



RATEL

Vol. 39 No. 2 June 2012





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The Association of British & Irish Wild Animal Keepers (ABWAK)

ABWAK is a non-profit making organisation catering for those interested in and involved with the keeping of wild animals. The aim of the association is:

“To achieve and advance the highest standards of excellence in wild animal care”

We believe that:

- We are the professional association representing animal keepers in Britain & Ireland for whom excellent animal welfare is the highest priority
- We can have a significant impact in welfare issues by bringing keepers and stakeholders together and by being a strong representative & consultative body
- We can make a significant contribution to the training & development of animal keepers thus raising standards and increasing the recognition of wild animal collections
- By developing the skills & expertise of our members we can make a unique contribution to conservation

Membership rates (2012)

Professional or Associate	£30
Joint Professional	£50
Overseas	£50
Subscription to RATEL only	£40
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Cover Photo:
Inca tern,
Seal & Penguin Coasts,
Bristol Zoo
March 2012
Stephen P. Woollard

WRITE for RATEL

ABWAK wants your reports, news, behaviour studies, husbandry and enrichment tips, enclosure design developments, conservation projects....

email your articles and photos to: editor@abwak.org

MEMBERSHIP - JOIN/RENEW NOW

We now accept new members at **any time of year** and your membership runs for **12 months (four issues of RATEL)**.

We will soon be introducing the ability to pay by CREDIT/DEBIT card and DIRECT DEBIT and a new INSTITUTIONAL Membership - with discount for Zoos enrolling their staff.

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See website and facebook pages for more info: www.abwak.org

From the editor

2012 - Celebrate being part of an International Network

This year may be Olympic and Queen's Golden Jubilee year, but for zookeepers this year is also ICZ year. The International Congress of Zookeepers takes place this September in Singapore. Opportunities to meet and network with your colleagues from all over the world don't occur very often (ICZ is every 3 years) - and its still not too late to register for the meeting.

ABWAK is offering its members one LAST CHANCE to apply for financial support towards attending ICZ (we have several awards of hundreds of pounds available). Please contact us immediately if you want to be considered for this award. (We will consider applications up to the end of June, but the deadline was actually set at 1st June).

Our colleagues in the **American Association of Zoo Keepers** have for a long time worked together to support the conservation of rhinos by raising funds through their 'Bowling for Rhinos' scheme. This spring AAZK announced that since this programme started in 1990 they have now raised US\$ 4 million. Ross and I had pleasure in sending them a message of congratulations from ABWAK - which is published in the April edition of their journal 'Animal Keepers Forum' and I reproduce this letter below:

"On behalf of the members of the Association of British & Irish Wild Animal Keepers (ABWAK), we would like to congratulate the members of AAZK on their fantastic efforts through Bowling for Rhinos in raising over US\$4 million since it started in 1990. Your contribution to the conservation of rhinos in Africa and Asia is significant and of great importance, and the concept of 'Bowling for Rhinos' is one that is innovative and obviously successful. It is also an excellent demonstration of how the profession of zoo keeping goes beyond zoo animal care and husbandry.

We wish you all well in continuing these efforts and in achieving your very ambitious target of \$500,000 a year from now on.

Congratulations.

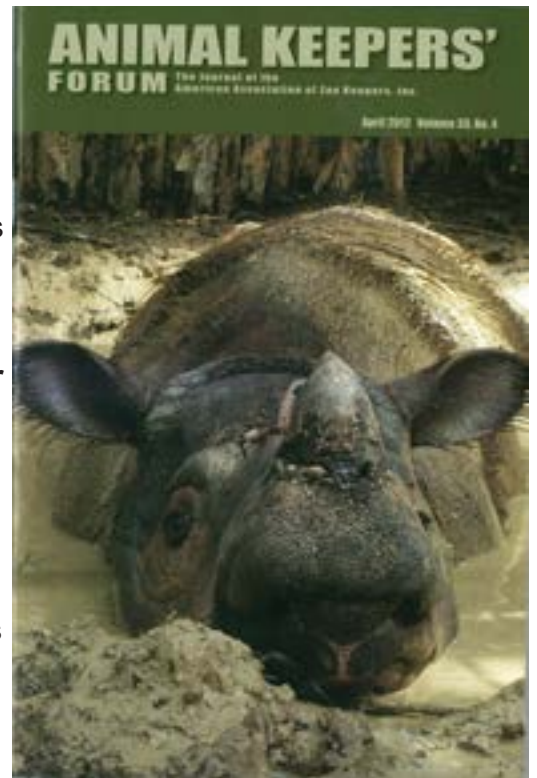
Stephen & Ross on behalf of ABWAK.

This edition of RATEL features a variety of short articles beginning with a report on our very enjoyable and successful annual symposium held at Bristol Zoo in March. One of our best attended symposia the two days were full of excellent presentations and activities, kicked off by an inspiring talk from David Field, which we reproduce in this RATEL. As host of the next Symposium in March 2013 I have a high standard to live up to - we have already begun planning - and there will be an optional third day featuring a trip to the Highland Wildlife Park.

Thanks to all the contributors to this issue.

Don't forget we are always looking for articles and short reports. Email: editor@abwak.org

Stephen P. Woollard, Editor



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ABWAK Symposium, Bristol Zoo 2012

Victoria Snook

Twycross Zoo



On March 3rd and 4th I attended the ABWAK annual symposium at Bristol Zoo along with 3 other Twycross Zoo colleagues and 100 other zoo professionals. The aim of the weekend was to show case what zoos are doing and help people get into zoo work, as well as networking with other zoos.

The weekend started with a lovely opening speech from Dr Bryan Carroll (Director of Bristol Zoo) read by John Partridge (Curator). This was then followed by 3 inspiring talks by David Field, Greg Clifton and John Partridge on being a zoo keeper and the next step for passionate zoo keepers who want to progress in their careers. There are now various routes to progression such as moving through the ranks and being on specialist groups and becoming studbook keepers. That set the tone of the weekend with lots of wonderful talks to follow with everyone making conversation about their own CPD (continuing professional development) and a beautiful spread from the Bristol Zoo Catering Team for the breaks and lunches which made a big impression.

One of my favourite talks was the Blair Drummond team talking about old and new exhibits for their chimps and elephants. A good talk not only about what was wrong and how things used to be but how they have tried to bring the enclosures forward into the 21st century, admitting there was a problem and hopefully now they have solved these issues, well done!

The Saturday evening meal was just what was needed to finish off the first day of good debates and the food stood up to the spread in the day. The entertainment was on par with the weekend and my favourite part was the enclosure building game, which bought out everyone's competitive side. Who knew Zoo keepers REALLY don't like to lose!!

The second day was more keeper related with talks on training and husbandry issues which collections have been involved with. The BBC had put together a short film for their 50 years birthday which had most of the room in amazement and probably in tears- what a brilliant talent they have. We at Twycross had 2 keepers presenting on the second day. Arun Idoe's talk on François langurs and how we have introduced a hand-reared baby back in the natal group and myself on training Brazilian tapir for conscious blood draw. Putting Twycross on the map and shouting about the outstanding work we are doing daily with our animals was an opportunity not to be missed!

Everyone I spoke to said they enjoyed the whole weekend and were inspired, taking away a lot to think about regarding their own success. It definitely did that for me and I have now put together a CPD personal development plan of my very own with my goals of what I want to achieve, which I can refer to when I need some motivation. So thank you to all the speaker for great talks and Bristol Zoo for the hospitality they showed and I look forward to the next symposium next year at Edinburgh Zoo.



Keynote Address: “The Importance of Zookeepers”

David Field

Zoological Director, Zoological Society of London & Chair BIAZA

I started my career as a keeper. In approaching this talk I wondered about the title I was given, should it be: “The importance of zookeepers?” or “The importance of zookeepers!” or “THE IMPORTANCE OF ZOOKEEPERS!!!!”

Zoos and BIAZA have growing and increasing respect for ABWAK and the value of zookeepers is unquestionable. Zookeeping is a profession it’s not just a job – be proud of your profession. We should ask, are we doing the most we can to raise professional standards? I’m not talking about terms and conditions and wages, but integrity and professionalism.

The value of zookeepers can be seen in – husbandry and welfare; frontline conservation both ex situ and in situ; and their educational and ambassadorial role is immense.

You should all be aware of the UN Decade of Biodiversity, and the importance of getting people to understand and value biodiversity – you can help both in awareness and improving the status of the world’s most endangered animals. In your work you are delivering on the UN Decade Aichi targets (see: <http://www.cbd.int/2011-2020/goals/>).

Continuing Professional Development (CPD) is important – what goals do you have for this year? And what

training and development needs do you have? ABWAK has an important role in delivering these. But don’t forget what has gone before, learn from others, from zoo pioneers like Gerald Durrell and Heini Hediger. Some of you will have read Durrell, but how many have read Hediger?

Every zookeeper should read Hediger’s “Man and Animal in the Zoo” and “Wild Animals in Captivity”.



The other crucial aspect we need to consider in our talent management – is not just where the business leaders are coming from but where are the future Hediger and Durrell’s coming from – those people that compose those paradigm shifts in zoo thinking – and the Andersons and De Boers who have built the foundations of our modern zoos.

And you should all have read the World Zoo and Aquarium Conservation Strategy... and other relevant publications such as ‘Zoo Conservation Biology’ and ‘Zoos in the 21st Century’. It’s important to build upon the past and learn from it and look at the direction for the future. Maybe what ABWAK should do is give every new member a list of 100 papers/books that every keeper should read and build upon during their career. And even more – comment upon and share thoughts through online groups. Take your knowledge further.

RATEL should have conference information – reports upon what other meetings such as WAZA, EAZA and ISIS, and other symposia, have discussed and reports written by those in attendance for keepers to keep you all informed.

Mentoring - facilitating and nourishing talent is very important. The shared knowledge and expertise and help and support of ABWAK members is of real value. We should not forget ‘stock matters’. The skills of ‘stockmanship’ are being lost.

There are some heads out there in zoos; Stewart Muir your President is one; full of not just knowledge but practical experience that can and should be passed on, and ABWAK has a role in facilitating and supporting that knowledge transfer.

The professional standing of keepers is important and ABWAK has a growing reputation and can help build respect for the specialist role of staff. The issue of losing basic skills is compounded by the fact that keeper progression in zoos is largely based upon the movement into 'people management' rather than recognition and reward for specialism in animal care. Maybe there is an opening for ABWAK recognition of 'specialist keeper' that could be also recognised by BIAZA – effectively an 'accredited keeper' status.

Standards and consistency vary between zoos, there is the opportunity to look at better standardisation and recognition for example by having a keeper level, 1,2,3,4... grading system, which can be supported by accreditation and qualification, so the standard is recognisable and transferable (as the Diploma, formerly the ANC is).

Having 'certified keepers' might be difficult to implement but there would be a level of professional standing, recognition, raising of standards and skills, and real career advancement opportunities.

Where will the next generation of zoo directors and zoo curators come from? Here in this room? There have been changes. Most zoo directors were from a biology/science or conservation background, now there is a greater involvement of people from commercial and tourism backgrounds taking up zoo CEO positions. So even more than before there is a need for zoological experts in the zoo to support the new CEOs. It may be hard to predict the future in detail but be in no doubt that keepers with skills beyond zookeeping, that are more rounded zoo professionals, have a good future ahead of them, and opportunities for progression.

Don't be daunted by all these 'new skills' in many ways you already do them, for example project management and strategic thinking can be part of every day keeping. Think of the 'soft skills' you can develop, for example 'mind mapping', how to run a meeting, presentation skills etc. However, one of the greatest skills that you can acquire, learn and develop is leadership. Look at what you admire in others and try to replicate. Likewise what you don't like in others and avoid doing what they do. Being able to lead is one of the main keys to advancement and progression.

There has been development in other fields of industry-led universities (e.g. Macdonalds and now Tesco), where there has been recognition that specialist training needs for particular fields are not met through the standard education system. The American Zoo Association (AZA) has its Zoo and Aquarium Leadership Programme through an MA in interdisciplinary studies through George Mason University. And now there is a real opportunity open to us and to you based in the UK, through the EAZA Academy. There are already opportunities for technical training, workshops and sharing of expertise. The ambition should be and is to be a driver for talent management in zoos. And don't forget scholarships and support are available, so this opportunity is open to all.



Take responsibility for yourself and your own career development. You need to look at what is available. Yes there is a responsibility upon your employer, upon BIAZA, EAZA and ABWAK, but it is ultimately up to you.

Be pro-active. Get involved and offer your help and support to others – I'm afraid that yes in this industry that does usually mean doing things in your own time and off your own back, it's the nature of our community. Volunteer to help someone who runs a studbook, or attend and contribute at TAG and TWG meetings, ABWAK Council are all volunteers, BIAZA and EAZA committees may have some institutional support but often 'own time' and extra personal commitment is needed. Doing these things gets you noticed ...and in a position to progress and to contribute effectively to your profession and be the next generation of directors and curators.

“ By working faithfully eight hours a day. You may eventually get to be the boss and work twelve hours day”

Robert Frost 1874 -1963 American poet

A CD with all of the PowerPoint presentations from the 2012 Symposium is available from ABWAK. Please email: publications@abwak.org or email editor@abwak.org for details.

The next two pages feature a few highlights from the Symposium presentations.

ABWAK Symposium 2012 Bristol Zoo Gardens - a few 'highlights'

Student to Keeper - Greg Clifton, Twycross Zoo

Been a keeper for 7 years - 2 at Twycross.

Ambition to step away from the crowd.

So how do you answer the question: "I want to be a keeper - how do I get into the job?"

Be honest - its hard work, low pay, long hours, its not playing with animals...

Today most keepers begin via a 'student' approach undertaking a course at college or university. A range of FE colleges have various courses and also offer support to enable those less academically minded or with learning issues such as dyslexia. And now some colleges are actually licenced zoos themselves, and some are members of BIAZA.

There are different routes to get where you want to be, and zoos are employing people coming from different courses and experiences. Greg did a foundation animal care course, 1st diploma animal care, national certificate in animal care, foundation degree in zoo management, ANCMZA course and *Callitrichid* course at Jersey. (Some self-funded).



Move Around Don't Specialise Too Soon



From Keeper to Curator John Partridge, Bristol Zoo

BBC 'Animal Magic' did it for me - it was the spark that made me want to do it and enter zoo work.

To get a job in the zoo there are different routes, but things you can do to make a difference. Volunteers are very important - we know them and they know us, and practical skills particularly are something we look for.

Join ABWAK, attend conferences, write articles, get yourself known. Visit other collections, undertake keeper exchanges.

Dedication and hardwork are essential - dealing with

bad weather is one thing, dealing with animal management decisions such as euthanasia and moving animals out of the collection are another. The basic skills are used day to day, and sometimes there are challenges - how do you sex a sloth? how do you hoof trim an okapi? And if you want to progress, how do you manage a team of people?

It is a good idea to move around and not to specialise too soon. John has experience working on all the animal sections over the years which stood him in good stead as he is now the Senior Curator at Bristol.

It's important as you progress and move up the responsibility ladder to support your team, be a mentor, and you also have to learn how to manage budgets and organise things, and represent the zoo at meetings.



ABWAK AGM

Thanks to our sponsors **MAZURI** and **zotech** and to our host Bristol Zoo.

The **Constitution & Byelaws** have been updated and revised - approved.

Ross, Mairee, Paul, Marilyn & Chris were all **re-elected** to ABWAK Council.

Our **membership** has grown by 32%, partly through special promotions, and we aim to achieve similar growth over the next two years (We want to have a baseline of 600 members).

Our **income** in 2011 was just over £15,000 and **expenditure** was nearly £22,700. The difference is because we used some of our reserves to enable the redevelopment of the website: www.abwak.org

6 Grants have been awarded: Lorraine Miller £450; Victoria Snook £50; Clare Ellis £200. See website for how to apply.



Animal Encounters in Paradise Lynn & Aaron Whitnall, Paradise Wildlife Park

Paradise Wildlife Park (called Broxbourne Zoo when Lynn's father bought it in 1984) is situated in Hertfordshire, north of London, and in easy reach of a number of other zoos. So in developing the zoo they decided to specialise more in 'animal experiences'. These include individual 'animal encounters' and keeper experiences, as well as corporate team-building, animal breakfasts and events for special occasions such as Valentine's day.

The programme is very successful generating £350k income/year. The success is based on having a well managed and dedicated team of staff - who are good at visitor interaction. The

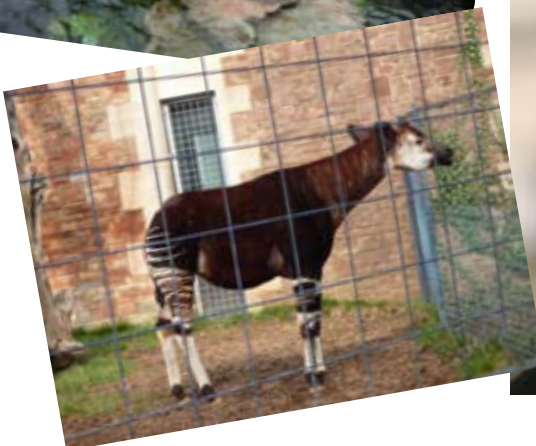
training work with the animals is also good for health checks etc. And the success has enabled establishing the Wildlife Heritage Foundation big cat breeding centre in Kent. PWP is hosting the 2012 BIAZA conference.

Making Your Animals, Visitors and Zoo Director Happy... The Impossible Dream or not???

Darren Beasley, Catriona Carr & Kim Tucker

Longleat has undergone some changes - Viscount Weymouth has taken over running the estate, David Bradley is the new CEO (ex Legoland) and Jonathan Cracknell is Zoological Director. We've been re-branded too.

Its been a challenge to re-look at what we do and how we do it - but great to get some investment into the safari park again. Meeting the needs of animals, visitors and director is possible!



ABWAK Photography Competition

ABWAK are creating a calendar for 2013, and are offering you a chance to have your photo included by entering our competition.

Categories:

1. Life as a Wild Animal Keeper

Images should illustrate what is involved in being a Wild Animal Keeper and can be drawn from any aspect of the working day.

2. Enrichment

Images should illustrate the use and effectiveness of enrichment.

3. Natural behaviours

Images should illustrate natural behaviours' exhibited in captivity.

4. Training

Images should illustrate the use and effectiveness of training

(A written description is also required which may be included in **ABWAK** publications)

To Enter:

Send your photos to editor@abwak.org

Please include the category you have entered, your name and email address along with a description of the photograph.

Or you can upload photos onto **ABWAK facebook page**, clearly label uploaded photograph **ABWAK COMPETITION** along with a description of the photograph and the category you have entered. (Photos will be removed and stored off facebook until winning announcements are made, and we may request you to send a high resolution copy)

Please view the Terms and Conditions for more information – see website www.abwak.org

Results

The results will be announced in the December issue of Ratel, www.abwak.org, **abwak Facebook** and **abwak Twitter**. (We aim to have the calendar printed for start of December).

Please note that only successful entrants will be contacted individually and no correspondence will be entered into regarding the entries or results.

There will be one winner and 3 runners up in each category.

Prizes

The winners will win: 1 year membership to ABWAK (either as a renewal or as a new member) and 2 copies of the calendar

Runners up will receive: 2 copies of the calendar.

Winning/runner up entries will be used in the 2013 abwak calendar. Full acknowledgement will be given to the winning contestants.

CLOSING DATE: 30th JULY 2012

(entries received after this date will not be judged)

A maximum of 3 photos per category per person (the same photo CANNOT be entered in more than one category). Full terms & conditions see flyer available from www.abwak.org



CALL FOR PAPERS



THE ROYAL
ZOOLOGICAL SOCIETY
OF SCOTLAND

ABWAK SYMPOSIUM 2013 2nd - 3rd March

Royal Zoological Society of Scotland - Edinburgh Zoo
(celebrating the centenary of Edinburgh Zoo)

and a day at the Highland Wildlife Park, 4th March 2013

Please contact any ABWAK Council Member or email: editor@abwak.org
if you would like to be considered as a speaker at this meeting. We're looking for speakers
on the diversity of zookeeping and related work.

RZSS Highlights at Edinburgh include: giant pandas; koalas; Budongo Trail - chimpanzees;
Living Links Primate Research Centre; penguins; cassowary; sun bear; Socorro dove..

RZSS Highland WP highlights include: polar bear; Amur tiger; Japanese macaque; musk ox;
kiang; Scottish wildcat; yak; capercaillie...

**We aim to keep the costs of the Symposium low (as we always do),
the trip to HWP will be around £20 to cover cost of a coach.**



Accommodation - best deals available via internet booking sites
(the zoo is in Corstorphine, 3 miles from city centre).

Travel - lots of low-cost airline flights direct to Edinburgh Airport;
good intercity train service. Book ahead to save money.
Highland Wildlife Park is 130 miles north of Edinburgh.

Symposium Booking will open later in the year

Visit www.abwak.org for details of all ABWAK symposia,
workshops and events

A review of the International Association of Giraffe Care Professionals' Second Conference February 2012 San Francisco, California, USA

Paul Rose¹ and Sarah Roffe

¹ Sparsholt College Hampshire / University of Exeter

² Twycross Zoo

In February 2012, the International Association of Giraffe Care Professionals (IAGCP) held their second conference in San Francisco. This meeting was attended by around one hundred giraffe keepers, biologist, vets and researchers interested in the management of giraffe both in the wild and in captivity. Topic areas ranged from discussion on the current taxonomy of the giraffe (whether or not the subspecies are full species, and how many (sub)species at that), to enrichment techniques and natural behaviour in the zoo, through to studies on wild behavioural ecology and zoo-based training programmes. We presented a paper on the social dynamics of zoo-housed giraffe, detailing data from eight UK collections to give an overview of the preferences seen within giraffe herds for who mixes with whom and how animals segregate. This work marries up nicely with that currently on-going in the field and it is hoped that a fuller and more comprehensive understanding of the social grouping of giraffe (and the importance of being social to individuals within a herd) will be the key result of this. There is a particular relevance to this issue for those working in the captive world; as giraffe appear to be more social than is seen in the literature, this will have important consequences for managed breeding and decisions relating to the movement of animals between zoos.



Just as was the case with the first conference back in Phoenix in 2010, the atmosphere was friendly, enthusiastic and well-organised. Trips to the San Francisco and Oakland Zoos were particular highlights, showcasing the facilities and husbandry practices used for giraffe in the USA. The pioneer of giraffe biology, Dr Anne Dagg (picture left) returned to give another inspired and interesting talk on her on-going work, and particularly to promote discussion on the new text that she is writing as an update and re-write of her original, innovative work from

the 1970s, "The Giraffe; its biology, behaviour and ecology". Talks from researchers out in Africa studying the diminishing populations of Rothschild's and reticulated giraffe were of particular note, and perhaps carry a very important message for those of us maintaining populations of these subspecies within the EAZA region. The zoo-housed population has real conservation potential and one whose conservation message needs to be thoroughly promoted to the public. Giraffe populations in Africa are evolutionary distinct and in decline, in some cases in a worse situation than those well-known flagships of conservation pandas, elephants and tigers. The zoo community, by supporting in situ conservation efforts will be able to secure the future of this dynamic, enigmatic species.



The mission of IAGCP is to seek for the advancement of giraffe care worldwide through collaboration, education and innovation. IAGCP aims to make this happen by bringing together and combining the knowledge of zoo keepers, veterinarians, field biologists, educators and anyone else interested in giraffe. Currently, IAGCP is due to start recruiting to its first board of directors and is seeking the active involvement of all those interested individuals outside of North America to make the organisation as international as possible.

If you would like to know about the mission, aims and work of IAGCP more please see website (www.giraffecare.org) or contact info@giraffecare.org or the authors of this article (paul.rose@sparsholt.ac.uk / sarah.roffe@twycrosszoo.org).



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Leading the way

Captive Husbandry and Reproduction of the Madagascan Tree Boa *Sanzinia madagascariensis*

Adam Rad

Curator of Reptiles, Birmingham Nature Centre



Introduction

Sanzinia madagascariensis (Duméril & Bibron, 1844) is one of the most spectacular of all species grouped in the family Boidae. Distinguishing features include a large off-set head and colour can range from dark to light green with large rhomboid markings that continue down the body and in some individuals, are heavily bordered with white (Henkel & Schmidt, 2000). Neonates are a reddish-brown for the first few months of life (Henkel & Schmidt, 2000). The species is listed as vulnerable on the IUCN Red List and CITES appendix 1 (06/07/2011).

S. madagascariensis can inhabit a range of habitats from dry, moist forests, to savanna grasslands and are distributed throughout northwestern, northern and eastern Madagascar (O'Shea, 2007). They have heat sensitive pits between the upper and lower labial scales which is a feature not shared with the other two Madagascan boa species (Mattison, 1998). Juveniles lead an arboreal life whilst adults are commonly found basking on the ground or in low branches (Henkel & Schmidt, 2000). Diet consists of small mammals and birds (O'Shea, 2007). *S. madagascariensis* is ovoviviparous with four to sixteen young born after a gestation period of six to eight months (Ross & Marzec, 1990).

Management

1.2 *S. Madagascariensis* were used for the breeding program. The male was an 11 year old wild caught specimen. Both females were eight year old first generation captive bred specimens. Female 1 was the larger specimen weighing 2,500g whereas female 2 weighed 2,100g.

The *S. madagascariensis* were housed individually and only introduced together when attempting to breed. Specimens were housed in large fibre glass vivariums measuring 120x60x60cm (LxWxH). These were heavily branched out to facilitate climbing and a large basking area was provided.

12 Ambient day temperature was 24 – 28 degrees centigrade with a basking area reaching up to 35

degrees centigrade. Ambient night temperature was 20 – 22 degrees centigrade. Humidity was 40 – 60% due to sporadic spraying with warm water every couple of days.

Specimens were fed on one adult rat every 3 – 5 weeks.

Reproduction

The decision was made to breed the larger female (female 1) in year one (end of 2008-2009) and the smaller female (female 2) in year 2 (end of 2009-2010). Breeding behaviour was very similar with both females. Therefore the main observations from both years are presented together.

From November to February, night time temperatures were gradually lowered to 14 – 16 degrees centigrade over a period of five days. On day six, the male was introduced to the females' enclosure and copulation commenced 30 minutes later. The male was observed using his spurs during every introduction.

Copulation was mainly observed in the morning from 8:00am – 11:00am when body temperatures were between 16 – 18 degrees centigrade. Copulation was sporadic throughout November and the male was removed. All specimens refused food after the first introduction together. With no change in the females behaviour (thermoregulation pattern etc), the male was reintroduced in December once increased rapid tongue flicking was observed in the male. Copulation was frequently observed for a few days after reintroduction. After a week together, copulation was induced by spraying the enclosure and the specimens with warm water. When mating behaviour and copulation ceased, the male was removed. This method continued throughout December and January. Copulation was observed on 16 separate occasions with female 1 and on six occasions with female 2.

Ovulation in both females was not observed but continued periods of basking was, from mid-March (2009) in female 1 and the beginning of March (2010) in female 2. Basking occurred every morning and usually lasted all day with both specimens. Female 1 would raise her body temperature to 38 degrees centigrade by the afternoon whilst female 2 would seek shelter if her body temperature had risen above 33 degrees centigrade. Temperatures were taken using an infrared heat gun. Both females began to darken in colour after their first slough to retain body heat for longer to bring on the developing ova (Ross & Marzec, 1990). This continued through to parturition.

Female 1 had a pre-parturition slough almost 2 months prior to giving birth and female 2 was in slough whilst giving birth. The day prior to parturition, female 1 was offered and consumed one large rat whereas female 2 refused food until her post parturition slough. Female 1 gave birth to 3 live neonates at the end of August weighing 52-56g and 6 infertile ova. Female 2 gave birth to 5 live neonates at the end of August weighing 42-47g and 3 still-born weighing 25-44g and 1 infertile ova. Both specimens returned to their normal colours after a post parturition slough.

Rearing Neonates

All three neonates from female 1 were housed individually in contico boxes on a rack system measuring 37x25x13cm (LxWxH). Bark chippings and sphagnum moss were used as substrates and small sticks were used to provide climbing opportunities. Neonates were offered one small thawed mouse each. For the first two months specimens struck at food items but released and did not eat. After this period freshly killed mice were offered and all three specimens accepted. Eventually all three were weaned on to thawed mice after four months.

All five neonates from female 2 were housed individually in plastic Hagen tanks measuring 27x16x20cm. The enclosures were furnished using the same method as the neonates from female 1. All neonates accepted thawed, small mice after a month from birth.

Humidity lower than 40% resulted in dry sloughs and neonates had to be submerged in warm water for a few hours for the skin to be manually removed. Humidity was generally kept above 50% and sphagnum moss piles were always damp. Neonates were kept at 25-30 degrees centigrade.

After approximately 4 sloughs and over a time period of 6-8 months, the juvenile boas began their ontogenetic colour change from a red/brown background to a light/dark green.

Conclusion & Discussion

S. madagascariensis has been kept at the Birmingham Nature Centre for over 15 years. Specimens have ranged from wild caught to captive bred individuals. Various methods for breeding have been implemented over the years including with the three specimens used in this breeding program but with no success. The first successful breeding occurred using the above method. This was later replicated using a different female to prove certain factors necessary for successful reproduction. These are discussed below.

From the observations made, *S. madagascariensis* copulate readily in captivity. This was observed more frequently with female 1 and could possibly be caused by compatibility between individuals although in both cases, fertile mating took place.

S. madagascariensis seem to be able to withstand lower temperatures during the cycling period than other boas without becoming susceptible to respiratory infections (pers. obs.). Keeping *S. madagascariensis* at temperatures as low as 14 degrees centigrade for short periods of time may aid fertility in this species (Ross & Marzec, 1990).

In previous breeding attempts, specimens were only introduced at the end of the temperature cycling period. Introducing the sexes at the beginning and throughout this period may be beneficial in allowing the male to mate during the onset of ovulation.

S. madagascariensis will mate throughout the year if introduced together (pers. obs). However, successful reproduction in this species appears to only occur with temperature fluctuations from November and neonates being born in August of the following year. Youll (2007) had similar breeding success during these months.

During gestation, *S. madagascariensis* bask continually, as found in both females, however if the basking temperature isn't appropriate (between 30-38 degrees centigrade in this study), this may cause the developing ova to be re-absorbed (Ross & Marzec, 1990).

Whilst writing this paper (July 2011) female 1 gave birth again nearly 2 years after her first breeding success using the same method for breeding.

For future breeding of *S. madagascariensis* in larger numbers, further research needs to be carried out to define whether the method for breeding used in this study can be successfully replicated in other collections that keep this species, or whether the method is only applicable to the animals used in this breeding study. Animals need to be bred more than once to allow accurate analysis of results and to determine factors that may or may not affect reproduction.

Acknowledgments

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This article has also been published by: The Herpetological Bulletin.

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ABWAK WORKSHOPS:

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Hand Rearing Malayan Great Argus Pheasant *Argusianus argus* at Edinburgh Zoo

Nick Dowling & Sean Meechan
Bird Section, RZSS Edinburgh Zoo



Introduction

Argus pheasants (*Argusianus argus*) have been held at Edinburgh Zoo since 2007 with no successful breeding obtained. The pair were held together year round with no successful mating, the female would regularly lay 2-3 clutches a year and incubate full term all eggs were found to be infertile and sometimes taken away when the eggs were found to be infertile. The bird would also be allowed to sit on the infertile eggs in order to encourage her to sit full term.

After a time of the birds being held together year round aggression between them was witnessed initially from the female. However the birds had to be split up when the male became the aggressor and no further long term introductions proved a success.

In 2011 we brought in a new male to the collection as the original male had died toward the end of 2010 and a new enclosure was designed to allow separation and introduction facilities for male and female (figure 1) including various size alterations of the slide in order to allow the female to escape through a gap that

would be too narrow for the male to get back in to her enclosure should the male prove aggressive.

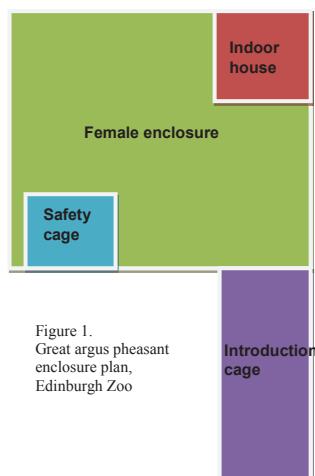


Figure 1.
Great argus pheasant
enclosure plan,
Edinburgh Zoo

Both enclosures were planted with bamboo and the male side had several logs which were intended for him to carry out the courtship display. With these key high points such as logs and visual barriers in the bamboo the male was encouraged to vocalise to the female allowing keepers to open the slide from the females enclosure to the introduction cage bringing the birds into closer proximity. The behaviour of the two birds were regularly monitored and no aggression was witnessed and the female was spending most of her time near the male so the birds were introduced approximately 2 weeks after being given access to the introduction cage.

Shortly after an introduction an egg was found in the indoor house followed by a second egg 2 days later due to the fact that the birds had been in together a matter of days it was unlikely that these would prove fertile. Both eggs were placed in an incubator and after 10 days no development was seen.

A second clutch soon appeared again this was removed for incubation with the intent that one clutch would be hand reared and hopefully a second would be parent reared. This clutch did prove to be fertile and both were successfully incubated and hand reared proving the first breeding success of this species at Edinburgh zoo.

Incubation

Incubation parameters: Temperature 37.5°C Humidity 30-40 %

Incubation time 24 days with auto turn mechanism stopping at 23 days

Eggs were placed in polyhatch incubator with rotating tray with adjusted bars allowing for suitable egg turning, parameters were kept constant until 23rd day when the eggs were moved to a hatcher after internally piping with the temperature a degree less at 36.5oC and 80% humidity! The chicks hatched the next day on day 24.

Rearing

The chicks were held in a brooder in order to dry off and gain strength for a day (hatched 23/7/11) and moved into the rearing unit (figure 2) on the 25/7/11. The rearing unit would hold the birds comfortably for a month and a half before the divider was removed allowing the same sized unit to be exposed to the chicks for more room.

The unit was structured with a metal tray on the bottom in which towels were placed on to allow comfortable and warm substrate and provide a grip for the birds and prevent legs splaying. A small tub was placed in there to allow the chicks a hiding place and some respite from the heat lamp place in the unit, aimed at keeping the temperature between 25 -29 °C. thin material screening was tied on to the lower half of the doors in order to reduce stress on the birds and prevent them putting their heads between the bars.

During the first day the chicks were not offered food and allowed to feed off their yolk reserves. from the 24/7/11 the birds were offered a staple diet developed during the rearing of our vulturine guineafowl in the previous two seasons see below, and given some wax worms with their heads removed and white mealworms. From the 1/8/11 the birds were offered brown crickets and small hoppers with their heads and legs removed.



Figure 2. (a) pre set up (b) set up for the birds

Diet

Grated carrot

Greens

(Both finely chopped)

Pheasant starter pellets (slightly crushed)

Feed was offered and replenished 3 times a day.



Figure 3. Diet

Growth

The chicks grew and developed well; with their wings well developed on the 25/7/11 two days after hatching (figure 4 - below).



The chicks grew at an acceptable rate throughout the rearing process although some days they would either stay the same as previous day or in fact lose weight but the weight loss was not consistent and never at an alarming rate. If ever the chicks lost weight either a precautionary weight was taken in the afternoon or monitored for the next day and the next day would always increase from the previous day.

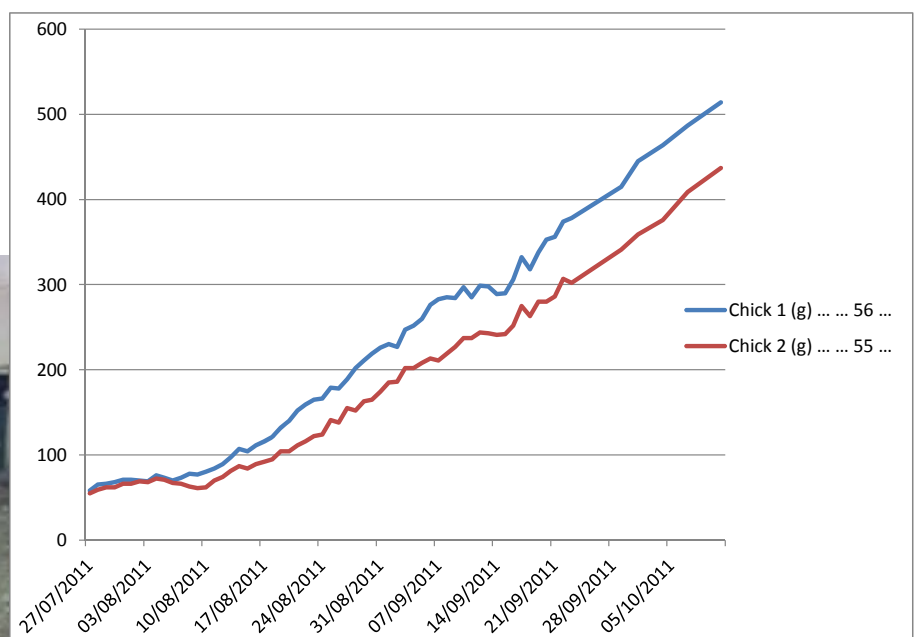
The main concerns for the growth of these chicks were that they may be given too much insects thus causing too much protein to be present in the diet meaning the birds would grow too quickly with possible leg splaying, toes twisting under heavy weight or angel wing often occurring in these cases.

The chicks had insects reduced at each feed on the 7/8/11 until further notice as the wings had been seen to begin to droop slightly so less insect at each of the 3 feeds were offered for a week as a precaution in order to allow the wings to grow accordingly.

It is important to consider that the drooping of the wing may also have occurred as increased blood flow to the significantly growing feathers thus increasing the weight for these small birds.

As the graph shows both birds have a very similar growth pattern with the second chick slightly behind the first chick in weight but both grew at acceptable rates with no concern from keepers.

Both birds sexed as males the picture shows them at 7 months old.



Benefits of Operant Conditioning on Grey Ground Cuscus

Nick Rowley
Twycross Zoo



Natural History

Ground cuscuses (*Phalanger gymnotis*) are medium sized marsupials that belong to the same family as possums. Their natural range is the rainforests of Papua New Guinea and also the offshore island of Aru.

They are primarily arboreal with a prehensile tail, opposable thumbs on their hind feet and the third and fourth toes are fused together to aid climbing. However they do descend to the forest floor to forage and sleep in burrows, in fact cuscus in the wild may be more terrestrial than those in captivity. Cuscuses are strictly nocturnal with large eyes and ears and pronounced whiskers. Their diet consists mainly of fruit and leaves although they will also take insects, eggs and small vertebrates.

In the wild cuscus are solitary with male and females only coming together for breeding. The gestation is 14 days and once born the baby will spend a further 5-7 months developing within the pouch. Cuscuses are classed as data deficient on the IUCN red list.

Wild Diet

Fruit, Leaves, Invertebrates, Egg, Small vertebrates

Captive Diet

Apple, Pear, Banana, Orange, Grape, Carrot, Lettuce, Mealworms, Egg, Browse: willow, lime, poplar

Enclosure



At Twycross the cuscus are housed in an exhibit 14 feet by 7 feet and 7 feet high. This enclosure is divided in two by a mesh wall with a hatch way connecting the two which can be closed if necessary. This allowed us to easily introduce the cuscus to each other as they could see and smell each other at all times prior to introduction. It also allows us to separate male and female if necessary although our current pair of animals are very compatible and have even cohabited amicably with a youngster of 9 months of age, all three animals happily feeding together.

The enclosure can be viewed through two large windows at the front which also provide all the

natural light for the exhibit, the idea being to keep the enclosure dark to encourage the animals to be more active during the day. The substrate is bark chipping and the exhibit is furnished with branches and shelves to allow the animals as much climbing space as possible. Multiple nest boxes are provided which we believe contributes to our success with housing male and female together. The enclosure itself is located in a secluded area of the zoo which may be a contributing factor in our breeding success.

Personal Characteristics



Taz

Male

4 years old

Born: Blackpool Zoo, UK

Arrived at Twycross Zoo 18/02/2009



Aru

Female

2 years old

Born: Prague Zoo, CZ

Arrived at Twycross Zoo 07/09/2009

Why Train?

When we first obtained our cuscus it was immediately apparent that these animals are strictly nocturnal. The animals were staying within their nest boxes throughout the day making visual checks very difficult. It was felt that the best way to be able to see them during times of the day when they were more active was to introduce operant conditioning and thus be able to do a visual check on all parts of the animal every day. The female in particular was especially timid and would not come out of the nest box at all when keepers were present. Due to the training this behaviour has been reduced to such an extent that we have been able to chart the development of a baby within the pouch. We also wanted to train for behaviours such as sitting on scales to allow us to monitor the animal's weight without the stress of catching them up.

Techniques

Before training could begin the keeper was taught the techniques and terminology of operant conditioning by the zoo's animal trainer. The cuscus would be trained with the use of positive reinforcement in the form of food; essentially they would be given a piece of food each time the correct behaviour was exhibited. A bridge would then be introduced which would be given as soon as the behaviour occurred which would be the verbal "Good" with food being given after this bridge. It was then important to choose the right time of day to begin the training. Initially it was thought that the early evening would be best, but the cuscuses were usually asleep at this time and very reluctant to come out of the nest box. Eventually early morning, after cleaning was found to be best. At this time the cuscus were accustomed to being given their morning feed and so were at their most active.

How we started

The first step of the training process was to desensitise the cuscus to the training tools being used which initially consisted of a bamboo cane target, a pouch containing the reward food and the gloves the keeper would be wearing during the training session. These items were taken into the enclosure during cleaning so the cuscus would become familiar with them. We then began offering the cuscus small pieces of food on the end of the target and saying "Good" when the food was taken, to pair the bridge with the reinforcement.

Small pieces of food were used as cuscus are quite slow eaters and a large piece being given could result in a long wait until the animal was ready to do the next behaviour. The choice of food was very important as if an unwanted food item was offered the cuscus would show no interest. On the other hand a particular favourite item being used can also cause problems. When kiwi was offered the trainer had to wait not only for the cuscus to eat but also while it licked the juice off its hands, the end of the target and the shelf it was sitting on!

After trial and error it was discovered that small pieces of banana seem to be the best food item to offer for training purposes. This food comes off the cuscus's daily diet so the training sessions do not result in any extra banana being given on a daily basis.

It was also discovered during the initial training just how powerful the cuscus's sense of smell was. In one instance the cuscus refused to do any behaviour due to the fact that the trainer had been cutting up fish prior to the training session beginning!

Target Training



As described earlier the first step in target training the cuscus was to present them with a piece of food on a target. When the cuscus took the food the verbal bridge "Good" was said. Once the cuscus was accustomed to the target, the target was placed in front of them with no food on and the animals name was said by the trainer. If the cuscus showed interest in the target the bridge was used and a piece of food offered.

The next step was to increase the time between the cuscus hearing the bridge and receiving the food reward which was done in very small steps. If the cuscus did not respond to the target or lost interest food was placed back on the end of the target and the training process began again. Once the cuscus had learnt that touching the target

resulted in receiving food the target was slowly moved further away from the animal so it had to travel from one spot to another to receive the reward. Eventually it was possible to move the animal around the enclosure with the use of the target alone.

During target training it was discovered that Taz was initially much more outgoing than Aru. While Taz picked up target training fairly quickly Aru was more nervous. She would happily touch the target when it was placed in front of her but showed great reluctance in coming out of her nest box to follow the target.

An offshoot of target training was training the cuscus to stand up on their hind legs to obtain a view of their undersides. This was achieved by holding the target above their heads so they had to reach up to touch it. Again the period was slowly increased between the bridge and the reward encouraging the animal to hold that position longer. This was very useful in monitoring the development of the female's first baby.

Scale Training

Once full target training had been completed with Taz it was felt that we could move on to more difficult behaviours. Scale training was chosen as one of the main criteria for training at Twycross to be able to accurately weigh the animals as often as possible. Again it was important to desensitise the animals and the scales were left in the enclosure overnight so that the cuscus could get used to them before the training started.

The process of scale training was as follows; the cuscus would be encouraged to approach the scales with the use of the target. Initially any interest in the scales, such as sniffing them, was rewarded. The target was then placed on the far side of the scales so the cuscus has to cross them to touch it. Once again small steps were important with the cuscus being rewarded for putting one foot on the scale, then both front feet and so on. Once the animal stood fully on the scale the bridge was given immediately and the cuscus is given a large reward, often 2-3 pieces of food in one go. The next stage was to get the cuscus to stand on the scale for as long as possible and this was again done by slowly increasing the time between the bridge and the reward.

During scale training a couple of interesting issues were discovered. Initially the scales were placed on the shelf outside the cuscus's nest boxes as it was thought that this would be the place they would be most comfortable doing the behaviour. Instead the cuscus was reluctant to step onto the scales when they were in this position and it was only



when the scales were placed on the floor of the exhibit that the cuscus would go onto them. We also had problems with the type of scale used. The initial digital scales were unable to get an accurate reading due to the fact that the cuscus were quite slow in getting onto them and the scales tended to reset halfway through the behaviour. In the end a set of manual bathroom scales were used.

Crate Training

Aru's first born Daru is set to go to another breeding collection as he is maturing and aggression between him and Taz has become an issue. We decided to start crate training him so the process will be a lot easier and less stressful for him. He started out target training and progressed very quickly. So we desensitised him to the sky kennel over a few days by leaving it in it near and in his enclosure. We used a sky kennel as this had slots on the sides that we could use to present the target and also still reinforce.



Daru was not fazed by this and soon learnt to enter the box. The next stage was to close the door of the box and then to slowly lift the box for short durations and in different areas/heights. The total time for this behaviour was three 10 minute sessions over three mornings.

Results

As a result of the training program the following results have been obtained; Taz will come to a target and move from place to place within the exhibit, allow keepers to examine him at close quarters, stand on his hind legs to allow keepers to examine his underside and come on to the scales.

Aru will come to a target and move from place to place within the exhibit, allow keepers to examine her at close quarters and stand on hind legs.

Aru was much more timid than Taz and it took a longer time to get her to come out of her nest box a start following the target around the enclosure. Unfortunately Aru completing this behaviour coincided with her giving birth to her first baby and as the baby grew it became obvious that she was finding it uncomfortable to move from place to place. Therefore the decision was taken to stop this form of training and concentrate more on getting her used to being examined at close quarters. In this we have been extraordinarily successful and so have been able to chart the growth of the baby from its first weeks of life until it left the pouch, none of which would have been possible without operant conditioning.



Acknowledgments

Twycross zoo
Birds and Tropical House Team, Twycross Zoo
Kris Hern, Animal Training Manager,
Twycross Zoo

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Husbandry guidelines for Ground cuscus (*Strigocuscus gymnotis*) by Jamie Craig, Cotswold Wildlife Park, UK

For more information please email: nick.rowley@twycrosszoo.org or kris.hern@twycrosszoo.org



<http://www.marmosetcare.com> A new interactive website on common marmosets.

<http://www.marmosetcare.com/> is a new open access internet resource providing information on common marmoset (*Callithrix jacchus*) behaviour and promoting their welfare in captivity. This website is intended for use by a broad audience, including private owners, educators, academic researchers, zoo, laboratory and veterinary professionals. Designed to be welcoming and fun to use, as well as instructive, the site is interactive and is illustrated extensively with photos and over 120 video clips to enjoy.

Callithrix jacchus is probably the most frequently privately kept non-human primate, and is the most-used New World primate in laboratory research and testing worldwide. Although the website conveys relevant advice, the private ownership of marmosets is strongly and persuasively discouraged. Being able to understand and assess the welfare state of marmosets in captive contexts is essential for ethical reasons, and in laboratory research and testing is important for the quality of scientific output, and to assess the efficacy of planned Refinements to housing, husbandry and procedures (the 3Rs of Replacement, Reduction and Refinement being the principles underpinning humane research).

The three main divisions of [marmosetcare.com](http://www.marmosetcare.com) aim respectively to promote: an understanding of the range of behaviour in this species, placing this behaviour in the context of its natural habitat and promoting good welfare in captive environments. Topics covered in the 'care in captivity' section include grouping and breeding, feeding, health, interaction with human caregivers, positive reinforcement training and the vital importance of conspecific companionship. An interactive section demonstrates the features of good housing for common marmosets. Videos illustrate practical examples of cognitive, sensory, food and social enrichment and highlight the welfare benefit of encouraging natural behaviour. In a second section, captivating footage and a photo gallery show the daily experience of marmosets living 'in the wild'. The third section presents a novel modern, multimedia update of the 'ethogram'; a ground-breaking and detailed online database of much of the behavioural repertoire of this species covering calls, behaviours, postures, facial expressions, sensory capabilities and developmental stages. Videos and images supplement and clearly illustrate the text descriptions. Welfare interpretation is also communicated and an interactive quiz invites visitors to test their knowledge.

Hosted by the University of Stirling, Scotland, this website was created by Claire Watson and Hannah Buchanan-Smith (the latter drawing on more than 25 years of research on marmosets) and developed by Richard Assar. Funding was generously provided by the National Centre for the Replacement, Refinement and Reduction of Animals in Research (<http://www.nc3rs.org/>), and the Primate Society of Great Britain's Captive Care Working Party.

Keepers Talk Monkey Business at Twycross Zoo

Greg Clifton,
Primate Keeper at Twycross Zoo and ABWAK Council Member



New World Primates have been kept in animal collections for many years, however this year for the first time keepers from all over the UK and Europe gathered at Twycross Zoo to share their knowledge on this fantastic group of primates. The First International New World Primate Symposium was held on the 17th and 18th of March and was a great success, with over 100 keepers, directors, vets and renowned experts in this field attending. This just shows how much interest there is in the management of New World Primate in Zoos and in the Wild.

The symposium was based at the zoo over a period of two days. Participants took part in on-site keeper led workshops about enrichment, enclosure design and Zootrition. Also topics such as animal welfare, husbandry, training, enrichment, stress management, nutrition, hand-rearing, conservation and veterinary were discussed many talks given by keepers from many collections and key speakers like Stewart Muir, Dr Bryan Carroll, Tracey Moore, Charlotte MacDonald and Dr Kirsten Pullen, as well as many more.

As well as swapping knowledge and skills the weekend also worked as a networking opportunity for many keepers, which has helped connect keepers together and personally I have lots of keepers who I can now contact for advice if needed. As well as the symposium we also had an evening meal at the Twycross Zoo conference room 'Windows of the Wild' which many of the delegates attended.

This symposium started off as a small gathering of likeminded people and has turned into something for both myself and Twycross Zoo can be proud of. The symposium had really good feedback (which I am very much grateful for) and myself and the primate keepers here at Twycross would like to thank all the speakers and participants for attending.





"The conference was a great success. The presentations were of a very high standard and I think the networking opportunities for the younger keepers that attended were invaluable. I spoke to a lot of people and all the feedback to me was extremely positive." Stewart Muir, Director, Newquay Zoo, ABWAK President

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Book Review:

International Zoo Yearbook, Volume 46

The latest edition of IZY focuses particularly upon New World Primates, and there is also a series of papers on gibbon conservation alongside a few general papers.

The edition begins with a dedication to Devra Kleiman from Jeremy Mallinson. Devra died in April 2010 and was one of the pioneers of the field of conservation biology and was well known for work with new world primates amongst other animals.

The editorial team at IZY led by Fiona Finken have done a good job to turn around publication of the 27 papers in this edition such that the content is current (most papers were submitted for review and revision during 2011).

Naturally anyone working with new world primates will find this edition interesting and useful, from information on recently described species and subspecies to conservation programmes in situ and ex situ. Papers also discuss issues of exhibiting species such as free-ranging (in Apenheul) and an analysis of success or otherwise of mixed species exhibit of new world primates in zoos.

The section on gibbon conservation is led off by a one page introduction article 'Gibbons: probably the most endangered primates in the world' by Vicky Melfi. And the subsequent four papers look at ex situ, sanctuary and in situ work for this endangered primate group.

If primates is not 'your thing' then other papers in this edition are on: pheasant pigeon, Chilean flamingo, Asiatic golden cat, southern white rhino and Rothschild giraffe.

For those of you not used to reading scientific papers the prevalence of references can be a little off-putting in terms of readability. However, this is important information – and you may find some very useful further reading by following up on some of the references to points of particular interest. Any of you undertaking college/university courses will hopefully find IZY a useful reference and not just for its information but in assisting in writing your own dissertations and how to use references.

The book includes, as usual, the section 'Zoos and Aquariums of the World'. Whilst it is useful to have addresses and contact names for zoos, devoting 156 printed pages to this information - which is by its nature likely to go out of date quickly, and in fact is not complete anyway - in today's era of online publishing is perhaps now an unnecessary addition to the volume. IZY do have a website where this information is published and perhaps journal content in terms of papers could be increased by moving this section to online only.

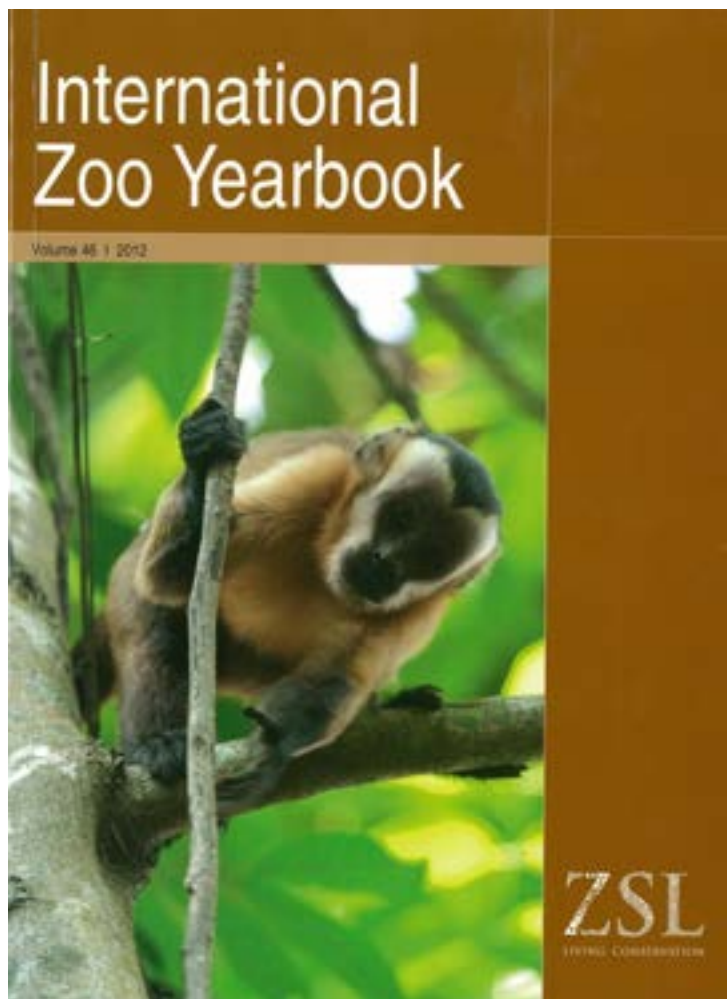
The web address is <http://www.wileyonlinelibrary.com/journal/izy> and a selection of articles are available online to read free. (The price of printed copy is now a pretty hefty £143, and you pay £164 to get print and online full access).

IZY is the sort of publication you would expect to find in the library of leading zoos, or perhaps to see specific subject editions in the office of relevant curators/researchers/senior keepers. It is a 'niche' publication but one that remains important in the zoo world, and one many zoo and wildlife research specialists are keen to be published in.

The subject areas of the next two editions are already decided – Volume 47 (2013) will be 'Freshwater Fishes and their Conservation', and Volume 48 (2014) will feature 'Avian Challenges'.

Stephen P. Woollard

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Animals in the Blood, The Ken Smith Story by Russell Tofts, The Bartlett Society 2012

Book Review

Stephen P. Woollard

I can imagine some (a lot) of you coming to this title and asking Ken Smith? Who was he? Those that know their zoo history – and this book is published by The Bartlett Society so it already has the weight of zoo history behind it – will know at least some of the work of this interesting zoo man. However, the author, Russell Tofts, has added an additional subtitle to draw you in: “A biography of Gerald Durrell’s right-hand man”.

Ken Smith first met Gerald Durrell at Whipsnade in 1946, Durrell was a 21 year old ‘odd beast boy’ or floating keeper, whereas Ken was a Section Head, and therefore Durrell’s boss some of the time. The two became friends and in 1949 Durrell chose Smith to be the person to accompany him on his second Cameroon animal collecting expedition. The story of that trip was recounted by Durrell in his book ‘The Bafut Beagles’ which Tofts tells us was dedicated to “Kenneth Smith. In Memory of Fons, False Teeth and Flying Mice.” However, he also points out “... surprisingly there is hardly any mention of him in the book. He pops up suddenly and without introduction, in the prologue, and then disappears again for almost the rest of the book...” but adds... it’s not all that surprising given the Bafut Beagles is Durrell’s account from his point of view, and the two men also split up in Cameroon to cover more of the country.

Durrell and Smith worked together until the end of 1962, Smith having been appointed as the first Superintendent of Jersey Zoo (which was on a three year contract). Durrell’s account of the parting of their ways published much later in The Ark’s Anniversary, is “I sacked my manager and took over myself”. Tofts does a good job in this biography to recount the ‘split’ between Smith and Durrell with fairness to both, not least by filling in more detail on Smith’s life and his acquisition of Exmouth Zoo and the fact he hadn’t intended devoting the rest of his life to Jersey Zoo.

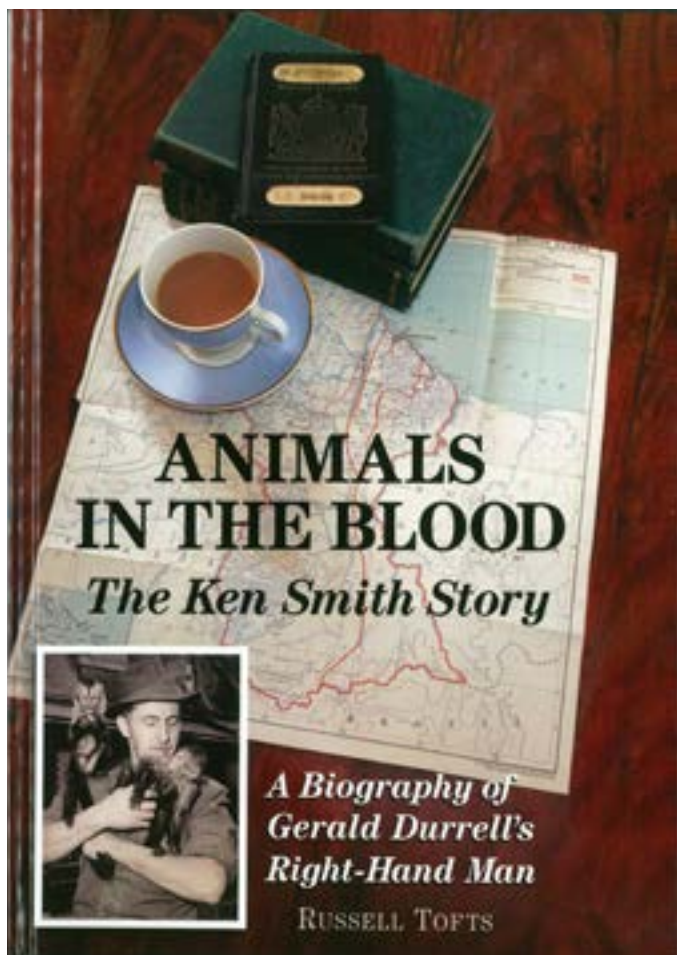
Not surprisingly, this biography takes the usual format of a chronological history from birth in Oxfordshire in 1911 to death in Exeter in 1979. The time with Durrell is obviously a central part to the book, however, it is good to read the rest of the story of this man’s life.

Indeed, it is true to say that Ken Smith’s work was far and away much more than a few years overseeing the birth of Jersey Zoo. His career as you can discover in this detailed account encompasses several zoos, not least being Paignton and Exmouth.

Russell Tofts has done some detective work to try and pin down Smith’s employment history, which has the odd gaps and mysteries. However, we learn that he was employed at the short lived Oxford Zoo in the early 1930s, and was an electrician and insurance salesman before joining the RAF in 1940. Coming from a Quaker family, his decision to volunteer for war service was brave in more ways than one. The account is written in an engaging way such that where the author has found it difficult to pin down exact facts he shares his speculation and supposition with us, supporting his conclusions.

After spending the war based in Somerset he was posted to Aden in 1945, and it seems he responded to a general advertisement from London Zoo asking servicemen to bring back livestock from overseas postings (an interesting way of adding to your collection) – and so Ken spent some of his spare time in the desert and salt marshes surveying wildlife and caught a number of small specimens.

With limited animal experience behind him it may seem surprising that his first post-war appointment was as a Head of Section at Whipsnade in 1946. However, Tofts explains that due to the war many of the zoo staff were



farm labourers or contractors and so he was more experienced, but he also acknowledges that the records for Whipsnade relating to this period were lost in a fire in 1962 so we can't be entirely sure what Ken's official appointment was.

Ken was only at Whipsnade for around 18 months, and he left in 1947 to work at the newly formed Calderpark (Glasgow) Zoo, but that job didn't last long either. Tofts suggests this was to do with the "callous attitude of the average Glaswegian zoo-visitor..." Anyway, it was then that he joined up with Durrell for the Cameroonian expedition, followed by another collecting expedition to South America (British Guiana) in early 1950.

It's interesting to read that Ken lived for a while at the same Manchester boarding house as Gerald (the one Gerry's future first wife Jacquie's father ran), and that he did some casual work at Belle Vue Zoo, before going on his first solo animal collecting expedition to Sierra Leone at the end of 1950 and then after his return there is 'missing' evidence of his whereabouts for a while. Tofts' investigations and suppositions about what happened are good to read (it seems likely a spell in the hospital for tropical diseases), and adding information about important animals such as the red colobus Ken successfully brought to London Zoo (but sadly died a few weeks later)... it's these little extra facts and 'gap fillers' that make this biography well worth reading, and as the book goes on, rightly place Ken Smith as one of the important British zoo men of the 20th century.

We learn that in 1952 Ken had taken over the management of Margate Aquarium and Mini Zoo – and he called on Durrell with his new wife, to be relief manager whilst presumably he was in hospital again (Tofts supposes) ... but then within months Ken was appointed as Superintendent of Paignton Zoo.

The book goes on to tell us Ken, with Paignton director Norman Dixon, founded Exmouth 'summer' Zoo in 1957, and took into Paignton and Exmouth most of the animals from Durrell's latest expedition whilst he was trying to find premises of his own. Meanwhile Smith married (his second wife) Trudy Hills, nearly 20 years his junior.

It's interesting to read of Ken and Trudy's time in Jersey - and the book also includes a number of black and white photographs – and its perhaps this time of Ken's career that more people are aware of, but perhaps that is tainted in some memories by the breakdown of the Durrell-Smith friendship. It is good to read more of an insight into Ken's background, personality and the course of events. Smith purchased Exmouth Zoo in March 1962, after reluctantly turning down the option of becoming General Manager of Dudley Zoo – largely it seems because of his arrangement at Jersey and loyalty to Durrell. But the purchase of Exmouth, Tofts summises, quite likely added to friction between Ken and Gerry that led to the Smiths leaving Jersey.

Within a few years Ken not only ran Exmouth Zoo but he had in fact four zoos to his name. He opened Poole Park Children's Zoo in 1963, Teignmouth Children's Zoo in 1964 (this is not in Teignmouth but is in fact what is now called Shaldon Wildlife Trust), and bought Newquay Children's Zoo (not the present Newquay Zoo) a little known small indoor collection founded by zoologist and broadcaster Charles Trevisick. Although this zoo closed in 1969 soon after the present Newquay Zoo opened. And not long after, partly due to deteriorating health, Ken sold both Teignmouth (Shaldon) and Poole Zoos. Not long after he died Exmouth Zoo also closed its doors.

Russell Tofts takes a rational and fairly unbiased stance and so this isn't a blinkered view or propaganda to promote the name of Ken Smith, but its clear through researching this story and putting it together there is admiration from the author for a man who achieved a lot, and perhaps got missed in the shadow of Gerald Durrell and circumstances. He also seemed to specialise in the small and to some insignificant mini or children's zoos at the time when new developments such as safari parks were opening and the likes of Durrell and Sir Peter Scott were promoting conservation, and so it was unlikely that Ken Smith would get the attention or recognition of the zoo world and others, and perhaps he never wanted that anyway. It is true to say, as Russell does in his final chapter and postscript, Ken's lasting legacy is represented by one of the best little zoos there is, Shaldon Wildlife Trust.

My only criticism of this book is a minor one, and that is the front cover – it is not something that attracts or represents the interesting life story contained within. However, this biography is indeed long overdue and a must for any zoo enthusiast and follower of zoo history, whilst also providing an interesting read for all.

The book was appropriately launched at Shaldon Wildlife Trust on April 29th 2012 and is available from The Bartlett Society.

Stephen P Woollard

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Celebrating Edward Lear, naturalist, artist and man of nonsense (200th anniversary May 12th)

'The Owl and the Pussycat', from *Nonsense Songs, Stories, Botany and Alphabets, 1871*



The Owl and the Pussycat went to sea
 In a beautiful pea green boat,
 They took some honey, and plenty of money,
 Wrapped up in a five pound note.
 The Owl looked up to the stars above,
 And sang to a small guitar,
 'O lovely Pussy! O Pussy my love,
 What a beautiful Pussy you are,
 You are,
 You are!
 What a beautiful Pussy you are!'

Pussy said to the Owl, 'You elegant fowl!
 How charmingly sweet you sing!
 O let us be married! too long we have tarried:
 But what shall we do for a ring?'
 They sailed away, for a year and a day,
 To the land where the Bong-tree grows
 And there in a wood a Piggy-wig stood
 With a ring at the end of his nose,
 His nose,
 His nose,
 With a ring at the end of his nose.

'Dear pig, are you willing to sell for one shilling
 Your ring?' Said the Piggy, 'I will.'
 So they took it away, and were married next day
 By the Turkey who lives on the hill.
 They dined on mince, and slices of quince,
 Which they ate with a runcible spoon;
 And hand in hand, on the edge of the sand,
 They danced by the light of the moon,
 The moon,
 The moon,
 They danced by the light of the moon.

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Inca tern, Seal & Penguin Coasts, Bristol Zoo
March 2012. Stephen P. Woollard

