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Crayfish NEWS

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The Official Newsletter of the International Association of Astacology

Inside this issue:

Signal and Spiny-cheek Crayfish in a Perennial Upland Stream in Central-eastern France

[Photo 4]. An environmental science student, Jérémy Martin, collects young signals (TL 2.2 to 3.1 cm) from scree along the stream's west bank below Chauvilly bridge. Around him, adult signals were found in burrows at the water's edge and beneath large stones. Cessy, May 2006. (Photo: David Baldry).

In October 2005 the Cessy angling club (APEC) urged that an environmental assessment be made of non-indigenous crayfish species (NICS) in Cessy pond and that a brief review be made of the crayfish situation in other parts of Cessy parish. The latter study, which is discussed herein, was directed at the Oudar stream, the southern tributary of the R. Versoix, which drained into Lake Léman at Versoix (north of Geneva in the Swiss canton of Vaud). It was also the only upland stream in the parish that was perennial and had a history of crayfish occupation.

In former times the white-clawed crayfish (*Austropotamobius pallipes*) inhabited the stream but by the end of the 20th century that species had apparently been replaced by the signal crayfish *Pacifastacus leniusculus* and the spiny-cheek crayfish *Orconectes limosus* (Anon, 2005).

Basic features of Cessy parish

Cessy parish is located to the south of Gex town in the Pays de Gex of the French Department of Ain. It spans the main road from Ferney Voltaire (and Geneva) in the south, to Gex (and Paris) to the north-west. Some basic features of its geography and hydrography are presented in Figure 1.

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Catherine Souty-Grosset, IAA President *(France)*

You can now cast your ballot for the IAA officer elections online through the IAA website. You can also vote on proposed changes to the society bylaws, and make your selection for the location of the venue for the next IAA symposium (IAA-18). See page 3 for instructions on how to access the online voting system.

President's Corner

Dear IAA members,

With the present letter, I realize that I am near the end of my term as President of the IAA and I have been particularly glad to see the dynamism of the Association during this time. As you know the IAA was founded in Hinterthal, Austria in 1972; with its main aims being to encourage the scientific study of crayfish for the benefit of mankind, to provide for the dissemination of research findings relating to crayfish, and to develop an international forum for free discussion of problems relevant to crayfish. Our summer biannual meeting IAA17 is fast approaching under the auspices of the University of Kuopio and it will be an excellent opportunity to have fruitful scientific discussions as usual.

The biennial conference is also the opportunity to organize the General Assembly Meeting. During this meeting, candidates for hosting the next conference are invited to present their proposals, the IAA board presents any modifications to the bylaws, and the final results of the election will be presented at the end of this general business meeting in Kuopio (results will also be published in the September issue of *Crayfish News*).

Again, through the great efforts of our Secretary, Jim Fetzner, I want to remind you that the online ballot for the 2008 International Association of Astacology elections has been open since the 8th of July and is accessible to members through the IAA website. Especially, if you will not have the opportunity to join us this year in Kuopio, please navigate your browser to the IAA home page (http://iz.carnegiemnh.org/crayfish/IAA/) and click on the big Vote icon to the right of the home page to Login, and you will have access to the ballot. Moreover you will have the opportunity to discover the bylaws of the Association and the potential hosts of the IAA18 symposium. It is really the first time that we have such a user-friendly system allowing you to actively intervene in the life of the Association and make your selection for each office. You also have the ability to propose changes to the bylaws. New ideas are naturally always welcome and the efforts of all members are very much appreciated as it is a means to support IAA by voting in this election. The last day to cast your vote online will be Thursday, August 7th.

With my final letter as President of the IAA, I want to say how much I have appreciated the continuing exchanges I have had with the officers and IAA board members. I am in charge of gathering IAA membership applications for Europe (my plug to once again remind you that it is still time to renew your membership if you want to continue to enjoy *Crayfish News*). I will pass the responsibilities (and the precious crayfish fossil) on to the incoming President, and let me close by wishing him and the new officers the best for the next two years. H

Catherine Souty-Grosset
IAA President

The International Association of Astacology (IAA), founded in Hintertal, Austria in 1972, is dedicated to the study, conservation, and wise utilization of freshwater crayfish. Any individual or firm interested in furthering the study of astacology is eligible for membership. Service to members include a quarterly newsletter, membership directory, bi-annual international symposia and publication of the journal Freshwater Crayfish.

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Statements and opinions expressed in *Crayfish News* are not necessarily those of the International Association of Astacology.

This issue edited by James W. Fetzner Jr.

Dear IAA Members,

Just a short note to inform you that the online ballot for the 2008 International Association of Astacology elections is now open and accessible to members from the IAA website.

To cast your vote in the 2008 election, just navigate your browser to the IAA home page (http://iz.carnegiemnh.org/crayfish/IAA/) and click on the big Vote icon (same as the one shown above) to the right of the home page to Login. After you login successfully, you should see the same Vote icon again. Click that icon to access the online ballot.

On the first screen you will be presented with links to various PDF documents related to a) proposed changes to the bylaws (19 this time!!) and b) Proposals from the potential hosts of the IAA18 Symposium. You should download and read through these before proceeding on to the ballot, as it may take some time to absorb all of this information. If you enter the ballot and start reading the documents available there, your session may timeout and you may have trouble accessing the ballot again (please feel free to contact me if such a situation arises, or if you run into other trouble with *the system*). Once all this documentation is read, voting should only take a few minutes. After reading the documents, click on the "Proceed on to Ballot" button.

Voting will occur as a 3-step process (officers, bylaws, and IAA18 venue). When you start voting, the first screen presents you with the list of society officer candidates. To view more information on each candidate, click on their name and a new window will open that contains additional information. Make your selection for each office and then click the Vote button at the bottom of the page. You also have the ability to submit a write-in candidate for each office, if you so choose. The second screen lists the various proposed changes to the bylaws. You will see the current bylaw text, the proposed changes and a short explanation of the change. Please indicate your vote for each of the 19 individual bylaw changes and then click the Vote button at the bottom of the page. The final ballot screen will record your selection of a venue for hosting the IAA18 symposium. Make your selection and click the Vote button. After clicking the final button, you will be presented with a screen that displays all of your ballot selections. You can print this for your records if you like. If you see an error in your ballot selections, you can click the "Change Your Vote" button at the bottom of this last page and you can recast your votes by visiting (and making selections on) all 3 ballot pages again.

For those members that do not have easy access to the

(Continued on page 7)

IAA17

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RAPU TIETO

August 2008
KUOPIO, FINLAND

News Items From Around the World

Red Swamp Crayfish on the Move in the UK

As part of the Environment Agencies non-native species monitoring within the Thames catchment we have been reviewing the spread of Red Swamp (*Procambarus clarkii*) crayfish within the Greater London area. This species has been present in Hampstead Heath Ponds (TQ2779586567) since 1991. Kenneth Richter and Roy Wiles reported in Crayfish News in 2000 that the species has spread to four ponds on the Hampstead Heath site with Turkish crayfish (*Astacus leptodactylus*) initially present in three lakes, although none were found in later surveys.

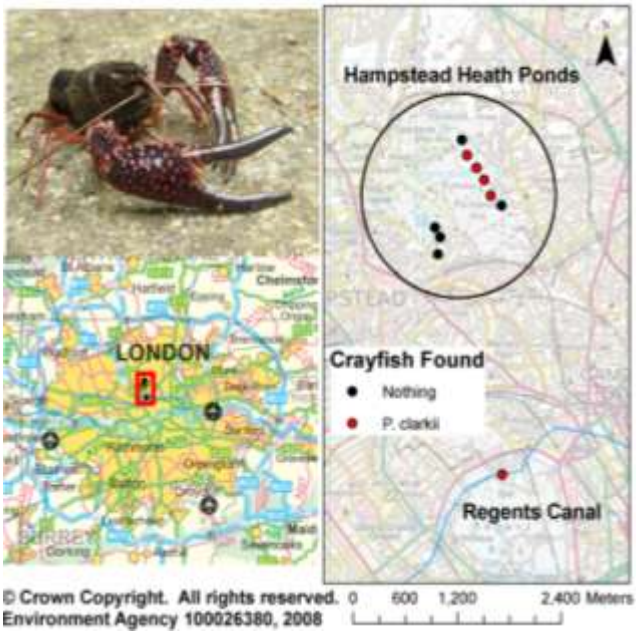

Figure 1. Range expansion noted for the red swap crayfish (*Procambarus clarkii*) in the UK.

Trapping undertaken by the Environment Agency in May 2008 recorded *P. clarkii* in four lakes, one of which was not trapped in 2000. No *A. leptodactylus* were found at any of the lakes. Further trapping on Regents Canal adjacent to London Zoo confirmed that *P. clarkii* was present, with four individuals caught in twenty traps.

It is not known how far the species has spread along Regents Canal. Further monitoring will give us an insight into the rate of spread and consequently the potential impacts of this previously isolated species within the UK. H

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Second Survey of West Virginia's Crayfishes Needs Your Help

The first serious effort to document West Virginia's crayfish, led by Raymond Jezerinac in the late 1980's, produced a monograph and wealth of distributional data for the state. Since that time, several regions of West Virginia have experienced severe environmental degradation and taxonomic methodologies have improved drastically that may lead to the description of undescribed taxa.

In response to this, the West Virginia Division of Natural Resources Heritage Program has supplied funding to myself and Dr. Stuart Welsh (USGS) to reassess West Virginia's crayfish fauna. The primary purpose of the project is to determine regions in the state harboring diverse crayfish faunas, to resolve the true extent of West Virginia's crayfish diversity, and establish the current conservation standing of the 22 known taxa that reside within the state borders (e.g., Figure 2).

If you have any information pertaining to West Virginia's crayfishes and are willing to share it, especially distributional data, I would appreciate an email (zloughman@westliberty.edu). Distributional data on primary burrowing species is particularly noteworthy, and we would appreciate any information individuals are willing to pass on to us regarding the distribution of these secretive animals. Any data shared aids in the conservation of the mountain state's crayfish fauna. All individuals who share data will be given credit in all manuscripts and reports produced by this effort. H

Thanks in advance!

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Annual Crayfish Rites Begin

For many Finns, the crayfish is a symbol of summer. Since stocks of the native species, known as the noble crayfish, were badly hit by plagues in the last century, the harvest has been carefully controlled.

Crayfishers began collecting the crustaceans from lakes, ponds and streams and rushing them to restaurants and shops on Monday. There, aficionados await them eagerly, and do not mind paying high prices for the tiny shellfish.

Those prices may be a bit lower this year as a bumper catch is expected. The game and fisheries institute says the

(Continued on page 5)

Figure 2. A, *Cambarus* (*J.*) *monongalensis* and B, *Cambarus* (*H.*) *chasmodactylus,* dynamic members of West Virginia's crayfish fauna. Photos by Zac Loughman.

(Continued from page 4)

haul could reach 10 million crawdads, up from nearly seven million two years ago, when it last conducted its biannual survey.

Most of them are signal crayfish, a species that was introduced in 1967 to make up for the shortfall in noble crayfish. Naturally the older, less common type fetches a higher price. The traditional species also takes longer to mature, five to 10 years. H

YLE News
Published 21-Jul-2008

Leeds Student Bids to Save Crayfish

The white-clawed crayfish clinging to life in secret stretches of Yorkshire rivers has a new champion. He intends to help the local inhabitant escape a vicious American invader: the signal crayfish which is driving it towards extinction.

The larger species was introduced unwittingly into British rivers and lakes and is causing a disastrous decline in the number of white crayfish, pictured right.

But the locals have a new champion in Leeds in conservation and ecology PhD Neal Haddaway who aims to give shelter to the threatened crayfish whose declining numbers are found in the Yorkshire Derwent, upper Aire, upper Ure, Wharfe, Swale, upper River Foss, Oak Beck and most of their tributaries, as well as streams to the north of Leeds.

As if the white-clawed crayfish has not enough survival problems, their brutal relatives from the United States bring with them a "crayfish plague", which amazingly the signal breed are immune to, yet it wipes out any white crayfish that it infects.

The disease already has an extensive hold over the south of the country, with native crayfish only known to remain in four or five waters in the south west .

Habitat

They are also suffering from a loss of their natural habitats. The Environment Agency is urging people to use disinfectants, such as Virkon S, to clean items used in water like fishing nets and swimming costumes, after entering any of the rivers.

"In Britain we have only one species of crayfish that is native to our rivers and lakes, and this species likely faces extinction across Europe – possibly as early as the next decade – if efforts are not made to conserve it", said Mr Haddaway, a PhD student at the University of Leeds.

"It may play a vital role in structuring animal and plant communities, and biodiversity may be badly affected if the white crayfish are lost."

To tackle the problem, and help him to complete an experiment for his PhD, Mr Haddaway is asking for the help of those with a pond or a small lake in their garden.

"Ideally the pond or lake would have a lot of wildlife, be at least five years old, be around two to five metres (6 -15 feet) across and not have a plastic lining, as crayfish do burrow into sediments," he explained. "It will bring benefits, such as the controlling of algae and the cleaning of water."

Neal is looking to investigate the way in which white-clawed crayfish affect other animals living in the same waters.

We will be collecting data on how communities of animals and plants change over time after the introduction of the white crayfish.

"This would be an opportunity for you to become the

(Continued on page 13)

Short Articles

Orconectes limosus Found Along the Lithuanian Coastal Zone of the Baltic Sea

On 16 of June 2007 one specimen of crayfish *Orconectes limosus* was found by coincidence on the sandy beach of the Baltic Sea (Figure 1). The water salinity in this area is 6-8 PSU.

The crayfish was found on the sandy coast 0.5 m from water together with pieces of wood, shells, and amber (Figure 2). They were rolled out by waves from the deep of the sea. Sandy bottom is not steady habitat for crayfish. The most likely *O. limosus* landed up the sea accidentally by freshwater tributary or from Curonian Lagoon. During the year we did not hear more notices about crayfish *O. limosus* in Lithuanian seashore. Due to the wide salinity range, the Baltic Sea provides ecological niches for marine, brackish, and freshwater species (Gollasch, Leppäkoski, 1999). Approximately one hundred introduced animal species have been reported in the Baltic Sea (Leppäkoski, Olenin, 2000).

Previously *O. limosus* was found in Curonian Lagoon – large shallow eutrophic water body with low salinity (0–3 PSU) due to discharge from the Nemunas River. According to the recent studies, *O. limosus* has also appeared in the Polish coastal zone, and has been recorded in the Szczecin Lagoon (4 PSU) and Pomeranian Bay (7 PSU) (Gruszka, 1999). One specimen was found in the coastal zone of the Baltic Sea (8 PSU) in 2000 (K. Skóra, pers. comm.) Żmudziński (1961) was the first to report the occurrence of the *O. limosus* in the coastal brackish waters of the Baltic Sea. According him *O. limosus* occurred only in waters with a salinity not exceeding 1-2 PSU. The salinity threshold for this species is approximately 8-9 PSU. In May 2002, six crayfish were collected on a beach near Jastrzębia Góra (water salinity in this area 8-9 PSU).

First, *O. limosus* was introduced in 1890 with 100 specimens into fish farm pond near Barnowko northwest Poland (Souty-Grosset et al, 2006). *O. limosus* began expanding immediately, and today it is the dominant crayfish species in Poland. During the 1990s this species expanded to almost all Polish inland waters, both oligotrophic and eutrophic (Strużyński, Śmietana, 1999). *O. limosus* is now present in 20 European countries/regions (Souty-Grosset et al, 2006).

In Lithuania for the first time *O. limosus* was accidentally found in an isolated lake in the north-western part of Lithuania in 1994. The intensive spread of this species was established in the Nemunas River draining into Lithuania from Belarus and in the Šešupė River draining from the Russian enclave of Kaliningrad in the south and southwest of Lithuania in 1995 (Burba, 1996). In 2000 distribution of the O. limosus covered area limited by the Nemunas River and the state boundary with Belarus, Poland and Kaliningrad enclave of Russia (Burba, 2004). This area makes up 1/7 of Lithuanian territory. *Orconectes limosus* inhabited rivers and lakes of all trophic stages. High resistance of this species to pollution and tolerance to wide limits of habitat and water quality parame-

(Continued on page 7)

Figure 1. The red triangle indicates the point where the crayfish *O. limosus* was captured.

Figure 2. Crayfish *O. limosus* on the sandy coast. Piece of Baltic amber seen close to the telson of crayfish.

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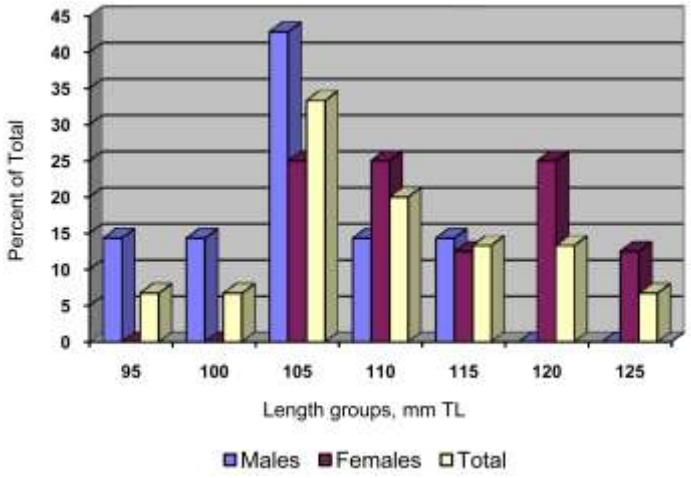

Figure 3. Distribution of length groups of *O. limosus* caught in Lake Veisiejis (south of Lithuania). CPUE was only 0.5 specimen.

ters make it a good colonizer. The territory of Lithuania is a basin of the River Nemunas, and now O. limosus has invaded all state territory. Abundant population of this invader in 2007 was found in the River Venta, which drainages from Lithuania to the Baltic Sea throughout the territory of Latvia.

According Polish scientists, larger specimens of *O. limosus* dominate in the brackish waters of the Vistula Lagoon (2 -4 PSU), it might be possible that this factor has a positive influence on size (Szaniawska et al., 2005). The combination of a majority of males and the larger size of all specimens might indicate that stronger specimens colonize new territories, in this case a habitat with several PSU. In Lithuania the largest specimens (Fig. 3) were found in the lake, situated approximately 50 km upstream the lake, in which spread of *O. limosus* was established for the first time in 1995.

In Lithuania crayfish *O. limosus*, being spread very intensive now, has poor commercial value. It can be foreseen that the spread of it have a negative effect on the freshwater ecosystems and especially on native crayfish *Astacus astacus*. H

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internet, your votes can be sent directly to me either via e-mail or postal mail, but *the online system is preferred*. Members that will be attending the IAA17 symposium in Kuopio this August can cast their votes either online, or wait until the meeting to cast a paper ballot. The last day to cast your vote online will be Thursday, August 7th. We hope that this online system will allow members to more easily cast their votes and participate in the society elections.

Please support your society by voting in this election.

Final vote counts and the results of the election will be presented at the end of the general business meeting at IAA17 in Kuopio. Results will also be published in the September issue of *Crayfish News*.

If you have any trouble with logging in or voting, please feel free to contact me. H

Happy Voting!

Jim Fetzner
IAA Secretary
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Plate 1. Various species of crayfish from the genus *Cambarus* (A-E) and *Orconectes* (F), collected while on a trip to Virginia in October 2007. Photos ©2007 by James W. Fetzner Jr.

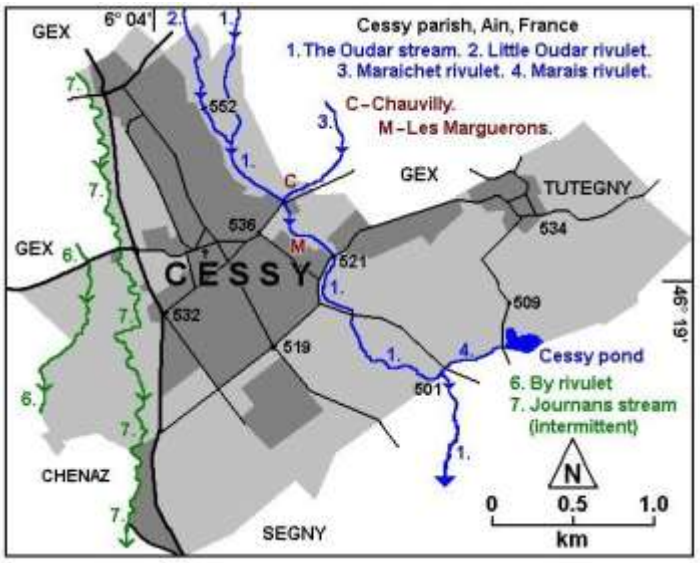

Figure 1. Map showing the basic geographical and hydrographical features of Cessy parish. Dark gray shading denotes settled and developed areas, while lighter shading denotes agricultural land and areas of natural vegetation. (Design: David Baldry).

(Continued from page 1)

The crayfish found in 2005 and 2006

Crayfish were first caught in October 2005, in the Maraichet (a rivulet tributary of the main stream that traversed Cessy's Chauvilly suburb). They were all juveniles whose identity was not immediately apparent.

However, in 2007 when juvenile spiny-cheeks (from Cessy pond parents) were examined, it was noted that their claws quickly developed orange and black banding patterns of a type that had not been seen in the Maraichet specimens. Thus it was concluded that the Maraichet juveniles were all signals.

In 2006, breeding populations of both signal and spiny-cheek crayfish were only found in the main channel of the Oudar in Cessy's Les Marguerons suburb, but not elsewhere in the Cessy parish.

Most crayfish were collected on one of three occasions between May and July, and on each occasion, sampling sessions were of limited duration, because the launching of a detailed study of spiny-cheeks in Cessy pond required priority attention

Crayfish study techniques

Using hands, aquarium nets and other simple implements, 56 adult signals were collected; 41 males, 15 females (two of which were berried) and several juveniles. Fewer spiny-cheeks were caught, and none was berried.

Where shallow water was very clear it was easy to identify crayfish without catching them, simply because the details of their integument colouration were so visible. This recognition technique was useful when seeking spiny-cheeks, many of which were hard to catch. They had an uncanny knack of avoiding capture by darting under immovable slabs of rock.

For several autumn-spring months when there was high precipitation and when snow on the Jura melted, the stream became a raging torrent and crayfish sampling activities became impracticable.

Observations on the crayfish populations downstream of the Chauvilly road bridge

1. The varied body coloration of signals

Early on, it was evident that there was much variation in the dorsal integument colour and patterning of adult signals, to the extent that we had doubts about the taxonomic status of some specimens. However, Dr David Holdich kindly examined specimens and verified that they were all signals.

To elaborate, based on the appearance of their dorsal integuments, it was possible to distinguish three colour forms of signal, as follows:

- lightly coloured and patterned forms with hues and shades of gray, yellow, orange and brown and with very obvious "signal" patches on the claws,
- darkly coloured and obscurely patterned forms with shades of colour approaching black (presumed to be due to higher levels of blue-green pigments in parts of the integument) and without "signal" patches, and,
- like the previous form, but with some dorsal surfaces (mainly the claws, the edges of some leg articulations and abdominal segments) tinged and patterned with colour in the turquoise-blue range. One individual (that evaded capture) had vivid patterns on the dorsal surfaces of its claws, cephalothorax and abdomen. It really was a "blue" crayfish and matched the description of the stream's "écrevisses bleues" that had often been observed by a local angler.

What was disappointing was that when "blue" individuals were removed from the stream and put into a container of "still" water all traces of the blue-green colours rapidly disappeared, presumably because the associated blue-green pigments became increasing colourless due to de-oxygenation. Furthermore, those specimens soon died (perhaps also because of depleted dissolved oxygen in the container). From then on, the corpses became progressively lighter and more orange-red in colour,

No convincing explanation can yet be offered to explain those observations. However, it is tentatively concluded that they were associated with moulting; that immediately after a moult, a signal was light in colour but that during the long interval between that moult and the next it became progressively darker. Perhaps the oldest individuals (moulting only once a year) were the darkest ones and the only ones in

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Photo 1. A juvenile spiny-cheek exhibiting distinctive banding of the tips of its claws. Such banding appeared in the early stages of juvenile life. Cessy, July 2007. (Photo: David Baldry).

Photo 2. Dorsal views of adult signals showing differences in the colouring and patterning of their integuments. Signal patches are only visible in the pale specimens. Cessy, May 2006. (Photo: David Baldry).

(Continued from page 9)

which vivid blue colour appeared.

2. The uniform body coloration of spiny-cheeks

The body colouration and patterning of the spiny-cheeks conformed to the numerous descriptions that can be found in the literature on this species.

Although blue-bluish spiny-cheeks were found in a pond near the R. Saône, *ca* 150 km north of Cessy (Monasson, 2004), no such individuals were seen in the stream, nor were they found during extensive studies of this species in Cessy pond (Baldry, 2007).

3. Ecological observations

A striking ecological feature of the two crayfish species was the spatial separation of their respective habitats, which were influenced by both the stream's substrate and its water flow patterns.

Flat, stepped limestone strata dominated stream bed roughness of much of the stream; creating both varied cross-sectional profiles and small falls and cascades (in the linear profile). Crayfish appeared to avoid such stream characteristics. However, in a few places, associated elements of the petrology included small boulders, cobbles, riffles (gravel banks), scree (of glacial moraines and of limestone), discarded building materials and vegetal detritus. Clumps of Willow Moss (*Fontinalis* sp) were also found there. In such situations signals and spiny-cheeks were found, but there was minimal overlapping of their respective ambits.

The rapid-flow regimes of highly oxygenated water, dominated the central and western channels of the stream, and were much frequented by signals. Where the stream's bank carried scree and cobbles, signals frequently concealed themselves beneath large stones or in burrows which had been excavated along the water line.

In contrast, spiny-cheeks preferred shallow, tranquil-flow regimes of the eastern side of the stream where they could easily seek cover under rock ledges and in jumbled masses of cobbles and tangled vegetal detritus. In some places the bank was largely organic in character, but there was no evidence that spiny-cheeks had used it for making burrows.

Although no studies were made of the feeding habits of the two crayfish, it was presumed that their diets were made up of: a) invertebrates (aquatic stages of mayflies, stoneflies, caddis-flies and black-flies (Simuliidae) and the amphipod *Gammarus pulex*, all of which were fairly common, and b) detritus from riparian trees, shrubs and herbs.

Miller's Thumb (*Cottus gobio*) were often caught when searches were made for signals beneath stones. It thus seemed likely that large signals preyed on those fish. Conversely, the fish may have preyed on young signals, since it is known (Neveu, 2001) that they are very efficient at catching young crayfish.

4. The reproductive cycle of signal crayfish

It is generally agreed that in most populations of signals, mating and egg-laying occur in October, egg incubation time is from 166 to 280 days, and, juveniles appear from March to July (Souty-Grosset et al. 2006). It was thus noteworthy that berried females were taken on 15 May and on 4 July 2006, implying that the egg incubation time of the second female

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Photo 3. An adult male spiny-cheek showing typical red patterning of the dorsal surface of the abdomen. Cessy, April 2006. (Photo: David Baldry).

was close to the upper limit of the quoted range. If that female had become berried in early October 2005 it could have stayed in that state for more than nine months!

One supposes that long incubation time were required to ensure that when juveniles separated from their mother, hydrological and biological states of the stream offered them the best chances of survival.

Concluding remarks

Most of the observations that have been summarized herein, especially concerning signal crayfish, were not quite what we would have expected. Furthermore, convincing and meaningful explanations for the colour variations and for the apparently long egg incubation period of signals, cannot yet be expounded. It is thus hoped that, among the readers of this short article, there will be someone who is able to throw light on some of those anomalous items. H

Photo 6. Part of the stream below Chauvilly bridge, where signals occupied the turbulent, rapid-flow regimes in the central and lower parts of the photo, and where spiny-cheeks occupied the tranquil-flow regimes in the upper part of the photo. Cessy, May 2006. (Photo: David Baldry).

Photo 5. Lifting a large stone along the stream's west bank, an adult female signal was found well settled into the underlying limestone silt. Cessy, June 2006. (Photo: David Baldry).

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Meeting Announcements

Managing Alien Species for Sustainable Development of Aquaculture and Fisheries

5-7 November 2008
Florence, Italy

DEADLINE: July 15, 2008

The Department of Evolutionary Biology, University of Florence (Italy) kindly invites you to participate in and contribute to the International Workshop

"*Managing Alien Species for Sustainable Development of Aquaculture and Fisheries***"**
(*MALIAF*: www.dbag.unifi.it/maliaf)

that will be held in the frame of the EU-funded project

IMPASSE: **"***Environmental Impacts of Alien Species in Aquaculture***"**

Rationale and background

The introduction of species beyond their natural range is expanding rapidly, due to increased transport, trade, travel, tourism, and the unprecedented accessibility of goods resulting from globalisation. Biological invasions are widely recognised as a significant component of human-caused global environment change.

With the increased trade within the expanded EU and between the EU and the rest of the world, alien species introductions are a growing concern to national governments and international organisations. The European Community has recognised proliferation of invasive aquatic species (IAS) as an emerging issue, noting that IAS introductions are one of the main recorded causes of biodiversity loss and cause serious environmental damage. The Community has also recognised that unilateral action by a few States is not sufficient to prevent unwanted aquatic species' introductions. Cooperation at international, regional, transboundary, and local levels is essential to develop compatible approaches to common problems.

The project *IMPASSE "Environmental Impacts of Alien Species in Aquaculture"* was funded within the EU's Sixth Framework Program for Research and Technological Development. Its overall goal is to develop guidelines for environmentally sound practices for the introductions and translocations in aquaculture, guidelines on quarantine procedures and risk assessment protocols, and procedures for assessing the potential impacts of alien species in aquaculture and related activities.

Aims of *MALIAF*

Along with disseminating the *IMPASSE*'s results to the scientific community, administrators, and stakeholders, the workshop will extend the discussion on the strategies needed to develop sustainable and profitable aquaculture and fisheries across the world, with respect to IAS, with the participation of scientists and managers worldwide. Selected presentations will be published in a volume with a recognized publisher or in a scientific journal.

Themes

- Reviews of introductions of aquatic alien species in different environments, countries and regions.
- Impacts (environmental, ecological, social, and economic) arising from the introduction of aquatic alien species.
- Aquaculture and aquaculture-related operations involving alien species.
- Analysis of drivers of the use of alien species.
- Constraints in establishing good practices in the introduction of aquatic species.
- Dispersal mechanisms from aquaculture-related activities.
- Risk assessment and management.
- Quarantine procedures.
- Recommendations on potential mitigation-remediation procedures and contingency plans.

Oral presentations (20 min) and posters are welcome. Deadline for abstract submission is July 15 (2008). Please visit the website www.dbag.unifi.it/maliaf for information about registration and abstract submission.

MALIAF Organizer: Dr. Francesca Gherardi, Department of Animal Biology and Genetics, University of Florence, Florence, Italy (E-mail: francesca.gherardi@unifi.it)

IMPASSE Project coordinator: Prof. Ian Cowx, Hull International Fisheries Institute, University of Hull, Hull, HU6 7RX, UK (E-mail: i.g.cowx@hull.ac.uk)

The IMPASSE Consortium acknowledges the financial support of the European Commission, within the Scientific Support of Policies of the 6th Framework Programme (contract no: 044142)

Website: http://www.hull.ac.uk/hifi/IMPASSE/

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5th Brazilian Crustaceans Congress Gramado, Rio Grande do Sul State, Brazil, 10-13 November 2008

On behalf of the Sociedade Brasileira de Carcinologia it is a great pleasure for me to invite you to participate in our V Congresso Brasileiro sobre Crustáceos (5th Brazilian Crustaceans Congress), which will be held in Gramado (Hotel Serra Azul), Rio Grande do Sul State, Brazil, from 10th to 13th November 2008.

The scientific program at the Congress will cover all of the major disciplines of Carcinology, including Morphology, Physiology, Ecology, Biology, Systematics, Taxonomy and Farming and Growing Crustaceans. In addition we are highlighting special themes that will run through each day anchored by a Plenary Lecture by a world expert in that field, and featuring a Symposium and Workshop on that theme. In addition, we welcome your current work as a submitted paper or poster. Sessions of submitted papers - will run daily during the Congress.

Gramado is undoubtedly one of the most beautiful cities in the South Brazilian highland. The warm hospitality of the people, excellent food and wine and vibrant cultural life attract thousands of visitors every year. Its pleasing climate also makes Gramado one of the most popular meeting venues in Brazil.

I hope that the combination between the rich and challenging scientific atmosphere of the Sociedade Brasileira de Carcinologia, and the never ending attraction of the city and the nearby landscape of Gramado will convince everyone to attend this Congress. The Organizing Committee and I are certain that you will find the meeting both enriching and enjoyable, and look forward to seeing you in Gramado in November 2008. More details at http://www.vcbc.com.br/. H

With kindest regards,

Ludwig Buckup
President, Organizing Committee

first 'back yard conservationists' and it promises to be a very interesting experiment!" added Neal.

The white crayfish have being collected from a stream near Skipton after the Environment Agency removed them in order for a poison to be added which will kill the signal crayfish there.

They will not return them to the water because of the threat from other signal crayfish in the area.

If you are interested in claiming a white-clawed crayfish then you can either call Neal on 07507 756239 or e-mail him at crayfish.science@googlemail.com. H

Andy Broughton
Yorkshire Evening Post
Published On: 11 July 2008

Don't Release Fishing Bait

When someone is done fishing and is packing up poles, coolers and other gear, what does that person do with that bucket of minnows or box of worms? Dump it on the ground or in the water, right?

Wrong. According to the Missouri Department of Conservation, dumping bait is illegal and among the worst things a person can do.

"The trouble with dumping bait is that you really don't know what you are turning loose," said Tim Banek, the invasive species coordinator for the Missouri Department of Conservation. "A dozen minnows might include exotic species that could displace native species. A left-over crayfish could be a rusty crayfish, which is an ecological disaster waiting to happen. Believe it or not, night crawlers might come from as far away as Canada. We are not sure how well any of these animals might survive in Missouri, what native species they might displace or devour and how they could harm the ecological balance here in the long run."

Far too often Banek gets reminders of why proper bait disposal is imperative. The Missouri Department of Conservation recently discovered that a Kansas City, Kansas, wholesaler had supplied Missouri bait dealers with minnows contaminated with brook stickleback, a small, spiny fish found in northern states. Bait dealers were quickly notified to check their tanks and destroy any brook sticklebacks found. Anglers who purchased the bait prior to the discovery of the contamination risked contaminating their favorite fishing waters by releasing unused bait at the end of their fishing trips.

Banek said the right thing to do with left-over bait is to put it in a trash can or other approved trash container at the fishing site or take it home and put it in your household trash. H

The Louisiana Press Journal

IAA Related News

A. pallipes Tail Fan Anomaly

I found this male specimen (Figure 1A, B) of *Austropotamobius pallipes* (CL 37mm) in Cumbria, England and noticed the swelling and discoloration on the tail fan; there are also some smaller swollen patches on the last abdominal segment. It appears to be too symmetrical to be caused by a pathogen, possibly genetic? I would be interested to hear from anybody who has an explanation. H

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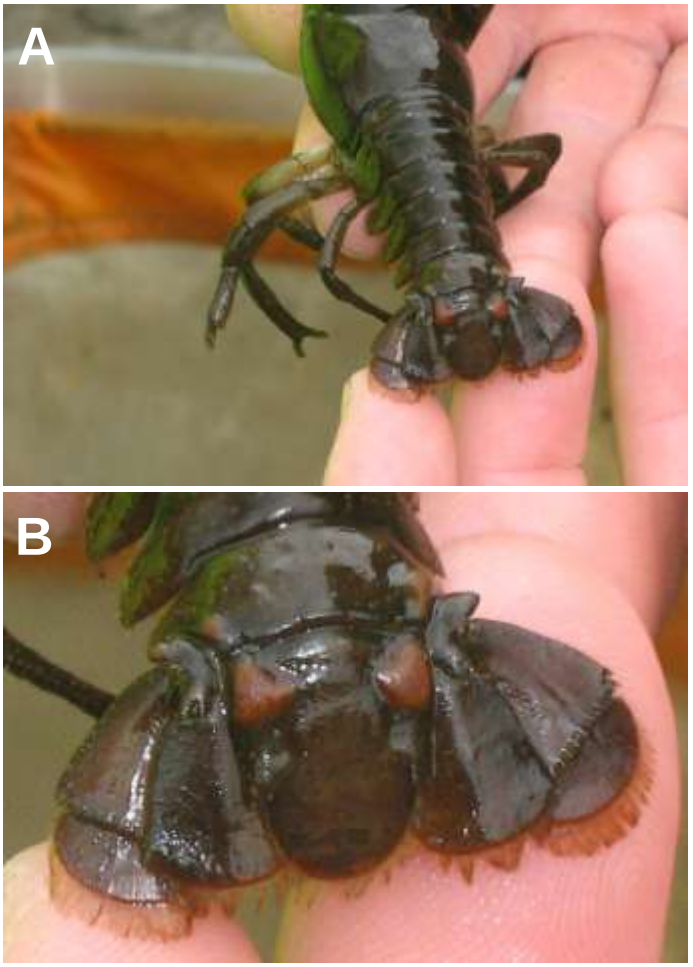

Figure 1. Male of *A. pallipes* with discolored tail fan.

New Online Searchable Crayfish Database

IAA member John Cooper has announced that the North Carolina Museum of Natural Sciences has created an online searchable invertebrate database, which includes locality records for freshwater crayfish.

The database can be accessed at the following address http://www.informationinc.net/researchcollectionstest/searchinvert.aspx.

Renowned Astacologists Announce Their Retirement

IAA members Charlie Rabeni and Henry Robison have both announced their retirements earlier this year. Charlie worked with the Missouri Cooperative Fish and Wildlife Research Unit (part of the US Geological Survey) in Columbia, Missouri, and Henry was a Distinguished Professor of Biology at Southern Arkansas University, Magnolia, Arkansas.

Both men have made significant contributions to the world of crayfish over the course of their respective careers. We all wish them a happy, healthy and enjoyable retirement !!

Henry Robison (right) with Chris Lukhaup (left) on a recent crayfish collecting trip in Arkansas.

Charlie Rabeni (right) enjoying his retirement with a little fishing excursion to Cape Cod.

The Zoological Society of London (ZSL) is undertaking a project using the Red List Index (RLI) to determine the global status of a representative sample of the lesser known invertebrates, which includes the assessment of all crayfish species. The RLI has been adopted by the Convention on Biological Diversity (CBD) as one of the global biodiversity indicators by which to measure progress towards the target of significantly reversing the current trend of biodiversity loss. Data are collated on distribution, population size and structure, habitat preferences, and impacting threats to a species and its environment, in order to apply the IUCN Red List Categories and Criteria, and determine the conservation status of it. These preliminary assessments of crayfish must then be reviewed by species experts before being accepted onto the Red List. ZSL is therefore looking to the crayfish and lobster community for assistance with assessing the conservation status of these species.

At the IAA 17th Symposium being held in Kuopio, Finland in August 2008, ZSL will be distributing Red List Assessment packs during registration on Sunday the 3rd to all those interested in assisting with this project. They will also be holding a short introductory event on the Red List assessments and Index planned for the afternoon of Tuesday 5th August. This will provide an opportunity to answer any questions there may be on Red Listing, the sampled approach to the RLI, or regarding any information provided in the information packs. Mala Ram and Nadia Dewhurst from ZSL will be present throughout the conference to answer any further queries. However, if there are prior queries or you are unable to attend this event but would still like to be involved with the assessment please contact Nadia Dewhurst (*nadia.dewhurst@ ioz.ac.uk*).

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