

Internship Zooloski vrt Grada Zagreba



Twan Vorselman

WI42B

Zone.College Zwolle

Internship year 2

Marianne de Jonge

Ivana Kovarik Antonovic

25 Oktober 2024 Zagreb

Prologue

In this report you will find information regarding my internship at my second year of education in which I will be working at Zoo Zagreb located in Maksimir Park. I am not very familiar with going away from home for a long time so this internship will also be a measure of what kind of effects such a long period (two months) away from home will have. I will write this report to hopefully learn a lot about working abroad and get a different view about how zookeeping works in foreign countries. Luckily it seems that the people of Croatia are very friendly indeed and are very open to questions and are always ready to help if you have any questions not only about animals but also about anything regarding our stay in the capital. This made for a much easier experience regarding work and feeling at home so far away from my own. This made making the assignments much easier and setting the bar for asking questions much lower. We had to ask the local zookeepers for the information which they were more than happy to give to us. As it seemed, these people want to know everything they can to optimize the experience for both them and the animals they care for. This internship also allowed me as a zookeeper in Apenheul to learn more about zookeeping as I only have three months of working experience in the weekends to show for it. This internship allowed me to learn more about the day to day work that goes in zookeeping which (like my own work) is not limited to one section but almost every section in zoo. To this day I am not sure if I want to stay at Apenheul or work somewhere else. Working with different kinds of animals has shown all the possibilities there are even though the work here is much different than in the Netherlands. Making most of the assignments was easy, though I did have to spend a lot of time making the third assignment, that was quite hard. As for the rest, they gave insight in what I wanted to learn and got me invested in the zoo where I worked.

Table of contents

Introduction.....	4
1.0 Zoo Zagreb	5
2.0 Learning goals	7
Goal 1: Gain more knowledge about the social behaviour of chimps within the first two weeks.	8
Goal 2: Learn how to manage the speed at which I work during the first weeks.	9
Goal 3: Learning more about Croatia and it's his history during the internship	10
Goal 4: Learn how a food kitchen for the animals works and is organised in week three of the internship.	11
2.1 Reflection.....	12
Goal 2: Learn how to manage the speed at which I work during the first weeks.	13
Goal 3: Learning more about Croatia and it's his history during the internship	14
Goal 4: Learn how a food kitchen for the animals works and is organised in week three of the internship..	15
2.2 Most memorable experience	16
3.0 Animal caretaking and husbandry	17
3.1 Chimpanzee: (<i>Pan troglodytes</i>).....	18
3.2 California Sea lion (<i>Zalophus californianus</i>).....	20
3.3 North-Chinese leopard (.....	22
3.4 Spanish ribbed newt (<i>Pleurodeles waltl</i>)	25
3.5 Emu (.....	27
Risk analysis and evaluation	29
Epilogue.....	30
Bibliography.....	31
Bijlage A Checklist Schriftelijke rapportage	33

Introduction

This report will give the reader insight into the internship that has been followed during the first semester and second year in the education of Twan Vorselman. In this report we will be talking about multiple subjects regarding my internship and all of the assignments that I will carry out in Zagreb Zoo. We will first be talking about the zoo itself, its history and how the organisation is being run. After that we will be talking about the personal targets that were set and learning experiences that are needed to finish by the end of the internship, four targets have been made which will be learned from. The results of these learning targets will also be talked about in the same chapter. After the learning targets we will be talking about a very important part of taking care of animals, that being the welfare of animals. Welfare of an animal can be measured on different levels and will always be topic of debate, in this chapter we will talk about most of the subjects regarding welfare of five animals in the zoo but also general information about said animals. Regarding the species, they will be three Mammals an amphibian and a Bird. When all the assignments considering the welfare of animals is done we will describe the different risks regarding work and safety measures in and around the different enclosures. When the risks are analysed we will be looking at how you can prevent dangerous situations or keep dangerous situations as low as possible chance of occurring. After all the chapters about the zoo has been talked about we will summarise my internship and evaluate about what I have learned and possibly adjust.

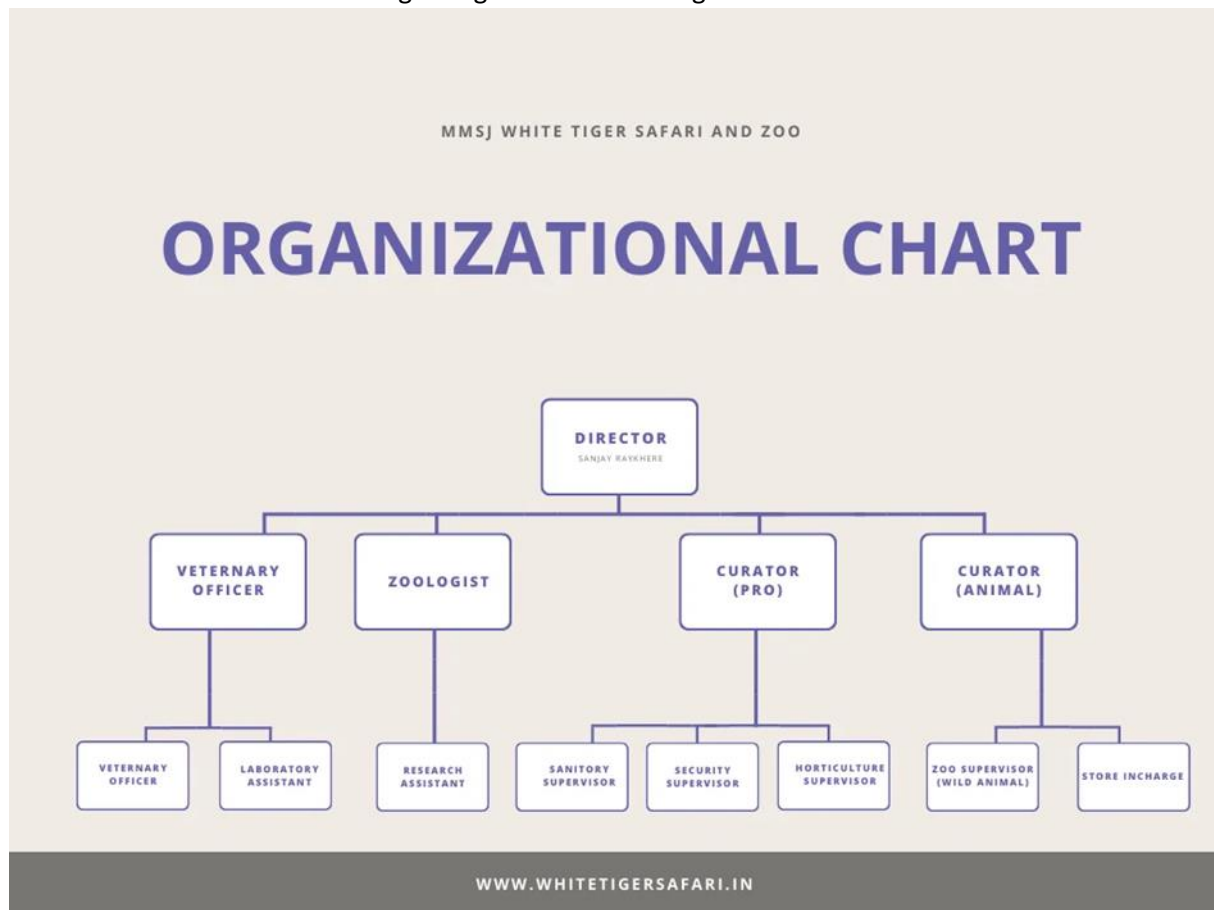


Img 1: *The entrance to the lion enclosure in 2015 (Zagreb.in)*

1.0 Zoo Zagreb

Zoo Zagreb is a zoo that has been founded since 1925, which means the zoo will turn 100 years old next year. It's the largest zoo in Croatia and one of only two zoos in the entire country (soon to be three). Despite being the largest zoo it is still relatively small in comparison to other major zoos but makes up for this with a versatile collection of animals of various species. When you enter the zoo from the park side you are met with a small tower which contains a timeline with text that elaborates on the history of the zoo. The zoo, despite its size, has had some large animals in the past like elephants and giraffes. The second world war, the Croatian war of independence and natural disasters has given the zoo trouble in the past, yet they stood the test of time and the current state of the zoo is a lush and educative zoo which offers a lot for zoological experience and knowledge for the country. As it turns out, Croatia does not have any educational system regarding zoology (the education I am following). Henceforth, the country needs to rely on the experience of others outside of their own borders or people that live in Croatia who have already gone abroad or studied themselves via books or online. For that reason, the team that works there is quite small and work shifts each day and during the weeks and weekends. (Zoo Zagreb, 2019)

Down here you can find an organizational chart which shows how a zoo such as this functions and what roles need to be fulfilled regarding animal caretaking:



IMG 2: An organizational chart featuring similar needs to the zoo in Croatia (Whitetigersafari, 2024)

Along with all the roles mentioned above, there is also a food kitchen and a marketing department which focusses on keeping the animals fed and making the zoo attractive respectively.

When we look at the organisational culture of the zoo I would probably say that the zoo fits in with people culture. The zoo plays a very big role for zoology in Croatia and tries its best to educate the public about animals and everything that goes with keeping a zoo healthy. The people look after each other and spread information wherever they find it to colleague and visitor alike. Most employees are a credit to their own and almost everyone works together to keep the zoo running. That is why I think that beside some small thing here and there, the zoo fits in the best with people culture. The zoo has multiple departments which are all very aptly named after the building which it represents or which animals live there. Buildings are called: red building, educational building while animal departments are called monkey department, bird department, middle section and bird department. The animal buildings are mostly supervised by the caretakers and some of the buildings each represent a different base of operations for marketing, food kitchen, education and other organizational matters. The task for caretakers is mostly to make sure that the enclosures are clean, water is always present and that they are fed according to their dietary needs. Along with caretakers are the employees in the food kitchen who prepare the food and bring it to the correct place. There are people who maintain everything around the enclosures (also sometimes done by zookeepers) and there is a technical department for creating, repairing and maintaining all the physical attributes in the zoo. There are also zoologists and marketing employees who do various amounts of research and designing to make work easier and more attractive.

We talked about the lack of educational possibilities regarding zoology in Croatia, this means that unlike the Netherlands, you are not exactly required to have a diploma for this (apart from a veterinary degree). Rather they will look at your experience regarding working with animals at home or if you have had or still have other jobs that relate to what a zookeeper could be doing. Every new employee brings new information with them which in turn strengthens the knowledge the zoo has. That is what makes zookeeping so special in Croatia, in larger zoos you sometimes are even looked down upon when you are new. Here they are curious about what you bring to the table, even an intern from abroad like me might have some insight to offer.

The zoo does many other things to encourage the public about zookeeping, one of those things is school programs in which children will be given education about certain species of animals. Such activities help people with little to no understanding about zoos to get invested in everything regarding an animals features, how you take care of them and what you can do to do your part in the safekeeping of some species. Along with educational exercises for children are signs with additional information for each animal. During the weekends and vacation times there will also be feeding presentations where guests will get an interactive educational talk with a zookeeper. Zagreb zoo does everything they can to educate people, this is their main mission when I talk to zookeepers but also spread awareness regarding the different levels of endangerment of each species. Some species are widespread even across Croatia while some other animals like chimpanzees are increasingly more rare. The goals and ideals of the zoo do not differ that much from the bigger zoos we have in The Netherlands, the big difference lies in resources the zoo has and how they manage to make it work, I applaud the zoo for going through all the effort that they do make sure the people of Croatia also get a chance to experience a zoo.

2.0 Learning goals

During my time in Croatia there are a certain set of goals that I have set to map out whatever helps me to become a better zookeeper. Before coming to the zoo it was quite hard to make assumptions on what I can and cannot do during my time here. As it turns out the zookeepers here are very helpful and literally anyone wants to help with your questions. For that reason I do not have to worry about too many restrictions regarding my learning goals. There are four learning goals, each with their own subject regarding what needs to be learned.

- Goal 1: Knowledge, a goal about everything to do with general knowledge in animals
- Goal 2: Professional skills, about working speed, cleaning and behaviour around animals
- Goal 3: Softskills, regards 21st century knowledge i.e. Social/cultural/ being dependable etc.
- Goal 4: A goal that I can set with my internship coach which fits me

All these goals need to be SMART, which means they cannot be too general and need to have other elements about them:

S: Specific, the question cannot be too general, it should not be too vague nor should it be too big

M: Measurable, the goals that are written need to be concrete and not too lengthy

A: Acceptable, I should find the goal acceptable and not do it for any other reasons

R: Realistic, if I set unrealistic goals that I will not make in these weeks then its not a SMART goal

T: Time, there needs to be a timespan in which I could complete the goal



Goal 1: Gain more knowledge about the social behaviour of chimps within the first two weeks.

When my first week at Zagreb zoo started I was curious about what kind of apes/primates the zoo kept, it turns out they have quite a bit of species for a zoo this size which does not focus on solely primates/apes. Because I work at Apenheul primate park I was invested in specialising in species that we do not have at Apenheul, one of those species was the Chimpanzee. At Apenheul we have Bonobo's, these two species are very similar yet so different in their behaviour that I want to utilise the knowledge and opportunities here so that I can compare them to the bonobo's when I come back to work. There are three chimps in the zoo in the pavilion at the East of the zoo. There are two females and one male in this group which coexist together. They have all sorts of interactions with each other, the zookeepers and the guests (though the former and latter is not always good...). My learning goal as the title suggests is that I want to learn more about the chimps and their social interactions, to narrow this down we will just be focussing on the interactions they have amongst one another and to a certain degree the zookeeper, who must earn their trust. I expect to take some weeks to get a better understanding and bond in about five weeks (as suggested by one of the keepers) The zoo was awarded a reward for spreading awareness about primates in 2010-2011 from EAZA.



Goal 2: Learn how to manage the speed at which I work during the first weeks.

One of the first things that we were told was that the work ethic is different than in The Netherlands. For instance, break time is not the usual three times a day (one at 10:00, 12:30 and 15:00). But rather its whenever you feel like your head is not quite where it should be, for instance if you have just worked half an hour in the sun and you are very warm, you take a short break afterwards and then come back. The most important reason for this is because work becomes more dangerous in a zoo when you are tired or fatigued. This was an eyeopener for me because I think it is something that does not come up enough in the list of safety hazards when working. You could argue that this is laziness or bad sleep(which I have talked about with some co-workers) but that is the main difference between eastern- and western Europe. You should not put yourself in danger because you worked too hard, especially if you work with dangerous animals. Personally I think that I earned my job at Apenheul through hard work and quick labour but I also realise that one mistake could lead to a dangerous situation. Besides this I have a undisclosed condition where I feel very weak after putting my back into work under tension, especially with warm weather (which is frequent here). For these reasons I want to take a page out of the book of the Croatians on how to self-regulate and when it is time to work quickly and when not to. This could be tough but when I feel comfortable with all the colleagues (which could be in two weeks) I think I will learn a lot within two weeks from a much more calm Croatian worker.



Goal 3: Learning more about Croatia and it's his history during the internship

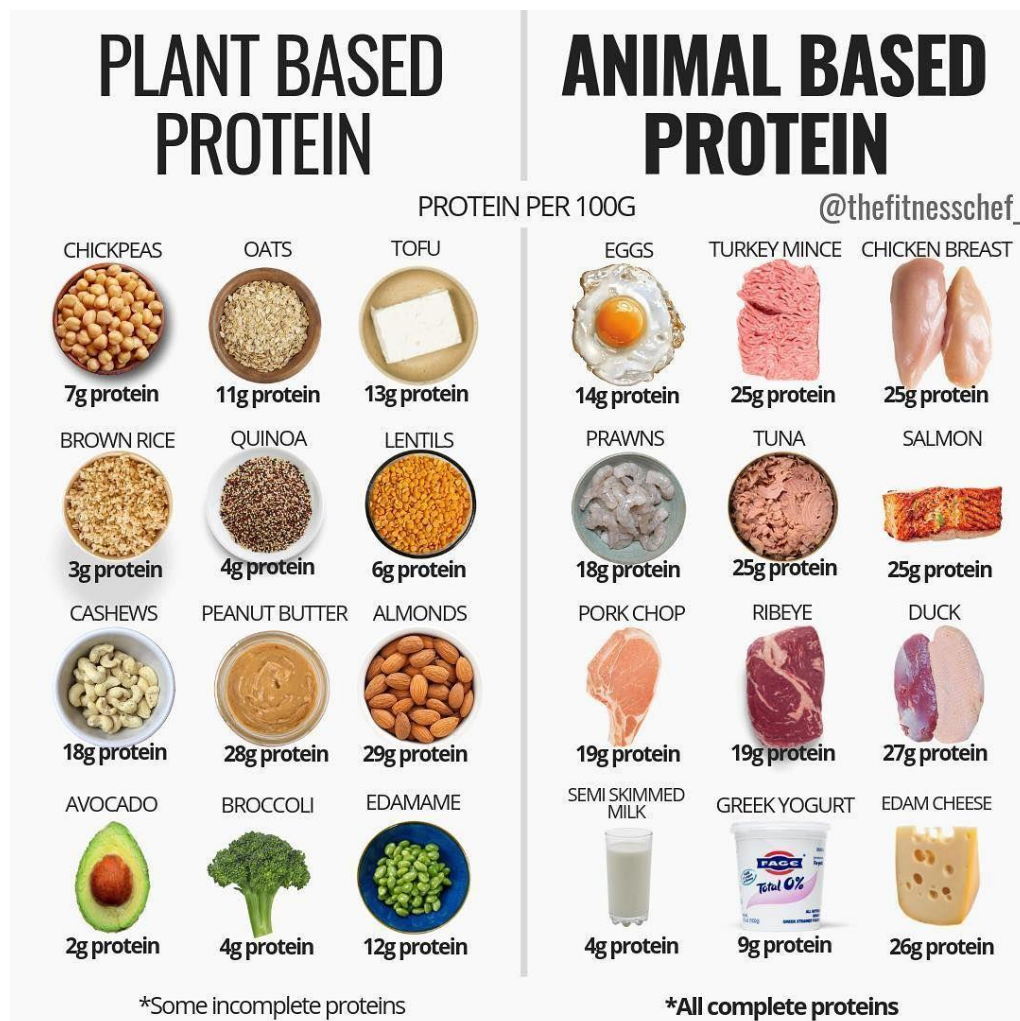
When our first days started at the zoo we got to talk to some people quite quickly. One of the first things we talked about (besides animals) was about what we thought about Croatia. What followed were a multitude of stories which were very interesting and would allow us to get the information about the country straight from the source. One of the first things that was mentioned was the history regarding the wars (second world war, Croatian war of independence etc). The more we talked, the more it was brought up, Croatia and its people were forged by history which was and is for a large part about war and politics. Politics is one of the subjects you should not get into as much as a westerner is was told. As it seems most of the people of Croatia do not agree with what the current government is doing. The switch from the Kuna to the Euro is also one of the things that changed a lot for this country. The country is also very diverse depending on where you go, where we are you have more of a continental climate while near the coast there is more of a Mediterranean climate. As of writing this text I have been here for a week and as it seems there is still plenty of things to learn about and from this country. For that reason, I want to learn more about the history of this country and its people. The amount of breaks and free time I have will make for plenty of hours for small talk. As of writing these gaols I learned a lot which will be talked about in the reflection and halfway point.



The amphitheatre of Pula which we have visited

Goal 4: Learn how a food kitchen for the animals works and is organised in week three of the internship.

During my internship there is a one-week mandatory time I have to work in a food kitchen where all the food for all the animals in the zoo will be prepared and brought to the correct enclosures. I have never worked in a kitchen that is not meant for humans and I am curious on how it works and all the things you have to keep in mind while working in a kitchen. It all starts here with regards to feeding the animals because if you cannot get the right food or if the stock is not as it should be, the animals may be malnourished or even starve if it keeps happening. I will be taken along with all the ins and outs regarding working in an environment which is much different than working in a zoo. I will be helped by the main nutritionist and her colleagues in this goal and when I have questions (which will inevitably come) I will talk about them in the reflection after this. I will only have one week to work in this learning goal so if I need to optimise my time there to get every bit of information I need to draw a good conclusion if I made the goal or not.



IMG 3 : A chart which shows how much protein is present in food for each unit of 100 grams (Thefitnesschef)

2.1 Reflection

After my internship reaches its conclusion we will be looking at what I have learned with regards to my learning goal. The criteria for to measure this are:

- What was my learning goal?
- How much have I grown with regards to my learning goals
- What did I do to work on these goals?
- What feedback did I get and from who?
- Two instances or situations to show what I did
- Did I do enough to reach the estimated goal or will I try to reach it in my next internship, if yes, why?

Goal 1: Gain more knowledge about the social behaviour of chimps within the first two weeks.

With regard to the chimps I came to the conclusion that I reached my goal partially. Chimps (as I found out) are very complex creatures with behaviour you cannot compare to any other animal. Sometimes you hear loud noises coming from the chimp enclosure, this is not them trying to destroy the enclosure but to get attention or to chase something or someone away. Lots of assumptions can be made when a chimp does something, only someone that has worked with them for years will be able to tell you what the chimp really wants or means, like Damir who I had the pleasure of working with. Because of my own workplace I know I can get quite anxious with apes because the longer I look at them, the more similarities I see and the more uncomfortable that makes me. Pair that with the high amounts of strength, speed and intelligence of these creatures and you get a situation in which I would rather keep my distance from them, then getting too near to them. That being said it surprises me how much you can learn a chimp and how they can get used to it. For instance, the chimps are fed yoghurt in this zoo, they really like it but to get it they must first help the keeper with chores like bringing them enough sticks. Usually it's the male King who helps with these chores while keeping the other chimps away. Usually they are fed apart from each other to make sure King does not steal the food from the other chimps. Unlike Bonobos the females do not form coalitions against the stronger males, the males rule supreme and any form of aggression from a female to a male can be considered atypical behaviour. I have never seen a chimp in a zoo until now and observing them, looking things up on the internet and asking Damir certain things makes for an easier time to gain information about an animal I don't necessarily feel comfortable around. Damir always tells me to remain calm around them and not look at them too much if you do not have a purpose. Do not make them think you are a threat so don't taunt them and just surrender to them if something unexpected happens without letting them think you are scared. They will test you at first but as soon as they realise you are not a threat and bring them food they will be much more calm and predictable to when you are new like me. I once got the opportunity to bring them their tea, Damir told me to watch for behaviour because the chimps would be happy to see me with their favourite food. They start grooming each other and begin to pant. This was a beautiful moment to see such interactions for an animal everyone is afraid of and definitely put me at ease. Despite me learning a lot and leaving room for improvement, I will not continue pursuing this learning goal, mainly because I know I will probably not get another chance and the similarities with them and us is something I have a lot of trouble shaking off.

Goal 2: Learn how to manage the speed at which I work during the first weeks.

During the first week of my internship, the tension from my side was high because I was not certain about what I was going to find when I got here. I am not used to going abroad for such a long time and for that reason I had to find a way for me to keep the eight weeks manageable without exhausting myself constantly because of the tension and the feeling of me needing to prove myself. Luckily, the Croatian work ethic is perfect for this because there is a lot of time to reflect and you will not be talked to too much when you do take a bit of time to take a rest. Especially the first week was really warm and I felt miserable because of the condition I talked about in the goal section above. What I learned was to take very small breaks in between heavy labour instead of a long one after. If I don't take my rest in between I will start to feel weak by the end and I will be out of work for an hour because I need to recover. While I don't know what it is (and it doesn't happen all the time) and I don't know what exactly causes this I learned to live with it but it does happen more often in hot weather. We needed to clean the leopard enclosure at some point and the situation was quite good because Elena takes good care of both me and Alicia. She was very clear about taking breaks and that the safety of workers is on the same level as the safety of the animals. Taking a quick break made thing simple in a situation where I knew from experience it might not go well, actually did go well. Also working in some confined spaces forces a big person like myself to think about his movement to not hit the walls and the roof. In these situations you can also watch your body and don't work too hard to avoid damage to yourself, someone else, animals or materials. Like my father, I like to work very fast and sometimes a bit careless but after this internship, my vision about working myself out changed quite a bit. And maybe I need to stop being proud and actually visit a doctor to get myself sorted out...

This learning goal is more or less achieved and I will keep an eye on it when I return to the Netherlands.



Goal 3: Learning more about Croatia and it's his history during the internship

In the first week it became apparent that the people of Croatia differ significantly from the people back at home in the Netherlands. They are very friendly, always want to help and will tell you everything about their country and its rich history every chance they get. Sometimes we were more or less warned about some people who like to be a bit too laid back or had some trouble speaking English but as it seemed it was not as bad as people said it was going to be (or I simply did not notice). During coffee breaks (of which there were plenty) we took the time to sit down and talk about our countries and what it stands for and what is and what is not normal. Damir' and Elena's English was really strong and they always knew how to get their point across without too many pauses in between their sentences, something which made a conversation hard at times. It was made very clear that the people of Croatia are a bit reserved at times, mainly because of the wars they have been through and overall demeanor that people in the Balkans have. Once the people find out that you are a person of peace and are just there to have a good time and is interested in their culture, they will open up to you and you will be guaranteed to have a good time. One thing I noticed is that when you speak Croatian, you more or less speak the languages of the neighbouring countries as well. The land has been shaped by its history and the recent findings of it being an touristic country supports this. I can safely say I had a good understanding of how things work here and how different they work from back home. Speaking some words and sentences was also fun and relatively easy to learn and speaking to people was equally fun.



Skyline of Zagreb where I stayed and worked

Goal 4: Learn how a food kitchen for the animals works and is organised in week three of the internship.

I have never worked in a food kitchen for animals before so everything that happened was new to me. That is why I wanted to learn more about it because it is a crucial part of the zoo that is not often thought about when regarding zookeeping. I was very curious about what I would find and how hard it would be to understand the feeding rations for each animal. Not to mention that all of the instruction and food amounts and names were in Croatian which is not a language I am particularly fluent in. That made for an experience that was pretty straining mentally because you have to think even more about what you are doing than it would be otherwise. The head of the kitchen told us that one week is enough to learn you the basics and if you were to have more weeks afterwards, you could do it alone. For some foods this was indeed the case, like the birds and the dry kibble and vegetables. Some other things like certain exceptions or special kind of foods were a bit more difficult to figure out but after just one week I felt some autonomy regarding the work that I have done, which was pleasing. Besides preparing all the food there are also tasks regarding delivery and pick up of the food and the bowl/trays when they come in. You pick them up in an electric car and bring them back to the kitchen where they are cleaned with an industrial dishwasher so you can wash multiple things at once. I have three years of experience with working with these kinds of machines so very little explanation was needed for me to start washing the dishes effectively. Once washed they are put back on the original place where they should be easily found if the new round of food needs to be produced. Part of the job is to always work with gloves and clean the surfaces you worked on once done (includes the storage). Once the meat/fish/other is cut it is put in the freezer or fridge to be given at a later date. Regarding the meat, they are brought in a truck in the morning, the meat is then being examined if the quality is up to the standard (it once was not) so that the processing can begin. The zoo also breeds its own feeder animals like bugs, mice, rats and chicks. The location in which they are bred are in four containers in the back which are ventilated and cleaned often to prevent diseases. Part of the job in the kitchen is clean, feed, water and take care of these feeder animals and bring them to the kitchen for them to prepare it. In the case of the mice and chicks, you also need to cull them (something I did not do) and take some if the baby mice (pinkies and fuzzies) which are also used as food for some animals. It is an unceremonious job but all the more important because a lot of people don't want to do it. The containers in which the mice and rats are bred are cleaned regularly and disinfected two times over to prevent contamination of diseases etc. After only day of working in these containers, we were entrusted to feed and give them water on our own, a testament to how much the people trusted us with our work. One thing I did learn was that there is no shame in asking, because the feeding charts were all in Croatian you sometimes did not know what to do. Instead of figuring stuff out yourself it is always safer for you and the animals to just ask, the employees did not mind. That being said there were moments in which we were able to take initiative and do work ourselves, a valuable trait to have when working in a kitchen. Because of this we were done almost one hour earlier each day then we were supposed to because of our work.

For the one week it was, I learned a lot about the work in a kitchen, even if it was in Croatian. The people there were patient and were happy with our work. That being said, if really want to see my own potential it would be in a Dutch zoo where I can work at the pace I am used and don't have think four times before I can fully understand what is needed when. Despite this I can safely say I made a lot of steps in the right direction regarding this learning goal.

2.2 Most memorable experience

When coming to Croatia I have to admit I was quite nervous about what I was getting myself into. This is because I am not much of a traveller and Zagreb is tied with Budapest for the farthest I have been from home. As opposed to Hungary, this time I will be away for two months instead of two weeks. As far as I am aware I do not get homesick quite quickly but being two months away from home in an unknown situation was a new experience for me. After as little as two days I felt right at home with the people that work here, all of them are very friendly and always want to help. The first week I had to pleasure of talking to and working and speaking to Ivana, Ivan, Elena and Damir who are very social and put our mind at ease regarding being here for the full two months. An especially funny moment was when they found my name too hard to pronounce so they gave me a name: Coki, a common name in Croatia. Also the work ethic was something that surprised and inspired me for new ideas when I inevitably come back to the Netherlands with all new visions and experiences. It's not that working here was not fun, it definitely was but what does it for me is the fact that I don't know a lot about the world outside our own borders. It was the only thing I looked up to when I saw what this education was about. Working in a zoo is not something new for me, working with foreign people and getting to know a lot about their land, culture and behaviour was something I have never experienced before and something I will be unlikely to forget. For that I want to thank the aforementioned people along with all the other people I had the pleasure of working with afterwards.

Honourable mention goes to working with Damir and the Chimpanzees and working with Elena and the Sea lions, picture below. Both activities are chances you will rarely get in the Netherlands and were very special for this reason. You will not find such moment anywhere else. Also going to Pula in the weekend was a nice experience since it was beautiful there.



IMG 4: *Me in a training session with one of the sea lions (very gentle)*

3.0 Animal caretaking and husbandry

When it comes to animal caretaking and husbandry there are certain elements that are facts and there are elements that you could have a discussions about. In the zoo such discussions are a topic that comes up almost every day. For instance some buildings where the animals live are protected by law and cannot be changed or altered in any way. Hence the reason why for some species in the zoo their surroundings can be changed very little. The zoo is part of Maksimir Park and is not allowed to take up more space than they already do so every square meter needs to be utilized in this zoo. During this chapter we will be looking at five different as described in the proem (three mammals, one amphibian and one bird). From each species we will talk about a lot of different subject regarding these animals and everything around it. We start with the mammals first.



IMG 5 : *An earlier iteration of enclosures in Zagreb Zoo from 2005 where lions and tigers used to live (Oryctoropus)*

3.1 Chimpanzee: (*Pan troglodytes*)

Following up on one of my learning goals to learn more about Chimpanzees we will be looking more into this species of primate. This species of ape has its natural habitat in West- to East Afrika along the equator. They live in the Savannas, Jungles, steppes, evergreen forests and in the humid jungles. To live under such circumstances, chimpanzees need to be able to adapt to their environment. This requires a certain sense of intelligence which chimps do possess, they share about 98 percent of their DNA with us *Homo sapiens*. Hot temperatures are a problem for chimps since they are not as good at sweating and thus cooling down as us humans are. The warmest temperatures a chimp which was researched has lived in peaked at 34 degrees Celsius average. The ideal temperature range lies somewhere between 18 and 30 degrees Celsius. Chimps are known for their social nature in groups but are also notoriously aggressive against other species of animals as well as their own. Some Chimpanzee groups wage war against one another to claim new land or defend their own. Their diet consists mainly of fruits and greens but due to their effective use of tools, bugs and other meats also make up a small part of their diet. They can live to be more than 60 years old (Lang, 2006).

At Zoo Zagreb the apes are fed mostly greens and fruits as well with additional food in nuts, yoghurts and surprisingly, tea. Giving apes and monkeys tea is a long lasting tradition in Croatia, if I had to make a guess it is because the population of Croatia also drinks a lot of tea (also called chai). Most of the food is given to the chimps by hand though some food is also placed all over the enclosure for them to find. From what I have gathered they are given food at least three times a day and is distributed as fairly as possible. Mostly they are given two kinds of vegetables (6 kgs) or fruit, two pieces roughly per animal. Along with that they get the aforementioned tea to bond with the zookeepers and calm the chimps down for training. The enclosure of the chimps is a topic of debate amongst the zookeepers because of its relatively small size. Unfortunately the zoo is not allowed to change anything about said building because of its historical value, the building is from 1938. For that reason the enclosures are sub-optimal for this kind of animal but nowhere near as bad as it used to be. Regarding enrichment the apes are very dextrous and intelligent which makes for a challenge to keep them occupied. In the outside cage there is puzzle for them to solve with sticks, similar to those found in Dutch zoos. Besides that they get environmental enrichment that fills all the chimps needs to climb around to where they need to go.

Regarding sickness and disease, chimpanzees are quite similar to humans in which diseases they can contract. One common condition they can have is a cold or influenza, they sneeze, have a raised temperature of their body and feel lacklustre. They can get a cold or flu from another ape or monkey but also from humans, that is why it is important for a human to be aware of its own health as well as the apes. The common cold only makes us sneeze but a chimp can die from such a disease if not treated.

Older apes seem to also be more susceptible to heart diseases like cardiac arrest and sudden heart failure, such events are hard to counter, as such the only things you can really do is monitor the chimps as often as you can and supply them with the correct diet and other needs for optimal healthcare (Nunamaker, 2012). A disease which threatens humans but also apes is HIV or AIDS. HIV is contracted from touch with an infected individual or by inhalation of bodily fluids. This disease if left unchecked will be the death of a chimp and can be suppressed by the use of antibiotics. To prevent such a disease the contact with other risk groups like humans and apes or monkeys needs to be put at a minimum. If a caretaker has HIV or AIDS they should not be working with these animals

and if an animal has HIV or AIDS the zookeepers need wear protection on their person to make sure they are not infected (The national academies, 1997).

Lastly, chimps can be contaminated with Hepatitis A, C and D, which means they can get damage to liver as a result of Cirrhosis or hepatocellular carcinoma which is basically liver cancer. A vaccination for this disease is hard to come by and chimps still form a large part of the research to find such a vaccine. Good hygiene is a good way to prevent hepatitis from occurring, having said that, there are also acute or chronic version of hepatitis if there is certain condition in the liver (The national academies, 1997).

Behavioural conditions that a chimpanzee can display is intense aggression and also (quite interestingly) Alzheimer. While it is known that chimps can be aggressive, there is also a certain level of aggression in chimps which is not acceptable. Aggressive chimps in a zoo are a problem not only for themselves but also the zookeepers, visitors and other members of their species. Sometimes aggression in chimps has a reason, mostly they do this because they want something and the only way to accomplish this is to give it to them to make sure nothing bad happens. From what I have gathered this is a problem in more zoos worldwide where some monkeys are even handed cigarettes to calm them down. Other solutions are very hard to find (besides putting the animal down). Alzheimer's is still a relatively new discovery in chimps because it was only thought that humans could get Alzheimer's but recent studies have shown otherwise. This disease is a difficult one to pin down with regards to how you get it but one reason is the faulty folding of some enzymes in the cerebral area of elderly apes (Cross, 2017).

At some point for whatever reason, an animal may need to be moved to another zoo. For this reason there should always be a plan for when this moment comes. In the zoo there have not been many reasons the move said chimps as no new specimens are added or moved because of the lack of space as well as the group getting too small. No new births are going to be occurring in the group. Regarding official documents, almost every animal in the zoo has one and you also need export files as well as CITES I certificates as well as health certificates and import rights to move these kinds of animals.



IMG 6: *The outside enclosure of the chimps for them to climb and sit in the sun*

3.2 California Sea lion (*Zalophus californianus*)

In Zagreb zoo there is small aquatic section which contains two California sea lions. Max and Pamela are male and female respectively and are part of the monkey department where our first two weeks have started. As it turns out, Pamela is from a Dutch zoo and understands Dutch so it was interesting to see what was going to happen when we spoke Dutch to her.

These animals as their name suggest live mainly on and off the coast of California USA but are also sighted near middle America in Mexico and South America. Sometimes they also travel upstream and can be found in rivers and stream. They are not people shy and will also be found gathering near fishing villages and places where a lot of people gather. These animals are very intelligent and when they are kept in a zoo they need to be monitored, trained and entertained to keep them from getting wrong mental dispositions. These sea lions are mostly piscivores, which means they exclusively eat fish, squid, shellfish and other animals of the like. During the start of the keeping of the sea lions in Zoo Zagreb, some sea lions had trouble eating the dead, thawed fish and the zoo had to resort to giving them live fish before switching back to dead fish. Giving the sea lions additional vitamins and medicine is carried out by stuffing the fish which the sea lions will eat leisurely. Mostly they get fed two or three times a day with 15 kilos of fish in total for each adult animal. Mackerel, sardines, herring and a small species of cod are the main source of fish. They are fed either by hand or by throwing fish in the water for them to catch themselves.

The sea lions are kept in a relatively small pool, which is mostly (like the chimps) a topic of debate. One of the other pools they have access to currently is leaking so they cannot use it, they also have a saltwater pool inside and a place to sleep. In these pools you can throw blocks of ice with fish in them, balls and other more elaborate enrichments like puzzles to keep these intelligent creatures occupied. Along with the pool outside they have the aforementioned saltwater pool inside and the smaller pool for which they have to climb and crawl to reach. The pool is designed in such a way that moved is easy and the animals can take laps around the pool.

Regarding conditions and disease for these animals there are some topics to cover:

Avian influenza is a common disease mostly found in birds as the name suggest, but mammals are also susceptible to this common disease. The disease is mostly transmitted when the animals get in to close contact with infected wild birds, this can also apply to the animals kept in the zoo.

Neurological and respiratory problems are usually a good way to identify the disease in these animals, though in the wild thousands of these animals have died of the coast of Peru. H5N1 is currently the only know vaccination for avian influenza though the use of the medicine on sea lions has yet to taken hold (Victor Gamarra-Toledo, 2023).

Leptospirosis (also called swamp fever) is another disease which has been found in Sea lions but can also be found in humans, making it a zoonosis. Knowledge about how the disease is contamination among sea lions is little but humans can get it via environmental exposure. Symptoms include anorexia, fevers, vomiting, abortion and dehydration. Most cases do not need treatment, you just have to clean the enclosure more thoroughly and need to apply more ventilation (TB Waltzek, 2012). Another known disease the animals can get sick from is the poxvirus, another zoonosis. Pox are easily seen due to red nodes around the neck and head. Usually they are contaminated when the animal comes into contact with an infected being, though annoying they are usually resolved within a week and only leave behind so-called tattoos from time to time (TB Waltzek, 2012).

The last condition we will be talking about is sea lions that are fed frozen fish. If the animal in question is not used to eating frozen fish, they can get a sore throat or catch a cold. Which usually means the animal either sneezes, coughs or has more trouble eating and swallowing food. Treatment

is not necessary unless the cold makes place for fevers in which cases you can administrate antibiotics.

With regards to moving the animals we talked to some of the zookeepers who claimed that one of the animals was driven here in a cage in the back of a van with climate control. In theory this should mean that Croatia does not have many laws regarding animals shipment or these animals do not require a lot of preparation. What is required is the same document that are required for the chimps (Passport, Cites etc). The zoo currently has two animals and has had five at some point, they also do not have any options currently with moving an animal to another zoo. If they do it will probably be to nearby zoo because of the limited possibilities the zoo has to move such an animal. Cites I, health certificate and import rights are needed in order for these animals to be moved.



IMG 7: The sea lion enclosure in Zagreb zoo, note: the water is filled one thirds

3.3 North-Chinese leopard (*Panthera pardus orientalis*)

In Zagreb zoo there are two North-Chinese leopard, genders male and female. They have an outside enclosure which is designed to look like the habitat they live in. The habitat in the wild is mostly (as the name suggests) in the northern and also middle regions of China. Leopards basically live in every part of the world between middle Africa and North China (also includes the middle east). Their natural habitat is mostly forest where they hunt during the night, though they are becoming more endangered by the deforestation by humans. These animal can live to be 7 to 9 years old in the wild but could get up to the age of 20 or more in captivity. This is because there are less threats in captivity and starvation is less frequent. Males are bigger than females, males weigh up to 70 kilograms while females can weigh as little as 25 kilograms which is a big difference. The animals are quite long and slender and can have a length (stretched) of 190 centimetres. Behind the screens they have two main areas where the leopards can live, when the zoo closes they each have their own enclosure for safety reasons. When there are no zookeepers present nobody can intervene when the animals get into a fight or if something breaks. In this enclosure they can retreat from visitor or bad weather and have space to climb which is a big part of a leopards natural behaviour.

The Leopards in Zagreb zoo are fed with a variety of different meat types which they can all acquire in the wild as well. These include: Rabbits (dead), chickens (dead) and cut beef. Currently the leopards are on a diet so it is hard to say how much they are actually fed but under normal circumstances an average leopard is fed about 4 kilos. The Leopards are given the dead animals in their enclosure when they are outside, not being able to get back in. The cut beef is used to train and station the leopard for training purposes or for examination. They are fed with long tweezers so that the zookeepers don't have to get close to the animals and avoid possible injury or contamination of the meat. They are usually fed twice a day, or less because of the diet. Regarding enrichment, these animals can be found amongst trees and have an exceptional strength in smell. This means you can create an environment where they can or have to climb to reach places and leave behind objects like sheep wool or honey to encourage the animals to use their sense of smell.

With regards to diseases, these animals are susceptible to a wide range of conditions so it is important to always work with proper safety equipment to keep animals and keeper safe. You could wear gloves and a mouth mask to prevent the diseases from spreading. Leptospirosis is a zoonosis that a Leopard can also transmit. While rare, this disease involves the animal being lacklustre, tired, having a raised body temperature and not wanting to eat and vomit. Leptospirosis is also transmitted onto humans, which has a mortality rate of 20 percent. That is why you should not count out a disease which is rare. Usually it is small housecats that can give leopard in captivity this disease, I have seen housecats walk around the perimeter of the zoo hence the reason why I wanted to include this disease. It can be cured via antibiotics and improved food rations and better hygiene (Murillo, 2020).

The next condition we will talk about is feline leukaemia, this form of cancer in the blood is also transmitted mostly by housecats. It is acquired via bodily fluid of an infected individual and can bring forth a lot of unwanted conditions like other cancers and lower oxygen intake in the blood. There are no cures for this disease but there are ways to keep the pain and discomfort at an acceptable level with supplements, vitamins, painkillers and special diet. The disease is contagious so if a single specimen gets the disease it should be moved away from the others to make sure the

disease does not spread (Julie Levy, 2018) .

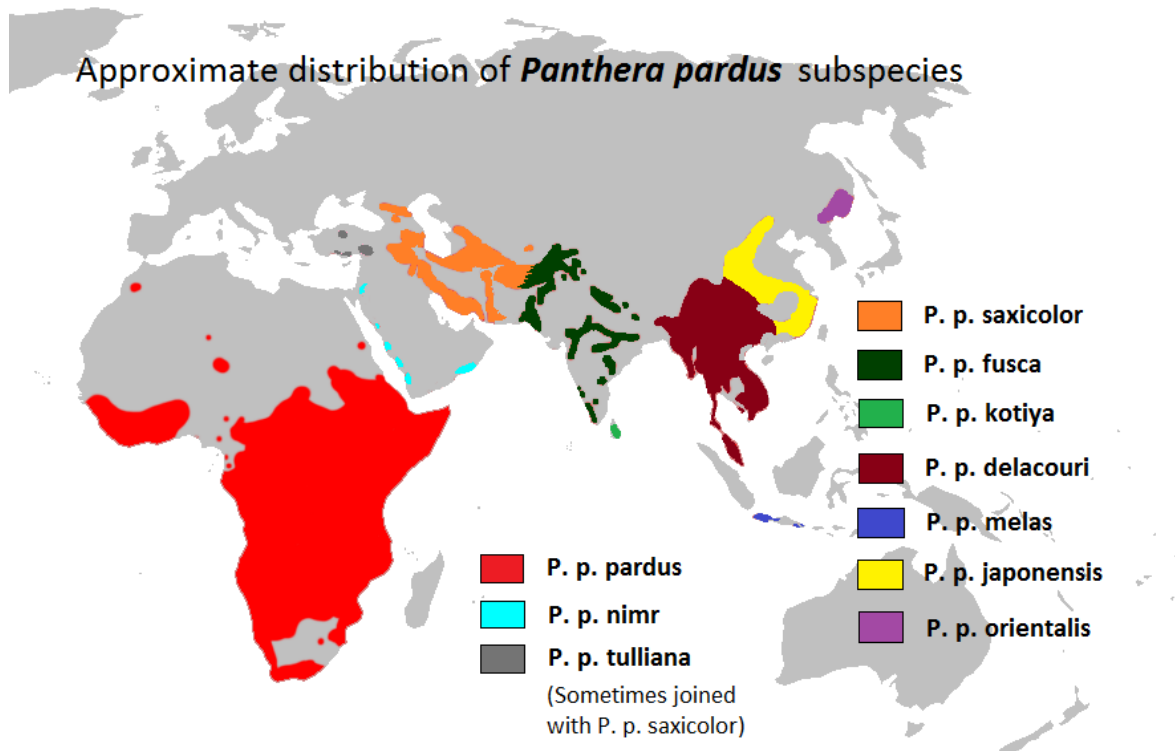
Thirdly there are conditions like arthritis and other degenerative conditions which can affect a leopard. These conditions can really hamper the leopard ability to climb and thus being able to fulfil its needs and show natural behaviour. These diseases can be acquired via old age but also by an unsafe or unsuitable environment in which the leopard cannot move the way it should. The disease, fortunately, is not contagious but also can't really be cured fully. The correct weight of the animal also plays a role in this. A Comfortable place to rest and supplements and painkillers are the first things you can administer (Jaffe, 2023).

Lastly, we will talk about Tuberculosis, a disease which can be found in most animals and is also dangerous to humans. It can be transmitted via breath and/or sneezing. While rare, tuberculosis can be very dangerous to a zoo because it is highly contagious, even for animals and zookeepers. The animal will experience trouble in breathing and will lose weight a higher rate than usual, it will also be more tired and grow abscesses and lesions on the skin. Regarding recovering from this disease, it is best to give the animal antibiotics and to raise the hygiene level of the animals enclosure the highest level. Also keep the animal away from other animals to prevent the disease from spreading. Keeping hygiene high is a good way from keeping this disease from occurring in the first place (Conor O'Hallaran, 2019).

The animals are sensitive to stereotypical behaviour if the basic requirements for these animals are not met. That is why you should always keep these animals busy with their environment but also with interaction with the zookeepers. Stereotypical behaviour is hard to combat but if you keep a leopard busy for an extended period of time and maybe remove what is causing the behaviour you might be able to get the behaviour to an acceptable level.

The biting and licking of itself is another form of atypical behaviour, it involves licking and biting the same place over and over to create wounds and infections which will open up for other diseases to take over. You need to monitor the animal in order for you to know what is the cause of this, if there are parasites you should remove these or give the right kind of medicine. If it is stereotypical behaviour though, you have a much bigger problem like we talked about. Auto mutilation can cause in the worst cases for an animal to be put down because the animals cannot and will not stop damaging itself. With regard to moving these animals, they are taught to be stationed when they are being put under anastasis. They can also be put in cages for shipment by this way. There are cages in which the animals can be moved and administered. Along with these materials you need the right documentation to move these animals.

Cites I and a passport as well as the import rights for these animals are required before you can move them to another place abroad. Along with this you need the animals passport and it might be handy to bring along a zookeepers to keep the animal in check. New zookeepers might not know about certain types of behaviour the animal can display. The animals in Zagreb zoo are allowed to breed, when a cub gets too big it needs to be move to another zoo. Which zoo that will be remains to be seen but they do need to be able to have room for an animal for it to get used to its new keepers and other members of its species.



IMG 8 : The current outside enclosure which replicates the habitat the animals live in and a chart with the distribution of different *Panthera pardus* subspecies (Abe'sAnimals)

3.4 Spanish ribbed newt (*Pleurodeles waltl*)

The Spanish ribbed newt is a species of amphibian found in (as the name suggests) Spain, but also parts Marocco and Portugal as well. These animals are one of the biggest newts found in Europe being over 30 centimetres long in some cases and can be 12 years old on average. Being newts they live mostly in water and only come out of the water on rare occasions or to breathe. They are mostly found in slow moving waters and streams. When the water level becomes too low they retreat in small holes in the bottom where they stay hydrated. Males have a stockier build and have a longer tail than the females though this does not always apply because small males can be smaller than large females. They eat mostly small bugs as their diet like mosquito larvae, maggots, worm but also eats meat and fish if the opportunity arises. These animals are also kept in aquariums as pets because they are easy to keep. Despite a relatively small habitat where they live, they are of least concern when regarding rarity and endangerment.

When I spoke to the people of the bird section where these animals are found in the zoo, very quickly it showed that they care a lot for this newt. In the back they have a breeding tank for these animals and crude but effective way to breed artemia for them, which is a natural food resource for these animals. They told me that feeding live insect is the best for these animals health so they are fed live insect larvae. They are fed with cubes or by hand with tweezers once or twice a day, these animals are fairly easy to care for and breed very quickly. The tank they are kept in has a heater and filter and is 80 centimetres wide, 40 cm tall, and 40 cm deep. This is the minimum size for a tank if you want to keep a group of these animals. They like to hide within the grass or underneath rocks to hide from predators such as birds and larger fish. The tank in which the animals are kept contains both these elements to stimulate natural behaviour. It is also recommended that these animals have a possibility to climb on land to prolong their life expectancy, though this land area is not present in this enclosure because there is a chance of escape in the current configuration of the tank. We will now talk about diseases and conditions regarding these animals:

Chytridiomycose is the first diseases we will talk about and is better known Amphibious fungi. As the name suggest the animals skin will be covered in mouldy spots and flakes. This is mostly causes by a bad upkeep of the enclosure of these animals. The disease is highly deadly and is also found in other invertebrates and prey items. It is not known if the disease is dangerous for humans. There is one cure which helps against the fungus, chloramphenicol but is dangerous for the animals overall healthcare. To prevent the disease you keep an eye on water perimeters and overall care of these animals (Berger, 2010).

Another common condition is faults in the digestive system as a result of stress. This rings especially true in zoos because the animals are being viewed and occasionally tested by the visitors. Stress in newts can be diagnosed when an animal eats less and their droppings are not what they should be. There is no real way of treating stress apart from removing what is causing the stress. In this case the visitors which are hard to remove because of the nature of a zoo. You could try to make hiding places for these animals to break line of sight so that they are not always exposed to outside elements like visitors or flashing lights. Another condition which is commonly found in amphibians with a shortage of calcium are deformities. Shortages of calcium increases the chance of stunted growth and lesser strength of the bones. If this happens it is probably too late to cure but to prevent this from occurring you can give the animals a more calcium-rich diet so this does not happen. Whole prey animals and some supplements form a healthy base for these sorts of diets. Lastly we will be talking about parasites, these animals can have a variety of different parasites but we will be focussing on

nematodes. Nematodes or flatworms are parasites that live in newts during their entire lifecycle. They can damage internal organs and gills and can usually be diagnosed either by skin samples or by identification of certain parasites like flukes or digenes which are a species of microorganism. Symptoms include cysts growing on the skin and abnormal limb growth. A simple remedy for flatworms is to remove aquatic snails from the tank if they are present. If they are not present you could apply praziquantel or formalin baths to help against the infection though this is a last resort because of the impact the intervention can have on the animals (Densmore, 2007).

Behavioural disorders regarding these animals include cannibalism and neurological disorders which will result in numerous unwanted behaviour like constant hiding, aggression to member of species and not leaving dry land. Research regarding these conditions is very limited and little is known how it happens and how you treat it. Removing a member of a group which shows these kinds of behaviour is an easy way to solve it though this does leave you with one individual.

When moving these animals you have to take into account that you are moving a cold-blooded animal. Which means that you have to keep tabs on the ambient temperature when moving the animals. They can be moved in virtually any vehicle that facilitates heating or cooling down. Aeration is also necessary to keep the oxygen levels high during shipment. It is not recommended to feed the animals too much before shipping, like turtles they become a little slower when the ambient temperature is somewhat lower and their stomach is not as full. You don't have to move them in water, a container with high humidity and a wet towel will suffice. If you move a newt in water they get tossed around by the water that moves during transport. These animals are not listed in Cites so no documents are required for this, what is required is a certificate of health. These animals are popular pets but a zoo is not allowed to sell these to the public, the zoo has the choice to bring them to another zoo or release them back in the wild. The latter is what the zoo is focussing on, releasing them back in the wild where they live.



Img 9 : *The enclosure of the Spanish ribbed newts, found in the snakes of Croatia building*

3.5 Emu (*Dromaius novaehollandiae*)

Lastly we will be talking about a bird, one of the biggest and heaviest birds in the world, the Australian Emu. Emus are a member of flightless birds indigenous to the Australia.

The enclosure for three animals in the zoo replicates the Australian Badlands perfectly with its red sand. It is no secret that Australia can be extremely warm and is the subject of bushfires. Even though the conditions in Australia are harsh, these animals remain on the least concern list regarding endangerment. There were so many emus at some point that the government needed the army to hunt the emus and the so-called 'emu war' started. Fun fact, the army lost and the emu populations remains healthy to this point. These animals are extremely fast and just as strong with their powerful legs and sharp nails. They live in groups where they search for food together and take watch at night where they take shifts to keep them from falling prey to the like of humans and dingo's. Many of the older predators like giant lizards and marsupial lions used to be predators but went extinct. For that reason the emu population was allowed to flourish. Some eagles can predate on smaller individuals, though this is rare. Emus are known to not be scared of humans and even be curious or defensive at times.

Regarding keeping these animals in zoos, they are mainly fed kibble with additional fruits and are given a straw bed to lie in at night. Each individuals get 2,5 pieces of cut fruit and a handful of grapes each day with 750 grams of kibble along with some little stone for calcium intake. They are given these foods in throughs or via enrichment if given during warm days or other moments. Another fact of these emus is that they raise their wing during warm days. You can see their blood vessels and they do this so they can release heat to their environment. These animals need a relatively big enclosure to move freely and sprint like they do in nature. That being said, the enclosure in which they are kept now is on the small side. An emu will need at least a small meadow to walk in (the bigger the better) and a fence of at least 1,5 meters high.

Being birds, they are susceptible to different diseases then the animals we mentioned before, we will talk about them briefly:

Bumblefoot is a common disease in birds, rodents and rabbits as a result of a bacterial infection combined with pressure on the foot. Being a heavy bird, this pressure is even higher thus resulting in higher chances of getting bumblefoot than other birds. Overgrown toenails, a bad surface to walk on and an incomplete diet are also reasons for the occurrence of this disease. You can remedy bumblefoot by soaking the foot in Epsom salt and bandaging the foot. You also need to improve the bedding if this is not done so already. To prevent bumblefoot you should always be aware of the aforementioned causes of bumblefoot to prevent further infections (Leclerc, 2023)

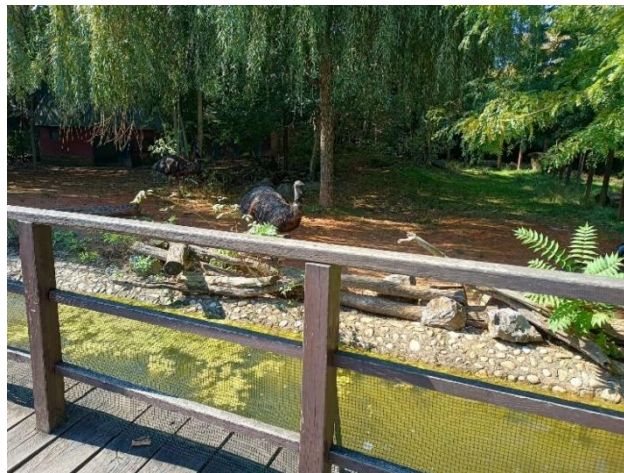
Another common condition in birds is the inability to lay an egg. Birds lay eggs to reproduce and will do this every now and again. A bird that cannot lay her egg usually sits on the floor of her enclosure and makes constant pushing motions in an attempt to lay her egg. Because of this pressure, the bird might damage her own organs and might stop eating as well because she is getting too warm. The most common cause of this condition is too much or too little calcium in its diet. For that reason you need to watch how much calcium you give your animals in their current diet. Once diagnosed, the only solution is to call a veterinarian who can help to bird lay her egg with medicine or (depending on the case) call for immediate operation. In all other cases, the bird will perish (Universitair dierenziekenhuis, 2024).

The third condition we will talk about is encephalitis, caused by a bacterial and/or viral infection in the brain. A raised body temperature and stiff movement are the first symptoms you can see. The bird might also start acting strange if the disease is allowed to run its course. The earlier the better. The disease can be transmitted via ticks and mosquitos who carry the EEE (eastern equine

encephalitis) virus which can only be found in these animals. Common sense will tell you to do everything you can to prevent these animals from getting in your zoo but this is of course much harder than it sounds. Encephalitis cannot be cured so therefore it is all the more important to keep the vectors (mosquitos and ticks) out. You can do this by housing animals near the enclosure that eat them like flying birds (Corrin, 2021). For the last disease we will tackle possibly the most well-known disease in birds, avian influenza which is also a zoonosis. This disease is common amongst a lot of birds and can also be passed onto humans. Mainly young ratites are susceptible to this disease and as such the mortality rate is highest at a young age. A bird with avian influenza will act slowly and will not be as loud as it once was. Along with that is their droppings, which will be very thin, raised blood temperatures and respiratory problems. Other birds which are infected can pass on avian influenza on other birds. Once diagnosed, all birds should be kept inside to prevent contact with other birds. If kept in a farm there should not be any traffic to and from the farm and people that work there need to wear protective clothing, masks and glasses. There is a vaccine which can be applied and has proven effective for these kinds of birds.

Being big birds a certain sense of caution is required when working with these animals. While most of them are friendly or just curious, there are also cases of emus being very aggressive or protective of other emus. A kick or peck from an emu can cause serious injuries to zookeepers. These kinds of behaviour are not uncommon but to ensure safe zookeeping you need to look at what could potentially cause this behaviour. If the emu is protecting something you could come up with a plan to remove such an object but if the emu is protecting a member of the group or another zookeeper you need to come up with other ideas or maybe make changes in the group or move the emu to another place which could be another zoo or another location. The last condition in behaviour is the constant sitting on a nest. The bird does this to reproduce but if the eggs are rocks or not fertilized then it is not a good look for visitors who only see a bird sitting on the floor. Removing the rock or eggs is a solution but also dangerous given the nature of these animals. Removing eggs once they are laid to prevent a nest and thus drawing out this behaviour is the best way to go.

When moving these birds they are required to be in large crates which cover their height of about two metres. A way to drink during transport as well as potential heating or cooling is required. You should also have a small layer of straw on the bottom to soften the bumps in the road as well as prevent damage to the bird. Cites in not required for these animals, a certificate of health, passport and import rights are.



Img 10: *The outside enclosure of three emus which replicates the Australian badlands*

Risk analysis and evaluation

When working in a zoo there are various things you need to consider when working with and without animals. When working there should always be rules when regarding work safety to minimize an accident at work. Below you will find a table which shows various different cases in which work safety could be compromised. After that we will have an indication of exactly how large the risk is (1 being low and mild, 3 being high and/or dangerous) and what the current measures are to keep these at a low level. Lastly we will talk about what you can still do to keep danger as low as possible with new measures.

Table 1: Risk analysis and evaluation of different cases in the zoo

Described risk	Risk level (1,2,3)	Current safety measures:	New measures:
Risk of falling in the sea lion pool	3	Keep your distance from the edge	Guardrail and falling safety equipment
Workwear	2	No real rules regarding workwear apart from appropriate clothing	Safety shoes, long trousers, PBM's
Working with leaf blower	1	Ear caps	Safety glasses, heat protection
Ladder when cutting leaves	2	Education about how to place a ladder (angle)	Certified ladder Falling protection
Falling in the compost pit	2	Instructions on how to work and keep yourself safe	Guardrail, falling equipment
Getting grabbed by a monkey	3	Keep your distance from the monkey	Increased size for workspace, leave the monkeys outside
Falling in the crocodile pit	3	High fence with sign that says you should not put kids on there	Increases height guardrail
Smoking in working area	1	Rules set by the government regarding smoking in working area	Anti smoke signs, Reprimand should be clear to workers
Working with chemicals for cleaning	2	Wear gloves, education regarding what you can and cannot mix up	Eye protection Body protection No animals present
Falling in the small waste pits in monkey house hallways	2	Told to watch out	Signs, put in a grate so that waste can still pass through
Working with capuchins	3	Education regarding working with these animals, gloves	No contact policy, no feeding by hand
Taking prickly sticks out of petting zoo	1	Gloves (if provided)	Eye protection
Confined space in monkey house hallways	1	Take your stuff outside in the enclosure	Larger working area or easier cleaning methods
Lifting sea salt bags in sea lion enclosure	2	Education about how you lift certain objects	Cart or other tools to lift heavy objects
Working with knives	2	Told to be careful	Cutting instructions

Epilogue

The internship has drawn to a close and what an experience it has been. Time flies when you have fun and that was definitely the case here. During the internship I managed to gather most of the information I needed to get the most out of my learning goals. The assignments were easy to do during the eight weeks we had and the two week we have to do it after we are back home. Assignment one with regards to the history of the zoo was done the first day. During our guide around the park the first day we were introduced and told everything we needed to know (with some help of the website) to make the assignment. The learning goals were up next and being in a foreign country it was sometimes not too easy to get the information you want because of the language barrier. Some learning goals I reached and some require rethinking for the possible next internship in the third year. I was more than surprised with what I learned about zookeeping outside of primates which I am used to but also the Croatian/Balkan culture was something I was very interested in. The last assignment regarding safety and risks was easy to do with the guide on the school website and there were plenty of things to think about when regarding safety. Assignment three with the five species of animal took the most time and energy to make and like I said before, was quite hard to carry out with some people not knowing what to say. I would have liked to talk to some people but some just could not speak or understand English which was a shame. That being said I did try to speak Croatian every now and again, much to the delight of the zookeepers and other staff. Sometimes I worked alongside Alicia but not most of the time. We decided to go to other sections after three weeks to do our own thing but every time we worked together it went well and everybody was pleased to work with us.

I want to take the time to thank everyone who I have talked to, worked and exchanged information with these eight weeks, it has truly been a pleasure to be here.

These people include: Ivan, Elena and Damir from the monkey house. Innes, Zvonimir (do not know if I got his name right here), Coki and Iva from the bird section. The kitchen crew, Lorena, Renee, Anja, Duka and the others who briefly helped us. The keepers of the tropical house and its section: Drajin, Petar, Boris, Daniel and Tomislav. Lastly I want to thank Ivana and Marianne for all the information and help with everything surrounding this internship I am glad that I have been able to do what I did and got to meet new friends along the way! The people of Croatia have truly surprised me with their warmth and welcoming behaviour and I will happily recommend anyone who talks to me to go here and meet the wonderful people that work here as well. I will definitely return to the zoo in the future because I feel like this cannot be the last that I have seen of this place. Until we meet again!

Bibliography

- Abe'sAnimals. (n.d.). *Leopard range map*.
- Berger, L. e. (2010, November). *Treatment of chytridiomycosis requires urgent clinical trials*. Retrieved from Pubmed: <https://pubmed.ncbi.nlm.nih.gov/21268978/>
- chef, T. f. (n.d.).
- Conor O'Hallaran, e. a. (2019, May 13). *Tuberculosis due to Mycobacterium bovis in pet cats is associated with feeding an commercial raw food diet*. Retrieved from ncbi.com: <https://pubmed.ncbi.nlm.nih.gov/31082328/>
- Corrin, T. e. (2021, May). *Eastern Equine Encephalitis Virus: A Scoping Review of the Global Evidence*. Retrieved from Pubmed.com: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8086401/>
- Cross, R. (2017, August 1). *Elderly chimps may get Alzheimers*. Retrieved from Science.org: <https://www.science.org/content/article/elderly-chimps-may-get-alzheimer-s-renewing-interest-studying-these-animals>
- Densmore, C. L. (2007, July 1). *Diseases of amphibians*. Retrieved from academic.oup.com: <https://academic.oup.com/ilarjournal/article/48/3/235/663549?login=false>
- Jaffe, M. (2023, February 13). *Diagnosis and management of feline Osteoarthritis* . Retrieved from todayveterinarypractice.com: <https://todaysveterinarypractice.com/orthopedics/diagnosis-and-management-of-feline-osteoarthritis/>
- Julie Levy, A. B. (2018, August). *Feline leukemia virus*. Retrieved from merckvetmanual.com: <https://www.merckvetmanual.com/cat-owners/disorders-affecting-multiple-body-systems-of-cats/feline-leukemia-virus-felv>
- Lang, C. (2006, April 13). *Chimpanzee*. Retrieved from Wisconsin national primate research centre: <https://primate.wisc.edu/primate-info-net/pin-factsheets/pin-factsheet-chimpanzee/>
- Leclerc, A. e. (2023, November 10). *Retrospective Study of Intertarsal Joint Inflammation in Avian Species From a Zoological Institution*. Retrieved from bioone.org: <https://bioone.org/journals/journal-of-avian-medicine-and-surgery/volume-37/issue-3/D-22-00054/Retrospective-Study-of-Intertarsal-Joint-Inflammation-in-Avian-Species-From/10.1647/D-22-00054.short>
- Murillo, e. a. (2020, March). *Leptospirosis in cats: Current literative review to guide diagnosis and management*. Retrieved from ncbi.nlm: <https://pubmed.ncbi.nlm.nih.gov/32093581/>
- Nunamaker, e. a. (2012, April). *Chronic diseases in captive geriactric female chimps*. Retrieved from NCBI: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3318251/#:~:text=Other%20reported%20diases%20of%20aged,%2C%20obesity%2C%20and%20nephrotic%20syndrome>
- Oryctoropus. (n.d.). *Big cat facilities*. Zagreb.
- TB Waltzek, e. a. (2012, December). *Marine mammal zoonoses*. Retrieved from NCBI.nlm: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7477081/>

The national academies. (1997). *Chimpanzees in research*. Retrieved from NCBI:
<https://www.ncbi.nlm.nih.gov/books/NBK109752/>

Thefitnesschef. (n.d.).

Universitair dierenziekenhuis. (2024, September). *Legnood en overmatig eieren leggen*. Retrieved from [diergeneeskunde.nl](https://diergeneeskunde.nl/kennisbank/legnood-en-overmatig-eieren-leggen/): <https://diergeneeskunde.nl/kennisbank/legnood-en-overmatig-eieren-leggen/>

Victor Gamarra-Toledo, e. a. (2023, December). *Mass mortality in sea lions caused by highly pathogenic avian influenza*. Retrieved from [cdc.gov](https://wwwnc.cdc.gov/eid/article/29/12/23-0192_article):
https://wwwnc.cdc.gov/eid/article/29/12/23-0192_article

Whitetigersafari. (2024, September 2). *Organizational chart*. Retrieved from [www.Whitetigersafari.in](https://www.whitetigersafari.in/management/chart): <https://www.whitetigersafari.in/management/chart>

Zagreb.in. (n.d.). Zagreb zoo, Zagreb.

Zoo Zagreb. (2019). *Zoo.hr English*. Retrieved from [Zoo.hr](https://zoo.hr/english/): <https://zoo.hr/english/>

Bijlage A Checklist Schriftelijke rapportage

De checklist wordt door de student zelf afgevuurd en aan het verslag toegevoegd. Een niet (correct) ingevulde checklist kan leiden tot: 'geen beoordeling'.

Naam student: Twan Vorselman Datum: 27-10-2024

Titelblad

- X Het voorblad heeft een aantrekkelijke lay-out (foto, illustratie).
- X De titel is pakkend en geeft goed weer waar het verslag over gaat.
- X De titelpagina bevat de naam auteur + klas + opleiding + vak + datum + docent.
- X Het titelblad heeft nooit een paginanummer.

Automatische inhoudsopgave

- X De hoofdstukken en paragrafen zijn vermeld en genummerd.
- X De bijlagen krijgen volgens het alfabet oplopende letters (titel begint met een hoofdletter en wordt niet afgesloten met een punt).
- X Het voorwoord, de inleiding, het nawoord en de bronnenlijst zijn vermeld maar hebben geen hoofdstukcijfer.
- X De paginaverwijzing is correct.
- X Er is gebruik gemaakt van "automatische inhoud van MS Word".

Voorwoord & Inleiding

- X Het voorwoord bevat persoonlijke tekst, maar de inleiding niet.
- X De inleiding moet zo geschreven worden dat het uitnodigt om het verslag te gaan lezen.
- X In de inleiding staat beschreven wat de lezer in ieder hoofdstuk kan verwachten, maar mag geen saaie opsomming zijn.

Kern (opbouw hoofdstukken, paragrafen)

- X De hoofdstukken en paragrafen zijn genummerd opgesteld via Stijlen MS Word.
- X De hoofdstukken en paragrafen hebben een passende titel (geen vraag als titel!).
- X Elk hoofdstuk beslaat minimaal één pagina en is als volgt opgebouwd: inleiding, kern en slot.
- X Elk hoofdstuk begint op een nieuwe pagina.
- X Nieuwe alinea's worden duidelijk weergegeven met een witregel.
- X Alle pagina's bevatten een paginanummer.
- X Alle tekst, inclusief titels, hebben hetzelfde lettertype (gewone tekst heeft lettergrootte 11).
- X Figuren en tabellen zijn (door)genummerd en hebben een passende titel.

Nawaord

- X Het nawoord is kort en bondig en bevat geen nieuwe informatie.

Taalgebruik

- X In het verslag is de interpunctie correct toegepast (hoofdletters, komma's, punten, enz.).
- X Het verslag bevat geen spreektaal.
- X De spelling is gecontroleerd (door een ander persoon).
- X De tekst is geschreven met het lettertype Arial, Calibri of Tahoma.

Bronnen

- X Het verslag bevat bronvermeldingen in de tekst en bronnenlijst.
- X Alle bronvermeldingen in de tekst zijn terug te vinden in de bronnenlijst.
- X Alle bronvermeldingen en de bronnenlijst zijn vermeld volgens de Wildlife-richtlijnen.
- X De bronnenlijst bevindt zich na de hoofdtekst en voor de bijlage(n).
- X De bronnenlijst is op alfabetische volgorde.
- X De bronnenlijst bevat geen taal- of spelfouten.
- X De bronnenlijst is consistent (zelfde lettertype, afstand tussen titels gelijk, etc.) en consequent.

Gebruik Generatieve AI: Geen