendship Memorial Garden. We managed to hold the ceremony in a congenial

atmosphere under the summer blue sky with the Jomon dog Sakura also in

AMF 6 NEWS