



**1st International
Sloth Symposium**
October 2022



**Symposium
& feedback
Summary**



novu.
earth

Introduction

The 1st International Sloth husbandry Symposium was held at Edinburgh Zoo on the 13th & 14th October 2022.

Sloths are being housed in increasing numbers within zoological collections and are a popular species with zoo visitors with many UK collections offering sloth experiences or encounters.

Relative to other species of placental mammals there is limited information and resources which are freely available on best practice for housing sloth species.

The aim of the symposium was to provide information and links to available resources on sloth husbandry as well as to improve communication between animal care professionals and to collectively improve our understanding of sloth physiology and husbandry requirements.



Aims

Our goals were to provide attendees with the skills to:

- Audit current facilities
- Provide an optimum environment for their Sloths
- Provide proactive health care
- Address appropriate nutrition
- Highlight research opportunities

Before deciding on the content for the symposium, we reviewed several sloth specific forums such as:

- Sloth Keepers by the science of Sloths on Facebook
- PAX Keepers on Facebook

As well as reviewing questions on sloth husbandry and management which have been asked on general zookeeper forums such as Zookeepers Europe and Zookreepers.

We compiled a list of the topics which most commonly generated questions on the forums and then we compiled a list of talks which would address these areas.

We wrote a list of 6 learning outcomes to define which information was most commonly requested by keepers.



Learning outcomes:

On completion of this symposium, delegates will:

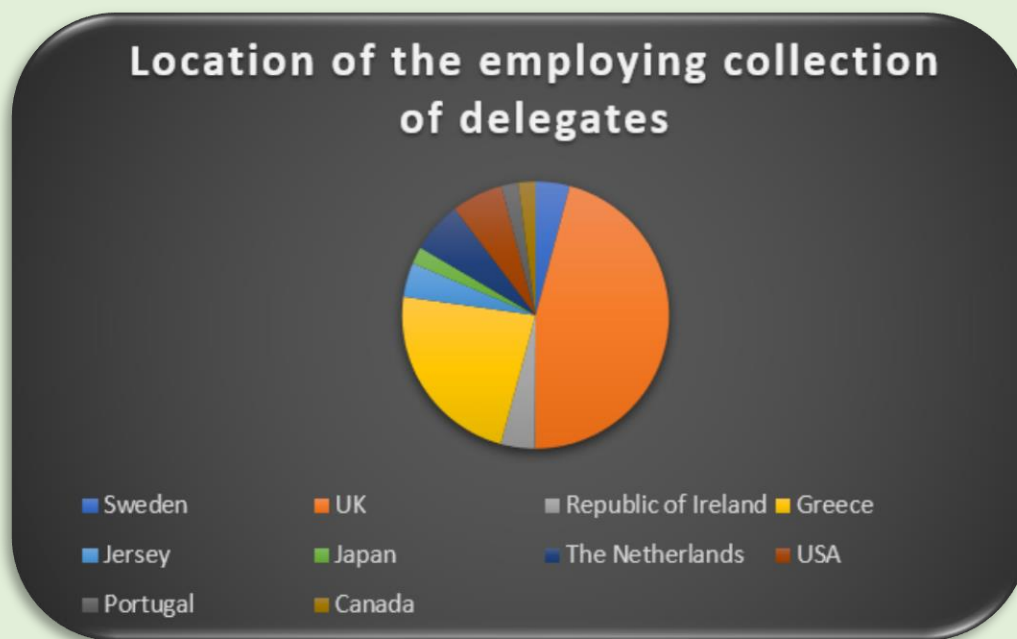
- Be able to describe the observable differences between male and female choloepus
- Be able to list the environmental parameters which are essential for sloths to thrive in human care
- Be able to state the difference between operant and classical conditioning
- Be able to complete a shaping plan for a named behaviour for choloepus species
- Be able to list 5 of the obstacles to operant conditioning programmes for zoo housed sloths
- Be able to describe the challenges of claw maintenance for zoo housed sloths.

We collected feedback from participants to enable us to assess if the learning outcomes were met and to find out which topics would be most beneficial for participants.

The audience

We were joined by 50 delegates from around the world as well as 34 inquiries from keepers based mainly in North America and Japan about the possibility of participating virtually.

As a result of this, we are currently looking at ways in which we can facilitate this.



The delegates from the symposium were made up of a range of experience levels and lent towards a more experienced audience than we had anticipated. A possible reason for this is that it was the first husbandry event for these species in Europe and so more experienced keepers and budget holders attended.

The schedule

Day one – Thursday 13th October

9:30am	Welcome and housekeeping	Prof. David Field, C.E.O. Royal Zoological Society Scotland (RZSS)
9:40am	Husbandry parameters vs wild parameters	Steve Goodwin Director – Novu Earth & Animal Manager – Hemsley Conservation Centre
10:00am	Visible lighting provision	
10:30am	Enclosure design & auditing	
11:00am	Practical enclosure activity & safety check list	Group activity
11:30am	Review of practical activity answers	
	Group photo	
1:00pm	The Sloth Institute	Sam Trull, Co- founder & Executive Director
1:30pm	Sloth anatomy	Deb Dial – Assistant Curator, National Aquarium, Baltimore, Maryland USA, Sloth SSP
2.10pm	Common health problems	Dr Brittni East
3:30pm	Nutrition	Heidi Bissell – Chief animal nutritionist – The Walt Disney company. Nutrition advisor AZA PAX TAG.
	The arrival of Mo and Fe at Edinburgh Zoo	Erika Oulton & Jess Brown - RZSS



Day two – Friday 14th October

10:15am	Considerations for breeding choelopus in human care.	Steve Goodwin Director – Novu Earth
10:45am	Hand rearing of Choloepus	Bosse Jonsson – Skansen Akvariet
11:15am	Visually sexing choloepus	Group activity
11:50am	ABC's of behaviour	Robert Harland - ZSL
12:30pm	Practical training activity	
1:50pm	Mixed species exhibits group activity	Group activity
2:00pm	Sloth SOS	Deb Dial – Curator, Director- The Educated Zookeeper, Sloth SOS
2:40pm	Claw management	Holly Sansome – Chester Zoo
3:10pm	Sloco – In-situ Conservation	Dr Rebecca Cliffe – Director Sloco
3:40pm	Research goals	Lou Bell, Myerscough

Collaboration

Alongside the talks selected for inclusion, one area that we were keen to focus on is improving communication between delegates so that when husbandry challenges arise, there is a network of peers available to trouble shoot solutions with.

We included a group activity on each day where delegates were broken into groups and were given a task where they needed to work together to create a shaping plan for a named behaviour and to design a sloth exhibit.



We also had an icebreaker event which we took an Instagram board with us along with our mascot Sid the sloth and encouraged our delegates to take photos with each other.

The information on the selfie board was linked to an education programme being carried out by The Sloth Institute Costa Rica.



Conservation education

We produced a stand containing information on the photo prop trade which is having a devastating impact on wild sloths in Costa Rica.

Delegates were free to take educational materials produced by The Sloth Institute as well as the Instagram photo board which we encouraged delegates to take photos with and share to their social media.

We also had a talk from Sam Trull, the director of the sloth institute on her work in-situ.

The aim of this was to encourage delegates to share this information with the public in keeper talks at their institutions, the practice of responsible tourism when they encounter wild animals.



THE SLOTH INSTITUTE

The Cute Curse

If you love sloths, why you should say no to holding one

www.slothinstitute.org

Investigations into the sloth trade

Sloths are found naturally throughout Central and South American countries. In almost every country, examples of sloths being abused for the selfie and pet trade can be found. In a study conducted by World Animal Protection (2014-2017), 70% of sloth selfies on social media were of sloths being held and used as photo props and sloths were the 2nd most frequently abused animal for wildlife selfies.

- 1 WILD CAUGHT**
Sloths are captured from the wild to fuel the selfie and pet trade.
- 2 POOR WELFARE**
Sloths at selfie tourist attractions are not cared for properly and live a stressed life.
- 3 DIE EASILY**
Sloths are very sensitive, making survival in captivity rare even under good conditions.

Hair stains
Sloth hair stains red from tourists' toxic bug spray and sunscreen.

Stekness
Exhibit signs of sickness like respiratory and skin infections.

Thin and small
Without a proper diet, they are thin and don't grow to adult weight.

Our delegates were also given a guided tour of the sloth enclosure at Edinburgh Zoo following a presentation from the section team leaders on the arrival of their sloths.



Throughout the walk around, delegates were able to discuss ideas with their peers and to see first hand some of the enclosure design principles discussed on the previous day in practice.



Sexing workshop

One topic that we were keen to tackle was the issue of accurate sexing for sloths. This is a subject that is frequently discussed on various online forums and is a subject that we have been approached by a huge number of keepers for assistance with over the last few years.

We first discussed the various methods currently available for sexing sloths.

We then did a sloth sexing group activity where delegates were shown a series of 10 images of sloth genitals and they were given a card with a male symbol on, and a card with a female symbol on. When each image was shown on the screen, delegates were asked to hold up the card which they think corresponds with the correct answer (results on the following page).

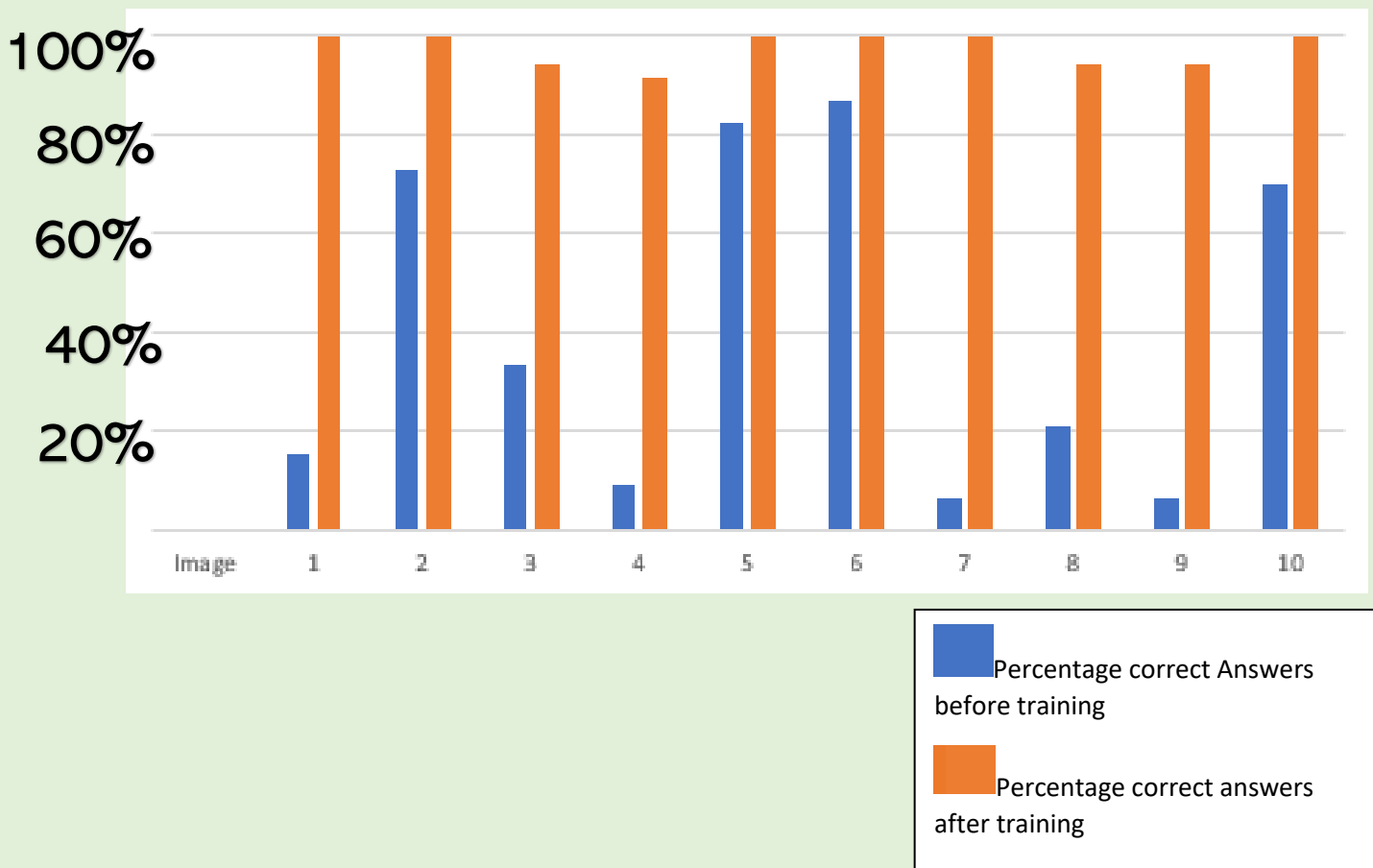
We then showed them an image of a male and an image of a female and described the observable differences in each image.



Sexing workshop results

Graph showing the percentage of correct results from delegates before being shown how to visually sex sloths (in blue) and after being trained (in orange).

The results were fantastic with between 90-100% of delegates correctly determining the sex of the sloth from the image after this 10-minute practical activity.



Raffle

We held a raffle containing a huge range of sloth related items which were donated by our delegates.

The raffle raised **£300** which we donated to Sloco, an in-situ conservation project which was founded by one of our speakers, Dr Rebecca Cliffe who was one of this year's winners of the Future For Nature conservation award.



Acknowledgements

This event was made possible by the contribution and hard work of a number of people.

Firstly, we would like to thank **David Field** for allowing us to hold this event at **Edinburgh Zoo** and for being so supportive of this event.

Lyndsay Ross, the events and experiences manager at Edinburgh Zoo and her team who looked after us all so well.

Jess Brown & Erika Oulton from the events team of the animal department at Edinburgh who worked closely with us in the months leading up to the event and both provided so much assistance throughout.

Robert Harland from ZSL who not only shared a presentation with our delegates on training zoo housed sloths, he also was on hand to assist throughout the event from start to finish along with **Lou Bell** from Myerscough University.

Lou provided a fantastic presentation on zoo-based research, highlighting to our delegates the importance of good record keeping and dissemination of their work with the zoo community.

She also assisted with the smooth running of the event helping us to prepare delegate packs, sell raffle tickets, complete registrations and many other tasks.

We are very grateful to the input from **Dr Rebecca Cliffe** and **Sam Trull** who shared their knowledge of the issues facing sloths in the wild and giving our delegates a broad understanding of conservation of these species in-situ which they can share with zoo visitors.

We would also like to thank **Deb Dial** and **National Aquarium, Baltimore, USA**.

Deb is a walking encyclopaedia for all things sloth! She very kindly shared her knowledge so generously with our delegates being on hand to answer any questions and share her experiences.

We would also like to thank our other speakers for sharing their expertise with our delegates:

Bosse Jonsson from *Skansen Akvariet*

Holly Sansome from *Chester Zoo*

Dr Brittni East from *Sloth SOS*

Dr Heidi Bissell from *The Walt Disney Company*

We would also like to thank our delegates who represented 30 Zoos from around the world for their contribution to this event.



Appendix I – Feedback form summary data

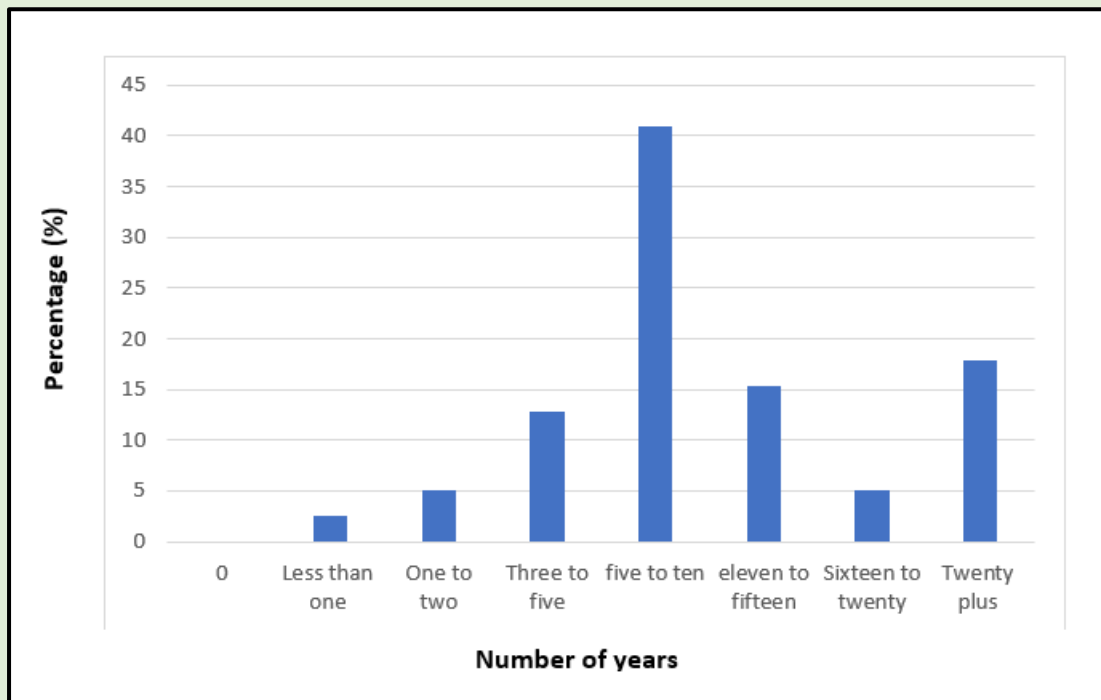
Sloth Husbandry Symposium 2022 Feedback

Occupation:

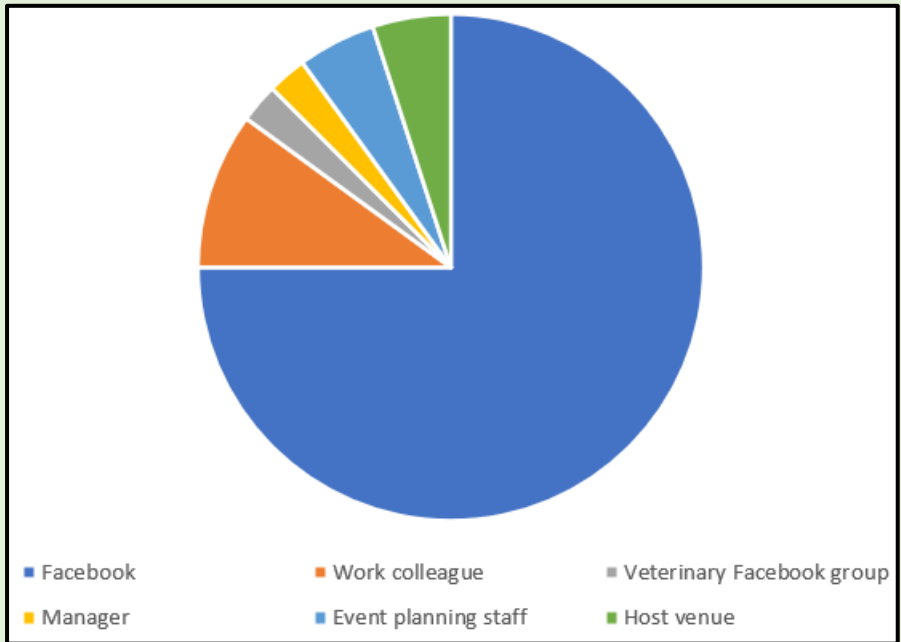
Job role	%
Zookeeper	56.4
Zoo director	5.1
Senior keeper	5.1
Volunteer	2.5
Animal care assistant	2.5
Lecturer	2.5
Aquarist	2.5
Team leader	7.6
Qualified keeper	2.5
Vet	5.1
Curator	7.6
Presenter	2.5



How long have you worked in industry?



How did you find out about the Symposium?

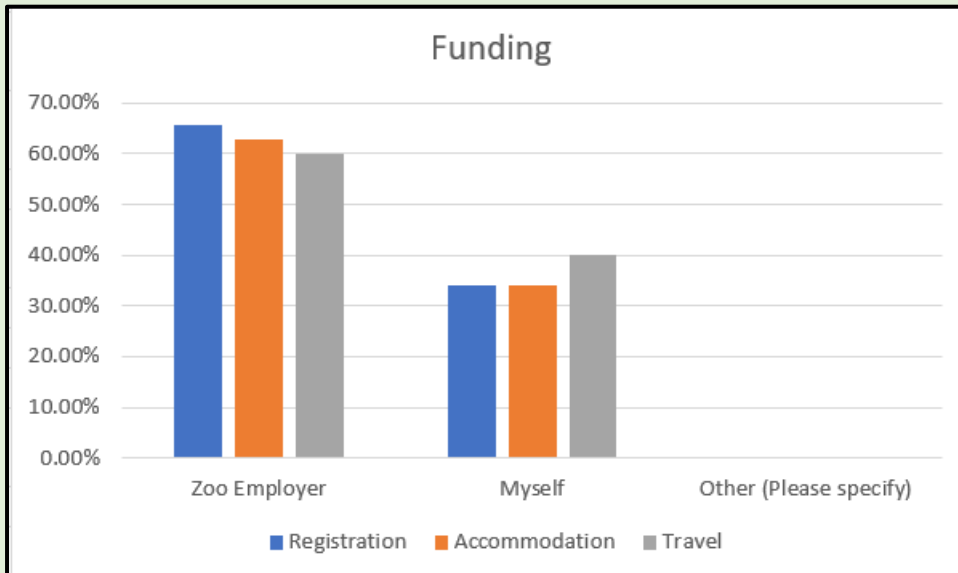


Where are you based?

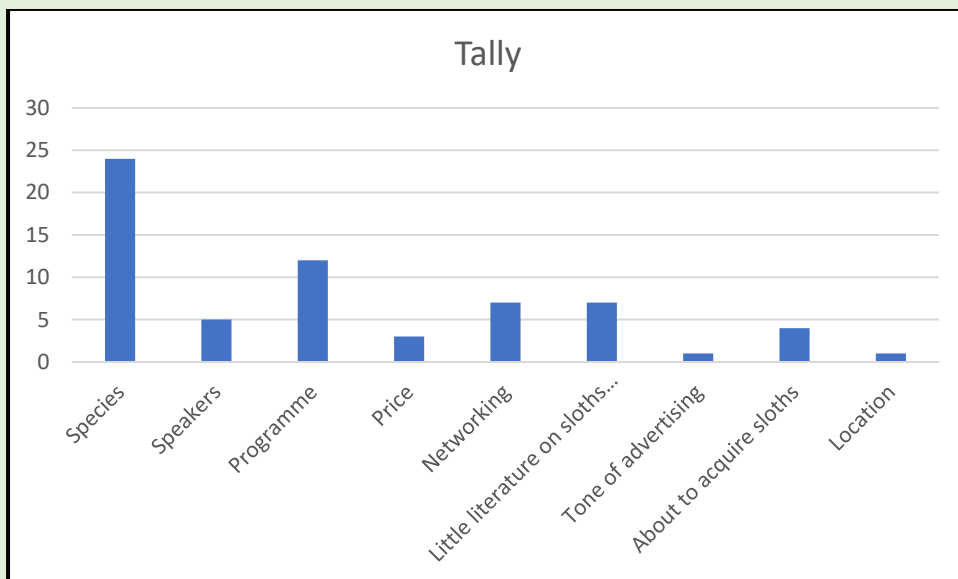
Location	%
Sweden	4.4
UK	48.8
Republic of Ireland	4.4
Greece	24.4
Jersey	4.4
Japan	2.2
The Netherlands	6.6
USA	6.6
Portugal	2.2
Canada	2.2



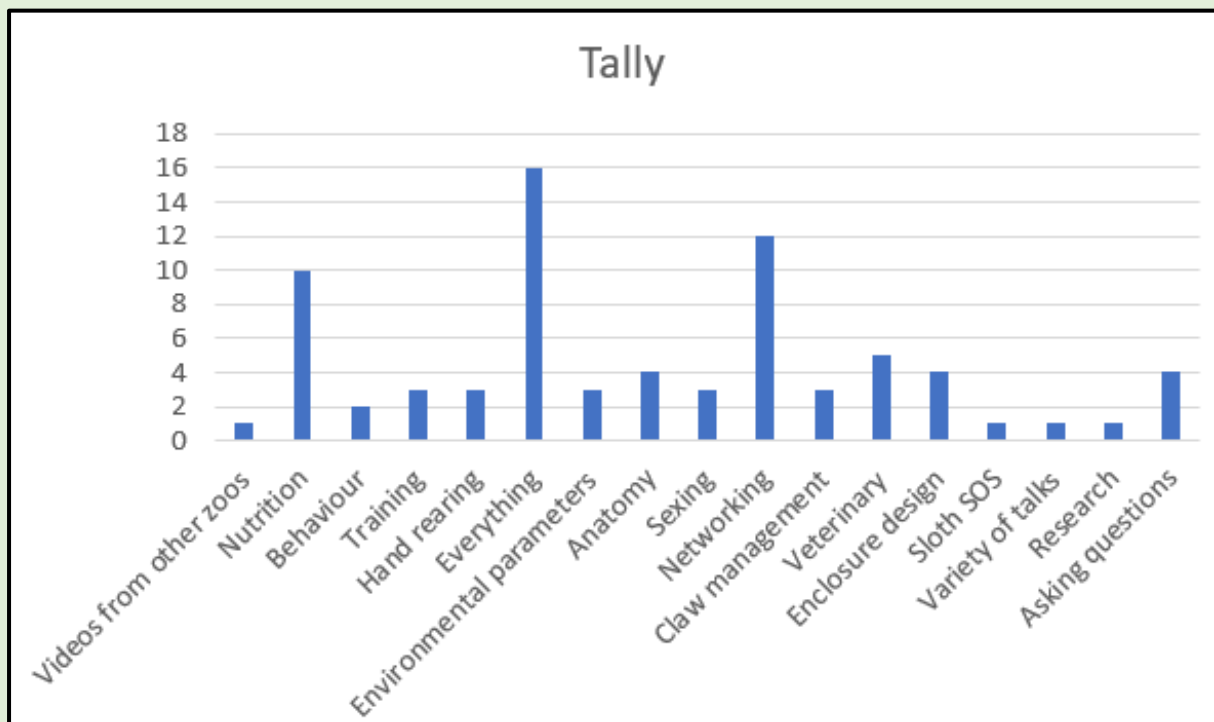
5. Who financed your attendance at this workshop?



What motivated you to attend this workshop? (i.e. talks, programme, price, etc.)



9. What has been the most useful part of this symposium?



12. To what extent do you agree disagree with the following statements?

<i>As a result of attending this workshop....</i>	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>I am able to describe the observable differences between male and female choloepus</i>			1	14	23
I am able to list the environmental parameters are essential for sloths to thrive in human care				14	25
I can state the difference between operant and classical conditioning				12	20
I am able to complete a shaping plan for a named behaviour for choelopus species			2	18	18
I am able to list 5 obstacles to operant conditioning programmes for zoo housed sloths			3	22	13
I can describe the challenges of claw maintenance for zoo housed sloths			1	16	21



Can you tell us ONE way you will use knowledge gained from this workshop in your own job role/research:-



Would you recommend this workshop to a friend/colleague?

