



Aug/Sept 2020 Issue 79

The Rehabilitator

B W R C N E W S L E T T E R



Filching-fox and pilfering-porker strike in Berlin wildlife crime rampage!



IN THIS ISSUE –

More proceedings from Hartpury Hedgehog Conference

New wildlife pain assessment and management survey

BWRC SYMPOSIUM 2020 details



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A Word from the Chair

Welcome to the August 2020 edition of The Rehabilitator! This month we have further proceedings from February’s **‘Hedgehog Rehabilitation: Sharing Best Practice’** conference run in collaboration with Hartpury University and sponsored by RSPCA and BHPS. These include Britain’s answer to Greta Thunberg – two inspiring teens from the Midlands who have set up their own hedgehog rescue and are campaigning for hedgehog conservation. We also hear about preliminary steps into some much-needed research into hedgehog nutrition – specifically the pros and cons of offering mealworms as part of captive diets.

A different kind of wildlife crime has been a recurrent theme in news from the German capital Berlin in the last month (see front cover photos) with a footwear-stealing fox (<https://www.bbc.co.uk/news/world-europe-53612856>) and a laptop-snatching wild boar (although the naturist victim in hot pursuit of the latter thief perhaps attracted more attention) <https://www.bbc.co.uk/news/world-europe-53692475>. More serious matters include the publication of a new Red List for British Mammals and legal challenge against the UK badger cull (see pages 14 & 15.).

BWRC representatives were pleased to take part in an online meeting organised by the Born Free Foundation to discuss **“the veterinary care of British wildlife casualties and orphans in**

veterinary practices and wildlife centres”. Delegates included representatives of many different organisations including wildlife rehabilitators and vets and a wide range of issues and possible solutions were identified. Further work has been done since the meeting to establish priorities and we look forward to continuing our involvement in this collaborative project.

BWRC trustees Lucy Bearman-Brown and Simon Allen have been pushing the boundaries of science and celebrating the publication of their two new research papers. These will feature in future meetings and publications but if you can't wait that long you can read them 'hot off the press' –

“DNA footprints - using parasites to detect elusive animals...”
<https://www.mdpi.com/2076-2615/10/8/1420>

“Over-winter survival and nest site selection of the west-European hedgehog (*Erinaceus europaeus*) in arable dominated landscapes.”
<https://www.mdpi.com/2076-2615/10/9/1449>

And finally... BOOKING IS NOW OPEN for **BWRC Symposium 2020** which will take place via ZOOM on 21st November – SEE PAGE 18 for the link to details and to book tickets!

If you have research, experience or concerns to share, please do write in to BWRC at bwrcouncil@gmail.com or by post to PO Box 8686, Grantham, Lincolnshire NG31 0AG.

*Terri Amory,
Editor & Chair, BWRC*



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“From hoglets to hedgehogs – engaging the next generation”

Presented at Hedgehog Rehabilitation: Sharing Best Practice 2020
by Kyra Barboutis and Sophie Smith (Hedgehog Friendly Town)

Saturday 1st February 2020 at Hartpury University, Gloucester. Kindly
Sponsored by RSPCA & British Hedgehog Preservation Society.

Reported by Terri Amory

After the morning coffee break, inspirational teens Kyra and Sophie described their mission to save hedgehogs and encourage other young people to take more of an interest in wildlife.

In the summer of 2015, aged just nine years, Kyra Barboutis and Sophie Smith started a ‘summer project’ to learn about hedgehogs. Based near Stratford on Avon, the girls started over-wintering rescue hedgehogs for Warwickshire Hedgehog Rescue and received training in order to extend their hedgehog nursing skills.

Using Facebook and Twitter under the banner ‘Hedgehog Friendly Town’ Kyra and Sophie told their friends and local community about their project, posting videos about hedgehog care and creating a more friendly urban environment.

The girls started to visit schools and children’s clubs such as brownies and cubs to give talks about their work and



raise awareness amongst their peers and also began lobbying local developers and council to improve the design of new housing and other developments to make them more hedgehog friendly. Most recently they were involved in a campaign to get Taylor Wimpey to integrate plastic tunnels to allow hedgehogs to pass under netted hedges.



Now aged 13,
young wildlife
champions
Sophie and
Kyra man
their stand at
the Hedgehog
Carer's
Conference.
*Photo: Terri
Amory*

All this activity attracted the attention of local and national media (they have appeared on BBC Countryfile, BBC 'Springwatch Wild Academy' and ITV Central News) and then the awards and accolades started to roll in, include Pride of Stratford, RSPCA Honours Young Persons Award and RSPCA Young Ambassadors, The Mirror Young Animal Hero Award, Jane Goodall's Roots & Shoots Award for Most Outstanding Group in Touch with Nature, and even a letter of recognition from Prime Minister Boris Johnson.

Sophie and Kyra spoke confidently about their work, and also shared their plans to campaign for the regulation of commercial foods sold for hedgehogs.



Assessment and management of pain in wildlife casualties

Karen McKenzie, MSc, CWR, Wildlife Rehabilitation Fellow,
Partners for Wildlife & Assistant Director of Wildlife
Rehabilitation, Fellow Mortals Wildlife Hospital.

<https://raptor.umn.edu/partners4wildlife>

<https://fellowmortals.org> karen@fellowmortals.org

Pain assessment and management is a growing field in veterinary medicine. Over the past 20 years, many studies to improve the ability to assess and manage pain have been undertaken. In the veterinary field many papers have been published which survey the attitudes of veterinary professionals to pain assessment and pain management. To date, there has been no survey of the attitudes of wildlife veterinarians and wildlife rehabilitators. My objective is to determine the attitudes of the wildlife rehabilitation community towards pain assessment and management, in wildlife admitted for rehabilitation.

Your participation in this survey will improve our understanding of how pain is perceived and managed in wildlife species. This data can provide significant information for targeting areas where further training, resources and research are needed, improving communication between wildlife rehabilitators and their veterinarians, and ultimately improving animal welfare by increasing knowledge of pain assessment and pain management in wildlife. The survey takes less than 10 minutes to complete and all responses are anonymous. You are welcome to share the survey with colleagues. Thank you for all you do for the welfare of wildlife.

<https://www.surveymonkey.com/r/painassesswildlife>



“Making a mountain out of a mealworm: the things we think we know vs the things we know we know”

Presented at Hedgehog Rehabilitation: Sharing Best Practice 2020
by Dr Martyn Wood, Gower Bird Hospital

Saturday 1st February 2020 at Hartpury University, Gloucester. Kindly
Sponsored by RSPCA & British Hedgehog Preservation Society.

Martyn introduced his plans to investigate suggestions that mealworms may be detrimental to mineral balance in the diet of captive hedgehogs by comparing the differential nutritional properties of wild invertebrates and their farmed counterparts.

In early 2019, speculation arose in the UK that the phosphate content in mealworm feeds could be linked to metabolic disease in hedgehogs. This idea quickly gained traction on social media, and the message that ‘mealworms are bad for hedgehogs’ appears to have been rapidly adopted amongst hedgehog rehabilitators.

However, the available scientific evidence for this is negligible. While, without doubt, mealworms contain high levels of phosphate, drawing correlations in this manner may undermine the health and welfare of the animals undergoing rehabilitation – in this case by reducing the range of foodstuffs offered, removing insect-based nutrients which more closely emulate a natural diet and removing the stimulation provided by live foods.

Information regarding the wild hedgehog diet is plentiful, if a little dated. Hedgehogs are true generalists; a great variety of organisms have been found within their digestive tract. The bulk of the hedgehog diet is known to consist of insects, in particular beetles within the families Carabidae (ground beetles) and Scarabidae (scarab and dung beetles), along with a large amount of Dermaptera (earwigs). Other regular components of the diet include annelid worms (includes earthworms), gastropod molluscs (snails and slugs), and lepidoptera (butterflies and moths).



Anyone hungry? A small selection of invertebrates that make up the diverse natural diet of our hedgehogs.

However, to date, we have little knowledge of the metabolic requirements of hedgehogs. Until very recently most of this type of work has only been done for domestic animals – particularly dogs and cats and farm animals – driven (and paid for) by commercial animal food manufacturers. One potential study relating to calcium:phosphate levels is referenced in the literature, however, the original source is difficult to locate and may relate to an article speculating that hedgehog physiology might be similar to that of horses (despite the rather obvious differences in diet and digestive physiology!). Again, without real supporting evidence this is unsubstantiated and should not be assumed to be fact.

Information regarding the nutritional properties of insects is scant, and what there is focuses largely on farmed insects as a foodstuff for both humans and animals. Suggested phosphate:calcium ratios in mealworms range between approximately 10:1 – 16:1 (Barker et al 1998, Finke 2002). This is high related to the typical ratios advised for domestic animal diets (between 1:1 and 1:4), however, to cause metabolic bone disease in hedgehogs as part of the diet, this would have to be high compared with wild insects.

Again, limited information on the composition of wild insects has been published. A large study of edible insects in Nigeria found approximate ratios to be between 3:1 and 20:1 across 14 species (Banjo *et al.* 2006). The majority of these ratios tended to be between 7:1 and 10:1. Wiesenborn (2013) also found phosphate levels were significantly higher in a number of insects and spiders in his study based in Arizona. Furthermore, predatory species, and those that were flight capable were seen to have greater disparity.

Can mealworm phosphate levels be linked to increased observance of metabolic bone disease in hedgehogs? For this to be the case, one of the following would have to be true:

EITHER: mealworms must have significantly higher phosphate:calcium ratios than other dietary invertebrates

OR: Hedgehogs showing signs of metabolic bone disease cause by mealworms are eating almost nothing but mealworms

In order to investigate the first of these two options Dr Wood has begun a comparison of the nutritional composition of farmed foodstuff insects with the natural known components of the hedgehog diet. The initial stages of this study have involved the highly labour-intensive collection of a wide range of wild insects from the Gower region.

Species were selected on the basis of being known components of the hedgehog diet and being locally available. As well as wild invertebrates, the nutritional composition of commercially produced mealworms (fed and starved) will be assessed. The Association of Analytical Chemists (AOAC) Methods of Analysis (18th Edition) was used as the basis for methods employed

to measure total moisture, ash, calcium, phosphate, fat, protein, carbohydrate and fibre levels will be assessed. Further components will be assayed going forward.



A range of laboratory techniques are used to measure nutrient values in foodstuffs, from simply measuring weight loss from a material dried in an oven to establish moisture content through more complex techniques such as alkalimetry, colorimetry and spectrophotometry.

Preliminary results suggest that mealworms contain generally lower moisture content than other insects. Phosphate to calcium ratios are variable ranging from <2:1 for gastropods through to approximately 10:1 for mealworms and most other beetles. These results are comparable to the data published by Finke (2002), Banjo et al. (2006) and Wiesenborn (2013).

Given that the calcium:phosphate ratios tend to be fairly conserved across insect orders, it would appear that mealworms do not have a significantly increased phosphate content as compared to natural food sources.

The phosphate:calcium ratios of other (non-insect) invertebrate groups are significantly different to those of the insects analysed so far. High calcium content within gastropod molluscs; also demonstrated in Adeyeye (1996); could potentially be utilised as a counterbalance for metabolic maintenance.

Opportunistic species, such as the hedgehog, are generally tolerant to a wide range of dietary components which they will be able to regulate internally or externally. Other species, including bats, have been seen to use dietary supplementation (in this case choosing to drink from hard-water sources) for just this reason (Adams et al. 2003).

We have only a very disparate knowledge of the intimate workings of this species. Without a deeper understanding of the metabolic requirements of hedgehogs, it would be very difficult to ascertain to what extent each dietary component would be required. Much work is focussed on the grander aspects of conservation, but without a detailed understanding of the species any conclusions drawn without evidence may be counter-productive to welfare.

References

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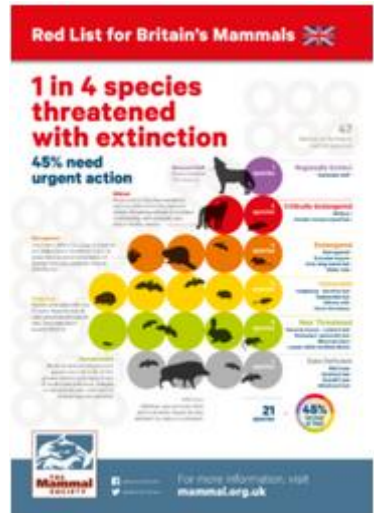
Unfortunately the COVID-19 pandemic has caused significant delays to the project – work is ongoing to clarify and publish details of phosphate and calcium levels, and going forward it is hoped the other nutritional properties of insects will be assessed in due course. We look forward to the presentation of the completed project as soon as possible.

In the News...

New UK Red List classifies one-quarter of mammals “vulnerable to extinction”

On 30th July the first Red List of UK Mammals was published by the Mammal Society and authorised by the International Union for the Conservation of Nature (IUCN), classifying eleven of the forty-seven native British mammal species - including the West European Hedgehog (*Erinaceus europaeus*) - as imminently vulnerable to extinction.

The inclusion of the hedgehog in the ‘vulnerable’ category is likely to be of particular interest to wildlife rehabilitators, because this is the most threatened mammal species commonly seen in rescue centres.



This classification also marks a significant change from the last time that hedgehogs were assessed by the globally recognised IUCN in 2016, when they were classified as being at the lowest level of “Least Concern”.

The Mammal Society hope that this new report will “provide a clear basis for prioritising funding and conservation efforts for the future”.

New legal challenges to UK Badger Cull

Permission for two new Judicial Review legal challenges is being sought against badger culling in the UK.

A not-for-profit company set up in February 2019 by wildlife ‘celebrities’ Mark Avery, Chris Packham and Ruth Tingay, Wild Justice recently reached their

funding target of £48,500 for their proposed legal challenge on the humaneness of the free shooting of badgers as licensed by Natural England.



In 2014 an expert panel advised Government that *“in the context of controlled shooting of badgers by trained and licensed contractors, the percentage of animals surviving for more than 5 min after being shot, and the percentage being wounded but not retrieved, should not together exceed 5%”*. However, Natural England's own annual reports show that the number of Badgers taking longer than 5 minutes to die or failing to be recovered is consistently about 10% - twice as high as recommended.

For more information follow the progress of this challenge via the Wild Justice website <https://wildjustice.org.uk/> or on Twitter @WildJustice_org.



In a separate campaign, with support from the Badger Trust, ecologist Tom Langton has launched an appeal to raise funds for a new legal case to challenge aspects of failed, incomplete or irrational consideration in Defra's 'Next Steps' 5th March policy guidance. Tom lays out a raft of weaknesses in policy making including the ignoring of key recommendations of the 2018 'Godfray report' including.

Fuller details of both cases are available at:

<https://www.brockbase.com/post/government-faces-two-new-legal-challenges-as-it-seeks-to-expand-controversial-badger-cull-policy>

Or to donate to Tom Langton's fundraising campaign visit:

<https://www.crowdjustice.com/case/help-stop-defra-plans-to-extend-badger-culling/>



Effects of the Covid-19 pandemic on the work of UK Wildlife Rehabilitators

Thanks to everyone who has already answered our questionnaire focused on the experiences of wildlife rehabilitators during the three month period March – May 2020, with a view to developing advice for reducing the risks associated with future events of this nature for the sector and to provide evidence with which to lobby government for support.

Please continue to share with your contacts and if you haven't already contributed the questionnaire should take no more than 20 minutes. The information that you provide will not be shared in a way which enables any individual or organisation to be identified or any data to be linked to any specific organisation without the explicit permission of the persons/organisation involved. You will be asked questions about data consent at the beginning of the survey.

As with all studies of this nature the more contributions we gather the more useful the data will be. Please take part if you can by following this link:

<https://forms.gle/Pe8P6VF8wbAkq4dE8>

If you have any queries or feedback regarding this questionnaire, please contact us via bwrcouncil@gmail.com.



COVID-19

BWRC 10-point plan for those working in wildlife rescue and rehabilitation in the UK

1. Staff and volunteers should work from home if possible.
2. Any staff member or volunteer who exhibits symptoms of the disease should remain at home (self-isolate) for at least 7 days, and anyone who is in contact with anyone exhibiting symptoms should self-isolate for 14 days.
3. Any staff member or volunteer who is considered vulnerable (at risk of severe illness) or extremely vulnerable should self-isolate at home, and anyone who lives with someone in those categories should stay at home.
4. Maintain closed working teams where possible - avoid mixing staff who do not routinely work together.
5. Staff should stay at least 2m (6ft) away from other staff or the public and animals wherever possible. Disposable gloves and face covering should be worn when this distance cannot be maintained.
6. Wild animals should be released as soon as possible in line with government guidelines on essential travel (as locally as possible).
7. Centre capacity should be reassessed regularly in response to changing staff availability, and measures put in place to protect animal welfare in the event of inadequate staff availability.
8. The public should be deterred from visiting your premises wherever possible and public entrances to buildings should be kept locked to prevent unauthorised entry.
9. Procedures for receiving, collecting, transferring, seeking veterinary treatment for or releasing animals should be planned and agreed in advance with all parties involved (using telephone, e-mail etc.).
10. Essential journeys include sourcing necessary supplies and transporting animals to obtain emergency care. Vehicles and equipment used off-site should be disinfected after use.

VERSION #2 JUNE 2020

BWRC Symposium 2020

21st NOVEMBER 2020

ZOOM from 8.45am

BWRC members £20

General admission £40



BOOKING VIA EVENTBRITE - shorturl.at/mBCVZ

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Terri Amory, Simon Allen, Janet Peto, Molly Varga, Adam Grogan, Dan Forman, Lucy Bearman-Brown, Mike Brampton, Lucy Cosgriff, Chris Riddington and Sue Schwar.

BWRC would like to thank volunteer Jayne Morgan for managing our **Facebook Page**

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If you would like to submit an article or letter for publication or give a presentation at a future symposium please contact:
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