INTERNATIONAL SOCIETY FOR BEHAVIORAL ECOLOGY

ISBE NEWSLETTER

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From the president

It gives me great pleasure to announce that the winner of the first Frank Pitelka Award in Behavioural Ecology is David W. Pfennig for his paper (with P.W. Sherman and J.P. Collins) entitled: 'Kin recognition and cannibalism in polyphenic salamanders' which was published in Behavioral Ecology 5: 225-232 (1994).

An honourable mention goes to Marvin M. F. Lutnesky for his paper entitled: 'Density-dependent protogynous sex change in territorial-haremic fishes: models and evidence' published in Behavioral Ecology 5: 375-383 (1994).

Congratulations to both!

The Frank Pitelka Award is given to one or more research student(s) whom the award committee consider has made the most important contribution to our subject during the past two years. The next award will be made at the ISBE meeting at Asilomar in 1998.

Tim Birkhead

Editorial

The content of the Newsletter depends largely on you, dear members of our Society, and I am very pleased to see that you took up the challenge to participate. In this issue you will find two new items. The "Forum" section, intended to discuss any aspect related to our Society or to behavioural ecology, takes a great start with an essay on Plants in Behavioral Ecology. I hope to continue this section: new items or letters in response to this essay are highly welcome. In a healthy Society - which ours certainly is - there should be room for debate and discussion and that's exactly what this forum is intended for. You'll also find the first book review in this Newsletter, now that such reviews are no longer published in the journal. Further, on page 4, you'll find some good news from the Old-World Editor of Behavioral Ecology as well as the latest on the 1998 ISBE congress. Other items include a personal view from one of our members on the announced closure of a German research institute and information on conferences or workshops related (near or far) to behavioural ecology.

Inevitably, it seems, the content of the Newsletter also depends on the world economic situation. In this issue you won't find any job announcements, simply because I didn't receive any. Are behavioural ecologists becoming too expensive? Should we (re)define our importance for society? Or should we start thinking about alternative careers? As Newsletter Editor, I did receive one letter announcing two new positions: one for a cook and one for a maintenance chief. I decided not to publish it, but if anyone wants more information...

Many thanks to all who contributed to this issue and especially to Chris Eckert and Luc Wauters for working against a deadline and to Jennifer Kickert (KLIVV) for her help with lay-out and printing.

Although the journal became bimonthly, the Newsletter will continue to appear only twice a year. The next issue will be send out with the November/December issue of the journal, so copy that reaches me before 15 October can be included.

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Members of the Council are asked to check this listing and provide any corrections or additional information to the Newsletter editor.

Society News

Conference News

7th INTERNATIONAL BEHAVIORAL ECOLOGY CONGRESS

The next ISBE congress will be 27 July-1 August 1998 at the Asilomar Conference grounds on the Monterey Peninsula, California. Please note the correction and slight alteration in dates from those announced earlier. For further information, contact Walt Koenig (wicker@uclink.berkeley.edu) or see our web page at:

http://socrates.berkeley.edu/~isbe98/

Announcement

Since I took over office as an Old World Editor, submission to this office of "Behavioral Ecology" has almost doubled. Inevitably, this lowers the amount of editorial time available to spend on each manuscript - not a welcome development. The executive of ISBE has therefore agreed to install a second Old World editor to improve on this situation.

I am now pleased to announce that by 1 July 1997, Dr. Innes Cuthill, University of Bristol, will assume the position of a second Old-World co-editor of Behavioral Ecology. Innes will join me to handle the ever increasing number of manuscripts being submitted to our journal.

As before, however, manuscripts from the Old World should be sent to my office in Zurich from where they will be distributed between Innes and me for further handling.

I am pleased that we have managed to attract an active and productive researcher to join the editors. This will help to maintain and further the already high standards of Behavioral Ecology.

Paul Schmid-Hempel

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Donated Subscription Programme

Please help colleagues in need. Every donation will help increase scientific contacts across the world. In a time when nationalism is again raising its ugly head, this is more important than ever. For details, see the newest issues of our journal Behavioral Ecology.

Spousal Membership

For $5 per year spouses of full members can become members of ISBE. Spousal members receive the annual newsletter and information concerning biannual meetings, but do not receive a subscription to the journal. Please see information in any issue of Behavioral Ecology.

Other News

BAD NEWS FROM GERMANY

The Max-Planck-Society plans to close the Institute for Behavior and Physiology in Seewiesen as part of a campaign to eliminate positions in former West Germany and make room for new institutes that are to be established in Germany's recently added states. Because both of the central figures at Seewiesen are retiring, this institute has been targeted for closure. Unfortunately, no new institute with a concentration in animal behavior is planned for the new German states. This decision coincides with the loss of chairs in animal behavior at two German universities, Hamburg and Bochum. Germany was an early pioneer in this field and the independent actions of the respective universities and the Max-Planck-Society will go far towards eroding its future contributions. During the last decade, Seewiesen contributed almost 25 percent of Germany's publications in the five behavioral journals of general interest, namely Behavioral Ecology, Behavioral Ecology and Sociobiology, Animal Behaviour, Behaviour and Ethology.

Seewiesen, founded in 1954 by Erich von Holst and Konrad Lorenz, received worldwide acknowledgement in 1973, when Lorenz and Nikolaas Tinbergen (as a scientific member of the institute) received the Nobel Price for Medicine. Today, there is one department for Biological Rhythms and one department for Behavioral Ecology, together with a research group for Olfactory Physiology and two junior research groups. One junior research group is trying to link neurophysiology and song in birds, the other junior group works on the evolution of sexual reproduction.

Seewiesen will be missed in particular because of its emphasis on long term studies of vertebrates that require secured funding. This is an area of study that is difficult to pursue in a university setting. Current projects of the institute include the evolution of female dominance in spotted hyenas in the Serengeti, the mating system of marine iguanas on Galapagos, the evolution of mixed species associations in forest primates in Tai National Park (Ivory Coast), the social system of bonobos in Lomako (Zaire), circannual rhythms and reproductive strategies in stonechats in Arusha National Park (Tanzania) and population dynamics of the famous coelacanth fish on the Comores. Such long term field studies are of great importance for testing predictions from theory. In addition, such studies provide the basis for species management in our current climate of major losses in biodiversity, and the researchers themselves spend a considerable amount of time fighting for the conservation of the National Parks they are working in.

If you wish to express your views on the matter, address your message to: Professor Dr. Hubert Markl, President der Max-Planck-Gesellschaft, Postfach 10 10 62, D-80084 Munchen, Germany.

Redouan Bshary
MPIV, Seewiesen

Conferences

ANIMAL BEHAVIOR SOCIETY MEETING

The annual Animal Behavior Society meetings will be held at the University of Maryland, College Park, 21 - 26 June 1997. Special symposia include 'Sperm Competition', 'Phylogeny & Sexual Selection', 'Behavior in Zoo Conservation' and a workshop on 'Applied Animal Behavior'.

For further information contact Dr. Art Popper, Popper@zool.umd.edu or see

http://www.bsos.umd.edu/cebh/abs97

FORAGING/97

An international conference on foraging behavior is being organized. The conference will be held in late 1997 on the campus of the University of California at Santa Cruz. The organizers encourage interested parties to preregister by visiting

http://eric.unl.edu/foraging

Additional information (topics, possible dates and speakers) is available on the web-page. Those without web-access may contact the organizers at the address below.

Organizing Committee:
Dave Stephens and James Anderson (University of Nebraska, Lincoln)
Marc Mangel (University of California, Santa Cruz)
Don Kramer (McGill University)

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WORKSHOP ON CRAYFISH

A workshop titled "The introduction of alien crayfish in Europe: how to make the best of a bad situation?" will be held in Florence (Italy) on 24-27 September 1997, under supervision of Prof. David M. Holdich (Nottingham University, UK) and Prof. Marco Vannini (Zoological Museum "La Specola", University of Florence, Italy). The meeting is the first attempt to analyse the distribution in Europe of alien crayfish and to make the first balance of their impact on both native ecosystems and human finances.

For further information, please contact:
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Forum

Plants in Behavioral Ecology: a Botanist's Perspective

So the journal Behavioral Ecology is now accepting papers on plants. My first reaction was: "great!". As a rather lonely plant ecologist adrift in a department full of people studying bird behavior, this bit of news was almost on par with the Vatican's recent recognition of Darwin's theory of evolution by natural selection. Imagine: the behavioral ecology cognoscenti coming right out and saying that plants do indeed have a 'behavioral' ecology as well as ordinary evolutionary, physiological, community or population ecologies. The ISBE's outreach to botanists is of particular interest to me, personally, since I started out my career studying the behavioral ecology of territoriality in birds. Since crossing the phyletic fence, I often find myself astonished at how much plant and animal ecologists have to offer each other as well as how immiscible the parallel worlds of botany and zoology seem to remain.

My second reaction on hearing the news that Behavioral Ecology had given the nod to plant ecologists was: "it's about time!". The notion that plants have a place in behavioral ecology is definitely not new. Mary Willson, Dan Janzen and David Lloyd, among others, have been applying the conceptual framework of behavioral ecology to the analysis of reproductive behavior in plants since the mid 1970's (e.g., Willson and Rathke, 1974; Janzen, 1977; Lloyd, 1979; Willson, 1979). Pioneering work by Willson (who formerly worked on bird mating behaviour) eventually led to a collaboration with Nancy Burley (another behavioral ecologist) which produced their 1983 book "Mate Choice in Plants". A year later, Eric Charnov had a chapter entitled "Behavioral ecology of plants" in the second edition of Krebs and Davies' "Behavioral ecology". The mid to late 1980's saw a massive flow of ideas from behavioral ecology into plant evolutionary ecology, as many of the central problems in behavioral ecology were recast in botanical terms, often with considerable controversy (see reviews in Lovett Doust and Lovett Doust, 1988; Silvertown and Gordon, 1989; Lovett Doust 1990). Core topics such as male-male competition and female choice (Lloyd and Yates, 1982; Stephenson and Bertin, 1983; Charlesworth et al., 1987; Queller, 1987; Marshall and Folsom, 1991; Snow, 1994), parent-offspring conflict (Westoby and Rice, 1982; Uma Shaanker et al., 1988; Haig and Westoby, 1988), selective brood reduction (Casper, 1988; Stephenson and Winsor, 1988), optimal foraging (Salzman, 1985; Lopéz et al., 1994), size/number trade-offs (Lloyd, 1979; Vonhof and Harder, 1995), and sex allocation (Charlesworth and Morgan, 1991; Brunet 1992) have since become firmly established in the mainstream of plant evolutionary ecology. And, plants continue to make cameo appearances in volumes dealing primarily with animal behavioral ecology (e.g., Andersson, 1994).

Certainly, plant ecologists have benefited from all this meme flow; but what about animal ecologists? From a botanist's point of view, it often seems that the exchange of ideas has been rather one-sided. In the 'Ecology, Evolution and Behavior'

seminars in my department, one can usually expect a precipitous drop in attendance by bird-fanciers when plants are on the agenda. And, the near-millennial graduate student in behavioral ecology still returns a blank, slack-jawed look when prompted during qualifying exams for parallels between, say, sperm and pollen competition. It's not clear who's to blame for this interdisciplinary inertia. Are behavioral ecologists just hopelessly zoocentric? Or, perhaps they suffer from a well-justified phytophobia developed through repeat run-ins with the Linneo-Darwinian mumbo jumbo with which many botanists choose to encrypt some of the most broadly appealing aspects of plant behavior. Who knows? Right now, the more pertinent question is: will the appearance of plant papers in Behavioral Ecology enhance cross-fertilization between botanists and zoologists interested in similar conceptual problems?

Being a die-hard pluralist, I can't help but feel that the further dissolution of the plant-animal barrier will enhance progress in ecology and evolutionary biology. Aren't synthetic thinking and a cross-taxon perspective two of the most salient features of past and present leaders in biology? Furthermore, any move that cajoles botanists into shedding some of their arcane-sounding Latin terminology and actually talking to zoologists is bound to help improve the situation. Yet, this blithe optimism doesn't get me around some rather stubborn pragmatic questions: Would zoologists actually bother reading plant papers in Behavioral Ecology? Given the mushrooming deluge of information within all biological disciplines, does the average reader really have much time for broadening their horizons? And on the botanical side, why would plant ecologists choose to publish in journals which, at first, few of their fellow botanists would regularly pick up, let alone subscribe to? With the emerging importance of computerized citation indices and impact factors in performance evaluation, aren't we all striving to talk directly to increasingly targeted audiences? And, what about the role of journals and scientific societies in the age of digital media? Can they really shape fields and influence conceptual outlooks? As it is, my perusal of the current literature relies probably too heavily on various online databases. Once a key-word search has identified the set of articles I'm looking for, who cares what journals they're in as long as those particular periodicals are on library shelves somewhere. And to make matters worse, our library keeps promising an online request system where you simply e-mail them the reference and they'll FAX you a copy of the paper. The actual journal issue, with its carefully vetted collection of articles, need never sully your hands.

Despite the observation that the world of scientific communication is changing at light speed, aren't all these other considerations too speculative to take seriously? Probably. And besides, I appreciate the role of societies in promoting scientific discourse, and I do see each new issue of my favorite journal as a glimpse at where my field is going. So, my reservations notwithstanding, I'm happy that the ISBE is now a plant-friendly organization, and I'll watch with interest to see if any thing botanical takes root under the cover of Behavioral Ecology.

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Book Reviews

Ecology and Behaviour of North American Black Bears: Home ranges, habitat and social organisation. By Powell, R.A., Zimmerman, J.W. and Seaman, D.E. 1997. Chapman & Hall, London, pp. 203. ISBN 0 412 57990 1 (HB).

The introduction of this nicely illustrated book starts by discussing the advantages (marked individual variation in behaviour and spacing, use of different habitat types within limited areas and throughout their range) and disadvantages (long-lived species with large home ranges, rather difficult to trap and handle, resulting in the need for long-term "expensive" research with a lot of manpower) of using black bears as a model to study behavioural ecology theory: in particular the relationships between habitat quality (availability of resources) and the spacing behaviour and home range size of bears. Then the authors describe the general ecology and life history characteristics of the species and its den use (for hibernation). Vegetation and geomorphology of the study site, the Pisgah Bear Sanctuary, Blue Ridge Mountains, North Carolina, and the main study methods are illustrated by beautiful colour photographs. Describing the methodology, the authors stress the importance of very intensive radio-tracking of bears, allowing analyses of bear habitat use, activity patterns, home range size, use and overlap: such an approach allows to determine individual differences in behaviour and relate them to life history parameters. They pay special attention to methodology of gathering data for home range analyses and discuss the different techniques for correctly analysing home range data, giving an extensive review of history and problems of different home range estimators. This chapter is, therefore, very useful for all field ecologists working on large mammals that are concerned about the "exactness" and usefulness of the home range estimators they use! The authors explain in detail why the Kernel estimator is the best presently available: the use of boxes and appendix to go into detail on particular methods for data analysis is an appealing aspect of the book.

The different result sections follow in a very logical sequence: they generally end by evoking questions that are then transformed in hypotheses addressed in the next section. Chapter 4 discusses a habitat suitability index (HSI) model. This mathematical model will certainly be very useful in bear management and can easily be adopted to situations in some European countries with endangered or managed bear populations. The thorough methodological approach and detail of this HSI model makes the book a "must" for wildlife managers throughout the world concerned with bear management and conservation (see also Chapter 8). Chapters 5 to 7, on the other hand, will be of main interest to behavioural ecologists who study the proximate causes of individual variation in behaviour and spacing. In these chapters the authors demonstrate that black bears are a good model to study: (1) relationships between food supplies (very thoroughly monitored and estimated) and spacing behaviour, including seasonal variation; (2) theories about economic defendability of territories. Chapter

5 stresses the importance of accurate estimates of food abundance on a spatial (patchily distributed or not?) and temporal scale (seasonal variation in food availability), and the link to the relationship between habitat productivity in terms of available consumable energy (kcal/ha) and energy requirements (kcal/day or per season, year) of bears. Although the authors try to give a broad introduction on variation in food abundance linked to variation in home range size, they do not mention the tree squirrel literature: certainly one of the mammal groups in which such relationships have been studied intensively. The same criticism holds for the introductions of chapter 6 on territorial behaviour, where there is no reference to the many interesting studies on American red squirrels; and chapter 7 where the differences in the mating behaviour between territorial and non-territorial tree squirrels are certainly relevant to the questions the authors want to address (relationship between male home range size and its reproductive strategy). There are also a few inconsistencies where text refers to figures (e.g. p. 101 reference to fig. 5.7: the text mentions 3 bears in a certain category of food abundance where on the figure 18 data points are shown).

Chapter 7 is challenging with the authors developing a model on optimal reproductive choice and home range size for male black bears to predict their mating success, based on optimal foraging models. The main question they try to answer here is whether (variation in) male home range size is determined by reproductive behaviour or rather by the increased energy demands of male compared to female bears because of their larger body size. Correlative evidence and their model suggest that reproductive behaviour shapes male home range size, but they stress the need for more and detailed eco-physiological research measuring real energy-requirements of free ranging mammals (both sexes, and of lactating vs. non-lactating females) to test the predictions of the alternative energetic requirements hypothesis. The book ends as it should: the answers already given by this long-term study and the many new, fascinating questions that arose from it are summarised. Finally, the authors stress the importance of using results of their long-term study on black bear ecology and habitat use, especially the apparent strength of the HSI model to predict bear habitat use, to develop habitat management plans for conservation of endangered (black) bear populations, and express the hope that their work will be of use to rescue other (endangered) bear and large mammal populations from extinction.

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