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Guidelines for the keeping of wild animals in circuses

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Guidelines for the keeping of wild animals in circuses

developed by

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on behalf of and in co-operation with the
Office of the Environmental Commissioner of the City of Vienna

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Vienna, August 1997

Foreword

by the Executive City Councillor for Environment and Transport, Fritz Svihalek

Issues of animal protection are amongst the specific concerns of the Executive City Councillor for Environment and Transport. For this reason, I am glad that the Environmental Commissioner of the City of Vienna, together with experts both inside and outside the Viennese municipal administration, has launched an initiative in order to cover the problem relating to the keeping of wild animals in circuses. The first important result of this initiative has been achieved in the form of the present guidelines. This publication is intended to throw a light on the problems inherent in the keeping of wild animals in circuses and at the same time to contribute towards the solution of these problems without, however, preventing circus shows per se. The marked interest of the public in circus acts that refrain from using wild animals - an interest that is constantly on the rise - in any case parallels current trends.

I hope that these guidelines will serve both as an important source of information for circus entrepreneurs and as a valuable evaluation and decision-making tool for the executive bodies concerned with the enforcement of the law. However, this alone cannot suffice. For this reason, I have already taken legal steps to implement the results of this scientific work, thereby ensuring that circus animals living in the Viennese municipal territory will be kept in a manner suited to their specific needs.

I would be happy if Vienna sets an example in animal protection regulations for Austria. Finally, we must address the question whether it is at all ethically acceptable to demand that animals embrace a behaviour and lifestyle that is not in keeping with their natural instincts, merely to serve as entertainment for humans.

Fritz Svihalek

Preamble

The exhibition and display of wild animals in circuses is increasingly condemned for reasons of animal protection. The authorities in general, and public veterinarians in particular, are called upon to investigate whether essential life requirements of individual species of wild animals are adequately met.

Both extensive technical information and continuous updating of the body of knowledge and experience regarding the individual species of wild animals are necessary in order to meet these requirements. The authors have addressed this task without, however, claiming to have exhausted all subjects that have a bearing on animal protection.

It is the great merit of the Office of the Environmental Commissioner of the City of Vienna to have initiated and enabled the development of the present guidelines. In particular, the authors would like to thank Dr. Karin Büchl-Krammerstätter from the Environmental Commissioner's Office, who not only contributed greatly to the success of this project through her untiring commitment but also took it upon herself to work out the legal section of the present guidelines.

Furthermore, the authors would like to thank Prof. Dr. Kurt Kolar of Blauer Kreis and Dr. Christian Walzer of the Salzburg Zoo for reading the manuscript and providing numerous valuable suggestions which enabled the authors to present a set of minimum requirements for the keeping of wild animals in circuses.

Finally, our thanks go to Nicolas Entrup (animal protection society RespekTiere) who in the past few years has done a lot to inform the general public and create a climate of awareness concerning the problem at hand. He has thus contributed greatly to fostering the public discussion of these issues.

Mag. Hermann Gsandtner Dr. Helmut Pechlaner Dr. Harald Schwammer

Guidelines
for the keeping and training of
wild animals in circuses
(Minimum requirements)

Foreword

These guidelines were developed on behalf of and in co-operation with the Office of the Environmental Commissioner of the City of Vienna. They are the result of well-founded scientific studies and long-standing practical experience made by the authors as well as of the subsequent discussion and final editing of the text in relevant working groups which also involved organisations for animal protection.

The present publication tells - with the help of existing technical literature - about the current knowledge of ethology and veterinary science. It is meant as an instrument for the authorities charged with enforcing the legislation pertaining to animal protection and public entertainment; furthermore, it is designed to function as a comprehensive source of information for circus entrepreneurs in the planning of their animal acts in order to ensure that the animal species and types of performance selected by them will not invariably entail conflicts with the authorities and the general public.

It is the general objective for the future to permit the keeping of animal species in circuses only if these animals can enjoy a lifestyle corresponding to their species, subspecies and behaviour characteristics.
The authors would like to expressly emphasise that these preconditions principally cannot be fulfilled in the case of wild animals.
The present guidelines are to serve as a preparation for the further development of the corresponding laws and the nationwide harmonisation of issues pertaining to animal keeping in circuses.

These guidelines should in no case be misunderstood as a justification of the keeping of wild animals in circuses; rather, they should serve to improve the conditions under which animals are currently kept in circuses until the above-mentioned objective has been attained.

Since the mere taking along and exhibiting of animals that do not perform in circus acts must be categorically refuted and has in fact been already prohibited, the following text does not deal with this issue in detail.

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Mag.med.vet. Hermann GSANDTNER, public veterinarian
Dr.med.vet. Helmut PECHLANER, zoo director
Dr.phil. Harald M. SCHWAMMER, zoologist, sworn legal expert

Vienna, August, 1996

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Introduction

The Environmental Commissioner has ordered to develop, and participated in the elaboration of, the present publication, which makes use of the applicable legal regulations (Viennese Law on Animal Protection and Animal Keeping including all pertinent ordinances, Viennese Law on Public Entertainment and Viennese Law on Animal Transports on Roads) to ascertain whether and under what conditions the keeping of wild animals in circuses is legally permitted in Vienna.[1]
Unfortunately, and with all due respect for the federal principle embodied in the Austrian Federal Constitution, animal protection continues to be a competence of the federal provinces. This means that each federal province currently has its own legal standards in the field of animal protection and animal keeping.
At this point, the authors would like to emphasise the necessity of a uniform federal legislation and legal enforcement in the interests of animal protection.
Until these competences are - possibly - restructured, a corresponding agreement concluded between all federal provinces according to Art. 15a of the Federal Constitutional Law would seem to be the minimum requirement in order to ensure the nationwide uniformity of legal regulations in the field of animal protection.

The development of the present guidelines was necessitated by the problems and instances of abuse of the legal provisions pertaining to the keeping of (wild) animals in circuses which have increasingly come to public notice in the past years.

It is principally impossible to keep wild animals in circuses in a manner fully corresponding to the needs of the individual species. However, the current state of affairs frequently does not even take account of the needs of the individual animal and for the following reasons run counter to the minimum requirements of a reasonable form of animal protection:

- Keeping of animal species absolutely unsuitable for performing in circus acts (see "Specific Section")

- Numerous animals not suited for work in the arena are taken along by circus owners merely to be exhibited; they therefore lack any opportunity of movement or occupation.
Animal shows and travelling menageries have already been prohibited!

- For some of the animal species kept, frequent transport causes such a high degree of stress that this must be classified as cruelty to these animals.

- Keeping of wild animal species endangered by extinction.

1. Status quo

While the Viennese Law on the Protection and Keeping of Animals contains relatively strict regulations for the keeping of animals in general, it is often not very effective in practice:

[1] See an overview of the relevant legal standards in the Annex.

Rather, the current legal situation entails both legal uncertainties for the people subject to it and considerable enforcement problems for the authorities and their experts:

- For people subject to the relevant legal standards (circus entrepreneurs), it is often difficult to judge, in the individual case, whether and how a certain animal species may be kept in accordance with the legal requirements. This is due to a lack of concrete stipulations and frame conditions.

- In view of the fact that circus entrepreneurs currently do not need an official permit for the keeping of (wild) animals and since it has not been precisely determined (by ordinance) which animal species may be kept, the authorities are forced to react "after the fact", f.e. after the circus with its animals has already arrived in Vienna and contraventions of the law have been ascertained.

- The authorities' possibilities to act are effective only to a certain degree:
The penalties imposed are too minimal to function as an effective sanction (moreover, the merely formally oriented rulings of the appellate court tend to serve as an obstacle).

It would be much more effective to seize the animals. However, such "reception camps" are actually very difficult to establish due to a lack of space for accommodating the animals and the related costs.

2. Proposed solutions

a) Guidelines:

The development of scientifically established guidelines concerning an acceptable, legally valid form of animal keeping could be an important step towards a solution to the presented problem.
Above all, the guidelines are to inform the animal owner at the earliest possible stage about the preconditions that must be complied to preclude problems with the authorities concerned with animal protection and public entertainment. Today's real life conditions have only very little to do with the romantic image of a big "circus family composed of humans and animals" - often animals are leased or rented by circus owners. For this reasons, it is especially important for the entrepreneur to dispose of this documentation before he or she concludes the respective contracts.
Moreover, the guidelines are to serve as an important tool for the authorities when deciding whether or not to grant a permit for keeping a certain animal or animals.

Thus, the guidelines are to facilitate the evaluation of the following issues:

- whether wild animals can at all be kept in circuses in accordance with the legal requirements and, if so,

- under what prerequisites and conditions,

- what types of training are admissible (with respect to the animal species), and

- what the requirements regarding transport, winter quarters, keepers and feed should be.

In order to establish which animal species should not be kept in circuses at all, one must examine the relevant provisions of the Animal Protection Law (principles of animal protection, forms of cruelty to animals, principles of animal keeping) and to place them in relation to the individual animal species.

In this context, it is certainly of paramount importance whether the animals are kept in a manner corresponding to the requirements of their species, subspecies or behaviour patterns. If only one of these criteria cannot be fulfiled, the keeping of this animal species in circuses would be inadmissible in the authors' opinion.

On the other hand, these guidelines also function as a kind of "damage containment". For this reason, they comprise, in addition to an extensive "red list" (see "Specific Section, ⊗ mark) of those animals which may not be kept in circuses or similar establishments under any condition (because several of the provisions of the Animal Protection Law cannot be met), explanations regarding the minimum requirements for the keeping and training of those animal species whose keeping in circuses should also be prohibited in the future (since they cannot be kept in a manner in accordance with the needs of the species or individual animal) but where account has to be taken of the still existing "old stock" of animals. In the opinion of the authors, it should only be permitted to keep this "old stock" for a certain transition period, if the present guidelines are complied with.

b) Legal implementation:

The most important legal steps towards a speedy solution to the problem are:

* Introduction of a mandatory permit for circus acts.

* Listing of wild animal species suitable for performing circus acts in an ordinance (if an official permit has been granted and the guidelines are met).

* Transition regulations will have to be created for some of the animal species unsuitable for keeping in circuses in order to prevent unnecessary problems for the "old stock" (i.e. animals owned by a circus before clarification of the situation according to the guidelines or before taking effect of the corresponding - not yet promulgated - legal standards). In such cases, the further keeping of these animals should only be permissible if it is in accordance with the present guidelines.

For this purpose, circuses giving performances in Vienna should present an unequivocal identification (e.g. by means of marking or photographs) and a list of all their animals including a certificate of origin in the future. While the corresponding practical legal implementation appears to be somewhat difficult to manage, it would constitute a significant step towards a sustainable solution to the problem.

* For circuses resident in Vienna, a permit for keeping wild animals should only be granted under the following conditions:

- individual identification and listing of the animals;
- prohibition of using the animals for breeding;

* the animals must be cared for by qualified keepers.

In view of the fact that a qualified keeper must in any case be present whenever the animals are transported (e.g. from one place of performance to another), a corresponding legal provision would also seem to be useful and easily implementable for the stationary period as well.

The Viennese Public Entertainment Law is of central importance in solving the above-described problem: this document contains extensive provisions on the preconditions under which a licence for circus performances may be granted, and how the place of performance should in fact be like. Its suitability may be officially ascertained by means of an administrative decision.
Currently, only aspects relating to operational technology, the provisions laid down in the Building Code and by the security police as well as by health inspection and veterinary services - but no aspects of animal protection - are being considered. For this reason, this provision (Article 22 (7) of the Viennese Public Entertainment Law) must be amended to state that any place of performance of circuses must conform to the provisions of the Viennese Animal Protection Law as well.
Fortunately, extensive preparatory works to embody these legislative amendments were already underway at the moment of completion of the present guidelines; thus it may be hoped that subitem b) above will be already implemented in practice in early 1997.

c) Training:

Guidelines and municipal legal requirements are important approaches to a solution; however, attention should also be given to the additional training of the officials authorised to implement these guidelines in administrative practice. It would seem to be useful to train public veterinarians in the keeping and careing for wild animals in one of the three scientifically-operated Austrian zoos. The training programme should be developed together with biologists and zoologists with a strong orientation towards practical work.
A homogeneous training programme would also promote a unified national approach and contribute to refute potential allegations inferring that public veterinarians are insufficiently familiar with the problems of wild animal keeping.

3. Structure of the guidelines

The present guidelines consist of a

- **General Section:**

  This contains general statements concerning the minimum requirements for the keeping of wild animals. Furthermore, this section juxtaposes the definitions "keeping suited to the needs of the species" and "keeping suited to the needs of the individual animal";

  as well as a

- **Specific Section:**

This section lists the species-specific minimum requirements for a manner of "keeping suited to the needs of the individual animal".[2] Animal species the keeping of which must be classified as cruelty to animals or as unsuited to the needs of the individual animal are marked ⊗. Irrespective of considerations pertaining to animal protection, the keeping in circuses of wild animal species which`s threatened by extinction must be condemned since these animals automatically find themselves outside the international breeding and keeping programmes. The animal species listed in Annex I of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) were thus marked (⊗).

The criteria for the accommodation of wild animals in circuses were listed separately according to whether they apply to inside or to outside enclosures or compounds.

With respect to the dimensions and design of inside enclosures, the authors assume that the animals are able to enjoy the so-called "minor" fundamental freedoms in this area. This refers to lying down, getting up, resting, feeding, drinking, urinating and defecating in accordance with the requirements of the respective species.

The outside enclosures should moreover enable animals to express their locomotion and comfort-related behavioural patterns as well as their modes of play and exploration.

From the viewpoint of animal protection, any guideline on the keeping of animals must follow the normative type of the species in question. The primary objective must therefore be to define the biological characteristics and behaviour of the relevant species. The general behavioural pattern is made up of individual spheres of behaviour. For this reason, the specific section is subdivided into the following subsections: social behaviour, fighting behaviour, sexual behaviour, mother-child behaviour, feeding behaviour, drinking behaviour, excretion behaviour, locomotion-related behaviour, resting behaviour, comfort behaviour, exploration behaviour and territorial behaviour;

and an

- **Annex:**

The annex contains an overview of the most important legal regulations as well as a worksheet for working out the minimum requirements for the keeping of wild animals and a specimen "data sheet" for public veterinarians.

[2] The authors would like to state once more that it appears to be principally impossible to keep wild animals in circuses in a manner "suitable to the needs of the species", although the law stipulates precisely this objective!

General Section

1. General considerations regarding the keeping of wild animals

2. Definition of the terms "keeping suited to the needs of the species" and "keeping suited to the needs of the individual animal"

3. The Keeping of Wild Animals and Its Evaluation from an Ethological Point of View

4. Ethological Principles for the Training of Animals

5. Animal trainers and keepers

6. Feeding

7. Winter Quarters

8. Transporting of Animals

1.) General Considerations Regarding the Keeping of Wild Animals

A.
General principles for keeping of wild animals in a manner suited to the needs of the individual specimen

1. Every animal kept in a circus shall be provided with permanent *inside and outside enclosures* in its keeping with the needs of its species.

2. Animals shall only be kept under conditions appropriate for the behaviour as well as for the social and biological needs of the respective species.

3. Animals shall be kept under conditions suited to meet their biological requirements.

4. A programme of veterinary precaution and treatment measures as well as a nutritional programme shall be presented.

5. Animals shall be kept under conditions ensuring their safety and health as well as the safety and health of staff and spectators.

6. Records shall be kept on the number, species and sex of the animals, on the number of births and their circumstances, on new acquisitions as well as on deaths and their causes. These records shall be submitted to the authorities upon demand.

7. Sufficient adequately trained personnel shall be employed for the keeping and training of the animals.

8. The competent authorities shall at all times have access to the facilities for keeping the animals, the animals themselves and the records.

9. The keeping of endangered species should serve the exclusive purpose of preservation of the respective species in connection with research and information of the public.

B.
General principles for the accommodation of, and care for, wild animals

1. The animals must not be provoked, e.g. to amuse the spectators.

2. The animals shall be kept in a stimulating environment safeguarding sufficient room for movement and corresponding to their behavioural patterns, social and biological needs, thereby enabling them to execute the movements necessary to ensure their well-being. During seasonal breaks, too, the animals shall be provided with sufficient space and room for movement.

3. Animals with highly developed social behaviour patterns shall be kept in non-confrontational groups that correspond to the needs of the respective species. Animals may only be kept in isolation if this is justified for urgent objective reasons.

4. The facilities for animal keeping shall be spacious enough to prevent the excessive dominance of individual animals within a group as well as the danger of constant unresolved conflicts between the members of one group or between members of different groups (if different species are kept in one enclosure).

5. Animals may only be kept in adjoining enclosures if this does not provoke mutually aggressive reactions.

6. Temperature, ventilation and lighting of the enclosures for animal keeping shall at all times comply with the individual animals' need for comfort and well-being.

7. The lighting system shall permit routine health and hygiene check-ups as well as the efficient cleaning of the enclosures. The spectrum used by artificial lighting systems shall be as close as possible to that of sunlight. The lighting must in no case irritate or disturb the animals by its brightness.

8. All equipment (including electric appliances) shall be located so as not to endanger the animals and at the same time ensure safe, smooth operation.

9. The enclosures and compounds for the animals shall dispose of sufficient draining facilities to prevent the formation of excess moisture.

10. Outside enclosures or compounds shall dispose of shelters protecting the animals against weather or excessive sunlight, to the extent necessary to ensure their comfort and well-being.

11. The enclosures, the equipment and all objects inside the enclosures shall be of a nature as well as situated and serviced so as to preclude any stress or danger of injury to the animals.

12. The enclosures shall be regularly checked; any damage shall be immediately repaired.

13. If immediate repair is impossible, precautions shall be taken to keep the animals away from the source of danger.

14. The enclosures must not contain any objects that might endanger the animals.

15. Plants constituting a potential danger for the animals shall be kept away from them.

16. Special attention shall be given to the daily cleaning of the enclosures and the equipment contained therein.

17. Suitable cleaning agents and utensils for the cleaning of the enclosures shall at all times be available.

18. Feed leftovers, dung and other refuse shall be regularly removed and disposed of in keeping with the legal requirements.

19. The nutritional value and quantity of the animal feed shall correspond to the requirements of the respective species and specimen. The condition, size and age of each animal as well as possible special conditions (e.g. days or periods of fasting, wintering) or special diets for certain animals (e.g. in case of veterinary treatment or for pregnant females) shall be taken account of.

20. When feeding and watering the animals, their natural behaviour as well as social aspects shall be taken account of. If feed or drink are provided in containers, these shall be situated so as to enable all animals kept in the enclosure to reach them.

21. The animal feed shall be stored in a hygienic manner. Fresh, clean drinking water shall be at all times available to the animals.

22. Smoking shall be forbidden in the immediate vicinity of the animals as well as during the preparation of their food.

23. The containers used for animal food and drinking water shall at all times be kept clean and shall be thoroughly cleaned at least once daily.

24. Spectators must in no case be allowed to feed the animals.

25. If an animal is found to suffer from a contagious disease, all aspects relating to the cleaning of the enclosures as well as the legal provisions for animal disease control shall be observed.

26. The animals may only be cared for by adequately trained and authorised persons. The process of caring for the animals must not result in any physical impairment or unnecessary stress or disturbance of the animals.

2.) Definition of the Terms "Keeping Suited to the Needs of the Species" and "Keeping Suited to the Needs of the Individual Animal"

Article 11 of the Viennese Law on Animal Protection and Animal Keeping standardizes the general principles of the keeping of animals. Every person who takes charge of an animal is obligated to provide it with nutrition and care corresponding to the animal's species, subspecies and age as well as with a form of accommodation in accordance with the animal's species, subspecies and behavioural patterns.

Moreover, the animal's need for movement (again corresponding to its species, subspecies and age) must not be restricted permanently or unnecessarily if this is likely to cause it pain, anxiety or suffering, or if this causes the animal to be severely frightened.

The legislator uses the term "suited to the needs of the species". Behavioural patterns suited to the needs of the species comprise the entire range of behaviour of the animal; in this context, social behaviour, fighting behaviour, sexual behaviour, mother-child behaviour, feeding behaviour, drinking behaviour, excretion behaviour, locomotion-related behaviour, resting behaviour, comfort behaviour, exploration behaviour and territorial behaviour should be mentioned as specific areas of behaviour.

The keeping of wild animals entails restrictions of these specific areas of behaviour. In particular, the keeping of wild animals in circuses results in very grave restrictions primarily concerning the animals' social behaviour, sexual behaviour, mother-child behaviour, locomotion-related behaviour and territorial behaviour. Even if some of the above-mentioned patterns of behaviour were not restricted, it should be borne in mind that a tolerable quality of wild animal keeping can only be achieved by habituating the animals to their surroundings and guaranteeing permanence of this environment in connection with these patterns of behaviour. It should be mentioned that the characteristic of a circus is the change of the location, which means for the animals transport for most of their lives and this can lead to serious negative consequences: especially the following:

*) Stress, which can lead to fear - depending on the specimen - especially during the transport and unloading

*) permanent changing enviroment - the animal`s „hunting ground"

*) permanent different enviroments e.g. climate, temperature, smells and sharp of the enviroment

The logical consequence is that:

The keeping of wild animals in circuses is principally unsuited to the needs of the various species because both the transport and the change of the ciruses` position! For this reason, it is extremely doubtful whether the keeping of wild animals in circuses may be deemed tolerable and admissible in the medium to long term.

In order to avoid committing cruelty to animals, which is a punishable offence under Austrian law, at least the following preconditions must be met with respect to the wild animals currently kept:

In accordance with the Swiss Ordinance on Animal Protection, Article 1, the basic preconditions for a form of wild animal keeping in a manner **"suited to the needs of the individual animal"** would comprise the following stipulations:

1. Animals shall be kept in such a manner that their bodily functions and behaviour are not disturbed, and their adaptive potential is not overtaxed.

2. The nutrition, care and accommodation provided shall be deemed adequate if they correspond to the animals' needs as defined by the latest findings and experiences of physiology, ethology and hygiene. Animals should not be kept tied to a leash.

3. Deviations from the provisions relating to the keeping of animals are admissible only in special cases, i.e. if they are necessary to avoid or cure diseases.

Furthermore, the following parameters should be met:

1. The animals shall be provided with an adequate quantity of suitable food and water.

2. The animals' food shall be of a nature and composition to enable the animals to satisfy their respective species' need for activities related to feeding.

3. Accommodation for the animals shall permit them to move, stand and lie down in a manner suited to their species.

The term "suited to the needs of the individual animal" was likewise defined in the amendment to the German Animal Protection Law:
Systems of animal keeping may be regarded as suited to the needs of the individual animal if the animal is provided with everything it needs for self-organisation and self-preservation, and if it is given the opportunity to behave adequately, thereby preventing injury.
In other words, one may state that an animal is kept in a manner suited to its individual needs if the animal in question is able to develop and behave in accordance with the requirements of its species (always taking the "normal" type of a species, i.e. a healthy average specimen, as the basis of these considerations). In this evaluation, account may only be taken of characteristics already known. For this reason, it is highly probable that the standards and guidelines pertaining to the keeping of animals in a manner "suited to the individual animal's needs" will further be modified following new research findings. In any case, behavioural disturbances may be regarded as an indication of a form of animal keeping not suited to the individual animal's needs.

3.) The Keeping of Animals and Its Evaluation from an Ethological Point of View

Introduction

As introduction, one may say that various theoretical concepts to evaluate animal behaviour under different conditions of captivity have been elaborated. These range from the attempt to interpret various expressions of animal life from a sympathetic human point of view to the scientific recording of defined behaviour characteristics. Such concepts are e.g. awareness of others (Bühler 1922, acc. to Lorenz 1963), analogism concepts (Sambraus 1981/82), measurability of well-being (Putten 1982), indicator concepts and the animals' behaviour (Watson 1919, acc. to Oppenheim 1982).

These concepts vary not only with respect to the degree of objectification which their statements permit but also with regard to the principal questions raised by them.

The primary question of the first two concepts mentioned (awareness of others and analogism concepts) concerns the condition of the animal. In due course, the possibility of meeting the animal's needs and avoiding harm to it within the context of a certain captivity system are analysed. Behaviourist studies already focus on reaction links. The decision which concept to select is taken on the basis of the required degree of scientific accuracy and in accordance with the objective of whether or not to analyse the condition, needs and reactive patterns of animals. This, however, is a very theoretical approach; in practice, current systems of keeping animals are analysed and dealt with, less according to theoretical concepts, than according to practical knowledge.

This body of knowledge is mainly based on scientific findings and personal experiences.

Emotions such as pain, suffering and fear are experienced by the individual and thus cannot be directly objectified. Rather, in order to comprehend the condition of animals, it is imperative to infer the animal's situation from a human starting-point. Many morphological, physiological and psychological correspondences between animals and humans permit to assume a common phylogeny, which would enable us to explain analogous emotive symptoms. Principally, however, there are also objectively identifiable indicators of fear which are the same in both animals and humans:

Opening of the palpebral fissure and widening of the pupils, increase of heartbeat frequency, hyperventilation, bristling, sweating, muscular tremor, possibly chattering of teeth, uttering of certain sounds, excretion of watery excrement and uncontrolled, panic-stricken attempts to escape.

The essential precondition for a correct evaluation of the condition of an animal lies in the different knowledges of the species in question. Consequently, only training in ethology can safeguard this knowledge. Well-meaning assumptions and the mere attempt to imagine oneself in the animal's situation are certainly not sufficient to provide comprehensive statements (Dowkins 1982).

The relevant authors (Sambraus 1982) recommend to evaluate the emotions experienced by animals in certain systems of captivity according to the analogism concept, using statistical probabilities as a basis.

If one therefore assumes that similar reactions permit to infer analogous emotions, this would seem to indicate a philosophical approach. If, however, the analogy concept is taken to refer to homology in the biological sense (i.e. due to an identical phylogeny), critical objections are justified; the concept should therefore rather be referred to as a homologism concept.

Criterias for evaluating the well-being and unwellness of animals

If an animal exists in an adequate degree of harmony with itself and its environment - in particular, if its capacity for adaptation is not overstrained (Putten 1982), "it feels well".

The issues concerning determination are important and must be given special attention. The theoretical model of the measurability of well-being (Putten 1982) entails two simultaneously risen questions - i.e. those regarding the condition and the needs of animals.

Internal factors include e.g. cycles etc., while cyclical or ecological influences are amongst the external factors to be considered. Via genetic disposition, triggers enable the closed loop "instinct - motivation - readiness to act", thus engendering an action-determining state whose result is a measurable parameter, i.e. action.

If we have no knowledge of the inner state of an animal, we can describe its observable actions as the sum of external factors, i.e. as a logical sequence of the network of external and internal factors comprising instinctive motivation and readiness to act as well as correlated actions. External factors and actions may be quantified by means of scientific methods.

In general, it is possible to interpret signs of well-being or unwellness from the animal's behavioural repertory. Animals express well-being by displaying modes of behaviour corresponding to its behavioural repertory. Conversely, this means that unwellness may be defined as a lack of these behaviour elements.

Simple programmes for studying e.g. the length of activity (in minutes) for different physical postures can generate convincing results. For example, activities such as licking, nibbling, feeding, grooming, social hygiene, sniffing, scent-marking, looking, lying down, squatting, scratching the ground, burrowing, tripping, hopping or running were defined and described. The juxtaposition of rest and movement phases likewise permits to conclude that the animal experiences well-being or unwellness.

Comfort behaviour

In mammals, actions relating to hygiene (comfort-related actions) are amongst the oldest phylogenic behaviours and thus are largely similar, in particular for families within the same order. At the species-specific level, this behaviour may be used as an additional parameter of evaluation in ethograms; however, it is important to exclude any form of redirection and displacement behaviours.

Keeping of wild animals

To document that it is practically impossible to keep wild animals in circuses in a manner able to satisfy the individual animal's needs, examples will be given, thereby demonstrating how complex and comprehensive all approaches to ensure the animals' well-being are:

Any system of keeping animals comprises an artificial environment with many individual factors which, however, must be co-ordinated in a way to fulfil the conditions mentioned above. As a rule, the keeping of wild animals is even more difficult than that of domesticated animals.

Species with a great potential for adaptation are easier to keep than species capable of absorbing only slight deviations within the range of abiotic and biotic environmental factors.

Parameters might include e.g. temperature, humidity, but also a highly specific nutrition spectrum.

No system of keeping animals can ever be a serious imitation of a certain ecosystem. While a layman may take the simulations for a copy of nature, serious scientists know that - as hard as one may try for it - actual biotopes cannot be reproduced in narrowly defined spaces. This is compounded by the fact that, outside captivity, many species of animals inhabit several different environments.

Therefore, the issue cannot be to ask to what extent facilities for keeping animals are visually similar to the original habitat but rather, to what extent the structures and stimuli provided are similar to those outside captivity.

Modifications of actograms and ethograms

Actograms and ethograms may be observed with particular clarity in the context of relationships within the functional cycle of feeding and food resources or in the relationships between hunter and prey and are fundamentally modified in animals living in captivity.

The duration of rest and dozing periods are relatively constant for each species and thus genetically controlled. For example, species sleep about as long in their natural habitat as in well-structured artificial systems. However, animals kept in captivity, which consequently do not need to provide for their own food, tend to remain quiet for longer stretches of time than their conspecifics living in their natural surroundings. The mode in which food is provided, the time cycle of feeding and the quantity of food influence the activity potential, which may be successfully increased by an effective implementation of these factors.

A manifold, species-specific structuring of animal keeping systems is a prerequisite for achieving activity volumes that are typical of the species in question.

Behaviour deprivation

In general, systems for keeping animals tend to lead to stimulus deprivation.
In view of the lack of stimuli provided by many systems of keeping animals, it can be observed that the ethograms of such animals comprise markedly fewer individual elements than those of animals living in their natural habitat. Ethograms of badly kept animals are changed or differ structurally in their individual behavioural elements, both in the quantitative and qualitative sense, from those of their conspecifics. The consequences of significance for animal protection are physical apathy and psychological inappetence, accompanied by behaviour lapses and even neuroses, in animals constrained to exist in an unfulfilling daily routine. This can and must not be the objective of any system for the keeping of (wild) animals. For this reason, at least some zoos have begun, over the past few years, to develop and implement special programmes and projects designed to enrich the stimuli provided for animals in captivity.

Stimuli may be generated in a variety of ways:

1. Quantity and quality of the food provided

2. Structuring, equipment and furnishing of the enclosures for the animals

3. Interspecific interaction, i.e. social groups living together in families or groups

4. Intraspecific interaction, i.e. possibilities of contact, communities

5. Interaction between keepers and animals (including groups)

6. In selected cases: interaction between visitors and animals (only domesticated species)

Adaptive potential

Throughout the history of our planet, the survival of animal species has always been strongly dependent on their adaptive potential (low specialisation level), since the conditions of life in freedom (climate, food, natural enemies, cover etc.) were constantly changing. To this day, the same animal species may inhabit the most diverse habitats.
Effective systems for the keeping of animals imitate outside structures primarily with respect to their functions for the animal and only secondarily with respect to their appearance to humans; such systems must never overtax the adaptive potential of the animals.

Parameters permitting an evaluation of the quality of animal keeping systems:

1. Immune status: frequent infectious diseases of animals kept in captivity are a sure sign of inadequate conditions of life. This item should not be misinterpreted, however. It is certainly possible to prevent infectious diseases of wild animals if these are living in a concrete-surface enclosure with preventive veterinary care. While premunition (immunity to infections) to parasitic diseases should clearly be an objective, an enclosure design that is as close as possible to natural structures on the one hand and the possibility of implementing hygienic measures on the other hand should not exclude each other.

2. Optimum condition: this refers to the typical outward appearance of an animal; it is attempted to measure its optimum condition. However, it is indisputable that e.g. a gnu that has been kept in captivity for several years will present a different outward appearance than a conspecific living in their natural habitat in Africa and constantly on the move to search for food or to escape its enemies.

3. Prolonged life expectancy: this parameter is controversial since the extended life expectancy of animals living in captivity is primarily due to artificial parameters (e.g. lack of natural enemies, veterinary care).

4. High reproductive rate: in any case, the system for keeping the animals must enable them to reproduce and raise their young in the mother-child or family structure intended for the purpose. The rearing of young animals by humans hardly ever contributes to a form of animal keeping that is suited to the needs of the respective species. In case of highly evolved animal species, this may lead to a lack of behavioural elements which are particularly noticeable in their social behaviour. Furthermore, it should be borne in mind that the rearing of young animals by humans is often not done in a technically correct manner.

In order to be able to use these parameters at least to a certain degree as indicators of the quality of a system for the keeping of animals, they must be evaluated, not individually and separately, but in their entirety.

4.) Animal Trainers and Keepers

Caring for, or working with, animals - and in particular with wild animals - demands special accomplishments on the concerned part of the staff. Basic knowledge of the biological characteristics and lifestyles of their charges and corresponding pragmatical values and practical experience as well as a reliable personality structure of the keepers are the cornerstones of a serious manner of keeping (wild) animals and caring for them. For this reason, keepers should have completed a full professional - theoretical and practical - training course.

Fortunately, a trend towards greater responsibility for the environment, animals and plants has begun to manifest themselves over the past few years.
This development is also reflected in the increased demand for qualified keepers; today, animal dealers must work together with a trained keeper. Moreover, people accompanying animal transports must also be correspondingly qualified (see Chapter 8 - Transporting of Animals).
These provisions of the Animal Transportation Law also apply to the transporting of animals kept in circuses! Unfortunately, the law does not yet stipulate the mandatory presence of a keeper during the "stationary" phase of circuses.

However, this is an area where continuous care for the animals, extended by at least one responsible, fully trained keeper disposing of sufficient knowledge regarding the basic biological needs of the animals, would seem to be indispensable.

Proof of qualification should be submitted either on the basis of a corresponding training course or as a result of a sufficiently long period of practical work, including an examination on the necessary theoretical subject matter (similar to the procedure employed in case of animal dealers but also in other professions, such as waste management counsellors, radiation protection experts etc.).

In the interest of the animals' well-being, it is absolutely indispensable for circuses to employ qualified keepers on their staff!

5.) Feeding

Qualitatively balanced animal nutrition suited to the needs of the respective species must also be safeguarded for animals kept in circuses. The feed must be of a composition, and must be provided, in a way that does not interfere with the species-specific behavioural patterns of the functional cycle of nutrition, also in order to satisfy the animal's concomitant need for occupation. As a rule, the exclusive provision of pelleted feed does not ensure species-specific nutrition. For animals kept in circuses, too, the provision of feed must reflect the needs of the respective species; it must not be determined by economic considerations of providing only the cheapest product available. Fresh, clean drinking water must be continuously available.

Feed containers and fixed feeding places must be easy to clean and must to be cleaned regularly. When feeding groups of animals, it must be made sure that specimens with a lower hierarchic position in the group will also receive their share of food; it should be possible to partition off part of the enclosures for this purpose. Visitors should in no case be entitled to feed the animals.

The authors draw attention to the remarks contained in Item 1) B.

6.) Basic Ethological Rules for the Training of Animals

Any form of animal training may only be carried out with consideration of the findings of behavioural science, i.e. applied ethology. Every living creature displays a behaviour adapted to its species. This species-specific behaviour is of evolutionary origin. Of particular significance is the differentiation between those species whose members live alone and those whose representatives live in social units. Moreover, one must distinguish between carnivores and preys.

Principally, the **training of animals** is nothing else but the triggering of species-specific reactions by means of communication adapted to the animal's natural behaviour. For this reason, the only objective of any form of training can only be to show physical postures and motions which lie within the scope of the respective animal's species-specific possibilities, with due account taken of the animal's age and the level of training achieved. Moreover, the animal's sex, health status and readiness to perform as well as, in case of socially organised species, the position of the individual specimen within the dominance hierarchy must also be considered in its training.
Combined performances of carnivores together with their quarries are in no case admissible.
Principally, the trainer must see himself or herself as the superior social partner of the animal and try to minimise the animal's avoidance (or distance) behaviour. Animals exhibit three different forms of avoidance behaviour - flighting, i.e. the enemy is avoided by keeping it at a great distance; dodging, i.e. the human or the creature the animal is afraid of is avoided by keeping it at shorter distance; and, if flighting and dodging are impossible then it attacks. The animals that should be trained must learn to trust their trainers in order to minimise avoidance reactions.
The body language of the trainer is also decisive for the training process. Humans can communicate with animals through their posture and movements. Principally, aids such as acoustic and visual signs, touch, guiding the animal with a longe, reins as well as rewards are means of communication employed to induce a certain behaviour in the animal. It is important that the animal should recognise these aids as such. Animals must be aided in a systematic manner without causing them any pain, fear or suffering. Reward is an essential element of training because it helps the animal to recognize its own reaction as the one desired by the trainer. Animals understand relative quickly if they have not received a reward, that they have failed to do something corresponding to the trainer's wishes.

Training animals by means of methods that cause them pain, fear or suffdering or other damage infringes the animal protection laws and is consequently prohibited! Animals may only be made to perform tricks their nature permits them to do. When determining whether or not certain elements of a training programme conform to the behaviour pattern of an animal, the normal type and the natural behaviour of the species as studied in its natural habit must serve as guidelines. However, it should be borne in mind that in individual cases even a training programme element which basically conforms to the animal's behaviour pattern may contravene the provisions of animal protection laws due to the physical or psychological condition of the specimen in question!

7.) Winter Quarters

Most of the wild animals kept in circuses are of exotic origin. Due to their specific requirements regarding temperature and climate, especially during the cold season, suitable winterproof quarters are essential to ensure that the animals are kept in an acceptable manner.

In general, the following should be observed:
Both the Viennese Law on Animal Protection and Animal Keeping and the Viennese Public Entertainment Law define the concept "circus" as "**performances** which fall to a large extent within the range of equitation or animal training and may also comprise acrobatic feats, serious and comic numbers (clown numbers), pantomime as well as dance and musical numbers."

This definition states clearly that "performances" are *the* typical characteristic of circuses. In those periods when no performances are given (e.g. during the winter months), the circus as defined above does not exist. The exceptional provisions relating to the prohibition of the keeping of wild animals in circuses (Art. 15 para 3 lit. 5 of the Viennese Law on Animal Protection and Animal Keeping) accordingly do not apply in these cases. For periods outside the normal performance schedule, circuses therefore need an official permit for the keeping of wild animals under Art. 15 para 4 leg. cit.

The general criteria for the keeping of animals in zoos must be employed to decide whether such a permit may or may not be granted in the individual case!

Every circus should be able to submit proof of having access to suitable winter quarters not later than September 1 before the next winter period.

8.) Transporting of Animals

On January 1, 1995, the Law on the Transporting of Animals on Roads (TTGSt) came into force (see Annex). In accordance with its Art. 1 para 1 lit. 6, **it also applies to the transport of animals owned by circuses** and contains relatively strict provisions regarding the implementation of transports, the choice of the means of transport and the care extended to the animals during the voyage.

For example, the person authorised to take care of the transported animals shall at all times be available during the entire transport process. This keeper shall also provide the animals with suitable feed and water in the required regular intervals. To provide proof of his/her qualification, this person shall dispose of a certificate issued by the district administrative authority (in Vienna: Municipal Department 60 - Veterinary Office), which must be taken along for the transport and submitted to the competent officials upon request!

Moreover, it should be borne in mind that a transport certificate must be issued for every transport either by the person authorised to dispose of the animal or animals or by the veterinarian in charge; this document must also be taken along for the transport. It shall contain information on the species and origin of the animals as well as the name and address of the person authorised to dispose of the animals.

In addition to these general provisions under the Animal Transport Law, it should not be forgotten that any transport will cause much more stress to all wild animal species than it would be the case for domestic animals. Under no circumstances should the regular administration of medication to sedate the animals during the voyage be condoned (see General Section, Item 2: definition of the terms "keeping suited to the needs of the species" and "keeping suited to the needs of the individual animal").

For some species, frequent transport causes a degree of anxiety that is so pronounced as to warrant classification as cruelty to animals: it is therefore forbidden under Art. 5 line 9 of the Viennese Law on Animal Protection and Animal Keeping.

The authors draw attention to the remarks contained in Item 2).

Specific Section

The following text contains an exemplary list regarding the biological characteristics and behaviour of the species of wild animals most frequently kept in circuses as well as minimum requirements for the manner of "keeping suited to the needs of the individual animal"[3].

⊗	totally unsuited for keeping in circuses
(⊗)	unsuited for keeping in circuses due to the requirements of species protection

1.	**Elephants**	***(Elephantidae)***	⊗
2.	**Carnivores**	***(Carnivorae)***	
	Jaguars	***(Panthera onca)***	(⊗)
	Leopards	***(Panthera pardus)***	(⊗)
	Lions	***(Panthera leo)***	
	Tigers	***(Neofelis tigris)***	(⊗)
	Bears	***(Ursidae)***	⊗
	Seals	***(Pennipedia)***	⊗
3.	**Cetaceans**	***(Cetacea)***	⊗
	Dolphins	***(Delphinidae)***	⊗
4.	**Artiodactyls**	***(Artiodactyla)***	
	Giraffes	***(Giraffidae)***	⊗
	Camels	***(Camelidae)***	
	Hippopotami	***(Hippopotamidae)***	⊗
5.	**Perissodactyls**	***(Perissodactyla)***	
	Rhinoceri	***(Rhinocerotidae)***	⊗
	Zebras	***(Equidae)***	**partly(⊗)**
6.	**Big anthropoids**	***(Pongidae)***	⊗
	Orang-utans	***(Pongo pygmaeus)***	⊗
	Gorillas	***(Gorilla gorilla)***	⊗
	Chimpanzees	***(Pan troglodytes)***	⊗
	Pygmy chimpanzees	***(Pan paniscus)***	⊗
	Other monkeys	***(Simiae)***	**largely⊗**
	Baboons	***(Papio sp.)***	⊗
	Capuchin monkeys	***(Cebus sp.)***	
7.	**Ostriches**	***(Struthio camelus)***	⊗
8.	**Reptiles**	***(Reptilia)***	⊗

[3] The authors wish to emphasise once more that it seems to be principally impossible to safeguard that wild animals can be kept in circuses - as stipulated by the law - in a manner "suited to the needs of the species"!

Specific Section

The text below contains the species-specific minimum requirements for a manner of "keeping suited to the needs of the individual animal". Those species the keeping of which must be classified as constituting a case of cruelty to animals or being not in accordance with the animal's needs are marked with an ⊗. In any case and irrespective of considerations pertaining to animal protection, the keeping in circuses of threatened wild animal species in danger of extinction must be rejected since these animals are thus necessarily deprived of the international programmes for the breeding and keeping of animals. The species listed in Annex I to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) are therefore marked (⊗).
No minimum requirements were listed for those species whose keeping in circuses is to be categorically (i.e. not even for a transition period) rejected as unacceptable.

Every animal kept in a circus has the right to be provided with *suitable inside* and *outside enclosures* corresponding to the needs of the respective species!

Fresh and clean drinking water must be always available.

For further information see chapter „General Selection" 1) General overview of keeping of wild animals

Basic data sheet
for the development of minimum requirements
for the keeping of wild animals in circuses
according to their ethological characteristics

Biological characteristics:

Social behaviour:
- Social structure
- Aggression
- Hierarchy structures
- Individual distance
- Play behaviour

Agonistic behaviour:
- Fighting behaviour between animals of the same species
- Defence behaviour

Sexual behaviour:
- Sexual maturity
- Cycle
- Particular behaviour characteristics during the rutting/heat season
- Behaviour of males during sexually active phases
- Courtship behaviour
- Formation of pairs
- Formation of family nucleus
- Mating

Mother-child behaviour:
- Preparation of birth
- Birth
- Litter size
- Post-partum behaviour
- Imprinting
- Mother-child bonding
- Neonatal behaviour
- Sucking behaviour
- Suckling period
- Maternal behaviour

Feeding behaviour:
- Food procurement
- Composition of food
- Daily time cycle of feeding
- Feeding preparation ritual
- Possessiveness towards food
- Exploration behaviour in connection with feeding
- Importance of taste
- Mode of feeding

Drinking behaviour:

Frequency of water consumption
Drinking patterns

Excretion behaviour:

Movement cycle
Periodicity
Social function of excreta

Locomotion-related behaviour:

Type of movement
Frequency of individual motion patterns
Periodicity of motion patterns

Resting behaviour:

Description of resting place
Preparatory behaviour
Social behaviour during resting
Resting positions
Duration of resting periods
Duration of lying-down periods
Daily periodicity of resting phases
Dozing
Sleeping
Sleeping periods
Sleeping place
Defence sleep

Comfort behaviour:

Grooming and hygiene
Social hygiene
Movements denoting pleasure and comfort

Exploration behaviour:

Type of exploration behaviour
Play behaviour

Territorial behaviour:

Size of territories
Scent marking of territories
Defence of territories
Mobility within territories

Elephants *(Elephantidae)* ⊗

Biological characteristics:
Elephants are difficult and dangerous charges even for zoos due to their size and strength, their great capacity for learning and perceptive action. Above all, this applies to bull elephants after the onset of sexual maturity (age 8 to 15 years). Elephant communities are characterised by various social structures: rogue bulls, bull groups, families and cow groups with fixed hierarchies under matriarchal control.

Social behaviour:
Aggression-related behaviour:
Aggression is a behaviour often observed in elephants; even in fix organized groups with a fixed hierarchy, cases of aggression are not uncommon. Fights ending in injury are very rare. The superior dominant specimen drives the inferior animal away or admonishes it for transgressing beyond its place in the hierarchy. Conversely, fights ending in lethal injuries may occur, especially during the regularly recurring musth period.
Within fixedly organised groups, no individual distance between animals is noticeable.

Elephants become especially dangerous during the musth period, which occurs seldom to Indian cow elephants, very strongly to male Indian elephants, and to both sexes (even in adolescent animals) of African elephants, but less markedly than to Indian bulls.

Musth usually appears in two phases:
In the first phase: enlargement of the temporal gland, which becomes noticeable with a swelling of the temporal fossa; frequent touching of the gland apertures with the trunk; character changes in the animals - these include nervousness and excitability, hyperirritability, extreme sexuality and decreasing obedience.
Typical aspects of the second phase are: secretion of the temporal glands (bulls are especially aggressive during this stage and often demonstrate violent behaviour; even animals normally easy to manage become vicious and aggressive towards their keepers although these are familiar to them).

Play behaviour:
This species displays marked exploratory and playful behavioural patterns even into high age.

Agonistic behaviour:
The agonistic behaviour of animals of the same species is characterised by the animals' attempts to hit the opponent with the trunk or ram him with the tusks; another mode is to face the opponent by pressing the front against the other's in the attempt to push the other away. The fleeing opponent is some times pursued for an extended time period.

Defence behaviour:
In integrated groups or well-developed families, the defence of conspecifics is often observed; this means that elephants help and protect each other. This behaviour is especially frequent with respect to young animals.

Sexual behaviour:
Male elephants become sexually mature at an age between 8 and 15 years; the respective age for females is between 9 and 10 years. The menstruational cycle is 1 to 2 months; the average gestation period, 22 months.

With respect to family formation, the normal life situation of elephants indicates that the family nucleus is usually formed by interrelated females: However, in some cases extraneous females are also accepted into the group. In addition to the groups of females or families with matriarchal control, diversely composed groups of young bulls can also be observed.

Male rogues occasionally occur to African elephants.

Mother-child behaviour:
New-born elephants have to learn almost everything they need to survive from older conspecifics. During the first two years, calf elephants receive intensive care, especially by their mothers. In the following years, they are additionally aided, guided and disciplined by the other animals of the group.

The experiences made in animal keeping in international zoos have shown that the education of young animals by their mothers and aunts is extremely important for the imprinting phase and the development of a balanced social behaviour.

While the rearing of elephants by humans is sometimes successful, it is bound to lead to problems at a later stage which are caused by the lack of these behavioural elements imprinted by the young animal's relatives. A special aspect in this context is incorrect, abnormal imprinting.

Young animals should be left to live with the families they were born into for as long as possible to ensure a more or less natural development.

Feeding behaviour:
In their natural surroundings, elephants spend about 16 hours a day searching for food and feeding; they eat standing or moving slowly. Usually, the trunk - sometimes assisted by the tusks and forelegs - is used to procure and prepare food. In their natural habitat, the diet of elephants is mostly composed of grass, leaves, tree-bark, soft wood, roots and fruit. Sometimes trees are broken down to reach the desired food. The above-mentioned diet requires the ingestion of large quantities of food per day. Elephants are poor doers; their excrement contains a lot of undigested food.

If food is provided only at certain limited hours, possessiveness towards it is occasionally observed. Elephants drink frequently and regularly but also move away from watering places to find food. In particular during droughts, they tend to roam far to find water.

Locomotion-related behaviour:
Elephants move at walking pace; trotting is selected for faster movement. They are also able to overcome obstacles; young animals sometimes rear on the hind-legs for short periods, e.g. to reach branches, while bulls rear for mating.

Depending on the available food and water, the animals display a high degree of mobility; for instance, elephants cover large distances during droughts.

Resting behaviour:
Elephants sleep in a standing or lateral lying-down position. During the rest periods, they sometimes stand or lie down in tightly packed clusters. Between the sleeping phases, the animals sometimes doze in a standing position. The average sleeping period is between two and four hours. It was observed with respect to Indian elephants that these animals can sleep for up to five hours in a lying-down position.

In case of great heat and direct exposure to the sun, elephants tend to retreat to shaded zones, spending these hours dozing or eating easily available food.

Comfort behaviour:
Grooming and hygiene are characteristic qualities of elephants; in their natural surroundings, Indian and African elephants both use their watering places for bathing. If the water is not deep enough for immersing the entire body, elephants lie down on their side, spraying the whole body with water, and then wallow in the mud of the shallow bank zone. Adult specimens bathe for about 2.1 to 2.6 hours. Drinking and mud baths were observed to occur within the period of one hour in case of African elephants. After the mud bath, elephants rub their trunk, front, flanks and abdomen against the trees and subsequently take a dust bath. African elephants were observed to take the dust bath during the resting period.

For the reasons above expounded, and in particular because of their biological characteristics entailing a highly developed social behaviour, it is impossible for circuses to keep elephants in a manner suited to the needs of the individual animal. Another reason for rejecting the keeping of elephants in circuses is the fact that they are an endangered species.

Elephants *(Elephantidae)* ⊗

In particular because of their biological characteristics entailing a highly developed social behaviour and the fact that elephant are listed as an endangered species in Annex I to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), the keeping of elephants in circuses must be categorically refuted.

The authors hope that the present guidelines will not merely be applied in the Viennese region. It must be assumed that the keeping of elephants in the entire federal territory will not be forbidden immediately; this is the reason for listing the below minimum requirements for the keeping of, and care for, elephants in order to "contain the damage" in the interim period.

1. Inside enclosure:

Space requirements:
Per animal: 3 m x 5 m

Temperature and climate:
Not under 15°C, humidity: 40 to 60%

Composition of ground/litter/furnishing:
Dry straw litter, quick-drying surface; with a drain for water and urine

Chains: *compromise during transition periode, but as a matter of pinciple to be refused.*
The chains must be cushioned, must permit the animals to lie down on the side and remain in this position, and must not impede them in getting up. The animals must be able to use the entire surface of the space allotted to them for movement. Foot chains must be changed diagonally every day.

2. Outside enclosure:

Space requirements:
Per animal: 100 sq m, at least: 400 sq m

Temperature and climate:
Outside enclosures must offer shaded resting zones.

Composition of ground/litter/furnishing:
Natural ground - sand, grass, to be replaced if required (sand bath). Hard surfaces must be correspondingly adapted by covering them with sand or another suitable material.
Trees for rubbing, a possibility for bathing and wallowing, a sand bath, branches for playing, rubbing and activity are required.

Chains:
Not acceptable in outside enclosures.

3. Other factors:

Requirements regarding inside and outside enclosures:
In case of outside temperatures below 15°C, elephants must be given the possibility of retreating to an area that is sheltered from wind, inclement weather and safeguards an air temperature of approximately 15°C. In case of frost, the animals must be provided with a warm shelter without draught that should also be big enough to accommodate all animals at once, permitting them free movement. It must be furthermore possible to heat this room to a temperature of at least 20°C. The floor and walls as well as the water heating and waste disposal system must be designed to permit daily washing of the animals.

Except when the weather is cold, humid and windy, it must be made sure that the animals can move freely in the outside enclosure for as long as they like and in any case for at least eight hours per day.

Performances:
All forms of training not suited for the individual animal shall be deemed prohibited. This shall in particular apply if these exertions cause static loads or overstress of individual parts of the body and could consequently lead to injuries and lesions. These exertions include headstands, handstands as well as walking and standing upright on the hind-legs, since this may cause injuries to the joints and intervertebral discs of adult elephants. Excessive pressure during handstands can lead to fissures in the nails.

Working with clubs and balancing on big spheres are likewise inadmissible since these often lead to motor disturbances in the elbow and knee joints. Studies have moreover been published on complaints caused by training, such as hernia perinealis, bursitis prepatellaris and tyloma olekrani in African elephants.

Care and keeping of animals:
Well-trained animal keepers are essential! The animals must be familiar with their keeper. In particular during those times when the animals are tied up, they must be provided with sufficient food, litter or branches and possibilities for activity. There should also be a facility for bathing to safeguard the animals' daily bath. If this is impossible because of insurmountable difficulties, the elephants must be washed daily with a hose. After cleaning, they must have a possibility to rub their skin and take a sand bath. Untreated sawdust can also be used as a replacement for sand; however, in this case it must be made sure that the elephants will not ingest large quantities of sawdust since this might lead to colics. On hot days, elephants must be hosed down with cold water.
Soles, nails and toes must be checked regularly and kept in optimum condition.

Feeding:
Several times per day, including branches with leaves.

Big cats

The keeping of big cats in circuses is above all to be rejected for reasons of species protection!

Endangered species include in particular jaguars, leopards and tigers. However, the keeping of most big cats in establishments of this type is also a very questionable undertaking from the viewpoint of animal protection due to these species' usually enormous need for movement and their often solitary lifestyle.

It should be mentioned that stereotypes and thus behaviour disorders occur to *all* big cats if the animals are unable to satisfy their instinctive need for movement or their species-related needs, either due to cramped space or to the lack of suitable objects to satisfy these needs. Likewise, psychological tension, irritation or overexcitement (caused e.g. by visitors or other animals) will lead to deep behaviour disorders.
In view of the fact that these animals - as shown in the text below - must not only be provided with suitably dimensioned inside and outside enclosures (equipped with trees for climbing and sharpening their claws, with bushes, hiding-places such as e.g. caves, usually also with facilities for bathing), it seems practically impossible to meet these needs during the constant travels that are a typical feature of circuses. Furthermore, it should be borne in mind that the animals must also have the possibility to use the available space intensively in all three dimensions. In this context, it is doubtful that the related safety requirements, which must also be met, can be complied with.
The specifications and minimum requirements listed below should therefore be in no case interpreted as a justification or suggestion to keep big cats in circuses.

Jaguars *(Panthera onca)* (⊗)

Biological characteristics:
Jaguars are animals that live in the daytime and dusk but are also active at night. Their habitats are primeval forests, bushwoods, river-forests in tropical grassland, reed thickets, scrubless high-grass pampas.

Jaguars live exclusively in the vicinity of water and sun dry and arid areas. They are loners that leave their accustomed habitat only rarely to roam. Males and females live together only for short periods during the rutting season.

These big cats and carnivores are excellent climbers and swimmers.

Social behaviour:
Jaguars are principally loners that meet only in the rutting season. Normally the male moves away from the female before the cubs are reared, leaving this task to his partner. Females and cubs stay together for more than one year; after eighteen months or two years, the physically not yet fully developed but sexually mature jaguars leave their mother.

Aggression-related behaviour:
Jaguars are territorially organised animals; fights between the individual animals are particularly frequent during the rutting season. The territories are defended - especially against male conspecifics - not only during the rutting season, but throughout the entire year. Only females have the right to extend their territories into that of a male.

Hierarchy:
Males with high hierarchical standing defend their territories against weaker animals of the same sex.

Individual distance:
The maintenance of an individual distance is noticeable outside the rutting season, during the rearing of the cubs. However, durable relationships between males and females lasting one year have been observed in very rare cases. Physical contact does occur in these relationships.

Play behaviour:
The cubs play with each other and with their mother. With increasing age, the animals prefer playful hunting and fighting.

Agonistic behaviour:
Fights ending in injury occur in jaguars if the inferior animal is unable to retreat in time.

Defence behaviour:
In their natural surroundings, jaguars flee superior enemies. If cornered, they defend themselves vehemently, using their teeth and claws. Fully-grown jaguars living in their natural habitat have no natural enemies except stronger conspecifics and humans.

Sexual behaviour:
Sexual maturity occurs at the age of 2.5 to 3 years; the cycle has a duration of 45 to 55 days.

During the rutting period, jaguars growl and snarl very frequently and are especially aggressive. During this phase, the male remains with the female, mating frequently. The invitation for mating usually originates with the female. After briefly licking his partner, the male mounts the squatting female. Pairs stay together for up to one year. During the rutting season, fights between jaguars may suddenly flare up and quite often end lethally. The male usually leaves the female before the cubs are reared.

Mother-child behaviour:
The gestation period is 93 to 110 days. The female usually retreats to a dark, dry shelter to give birth. The 3 to 4 cubs, which are born blind, open their eyes after 14 days. Imprinting by the mother apparently takes place. However, the cubs remain for about two months in the cave in which they were born; only then the mother takes them along on her forays outside.
Young jaguars eat their first solid food between the 45th and 50th day of life.

Feeding behaviour:
Jaguars prefer slinking up to their prey until attaining jumping distance, then grasp it with outstretched claws, killing it instantly.

Composition of food:
Jaguars also hunt big quarries. Amongst other animals, these big cats hunt water hogs, peccaries, tapirs, stags, smaller animals, even fish, snakes and amphibians as well as domestic animals.

Jaguars are also adept at the hunting technique of stalking; they climb on trees from where they leap to tear down their prey. The daily period of feeding and the food preparation ritual of jaguars may take different forms. It has been reported that these animals first drink the blood of their prey and then eat 7 to 8 kg of meat at once. While some jaguars do not return to the remains of the prey, others remain in the zone for several days until the meat has been completely consumed. It has been documented that jaguars are able to drag even heavy animals such as tapirs or stags over remarkable distances.

Drinking behaviour:
Jaguars live in areas rich in water and consume water regularly.

Locomotion-related behaviour:
Jaguars are adept at numerous forms of moving from one point to another - they run, trot, gallop, jump, swim and climb. Jaguars rest in a variety of different spots, such as shaded clearings, caves, projecting branches providing easy access, or even water. It has been often reported that jaguars were found completely submerged in water, with only the head sticking out, thus trying to protect themselves against mosquitoes and the humid jungle heat. They remain in the water for hours.

Comfort behaviour:
Corresponds to that of other big cats, i.e. grooming and hygiene, are analogous to those of domestic cats. Social hygiene is noticeable during the rutting period and evokes movements denoting pleasure and comfort: stretching, yawning, rolling on the ground and roaring.

Territorial behaviour:
Depending on the density of potential quarries in a given area, the territories of jaguars may be of varying size; they may also be expanded in accordance with rain seasons and floods. Territories are marked by means of scratch marks on trees. Male jaguars defend their territories against other males while females have the right to extend their territories into that of males. Within their territories, jaguars are highly mobile, especially during the rain season.

Summary:

Because of their biological characteristics and their highly specific social behaviour (mostly loners), it is very difficult for circuses to keep jaguars in a manner suited to the needs of the individual animal (cf. introduction to the chapter on big cats, p. 38).
Since these animals are also listed in Annex I to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), their keeping in circuses is unacceptable!

Minimum requirements regarding the keeping of, and care for, Jaguars *(Panthera onca)* (⊗)

Because of their biological characteristics and their highly specific social behaviour, it is very difficult for circuses to keep jaguars in a manner suited to the needs of the individual animal. Since these animals are also amongst the endangered species, their keeping in circuses is not acceptable.

The below specifications should therefore not be regarded as a justification for the keeping of jaguars; their only purpose is to safeguard that minimum requirements will be met regarding the specimens still kept in circuses, in order to avoid behaviour disorders.

1. Inside enclosure:

Space requirements/circus caravan:
Per animal: 2 m x 4 m, at least 15 sq m, minimum height 2.5 m; maximum 4 animals per enclosure
All jaguars must be able to satisfy their resting or comfort behaviour simultaneously. The caravan walls must be well insulated against heat and cold. There must be possibilities for the animals to retreat from sight; boards of different height for the jaguars to lie and climb on are likewise required.

Temperature and climate:
Protection against draught, protect caravan against direct exposure to the sun.

Composition of ground/litter/furnishing:
Straw litter, insulated against cold, resting surfaces to lie on with temperature insulation boards, scratching post for sharpening claws and marking, possibility for exhibiting play behaviour.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1-4 animals: minimum 80 sq m; for every additional speciman plus 15 sq m; maximum 4 animals per enclosure

Temperature and climate:
There must be both sunny and shaded zones.

Composition of ground/furnishing:
Natural ground, sand (mixed with peat), barks scraps.
The scratching post must permit the animals to sharpen their claws in a standing position. Raised resting surface or platform for at least two or three animals if these are kept in a group. Facilities for play behaviour: e.g. balls, suspended, moving wooden objects. There must be some possibilities for the animals to retreat from sight.

Since jaguars have a stronger climbing instinct than other big cats, they need suitable structures to exhibit this behaviour. They also need permanent facilities for bathing and swimming.

3. Other factors:

Requirements regarding inside and outside enclosures:
In case of outside temperatures below 15°C, the animals must have the possibility to retreat to rooms with an inside temperature of at least 15°C.

Performances:
Combined performances together with potential quarries are unacceptable; the same goes for the use of burning hoops etc.

Feeding:
Beef and fresh, dead animals including fur and feathers.
Every now and then, big cats should be given minced meat or meat cut into small pieces since this makes it easier to administer medications, vitamins and minerals if required. The animals should fast one day per week. There must be a possibility to separate the animals for simultaneous feeding.

Leopards *(Panthera pardus)* (⊗)

Biological characteristics:
Mostly solitary animals, rarely living in pairs or families. Their habitat extends from tropical rain-forests to the edge of deserts and from mountains to plains.

Social behaviour:

Social structure:
Leopards are usually loners. Small groups mostly consist of a female and her cubs. They only form pairs during the rutting season and the first life phase of the cubs.

Aggression-related behaviour:
The males fight for the females, in particular before the formation of family bonds which may occur in any season. Furthermore, males exhibit aggressiveness towards their male offspring even before these have reached sexual maturity.

Hierarchy:
Leopards are territorial animals and defend their territory against conspecifics.

Individual distance:
Not very marked during the rutting period when bonds are formed between males and females.

Play behaviour:
Similar to that of other big cats.

Agonistic behaviour:
Similar to that of other big cats.

Defence behaviour:
In their natural surroundings, leopards flee from their enemies both by running and climbing on trees.

Sexual behaviour:
The females are ready to mate during the entire year; the gestation period lasts for 90 to 105 days; sexual maturity occurs at the age of two to three years.

Particular behaviour characteristics during the rutting period:
Males fight for the right of a female.

Mother-child behaviour:
The cubs are mostly born in a hollow or cave. One litter usually consists of up to six cubs; as a rule, only one to three cubs survive the first few days of life. The small bodies of the dead cubs are usually devoured by the mother.

Suckling period and maternal behaviour:
The suckling period usually lasts for about three months. At the age of five months, the cubs begin to imitate their mother's hunting technique. Families usually dissolve when the young reach the age of 1.5 years; however, sometimes durable relationships continue.

Feeding behaviour:
Leopards either stalk their prey or roam through their hunting territory. Their hearing is very well developed and thus able to pick up sounds in a frequency range between 15 and 45,000 hertz. The retina of their eyes is highly sensitive, enabling them to run, leap, climb and hunt with the utmost precision even in dark nights. Holding their prey with their paws, leopards kill their prey instantly by biting through the jugular.
Feeding follows a strict ritual. First the leopards drag their prey to a hiding place or up into a tree. Most leopards then rip open the abdomen of the quarry and lick off the contents of the stomach (probably because they are thirsty). However, there are animals that do not touch the stomach. Actual feeding begins with the quarry's breast, shoulders and forelegs. Jungle leopards also begin with devouring the hindquarters. Leopards only hunt again after they have completely devoured their prey.

Drinking behaviour:
If a watering place is situa ted close to their place of feeding, leopards often interrupt feeding to quench their thirst.

Excretion behaviour:
Similar to that of other big cats.

Locomotion-related behaviour:
Leopards are adept at climbing and leaping; running, they reach velocities of up to 60 km/h.

Resting behaviour:
Leopards often rest on trees.

Comfort behaviour:
Corresponds to that of other big cats.

Exploration behaviour:
Leopards noiselessly roam through their territory, observing sounds and movements, and often use trees as observation posts.

Territorial behaviour:
Leopards are territorial animals with territories of eight to 30 sq km.

Summary:

Because of their biological characteristics and their highly specific social behaviour (mostly loners), it is very difficult for circuses to keep leopards in a manner suited to the needs of the individual animal (cf. introduction to the chapter on big cats, p. 38).

Since these animals are also listed in Annex I to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), their keeping in circuses is unacceptable!

Minimum requirements regarding the keeping of, and care for, Leopards *(Panthera pardus)* (⊗)

Because of their biological characteristics and their highly specific social behaviour, it is very difficult for circuses to keep leopards in a manner suited to the needs of the individual animal. Since these animals are also among the endangered species, their keeping in circuses is not acceptable.

The below specifications should therefore not be regarded as a justification for the keeping of leopards; their only purpose is to safeguard that minimum requirements will be met regarding the specimen still kept in circuses, in order to avoid behaviour disorders.

1. Inside enclosure:

Space requirements/circus caravan:
Per animal: 2 m x 4 m, at least 15 sq m; maximum 4 animals per enclosure.
All leopards must be able to satisfy their resting or comfort behaviour simultaneously. The caravan walls must be well insulated against heat and cold. There must be possibilities for the animals to retreat from sight; boards of varying height for the leopards to lie and climb on are likewise required.

Temperature and climate:
Protect against draught, protect caravan against direct exposure to the sun.

Composition of ground/litter/furnishing:
Straw litter, insulated against cold, resting surfaces to lie on with temperature insulation boards, scratching post for sharpening claws and marking, sufficient facilities for playing and climbing.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1-4 animals: minimum 80 sq m; for every additional speciman plus 15 sq m; maximum 4 animals per enclosure

Temperature and climate:
There must be both sunny and shaded zones.

Composition of ground/furnishing:
Natural ground, sand (mixed with peat), barks scraps; there must be some possibilities for the animals to retreat from sight. Sufficient facilities for playing and climbing
Scratching posts must also permit the animals to sharpen their claws and to mark their territory.

3. Other factors:

Requirements regarding inside and outside enclosures:
Depending on their origins, some leopards support cold weather quite well. However, in case of outside temperatures below 15°C, the animals must have the possibility to retreat to rooms with an inside temperature of at least 15°C.

Performances:
Combined performances together with lions and tigers are unacceptable since these cats are potential enemies of leopards. Likewise, combined performances together with potential quarries are unacceptable; the same goes for the use of burning hoops.

Feeding:
Beef and fresh, dead animals including fur and feathers.
Every now and then, big cats should be given minced meat or meat cut into small pieces since this makes it easier to administer medications, vitamins and minerals if required. The animals should fast one day per week. There must be a possibility to separate the animals for simultaneous feeding.

Lions *(Panthera leo)*

Biological characteristics:

Lions are carnivores inhabiting the African semi-deserts, steppes, bush and wood savannahs. Their quarries are various types of ungulates ranging from procaviids to giraffes.

Social behaviour:

Social structure:

Most lions live in prides. Some groups form durable communities. In the Serengeti, there are even pack-like groups consisting of few males, a greater number of females and numerous young animals.

Occasionally, however, group members leave the community and become rogues. Some animals are forced to flee after fights with rivals.

In larger groups, females bond together with young animals to form so-called "nurseries".

Contrary to other big cats, lions are very gregarious animals who spend a great part of the day resting; this time is also used for extensive social contacts.

Aggression-related behaviour:

Fights between lions sometimes end lethally. Cases of cannibalism have been reported to occur when males take over a pride and get hold of the young animals of this pride.

Hierarchy:

Within one territory, the male territorial animals enjoy a clearly dominant position when feeding. If the prey is scarce, these specimen have their fill at the detriment of other group members. In times of food scarcity, mothers deny their own cubs access to food.

Within one group, too, a hierarchy can be observed; it is determined by the strength and condition of health of the individual group members.

Individual distance:

As a rule, no individual distance is observed within one group.

Play behaviour:

The cubs indulge in play fighting and catching with quickly changing positions. Young lions do not continuously play with each other but can be most often found close to the lioness. They lick the corner of the jaws of adult lions, touch them with their paws and lie down on their backs to demonstrate inferiority. This behaviour serves to deflect the lions' predatory instincts. It is characteristic that these modes of behaviour are not successful with males not belonging to the same group.

Play behaviour is also observed between males and females in the short period in which pairs are formed during the rutting season.

Agonistic behaviour:

Between animals of the same species:

Fights between animals often end in injury and sometimes even death of one of the opponents.

Young animals are killed by males from outside who have taken over a pride of lions.

Defence behaviour:
In their natural surroundings, leopards flee from superior enemies. If this is impossible, they defend themselves vehemently, using their teeth and paws .

Sexual behaviour:
Particular behaviour characteristics during the rutting period:
Females in heat attract their male partners with a special call. Moreover, females in heat often mark the entire territory to indicate their readiness for mating.
Newly formed pairs withdraw from the group for some time.

Behaviour of males during their sexually active phase:
Males follow the females ready to mate practically throughout the entire season of heat, leaving them only very rarely. Outside the resting phases, the animals often play with each other in the typical feline manner.

Choice of sexual partner:
In most cases, marking attracts the lordly male who mates with the female. Other males withdraw from the pair during mating.

Courtship and formation of pairs:
Courtship is finalised by the first copulation.

Mating:
The female invites the male to cover her. For this purpose, she rubs her head against that of the male, passes close by him and then squats down before him. After briefly licking the female, the male mounts the female. Ritualised biting of the neck has been observed during ejaculation. The act of copulation takes about 5 to 8 seconds and is repeated up to 40 times a day. When the male gets off the female, she turns around, snarls and lashes out at the partner with her paws.

Formation of family nucleus:
After the short mating period, both animals return to their pride and remain together until the birth of the cubs, when the pair separates again. The male stops taking an interest in the female and resumes his normal independent life in the pride.

Mother-child behaviour:
Preparation of birth:
Shortly before giving birth, the female loses her appetite. She moves away from the group to settle in a sheltered spot to give birth.

Post-partum behaviour:
In the first weeks after the birth of their cubs, the females tend to keep themselves and their litter apart from the group, caring for her offspring alone. As soon as the cubs are able to follow their mother, they are integrated into the pride and the so-called "nurseries" are formed.

Imprinting:
Imprinting to the mother exists; however, the cubs follow other pride members as well.

Mother-child bonding:
Very intensive during the first weeks although the female must leave the cubs soon after birth to hunt.

Sucking behaviour:
The cubs appear to accept every female willing to assume maternal duties. To mute the females' hunting instincts, the cubs play with the females watching them.

Maternal behaviour:
As long as there is sufficient food, the females take care of their young. In times of scarcity, the cubs are denied access to the food or are driven away from it (even by their mothers).

Feeding behaviour:
The males leave the procurement of food to the female members of the pride. If the prey is big enough, all lions eat together. In case of scarcity, the strongest males take precedence over all others; they are followed by the females and, after them, the young animals.

Food procurement:
Lions are strongly determined by their visual sense; however, it has been observed that they also follow their sense of hearing to locate their prey. The sounds made by hunting hyenas in particular attract lions, which then drive the hyenas away from their prey.
Their sense of smell is not very highly developed; however, quarries (especially young animals) are occasionally located by means of this sense.

Composition of food:
Lions mainly hunt medium-sized ruminants inhabiting the savannahs but also feed on carrion. Like all carnivores, lions sometimes consume vegetable fodder. They do not only pluck off stems of grass or leaves but also feed on the contents of their quarry's rumen.

Daily time cycle of feeding:
On an average, lions feed every three days but can also fast for a period of up to ten days. If a big prey was killed, one lion is able to consume up to 33 kg of meat in one feeding session.

Feeding preparation ritual:
Usually, lions feed on their prey at the place of killing. Only smaller animals are carried away in the jaws over a short distance.

Possessiveness towards food:
Principally, the stronger animal prevails. This may even lead to females denying their own cubs access to food and driving them away, if food is scarce. The act of feeding is combined with exploration behaviour.

Mode of feeding:
Lions consume their prey in the typical feline manner, i.e. they chew smaller bites of larger chunks of meat.

Drinking behaviour:
Lions prefer clear water but also drink the liquid contained in their quarry's rumen if they have no other way of quenching their thirst.

Frequency of water consumption:
Lions drink very often; they take up to 20 minutes to cover their fluid requirements.

Locomotion-related behaviour:
Young lions climb frequently; this activity decreases with age. However, they continue to withdraw to sturdy branches that are easy to reach in order to rest.
Lions are able to attain high velocities over short distances. In order to move quickly from one place to another, they move in a kind of trot.

Resting behaviour:

Social behaviour during resting:
Usually, the entire pride stops for a rest; physical contacts are possible during this phase.

Description of resting place:
Lions prefer to rest in the shade.

Duration of resting periods:
Adult lions rest 20 to 22 hours a day.

Daily periodicity of resting phases:
Lions tend to rest in the day, becoming active at night.
When not sleeping, the animals tend to doze in various positions.

Sleeping place:
No special requirements regarding their sleeping place are known.

Comfort behaviour:
Grooming, social hygiene, yawning, stretching, roaring.

Territorial behaviour:
Most families of lions live in precisely defined territories; for this purpose, the males leave urine markings on bushes etc. They also roar to designate their territory.
Lions defend their territories against other groups. Fights ending in injury of one of the opponents occur rarely as long as the inferior group is able to retreat.
Mobility within territories depends on the density of potential quarries in the zone.

Minimum requirements regarding the keeping of, and care for,
Lions *(Panthera leo)*

1. Inside enclosure:

Space requirements/circus caravan:
Per animal: 2 m x 4 m, at least 15 sq m.
All lions must be able to satisfy their resting or comfort behaviour simultaneously. The caravan walls must be well insulated against heat and cold. There must be possibilities for the animals to retreat from sight; boards of different height for the lions to lie on are likewise required and should also feature temperature insulation boards.

Temperature and climate:
Protect against draught, protect caravan against direct exposure to the sun.

Composition of ground/litter/furnishing:
Straw litter, insulated against cold, resting surfaces to lie on with temperature insulation boards, scratching post for sharpening claws and marking, sufficient facilities to exhibit play behaviour.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1-4 animals: at least 80 sq m

Temperature and climate:
There must be both sunny and shaded zones.

Composition of ground/furnishing:
Natural ground, sand (mixed with peat), barks scraps; scratching posts must permit the animals to sharpen their claws in a standing position. There must be some possibilities for the animals to retreat from sight; facilities for play, e.g. balls, suspended moving wooden objects.

3. Other factors:

Requirements regarding inside and outside enclosures:
In case of outside temperatures below 15°C, the animals must have the possibility to retreat to rooms with an inside temperature of at least 15°C.

Performances:
Combined performances together with potential quarries are unacceptable; the same goes for the use of burning hoops etc.

Feeding:

Beef and fresh, dead animals including fur and feathers.

Every now and then, big cats should be given minced meat or meat cut into small pieces since this makes it easier to administer medications, vitamins and minerals if required. The animals should fast one day per week. There must be a possibility to separate the animals for simultaneous feeding.

Tigers *(Neofelis tigris)* (⊗)

Biological characteristics:
These Asian carnivores inhabit dry and humid grassland and woodland of any type as well as lowlands and mountainous regions with altitudes of up to 4,000 m.

Social behaviour:
Most tigers are loners throughout the major part of the year. Males and females live together during the rutting period and sometimes for some weeks afterwards. On an average, the cubs remain with their mother until the third year of life (maternal families).

Aggression-related behaviour:
Male tigers are territorially organized animals but tolerate the passage of conspecifics through their territory. However, during the rutting season, fights between males are common. Likewise, females are forced to defend their cubs against males since these sometimes kill the young tigers. In this phase, even males shun the very aggressive females.
In all other seasons, the males tend to dominate; for example, they drive females away from the prey in times of scarcity.

Hierarchy:
Males with high hierarchical defend their territories against conspecifics.

Play behaviour:
The cubs play with each other and with their mother. With increasing age, the animals prefer mock fighting.

Agonistic behaviour:
Fights between animals of the same species:
Fights between tigers often end in injury and sometimes with the death of one opponent.

Defence behaviour:
In their natural surroundings, jaguars flee from superior enemies. If cornered, they defend themselves vehemently, using their teeth and claws.

Sexual behaviour:
Sexual maturity:
Occurs at the age of 3.5 years in males and 2 to 2.5 years in females.

Cycle:
45 to 55 days.

Particular behaviour characteristics during the rutting period (males in their sexually active phase):
During the rutting period, the male tiger stays close to his partner and copulates frequently with her.

Choice of sexual partner:
Female tigers in heat try to sniff out the urine marking of a territorial male. Mating is the rule if a male and female have found each other in this manner.

Mating:
The female usually invites the male to cover her. After briefly licking the female, the male mounts the female squatting before him. The act of copulation takes only a few seconds; it ends with the biting of the neck and is repeated up to 30 times a day.

Formation of family nucleus:
The only bonds are those between the mother and her cubs.

Feeding behaviour:
Preys include wild cattle, antelopes, stags but also smaller animals.

Tigers are very adept at the technique of stalking their prey. Patiently, these big cats approach their quarry, their body pressed close against the ground. Whenever the quarry raises its head, the tiger remains motionless. Tigers leap only at the very last moment, sometimes reaching very high velocities in this act.

Locomotion-related behaviour:
Tigers are constantly on the move. They are adept at all forms of moving from one point to another - they run, trot, gallop and leap and are also excellent climbers and swimmers.

Comfort behaviour:
Yawning, stretching, roaring. Like all feline animals, tigers like to spend much time in grooming sessions.
Watercourses and stagnant pools of water are not only used for drinking and cooling but also for hunting.

Exploration behaviour:
Playful and exploratory forms of behaviour are highly developed.

Territorial behaviour:
Territories of 20 - 60 sq km (for females) and 40 - 180 sq km (for males) have been reported.

Summary:

Because of their biological characteristics and their highly specific social behaviour (mostly loners), it is very difficult for circuses to keep tigers in a manner suited to the needs of the individual animal (cf. introduction to the chapter on big cats, p. 38).
Since these animals are also listed in Annex I to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), their keeping in circuses is unacceptable!

Minimum requirements regarding the keeping of, and care for, Tigers *(Neofelis tigris)* (⊗)

Because of their biological characteristics and their highly specific social behaviour, it is very difficult for circuses to keep tigers in a manner suited to the needs of the individual animal. Since these animals are also amongst the endangered species, their keeping in circuses is not acceptable.

The below specifications should therefore not be regarded as a justification for the keeping of tigers; their only purpose is to safeguard that minimum requirements will be met regarding the specimens still kept in circuses, in order to avoid behaviour disorders.

1. Inside enclosure:

Space requirements/circus caravan:
Per animal: 2 m x 4 m, at least 15 sq m, minimum height 2.5 m; maximum 4 animals per enclosure.
All tigers must be able to satisfy their resting or comfort behaviour simultaneously. The caravan walls must be well insulated against heat and cold. There must be possibilities for the animals to retreat from sight as well as boards of varying height for the tigers to rest and temperature insulation boards to protect the animals against cold and heat.

Temperature and climate:
Protect against draught, protect caravan against direct exposure to the sun.

Composition of ground/litter/furnishing:
Straw litter, insulated against cold, resting surfaces to lie on with temperature insulation boards, scratching post for sharpening claws and marking, possibility to exhibit play behaviour.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1-4 animals: minimum 80 sq m; for every additional speciman plus 15 sq m; maximum 4 animals per enclosure

Temperature and climate:
There must be both sunny and shaded zones as well as a pool for bathing.

Composition of ground/furnishing:
Natural ground, sand (mixed with peat), barks scraps.
The scratching post must permit the animals to sharpen their claws in a standing position. Raised resting surface or platform for at least two or three animals. There must be some possibilities for the animals to retreat from sight as well as play facilities: e.g. balls, suspended, moving wooden objects.

3. Other factors:

Requirements regarding inside and outside enclosures:
In case of outside temperatures below 15°C, the animals must have the possibility to retreat to rooms with an inside temperature of at least 15°C (exception: Siberian tigers are resistant to cold weather; all other species require warmth).

Performances:
Combined performances together with potential quarries are unacceptable; the same goes for the use of burning hoops etc.

Feeding:
Beef, horse and fresh, dead animals including fur and feathers.
Every now and then, big cats should be given minced meat or meat cut into small pieces since this makes it easier to administer medications, vitamins and minerals if required. The animals should fast one day per week. There must be a possibility to separate the animals for simultaneous feeding.

Bears *(Ursidae)* ⊗

Biological characteristics:

Bears are amongst the biggest fissipeds of the earth. All bears have a strong big body, a rudimentary tail, toes with markedly curved, nonretractile claws; bears are plantigrades.

Large bears can be classified into seven species: the brown bear, the Himalayan black bear, the American black bear (baribal), the polar bear, the sloth bear, the Malay bear and the spectacled bear.

Brown bears are solitary (maternal families); their habitats are thin forests and the tundra, where they inhabit the ground.

Himalayan black bears are likewise solitary (maternal families), their habitats are the mixed and broad-leaved forests of Balutchistan as well as bramble woods. These animals (cubs and adults) are excellent climbers.

American black bears or baribals are solitary (maternal families); they inhabit broad-leaved and mixed forests and are equally good climbers.

Polar bears are solitary (maternal families) and inhabit the arctic seas, islands and coasts; they have no territory and are wanderers.

Sloth bears are solitary (maternal families) and inhabit the deciduous monsoon forests and bramble jungles in the dry zones of India and Sri Lanka.

Malay bears are solitary (maternal families) or form small groups with no more than four members; tropical rain forests are their exclusive habitat.

Spectacled bears are solitary (maternal families) and live in various habitats, such as grassland, bush savannahs, rain forests in South America. They are excellent climbers and also build platforms.

Social behaviour:

Bears are solitary for the greater part of the year. However, depending on the species and habitat, young bears spend the first 1.5 to 2.5 years of their life with their mother or another female rearing cubs of the same age.

Aggression-related behaviour:

During the mating period, fights between rivalling male brown bears are not uncommon. While it has been observed that the European brown bear only occasionally engages in fights resulting in grave injuries, vehement fights between rivalling male Alaskan bears in their rutting period often lead to grave injuries of one of the opponents. Females protecting their cubs are likewise very aggressive if disturbed. Fights between adult polar bears sometimes also end with the death of one opponent; in this case, the stronger specimen cannibalises the weaker animal. In general, no other type of mammal has been as frequently reported to engage in cannibalism (of both their own cubs and those of others) as bears.

Hierarchy:
Dominant males defend their territory against conspecifics, especially during the rutting season.

Individual distance:
Nothing is known regarding individual distance between bears.

Play behaviour:
Both adult bears and cubs display a very marked tendency to play. The very pronounced play instinct of adult bears indicates a high intelligence level.

Fighting behaviour:
Fighting may lead to injuries and sometimes even to the death of one opponent.

Defence behaviour:
Bear tend to flee their enemies; if this is impossible or if a female is protecting her cubs, bears attack their opponents with their paws and, after the enemy has fallen, with bites.

Sexual behaviour:
Brown bears attain sexual maturity at the age of roughly 2.5 years; baribals and Himalayan black bears, at 2.5 years; polar bears, at 3.5 to 4.5 years; sloth bears, at 2.5 to 3.5 years; Malay bears, at 3.5 to 5 years; spectacled bears, at 3.25 years.

Cycle:
Malay bears can reproduce throughout the year; all other bears have fixed seasonal periods for mating and giving birth.

Mating periods:

Brown bear:	June, July
Baribal:	June, July
Himalayan black bear:	June, July
Polar bear:	April, May
Sloth bear:	July
Malay bear:	throughout the year
Spectacled bear:	June, July

Gestation period:

Brown bear:	7 to 8 months
Baribal:	7 to 7.5 months
Himalayan black bear:	7 to 8 months
Polar bear:	approximately 8 months
Sloth bear:	6 months
Malay bear:	approximately 96 days
Spectacled bear:	7.5 to 8.25 months

Particular behaviour characteristics during the rutting period (as exemplified by brown bears):

Brown bears are probably monogamous; however, if many females inhabit the same territory, polygamous behaviour may occur. During their heat, females secrete a pervasive odour which makes it easier for males to find them. In most cases, males tend to mate with the same female year after year. Peculiar characteristics of the mating act are the ritual pursuit that precedes copulation and the continuous muted chuckle of the male, which serves to attract the female. Some days before the climax of the rutting period, the male attaches himself to the female, repeatedly licking her muzzle, biting her neck, throat and back and lightly hitting her with his paws, thereby increasing her excitement. The actual copulation process lacks peculiar characteristics; however, the individual copulation acts - 10 to 15 minutes - are rather long.

Mother-child behaviour:

Birth and rearing of the cubs:

Brown bears and polar bears give birth in caves during the winter months. The birth act occurs quickly without marked loss of blood; the placenta is eaten by the female. The number of cubs per litter depends on the mother's age. Older brown bears and polar bears give birth to several cubs (three to four).

The new-born cubs weigh about 400 g and are approximately 22 to 23 cm long. At birth, they are blind, toothless and covered with light, thin hair. The females care for their cubs with great attention, frequently licking them and pressing them cautiously against their breast with their paws to suckle them. In this period, the females do not eat or drink for several weeks. While female bears are forced to leave their helpless cubs more and more often in spring to find food, the young animals are in constant danger by other predators.

Suckling period:

The cubs are suckled regularly for a period of approximately 3.5 months; this is followed by a period of irregular suckling. Depending on species and environment, the cubs spend the first 1.5 to 2.5 years with their mother or another female rearing cubs of the same age. Especially in the case of American brown bears, it has been repeatedly observed that mothers "adopt" other females' cubs or that the cubs themselves choose another "mother". This means that imprinting by the mother cannot be very strong. It has been furthermore observed that bears leave their cubs after stunning them with paw blows. It is unclear whether this is done only to non-viable cubs or whether this behaviour is a - so far unknown - form of "birth control".

In autumn, the cubs begin to help their mother hunting.

Feeding behaviour:

Bears display changing feeding behaviours, depending on the season. In early spring, when food of vegetable origin is scarce, bears tend to hunt quarries. Although they are omnivora, their feeding patterns present regional differences. For example, some bears devour exclusively meat and fish etc. Bears look for insects and rain-worms etc. under stones, they dismantle beehives, burrow for mice and kill sheep, calves or other animals with blows of their mighty paws. It has been moreover observed that bears kill wild boar weighing up to 30 kg and sometimes kill injured chamois, does and hinds. Amongst smaller mammals, bears mainly prefer insectivores such as moles and common shrews, rodents such as loirs, lerots, snow mice and squirrels. Some bird species such as e.g. rock doves and mountain cocks, are also eaten by bears after bring carefully plucked.

While bears prefer fresh meat, they also eat carrion, if necessary. Water is drunk in the manner of canines; consumption in summer exceeds that in winter.
During the long arctic winter months, polar bears mainly eat meat, mostly seal. Polar bears have developed extraordinary hunting techniques by land and sea to kill their prey. As a rule, polar bears stun their quarry with just one mighty blow of their forepaws, killing it with a bite to the neck or skull. Polar bears are able to kill much bigger animals than is possible for brown bears. They have been observed to attack and kill musk-oxen.

Excretion behaviour:
Bears are extremely clean animals; for example, they repeatedly leave their cave before the hibernation period to defecate and urinate.

Locomotion-related behaviour of brown bears:
Brown bears are remarkably strong and agile. As plantigrades, they trot and gallop only when hunting or fleeing, attaining maximum velocities of up to 50 km/h. Bears often squat down on the hind legs and are even able to move in this posture, especially when observing their surroundings or searching for food. Moreover, bears are very skilful climbers, swimmers and divers. Polar bears are expert climbers on rocky and icy precipices.

Resting behaviour:
Bears usually rest in caves, digging a hollow into the dry ground and cushioning it with moss, grass and leaves.
Polar bears build caves (also for giving birth) in overhanging snow. Most bears spend their rest periods on the ground. Spectacled bears and Himalayan black bears also climb on trees to rest.
Bears like to doze in the sun; defence sleep has also been observed in bears.

Comfort behaviour:
In addition to bathing, the comfort behaviour of bears often comprises movements such as scratching and rubbing as well as grooming with lips and teeth. Movements denoting pleasure and comfort include lying on the ground, stretching and rolling.

Exploration behaviour:
Bears are very curious. Both cubs and adults display marked play behaviour.

Territorial behaviour:
Territorial behaviour has been observed in brown bears with territories covering 20 to more than 100 sq km. Brown bears and Kodiak bears mark their territory by scratching trees with the neck in a standing position as well as by hitting and scratching them with their paws.

Collective keeping of bears:
Bears are solitary. Under certain conditions, it is possible to keep all species with exception of Malay bears in groups consisting of one male and several females. Collective keeping is, however, problematic (for example, male polar bears, Himalayan black bears and brown bears have been observed to kill females) and requires extensive preparation (the bears must be e.g. separated from other conspecifics by a grate for a protracted period of time). Before bringing them together, the animals' behaviour must be continuously monitored.

Summary:

Because of their biological characteristics and their specific social behaviour, it is impossible for circuses to keep bears in a manner suited to the needs of the individual animal. Bears are mostly loners and become only active at dusk. It should not be forgotten that many of the animals inhabiting northern regions - while not hibernating in the proper sense of the word - do spend the winter months in caves, thereby reducing their basal metabolic rate and becoming lethargic.

Moreover, Malay bears, spectacled bears, sloth bears and Himalayan black bears are listed in Annex I to the Convention on International Trade in Endangered Species of Wild Flora an
d Fauna (CITES).

Bears *(Ursidae)* ⊗

It is impossible for circuses to keep any species of bear in a manner suited to the needs of the individual animal (see previous page).
Principally, bears have a great need to move and climb, which would have to be satisfied on the circus premises. To avoid cruelty to these animals (a punishable offence), correspondingly dimensioned outside enclosures as described above (including extensive possibilities for climbing) would have to be provided. Apart from the fact that the keeping of bears in circuses is unacceptable for reasons of animal protection, it is therefore extremely doubtful whether the required facilities would be in accordance with general safety regulations.

The specifications mentioned below should therefore not be regarded as a justification for the keeping of bears in circuses; their only purpose is to safeguard that minimum requirements will be met regarding the specimens still kept in circuses, in order to avoid behaviour disorders as far as this is possible.

It is totally impossible to keep polar bears in circuses; the below specification therefore contains no reference to this species.

1. Inside enclosure:

Space requirements/circus caravan:
Per animal: 2 m x 4 m, at least 15 sq m
Minimum height of caravan at least 2.5 m, perhaps even higher in individual cases; it must be safeguarded that the animals can stand on their hind legs.
All animals must be able to satisfy their resting or comfort behaviour simultaneously. The caravan walls must be well insulated against heat and cold. There must be possibilities for the animals to retreat from sight.

Temperature and climate:
Protect against draught, protect caravan against direct exposure to the sun.
For Malay bears and sloth bears: minimum temperature 12°C

Composition of ground/litter/furnishing:
Litter, objects to engage the animals' interest:
Boards of different height to lie and climb on must be provided for American and Himalayan black bears as well as for spectacled bears.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least 8 hours per day.

Space requirements:
American and Himalayan black bears, brown bears: 1- 2 animals: at least 100 sq m plus 20 sq m for every additional specimen.
Malay bears, spectacled bears and sloth bears: 1- 2 animals: at least 70 sq m plus 20 sq m for every additional specimen.

Temperature and climate:
There must be both sunny and shaded zones.

Composition of ground/furnishing:
Substrate consisting of earth, sand or mixed peat to satisfy the animals' digging instinct. Objects to engage the animals' interest, bathing facilities, structuring of enclosure with tree-trunks and branches both for climbing and sharpening their claws. There must be some possibilities for the animals to retreat from sight.

3. Other factors:

Requirements regarding inside and outside enclosures:
There must be a possibility to install individual enclosures.

Care and handling of the animals:
Several hours of daily work and occupation to exercise natural behaviour and movement patterns.

Seals *(Pinnipedia)* ⊗

Biological characteristics:
Seals are specialized aquatic predators that have evolved, much like bears, from predators inhabiting the water in the early Tertiary period. Because there are 34 different species of seal, this biological description can only be an overview. Otariidae (eared seals) are a family comprising sea lions, walruses and common seals.

Social behaviour:
Most species are gregarious and live in big groups, although bull-harem groups which territorial behaviour also exist. The males of almost all species are polygamous. During the mating period, they primarily inhabit coastal zones, moving into the water only for feeding. Some seal species live in pack-ice zones (mostly solitary), forming bonds only during the mating period. The other species partly shallow, sandy shores and rocky coastal areas.

Agonistic behaviour:
During the mating period, territorial fights are not uncommon.
Depending on the individual species, fights involving biting occur in coastal territories; harem fights are common.

Sexual behaviour:
Seals attain sexual maturity at the age of four to seven years.
These aquatic predators mate in shore zones (with the exception of walruses).

Mother-child behaviour:
Depending on the seal species, the pups are weaned after four months (common seal) or 11 to 12 months (Steller's sea lion or South African seal).

Feeding behaviour:
Seals mainly feed on a variety of fish, squid, crustaceans, starfish; some seals kill penguins.

Locomotion-related behaviour:
All seal species are physically very active. They are not only tireless but also very fast swimmers (common seals: up to 4 m/s); the California seal dives for up to 15 minutes into depths of approximately 100 m.

Variously, some species are sedentary while others change their habitat depending on the season.

Exploration behaviour:
Seals display a very marked instinct for play and exploration.

Territorial behaviour:
The size of the individual territory varies depending on the species. After fighting for the best spot close to the water, the inferior seals escape into the water.
As already mentioned before, there are both sedentary and migratory seal species. In the latter species, the males arrive before the others of their group to explore or conquer the new territory.

Summary:

Because of their biological characteristics, their highly developed social behaviour, their unsuitability for frequent transport as well as their extremely specialised need for particular foodstuffs and space, it is impossible for circuses to keep seals in a manner suited to the needs of the individual animal!

Moreover, some seal species are in danger to become extinct!

Dolphins *(Delphinidae)* ⊗

Biological characteristics:

The habitat of dolphins is limited to the moderate zones of the tropical and subtropical seas.

Dolphins are called toothed whales (odontocetes) because they have teeth in fact, in contrary to toothless whales (mysticetes). These aquatic mammals attain a length of 1.5 to 4 m.

The bottled-nosed dolphin or porpoise (Tursiops sp.) is one of the best-known species.

The brain of dolphins is highly developed and principally similar to that of primates including humans. Dolphins have an especially developed sense of hearing that even enables them to determine the direction of the sounds perceived by them. In addition, toothed whales have another extraordinary sense: ultrasonic orientation. The clicking sounds emitted by them are reflected by any object in the sea and intercepted as echoes by these sea mammals, thereby informing them precisely on the type, shape, nature and possibly even mode of locomotion of the object in question. The duration of the time-span that has elapsed until the dolphins intercept this echo provides information on the distance between animal and object.

Social behaviour:

Depending on the individual species, dolphins live either in small groups of not more than ten animals or in groups with up to 300 members. Deep-sea species even form so-called "schools" consisting of up to 1,000 dolphins. Physical contact with conspecifics is very important for dolphins.

These animals communicate in various ways: by means of leaps, by beating their tail against the water surface, by blowing water bubbles under the water and by means of various sounds (e.g. whistling and clicking sounds).

Play behaviour:

Playing is very important and encourages the learning process above all of young animals. However, not only young dolphins but also adults like to play by jumping or picking up various objects and kicking them away with their nose.

Sexual behaviour:

Depending on the individual species, sexual maturity occurs between the fifth and thirteenth year of life. During the mating season, males can become very aggressive towards their conspecifics.

Mother-child behaviour:

The bond between a female and her offspring is the closest relationship amongst all dolphin species. The calves are dependent on their mother approximately for the first four months of life.

Birth and rearing of offspring:

Most odontocetes are born with their tail facing forward. The mother's milk, which is squirted by the mother into the new-born's mouth, presents an extraordinarily high fat content if compared to that of humans or cows.

In case of very tightly-knit groups, other females take care of the young while the mothers are out searching for food. The young begin to ingest solid food already before weaning.

Feeding behaviour:
Most odontocetes stay close to zones rich in food, feeding mostly on octopus, squid and a variety of fish. Dolphins often hunt in a co-ordinated manner.

Locomotion-related behaviour:
Dolphins move with an average speed of 6 km/h to 15 km/h but can also attain maximum velocities of up to 55 km/h.

Summary:

Because of their biological characteristics, their highly developed social behaviour in large groups, their unsuitability for frequent transport (which would in fact constitute cruelty to these animals) as well as their extremely specialised need for particular food and space, it is impossible for circuses to keep dolphins in a manner suited to the needs of the individual animal!

The keeping of dolphins in circuses is therefore entirely unacceptable!

Giraffes *(Giraffidae)* ⊗

Biological characteristics:
Giraffes are ungulates belonging to the suborder of ruminants; there are two subfamilies: giraffes and okapis.
Giraffes can attain an age of up to 25 years.

Social behaviour:
Giraffes are gregarious and peaceful animals. The vast bushlands and savannahs of sub-Saharan Africa are their habitat. They live in small groups, sometimes also in bigger herds.
Okapis are solitary, very shy and watchful; contrary to giraffes, they are active at night. Pairs are formed only during the mating season. Their habitat is the thick, humid jungle of Central Africa, preferably close to clearances and watercourses.

Agonistic behaviour:
Giraffes sport short, horn-like projections on the front. Round, bony and covered by skin, these growths are permanent and used as thrust weapons by bull giraffes. Young bulls often engage in hierarchy fights; in these duels, they usually stand side by side, hitting their skulls against the opponent's head and neck, sometimes also against the upper chest or side of the neck.
Giraffes tender conspecifics by threatening them with their "horns".

Sexual behaviour:
Sexual maturity is attained at the age of two to five years.

Mother-child behaviour:
The only calf is born in spring; the new-born giraffe is about 2 m high and weighs approximately 60 kg.
Gestation period: 450 to 465 days (okapis: 420 to 450 days).
Giraffes are weaned at 6 to 17 months.

Feeding behaviour:
Giraffes are highly specialized in procuring their food, which consists mainly of leaves and shoots. Their long, agile tongue, which can be stuck out almost 50 cm, enables them to draw branches close to them and pluck off the leaves. If a giraffe wants to drink or graze, it must spread its long forelegs wide to reach the water or ground.
Okapis also eat grass, ferns, fruit and mushrooms.

Resting behaviour:
Even during periods of rest and even when lying down, giraffes are extremely watchful, holding their head and neck upright. In the deep sleep phase (which lasts only a few minutes at a time), they rest with their neck extended backwards along the body, resting the head on the ground.

Summary:

One to four giraffes kept in captivity need 600 to 800 sq m of space. This area must offer them shaded and sandy zones, trees to exercise their comfort behaviour (scratching, rubbing etc.). The trees must stand upright to enable this behavioural pattern.
In case of cold weather, rain and wind, the accommodation required by giraffes should resemble normal winter quarters.
Standard circus acts involving giraffes consist in their mere walking around in circles in the arena, which in no way satisfies these animals' need for free, unhampered movement.

Because of their peculiar anatomical structure and the pronounced space requirements, this species is totally unsuited for frequent transport. The keeping of giraffes in circuses is therefore entirely unacceptable!

Camels *(Camelidae)*[4]

Biological characteristics:
Camels constitute the only family of the suborder Tylopoda of the order Artiodactyla. The family is composed of two genera, i.e. true camels and llamas. True camels can be divided into two species: one-humped camels (Arabian camels, or dromedaries) and two-humped camels (Bactrian camels). The genus llama has four species, i.e. the vicuña, the guanaco, the (domesticated) llama and the alpaca.

Dromedary:
Habitat: Arabia, Northern Africa; wild dromedaries can also be found in Australia; deserts and semi-deserts.
Dromedaries live in permanent communities consisting of one stallion, several mares and their offspring. Stallions living outside families form groups with other males or live as solitary rogues. Sometimes bigger herds are formed as well.

Bactrian camels:
Habitat: the last wild Bactrian camels can be found in the Gobi Desert. The two-humped camel was domesticated at least 4,500 years ago. Undomesticated camels form families analogous to those of dromedaries.

Dromedary and Bactrian camel:
On an average, camels live for about 40 years. Camels reach a height of approximately 1.7 m at the shoulder. They are well adapted to life in the desert: they are able to close their nostrils, the two middle toes are connected by a flap of skin; their lips are very tough to permit them to feed even on thorny scrubs. Their body consumes only very little water to regulate its temperature, therefore the body temperature of camels can attain even up to 41°C (see also their feeding and drinking behaviour) without causing harm to the animals. Camels can travel up to 200 km per day; however, the average daily distance covered by a camel caravan is 30 to 40 km.

Vicuña:
Inhabits the Andes in permanent family communities with a daily feeding territory of approximately 18 hectares and a nocturnal sleeping territory of about 2 to 3 hectares in highland zones. The vicuña is the smallest camely species, attaining approximately the size of a doe and an average age of 15 to 20 years.

Guanaco:
Guanacos live in open family communities; size of territory: 20 to 40 hectares; habitat: semi-deserts, savannahs or bushland, occasionally also South American woodland. Its mode of life is analogous to that of the vicuña.

Llama:
Habitat: mostly South American grassland and bushland, altitude: 2,300 to 4,000 m; domesticated.

[4] All camels have been listed in the Viennese Law of Animal Protection and Animal Keeping as „wild animals" since they have been drawn up in the guidelines.

Alpaca:
Habitat: grassland and sparse bushland of the High Andes. Its mode of life is analogous to that of the vicuña.

Camels are domesticated animals. Externally, there is one striking morphological difference between camels and other ungulates: in contrary to these, camels lack the skin stretching between hind legs and abdomen. The humps are typical characteristics of the two true camel species but decrease in size in case of lack of food.
Llamas and guanacos as well as vicuñas and alpacas are very similar to each other. There are differences in the behaviour of the genera llama and true camel. Llamas exhibit dominance behaviour; the females prevail in herds, depending on their age (not their strength). Moreover, llamas exhibit aggressiveness by spitting.

Sexual behaviour:
True camels: females attain sexual maturity at 3 to 4 years; males, at 5 to 6 years.
Llamas: attain sexual maturity not before one year, usually at the age of 24 months.
They mate in a lying-down position.

Mother-child behaviour:
Large camels: calves are weaned after one to two years.
Llamas: calves are weaned after six to eight months.

Feeding behaviour:
Dromedary: feeds on leaves, herbs and grass.
Bactrian camel: feeds on leaves, herbs and grass.
Vicuña: feeds on grass and herbs.
Guanaco: feeds on mainly on grass but also on leaves.
Llama: feeds on grass and leaves.
Alpaca: feeds on plants growing close to the ground.

Camels characteristically live on very little - this goes not only for water but also for their diet: they consume any available form of plant, even thorny shrubs such as acacias in Africa. Camels are extremely well adapted to life in the desert.
Contrary to other domesticated animals, camels make only very sparing use of their habitat; while feeding, they wander several kilometres per day, grazing in many places. Likewise, they feed very sparingly from each bush before passing on to the next, thus hardly damaging the local vegetation. The ground, too, is not affected by their passage: due to their large soles, camels sink much less into the ground than cattle or horses.

Drinking behaviour:
Camels can also loose much more water without physical after-effects than other animals of comparable size: they can lose up to 40% of their normal body-weight. The loss can be completely balanced by having their fill of water for only one time. On the contrary, humans that have lost a quantity of water equalling 10 to 12% of their body-weight are entirely dependent on outside help, cannot move nor drink or speak. A water loss of 14% leads to cardiac arrest and is therefore lethal for humans. At watering holes, moderately thirsty true camels drink 70 to 90 litres of water in only ten minutes. With summer temperatures of 46°C in the shade, true camels require water every four to five days; in the winter months with temperatures below 40°C, they need water only once every 14 days; in this case, however, they consume approximately 200 litres.

Locomotion-related behaviour:

Camels are amblers, i.e. the forelegs and hind legs of each side of the body are advanced in unison, which explains their swaying way of walking. They also employ this pacing gait when trotting. When galloping, their sequence of steps corresponds to that of other mammals. When lying down, camels first bend at the forehand joint, then at the metacarpal joint (knee), thus balancing its weight; then they bend at the ankle joint and finally at the elbow joints. Thus they "sway" forward, backward and forward again, then they move their legs under the body forward and backward until they have reached a lying-down position. Camels execute the same movements in reverse order to get up.

Minimum requirements regarding the keeping of, and care for, Camels *(Camelidae)*

1. Inside enclosure:

Space requirements:
Per animal: 3 m x 4 m

Composition of ground/litter/furnishing:
Litter, objects to engage the animals' interest.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
Minimum requirements for a group of two to three true camels: 300 sq m plus 50 sq m for every additional specimen.
Smaller camel species have a more marked need to move about; therefore the same enclosure size should be provided for the wild species guanaco and vicuña. Smaller enclosures are acceptable in case of the domesticated species llama and alpaca. Minimum requirements for a group of two to three animals: 150 sq m plus 25 sq m for every additional specimen.

Composition of ground/litter/furnishing:
The animals must have the possibility to retire to an area protected against wind and weather. The ground should consist of sand or earth. Branches should be provided to occupy the animals' interest.

3. Other factors:

Requirements regarding inside and outside enclosures:
The animals must not be kept tied to posts!
All camel species are resistant to winter temperatures and may be kept in outside enclosures throughout the year; shelters or sheds (unheated) must, however, be provided and must be big enough to enable to animals to retire and lie down at the same time.

Stallions may be occasionally dangerous; facilities to separate them from the other animals must therefore be provided.

Camels should always be kept in small groups or at least in pairs. It is impossible to keep several stallions of breeding age within one group of females. Keeping so-called stallion groups is likewise problematic. It is, however, possible to keep true camels together with equines.

Guanacos, vicuñas and true camels should be kept at a safe distance from the spectators (danger of bites!). Llamas and alpacas may also be kept in contact with the public; these specimens should, however, be tamed.

Feeding:

Camels are herbivores feeding on hay, grass (in summer), fruit, vegetables and leaves. Small quantities of concentrate feed may be sparingly added.

Hippopotamidae ⊗
Hippopotami *(Hippopotamus amphibius)* ⊗

Biological characteristics:
Hippopotami are gregarious animals, active both at day and by night; their habitats range from smaller and bigger stagnant waters and slow-running inland waterways in the African lowlands to areas reaching altitudes of 2,000 m. They mainly inhabit shallow riparian regions and usually shun open deep waters. In rare cases, they swim across river mouths and estuaries, e.g. from East Africa to Zanzibar. Hippopotami also need the adjoining up-country zones with their pastures. They spend most of the day in water, coming ashore at night to graze, for which purpose they move up to 10 km away from the water.

Social behaviour:
Groups of hippopotami can be observed in all possible combinations and sizes from about ten to approximately 100 animals. There are groups consisting of cows, with and without calves and without bulls; there are groups of bulls as well as mixed groups, e.g. groups of females with one or several bulls, and groups of bulls with only a few cows. This apparent confusion is, however, the manifestation of a logical system based on mating territoriality. Some bulls exhibit territorial behaviour (but not exceeding 10% in case of big stocks, e.g. on Edward Lake). These bulls are superior to all conspecifics in their territory and are entitled to mate with all females. Male hippopotami demonstrate peaceable behaviour towards all conspecifics, they even tolerate other adult bulls in their territory as long as these respect the hierarchy and thus the mating rights of the dominant specimen. Mothers care for their offspring for a relatively long time; sometimes young hippopotami stay with their mothers for years, so that some cows live with several of their young (maternal groups) ones.

Aggression-related behaviour:
When fighting for dominance in a particular territory, bulls may injure each other; sometimes these fights end with the death of one opponent.

Individual distance:
There is principally no individual distance between animals of one permanent group.

Play behaviour:
Young hippopotami often climb on their mother's back or neck in the water and turn "somersaults", energetically move their head and boldly swim away from their mother, to return quickly after a short time.

Agonistic behaviour:
The opponents in fights principally stand side by side facing in opposite directions. However, frontal fights have been reported in which the opponents face each other, wide opening their jaws and running towards each other, bellowing loudly. During the fight, they bite each other into the hindquarters, sides and shoulders with their canines. Although their hide in these places is several centimetres thick, the teeth can cause dangerous, even lethal injuries.

Defence behaviour:
As a rule, the animals' defence behaviour is also a form of attack; the teeth are used as defence weapons.

Sexual behaviour:
Sexual maturity: four years for females, six years for males
Rutting/heat period: approximately 3 days

Particular behaviour characteristics during the rutting season:
Mating almost always depends on the females' decision although the initiative lies with the bulls which attract the females with their calls. At the peak of the rutting season, the animals copulate several times, usually in the water. The bulls are only interested in cows in heat and sometimes also mate with two females in immediate succession.

Formation of family nucleus:
No nucleus is formed. Bulls do not care for or defend their offspring; rather, they endanger them by their jealous rutting behaviour.

Mother-child behaviour:
The gestation period lasts between 225 and 255 days. The female principally gives birth in shallow water. However, it has been occasionally observed that the female moves to a suitable spot on land, at some distance from the herd, near game trails leading to the river. She prepares a flat hollow to lie down, on which a bed of reed or dry grass is spread. As a rule, one calf is born; the calf is hidden from sight for some time after the birth. While the mother leaves her offspring relatively frequently to immerse herself in the water, she always remains near her motionless new-born to be able to defend it at any time. The imprinting phase of hippopotami is very long. The new-born calf has only a very rough congenital mother scheme and thus follows all big, moving creatures. In the imprinting phase, the new-born calf learns to identify its mother; the same goes for the cow. Since the mother keeps all conspecifics away, mistakes in the new-born's imprinting are avoided. After about two weeks, mother and child have become imprinted to each other. The calf is suckled for up to 10 months both in and outside the water. For suckling it, the mother lets herself sink to the bottom of the water; according to observations, the calf is able to feed below the water surface for up to three minutes. Only after several months is the cow ready to take her calf along to the bathing place of her group. Life in the group with its clear separation of adult bulls, cows, calves and young animals is advantageous for the rearing of the young hippopotami: if a female leaves the herd to feed or mate with a bull, the young calf may stay with another female which will faithfully watch over it.

Feeding behaviour:
Hippopotami usually feed after sunset. The adult bulls and cows leave the water to search for food on land. In one night, hippopotami can cover distances of up to 30 km and even more, reaching pastures situated over 100 m above the water level. During their nocturnal trips, the animals always use the same well-beaten game trails. In one night, a hippopotamus eats nearly 150 kg of grass, leaves, twigs, bulbs and roots. In the early morning, the animals return to the water on the same game trails.

Drinking behaviour:
Is facilitated by the animals' living in the immediate vicinity of water.

Excretion behaviour:
Generally, hippopotami defecate while rapidly beating their tail. The excrement is mixed with urine and spread over several metres to mark the territory.

Locomotion-related behaviour:
These animals are good swimmers and divers but can also attain the remarkable speed of 45 km/h on land if necessary.

Resting behaviour:
Hippopotami spend the greater part of the day in the water, either swimming or dozing, with their ears, eyes and nostrils simultaneously above the water surface. Sometimes they also expose the back of the head and the neck to the sun. They often leave the water to take short sun-baths on sand-banks but soon return to the water to cool off. The reason for this lies in the fact that the body temperature of hippopotami is regulated by secreting a slightly sticky, purple liquid from their tubular sudoriferous glands. This liquid evaporates on the skin, leaving a crust of salt and ammonium chloride. However, this cooling method is insufficient in view of the great body volume of hippopotami. It has also been observed that hippopotami do not spend the day in the water but rather in the shadow between reed banks.

Comfort behaviour:
Hippopotami like to bathe and wallow in the water.

Territorial behaviour:
Bull hippopotami try to win a territory which they mark with a mixture of excrement and urine and defend against enemies. The animals often display a high degree of mobility within these territories.

Summary:

Hippopotami are animals well adapted to life in and around water to which they must have continuous access.
The body of water provided for the hippopotami must be deep enough to enable them to completely immerse themselves in it. Keeping them in too small or too shallow basins for too long will entail articular injuries. The above-mentioned conditions can only be safeguarded by stationary enclosures.
Furthermore, hippopotami are gregarious animals living in groups as described above.

For this reason, the keeping of hippopotami in circuses is entirely unacceptable!

Rhinoceri *(Rhinocerotidae)*

Biological characteristics:

There are five genera of rhinoceri: the white rhinoceros, the black rhinoceros, and the Sumatran (Chittagong) rhinoceros, all of which have two horns, while the Indian rhinoceros and the Javan rhinoceros have only one horn.

It has been repeatedly observed in the past that the white rhinoceros, the black rhinoceros and the Indian rhinoceros have been kept in circuses although all rhinoceri, as described below, are absolutely unsuited for the purpose.

All species are in great danger of extinction.

The **white rhinoceros** inhabits the African steppes with their grassland and sparse bush and tree cover. Adult cows and mother-child units mostly live in small groups with fixed, albeit overlapping territories which may attain 10 to 20 sq km. Adult bulls are rogues and are highly dominant or inferior territorially. The territories of adult bulls have an extension of one to two square kilometres.

Rhinoceri eat more than 30 different varieties of grass.

Their distinguishing mark are two horns; the anterior horn is bigger, and the base is broader in bulls. They also have a hump resting atop powerful neck muscles; their head is very long, the snout large; upper and lower lip fit precisely together.

Black rhinoceri are mostly rogues inhabiting the African bush steppes. Groups of cows and young animals are infrequent; if they occur, they are very small. In all other respects, this animal is similar to the white rhinoceros in its habits although its territorial behaviour is much less developed.

The diet of these rhinoceri mainly consists of twigs of bushes (more than 100 different varieties) as well as creeping plants.

The black rhinoceros, too, has two horns, the anterior of which is usually bigger; the upper lip, which functions as a gripping device, projects over the lower lip.

The **Indian rhinoceros** inhabits the alluvial plains of big rivers, which are partly flooded annually, as well as shallow cut-off river branches with marsh vegetation, grass and napier grass, and riparian forests.

Cows and young animals form loose groups while bulls usually are rogues. The bulls' territories cover approximately 20 sq km.

The Indian rhinoceros has one horn and is moreover protected by platelike folds of skin. The skin of shoulders, upper forelegs and thighs is warty. The upper lip serves as a gripping device.

These animals eat grass (short and reedy varieties) as well as aquatic plants and twigs of trees.

As with other big ungulates, the species that inhabit the open land and mainly eat grass are bigger than both those which are not grass-eaters and the specialised forest-dwellers.

With respect to the animals' degree of gregariousness, too, the rule applying to other ungulates is also true: the more open the habitat, the more gregarious the animal. Rhinoceri are mostly loners and therefore not very gregarious. The only really permanent relationship is that between a cow and her calf until the next birth. Moreover, black rhinoceri occasionally form permanent groups, usually composed of a few individual animals - probably closely related on the maternal side - and one older cow. Similar groups have likewise been observed in white rhinoceri; however, these sometimes involve animals that are not related to each other, being e.g. composed of a cow and several younger animals.

Occasionally, animals whose territories overlap form a group as well. For example, up to 20 white rhinoceri have been observed to graze close to each other or rest in the shade of a tree in the midday hours. Similar associations have been reported for the grazing and bathing behaviour of the Indian rhinoceros. Hierachically dominant bulls occasionally visit single cows.

Social behaviour:

Aggression-related behaviour:

White rhinoceros
Strongly territorial bulls confront all conspecifics they notice. However, the animals never approach the other rhinoceri in an openly aggressive manner. Males turn away from cows if these behave in an unfriendly way and usually take no notice of calves. Occasionally, they advance to drive almost fully grown bulls away. If an adult bull of a lower hierarchic position inhabits the territory of a dominant one, the stronger animals tolerates the weaker one. In encounters between bulls inhabiting neighbouring territories, too, no genuine fights take place; the animals merely try to impress each other with their strength. Only bulls encountering a conspecific on a game trail may embark on confrontations that last several hours and may result in genuine fights involving the violent thrusting of the horn against the head and shoulders of the enemy or even the pursuit of the opponent, thrusting the horn against the fleeing animal's hindquarters. Fights leading to injury are likewise possible in encounters of dominant bulls and outside inferior bulls that have entered the stronger animal's territory.

Black rhinoceros
Territory-related intolerance may surface in the encounter of two bulls. A slow approach of the opponent usually equals a first threat. In the animals' natural habitat, serious fights occur but rarely.

Individual distance:
Animals of one group maintain practically no individual distance.

Indian rhinoceros

In case of rogues, high population density will increase aggressiveness. If the stock is very big, fights between conspecifics are a frequent and natural cause of death. Confrontations between cows occur relatively often, especially fights in which two animals face each other with their horns. However, such confrontations hardly ever lead to injury or pursuit over a greater distance. Almost all vehemently aggressive attacks are actions of dominant bulls against other bulls, almost grown younger animals and, under specific conditions, against adult cows.

Agonistic behaviour:

The opponents in a fight approach each other as described above.

Defence behaviour:

As a rule, the animals' defence behaviour is a form of attack; if the fight is lost, the inferior animal turns away and flees.

Sexual behaviour:

Reproduction:

As with other big ungulates, only one already highly developed nidifugous calf is born. The calf is able to stand up and keep its balance within one hour after birth. About three hours after birth, the congenital searching instinct incites the calf to drink from its mother.

Mating:

The mating behaviour of rhinoceri is highly peculiar. One copulation may take for up to ninety minutes. The bull covers the cow for the entire period without retiring. Ejaculation takes place every one to two minutes. Cows mate only once per heat period. Cows conceive about one to two years after the birth of the last calf and possibly after several heat periods. The low reproduction rate (one calf per cow every three years) one the one hand is in keeping with the longevity of rhinoceri and on the other hand results from their lack of natural enemies.

Mother-child behaviour:

Cow and calf become imprinted to each other during the first hours after birth.
The mother-child unit continues throughout the second mating period until a short time before the next birth. Then the cow will not tolerate the presence of her almost grown calf for at least several months.

Feeding behaviour:

As with other big ungulates, the species that inhabit the open land and mainly eat grass are bigger than both those which are not grass-eaters and the specialised forest-dwellers. Rhinoceri grind their food under pressure. All branches of the jaws feature one homogeneous block of molars and bicuspids. The height of the coronae corresponds to the type of food. The grass-eaters (the white rhinoceros and the Indian rhinoceros) have relatively higher coronae than the other three species since grass must be entirely comminuted to break down the nutrients. Rhinoceri always rest between feeding.

Drinking behaviour:
Water is vital for rhinoceri. They drink daily and often walk for many kilometres to reach the nearest watering-hole. In dry periods, however, they can survive for two to three days without drinking. Water is especially important for Indian rhinoceri; this species also likes to rest in the water. The weight of the heavy body is reduced by buoyancy and protected against both strong sunlight and blood-sucking insects.

Excretion behaviour:
When defecating, the white rhinoceros kicks the fresh dung clots with its hind legs, rubbing its soles with the dung juices. Walking around, the animal thus discharges minuscule quantities of these odorous substances, which serves for communication with its conspecifics. The Indian rhinoceros marks its trail by means of secretions from a gland situated behind and above the balls of its feet. The Asian species like to wallow in sloughs which they deepen in wet, loamy soil. Usually, the loamy liquid smells strongly of fermented urine; this smell is transferred to the rhinoceri by wallowing in the water. When moving through thick undergrowth, the smell adheres to the plants. Comparing the scent markings of white rhinoceri with that of Indian rhinoceri, the former appears better adapted to dry, hard soil and sparse vegetation while the latter is better suited to wet or humid soil and denser vegetation.

Locomotion-related behaviour:
Corresponding to their territories, these animals sometimes cover great distances. Individual animals or groups stay in a relatively small territory which, while continuously providing food, must not be exhausted and exploited by one big herd. In case of the African species, droughts often force the animals to undertake excursions away from the territory to find water; these excursions are repeated every few days.

Resting behaviour:
As a rule, sleeping rhinoceri lie on their stomachs, slightly turned to one side, with the forelegs placed under the body while the hind legs are extended. The head rests on the ground in front of the animal. Only in rare cases rhinoceri lie down on one body side, stretching their four legs to the side. Contrary to elephants, rhinoceri sleep for long periods per night (the average is eight to nine hours); in this, they spend almost the same time on the left and right body sides. Two or three times per night, they get up to defecate or urinate. Moreover, the animals rest without sleeping for two to three and sometimes even five hours.

Comfort behaviour:
Comfort behaviour patterns of rhinoceri include sharpening their horns as well as wallowing in the mud (in case of Asian species) and sand-bathing (in case of African species).

Territorial behaviour:

White rhinoceros
Mother-child units: 10 to 20 sq km; dominant bulls: 1 to 2 sq km

Black rhinoceros
No pronounced territorial behaviour

Indian rhinoceros
Bull territories: approximately 20 sq km

Summary:

Rhinoceri are animals threatened by extinction; if only for this reason, their keeping in circuses is absolutely unacceptable! Moreover, because of their biological characteristics and their social behaviour (rhinoceri are loners that inhabit large territories), it is impossible for circuses to keep rhinoceri in a manner suited to the needs of the individual animal! Furthermore, rhinoceri cannot be trained to perform; standard circus acts involving these animals consist in their being merely driven through the arena.

The keeping of rhinoceri in circuses is therefore entirely unacceptable!

Zebras *(Equidae)* in part (⊗)

Biological characteristics:
Zebras are animals of the steppe living in permanent family groups in a zone ranging from East Africa to South and Southwest Africa and sometimes to the deserts and semi-deserts of South and Southwest Africa; there are three species: Burchell's zebra, or bonte quagga (biggest population), mountain zebra (endangered species!) and Grevy's zebra.

Social behaviour:

Social structure:
Even in big herds, zebras form entirely independent family groups which as a rule are led by a stallion. About six mares with their foals (although not more than 15 animals) band together. Family ties are very durable; thus, adult mares or stallions hardly ever leave an established group to join another family. If a stallion leaves the family for whatever reason, his place is taken by another stallion from outside. The only regular form of family change concerns young animals: during the horsing period, the mares aged one to two years are separated from their families by outside stallions. The stallions leave their families at the age of one to three years, sometimes a little later, to join other stallions.
The Grevy zebra follows a different social system: while this species does have territories there are no long-term relationships between individual specimens. The females are constantly on the move, only the stallions remain in their territory which they defend only if mares in heat are present.

Aggression-related behaviour:
Fights are a common occurrence in zebra herds. The stallions buck, kick and try to bite their enemy. These fights for dominance and territories have manifold ways of expression. They are not unregulated struggles but rather, as with other gregarious animals, follow the pattern of a ritualised fight. Grevy's zebras are particularly aggressive.

Hierarchy:
Dominant males defend their territory and family against conspecifics.

Play behaviour:
Similar to that of other equine species or perissodactyls.

Agonistic behaviour:
Ritualised; fights focus on biting the adversary's neck and legs and on kicking.

Defence behaviour:
In their natural habitat, zebras flee their enemies; if cornered, they try to defend themselves with their hooves.

Sexual behaviour:
Young mares attain sexual maturity at the age of approximately 21 months, the gestation period is approximately one year and 390 days for Grevy's zebra; no cycle known.

Particular behaviour characteristics during the rutting season:
The behaviour of males in the rutting period is similar to that of horses.

Mother-child behaviour:
The preparations for the birth and the birth itself are similar to that of horses; as a rule, one foal is born. The foals need one to two days for imprinting and can see and walk from birth.

Suckling period and maternal behaviour:
Similar to that of horses.

Feeding behaviour:
Observations have shown than the animals frequently graze at dawn, sometimes covering a distance of 2 to 3 km. At noon, they rest in the shade of trees, in the afternoon, they normally move to a watering hole, again feeding on their return to their resting place.

Drinking behaviour, excretion behaviour:
Similar to that of horses.

Locomotion-related behaviour:
The basic paces of the zebra equal those of the horse and include pace, trot and gallop. These animals often cover long distances. Young zebras in particular have a marked need for movement.

Resting behaviour, comfort behaviour and **exploration behaviour:**
Analogous to those of horses.

Summary:

In view of the fact that the **mountain zebra** is an endangered species, its keeping in circuses is **unacceptable!**

Minimum requirements regarding the keeping of, and care for, Zebras *(Equidae)* in part (⊗)

1. Inside enclosures:

Space requirements:
Per animal: 12 sq m

Climate:
Protect against draught, stable temperature above 12° C.

Composition of ground/litter/furnishing:
Straw litter; branches to occupy the animals' attention.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1- 3 animals: 150 sq m plus 25 sq m for every additional specimen

Climate:
The animals must have the possibility to retire to a shelter against wind and weather.

Composition of ground/furnishing:
Natural ground or sand; if the animals are not kept on sandy soil, they must be provided with possibilities to take a sand-bath.
There must be branches to occupy the animals' attention

3. Other factors:

Requirements regarding inside and outside enclosures:
The animals must not be tied to a post!
In case of outside temperatures below 12°C, the animals must have the possibility to retreat to rooms with an inside temperature of at least 12°C. (However, depending on their region of origin, some species are resistant to cold weather.)

The keeping of mountain zebras in circuses is unacceptable since this is an endangered species!

Big anthropoids *(Pongidae)* ⊗

Biological characteristics:
The family Anthropoids comprises orang-utans, gorillas and chimpanzees ("big anthropoids"). Gibbons ("small anthropoids") form a second family.
Anthropoids represent the highest evolutionary stage of all animals, both in general amongst primates and amongst catarrhines in particular. Together with gibbons and humans, they constitute the super-family Hominoidae.

Orang-utan *(Pongo pygmaeus)*

Biological characteristics:
Arboreal animal, active at daylight, inhabiting the lowland forests (rain forest, mangroves, marshland and mountain forests) of Borneo and Sumatra; life expectancy: approximately 35 years.

Social behaviour:
All big anthropoids need relationships with conspecifics. In their natural surroundings, i.e. in the natural social communities of the respective species, most activities are addressed to the other members of the group. There are big social communities with a certain hierarchic structure.

Group relationships of orang-utans are somewhat less marked than in other anthropoids. Adult males inhabit large territories; as a rule, they live at a distance from the females and young which apparently confine their movements to smaller areas. Several females with their offspring sometimes stay together for a longer period of time, forming groups. Males occasionally live in small groups but often are rogues.

Social structure:
Loosely knit family groups, rather solitary. Mostly mothers with one to two young animals.

Sexual behaviour:
Females attain sexual maturity at the age of approximately eight years (gestation period: 225 to 289 days) and are then able to give birth to one baby every three years over a period of 20 years; as a rule, however, females do not rear more than four of five babies throughout their lives. Females are ready to mate throughout the month, they do not exhibit any clear signs of heat such as e.g. chimpanzees.

Mother-child behaviour:
At birth, the young orang-utans weigh about 1,5 kg. They are usually carried on their mothers' hip, suckled for two to three years and additionally supplied with pre-chewed food from the first year of life.
During their first year, young orang-utans enjoy almost permanent physical contact with their mothers; they cling to them while moving. Young orang-utans are fully weaned only after three years or even later if the mother does not expect another birth; however, at the age of about four months, they begin to try other sources of food. At the age of one year, the baby orang-utan begins to move about close to its mother; at the age of roughly two years, the young sometimes leave their mothers to build play nests and to

play with other toys such as pieces of bark etc. However, the young never venture too far away from their mothers at night. Only at three to seven years, the adolescent animals move away from the family for longer periods, increasingly spending some time alone. When sexual maturity is attained at the age of seven to ten years, the young animals have completely detached themselves from their mothers.

Feeding behaviour:
Orang-utans feed on fruit, buds, leaves, reed, bark, flowers, insects, bird eggs and honey. They use pieces of chewed wood to "angle" for termites.

Locomotion-related behaviour:
Orang-utans spend the major part of their lives in trees, where they climb from tree to tree without jumping.

Resting behaviour:
These animals spend the night in tree nests which they weave in only a few minutes.

Gorillas *(Gorilla gorilla)*

Biological characteristics:
Biggest anthropoid, active at daylight, largely (90%) inhabiting the ground, habitats: African tropical mountain forests, rain forests and bamboo forests up to 4,000 m altitude; life expectancy: approximately 38 years.

Social behaviour:
Gorillas live in harem groups composed of one adult male ("silverback") and usually four to five females and their still-dependent offspring (these young gorillas may be already sexually mature but not yet fully grown males). Often another silverback is loosely connected to the group.

Social structure:
Family groups under the leadership of one silverback.
As with humans, the long period of dependence from its mother enables the young gorilla to prepare itself for its future life in a variety of ways.

Sexual behaviour:
Females attain sexual maturity at about six years; males, at about eight years.

Mother-child behaviour:
Gestation period: 225 to 289 days.
Young gorillas are hairless at birth; they begin to crawl at about nine weeks and are able to walk at the age of approximately 40 weeks.

Feeding behaviour:
Their diet consists of fruit, leaves, bark, roots and young bamboo shoots.

Locomotion-related behaviour:
Gorillas do not walk upright but rather on their flat soles and edges of their paws. They spend most of the time on the ground, only young animals sometimes play in the trees.

Resting behaviour:
At night, gorillas build nests for sleeping in the trees or on the ground, depending on where they happen to stop in their wanderings.

Territorial behaviour:
Territories overlap and are not defended rigorously. If two groups encounter each other, the males beat their chests, sometimes also trying to ward off the other group by tearing at branches; there are no further confrontations.

Chimpanzees *(Pan troglodytes)*

Biological characteristics:
Active at daylight, both arboreal and ground-dweller, inhabiting the African tropical rain forests and tree savannahs up to a altitude of 3,000 m.

Social behaviour:
Chimpanzees often form larger groups, so that several males and several females with their offspring of different ages live together. These groups of 60 to 80 animals often divide into smaller bands during their daily wanderings.

Aggression-related behaviour:
While relationships between gorillas are usually peaceful, almost gentle, explosions of aggressive behaviour are not uncommon in chimpanzees. Both adults and young animals may occasionally be killed within chimpanzee groups.

Sexual behaviour:
The sexual cycle of female chimpanzees (and bonobos, see below) is characterised by the swelling and shrinking of their genital skin. On an average, the complete cycle lasts for 38 days, while the maximum swelling is noticeable for ten days and coincides with the oestrus in which the female is able to conceive. In their natural surroundings, females give birth every five to six years unless the baby dies, in which case the female conceives only a few months afterwards.

Mother-child behaviour:
Gestation period: 225 to 289 days
The new-born chimpanzee clings to its mother's chest hair and drinks roughly once an hour.
After a new birth, the older offspring of a female gradually becomes independent, is weaned and begins to roam the surroundings on its own. The strong relationship with the mother remains, however. Young chimpanzees begin to move around at about six months but stay relatively near their mother. They now ride on their mother's back and play with co-evals. Sometimes, they are suckled until the age of three years but are in any case given additional food (pre-chewed fruit).

Feeding behaviour:
Chimpanzees spend six to eight hours per day searching for food and feeding. They use small sticks to catch termites, which they suck dry, and occasionally kill smaller animals (monkeys, pigs etc.) for their meat. In addition to sticks, they also use other tools such as "sponges" (chewed leaves used to suck water from knotholes) or clubs.

Locomotion-related behaviour:
Chimpanzees mostly move on all fours on the ground, walking on their knuckles, but can also swing from tree to tree due to their build (long arms, broad chest, short thumb).

Resting behaviour:
Chimpanzees sleep in nests they daily build in the trees. These nests are situated at a height of 6 to 18 m; the leader of the group always sleeps in the highest nest. The young sleep with their mothers, while adults and young chimpanzees older than three years build their own nests.

Territorial behaviour:
Chimpanzees claim a territory by calling out loudly during the day. In case of encounters of two groups, the display behaviour of the males corresponds to that of gorillas.

Pygmy chimpanzee (Bonobo) *(Pan paniscus)*

Habitat:
Mostly arboreal animals in South Africa and Zaire.

Social behaviour:
The situation regarding bonobos is rather similar to that of chimpanzees although the groups formed are somewhat larger. Despite the greater irritability of these animals, their tendency to exhibit aggressive behaviour appears to be lower.
Communities of 50 to 120 animals living together in loosely knit, varying groups of two to 50 specimen.

Mother-child behaviour:
Gestation: 225 to 289 days.
Analogous to chimpanzees.

Feeding behaviour:
Bonobos chiefly feed on fruit but also on leaves, buds, flowers, insects, earthworms and sometimes small mammals.

Orang-utans, gorillas, chimpanzees, bonobos:

Feeding behaviour:
Due to the large share of vegetable food ingested, the animals search for food almost throughout the entire day, interrupted only by resting and sleeping phases. The animals' route through their territories depends on the maturity of the various fruits and plants (in particular with respect to orang-utans). Mobility is therefore an important factor in the life of anthropoids.

Comfort behaviour:
Comfort behaviour with respect to grooming and hygiene is highly developed in all species and very important for the social structure.

Exploration behaviour:
Since anthropoids are the most highly evolved animals, their exploration and play instincts are very pronounced. Young animals of all species dispose of a rich repertory of such behavioural patterns. The use of tools by the anthropoids should once more be especially emphasised.

Territorial behaviour:
Orang-utans: territory: 2 to more than 10 sq km (males) and 1.5 to 5 sq km (females).
Gorillas: territory: 2 to 25 sq km.
Chimpanzees: territory: e.g. 15 to 50 sq km but smaller in some regions.

Summary:

Due their extremely high evolution level, anthropoids are very sensitive and social animals that depend on family life.

The rearing of their young within the mother-child relationship is essential for anthropoids. Young animals should remain with their mothers at least until the age of four years to acquire behavioural patterns in keeping with the species. However, new-born babies or young animals are separated from their mothers in circuses to render them particularly tame as a result of human imprinting, a practice that must be strictly refuted from the point of view of animal protection.

Moreover, the humanising and ridiculing of animals, and in particular of the most highly evolved mammals except humans, do not correspond to the didactic principles of our time since they convey a totally wrong idea of the nature of these animals to children.

Anthropoids are enormously sensitive from the psychological viewpoint and suffer greatly from continuous changes of place since they are subject to increased stressors. All anthropoids are furthermore extremely susceptible to abrupt temperature changes and draught.

These animals often become dangerous with the onset of old age. This means that anthropoids can perform circus acts only for a few years and then are usually dumped somewhere as irritable and bad-tempered animals.

All anthropoids are extremely endangered species; therefore each speciman living in captivity should be specifically registered on a worldwide basis to become part of the international breeding and animal keeping programmes. Moreover, all species as endangered by extinction as anthropoids can only be kept in breeding groups, which means that adult males and females living in one group cannot be used for performing.

For all of the above reasons, the keeping of anthropoids in circuses is absolutely unacceptable!

Other monkeys *(Simiae)* largely ⊗

Due to their pronounced social behaviour, the size of groups required in accordance to each species and their need to climb, it is largely impossible for circuses to keep monkeys in a manner that corresponds to their behavioural patterns.
Keeping single animals as "pals" of humans is unacceptable.

Despite this, the below text contains information on baboons and capuchin monkeys since these species are currently still kept in many circuses. However, these minimum requirements should in no case be misunderstood as a justification to keep these animals in circuses.

Baboons *(Papio sp.)*

Biological characteristics:

Baboons inhabit the open savannahs, sparse forests, steppes, semi-deserts and rocky areas of Africa. Typical characteristics include the long, doglike snouts and their size. "Baboon" is a collective name for a relatively homogeneous group of several genera. Most circuses chiefly keep sacred or grey baboons and gelada baboons.

Social behaviour:

Baboons live in large packs comprising 20 to 200 animals, characterised by various social structures. Groups of species inhabiting open savannahs usually have one dominant male; sometimes two or three males form a dominant group. The females always have a lower position in the dominance hierarchy than the males although there are differences amongst them as well. Mothers with their offspring are always treated with respect. The groups are characterized by a very strong community instinct and separate only if they have become too large. When moving, the females and young are protected at the centre of the group. The weaker males remain at the fringes of the herd while the dominant males take the centre to defend the others against enemies. The cohesion of the group is particularly pronounced when the animals are moving through potentially dangerous areas. It has been observed that the pack splits up in times of food scarcity, taking the increased risk of roaming in small groups in order to find food.
Female baboons stay with their tribal group throughout their lives. They are the focus of the group, around which their siblings and offspring cluster. Close relatives aid in rearing the young baboons of their tribe. Generally, males leave their tribal group upon reaching maturity and have been known to wander from group to group even at a later age.

Agonistic behaviour:

The threatening yawn of male grey baboons is used for confrontations amongst conspecifics but also to ward off enemies. The razor-sharp eye-teeth are dangerous weapons. Fully grown males weigh about twice as much as the females. The interrelationships between baboon groups are neither particularly friendly nor expressly hostile. Obviously the territories are so big that defending them against intruders is not really necessary. In isolated cases, fights occur to define the activity radius of one group. Many disputes are settled by means of threatening gestures. The inferior group usually flees and is pursued by the winners over a short distance.

Sexual behaviour:

Mating relationships may last for several hours or several days. The dominant male copulates with the females in heat so that all offspring of one generation have the same father. Other males are kept away from the females in heat.

Mother-child behaviour:

The gestation period is six months.
Baboon ba
bies are cared for by the entire group. They are first clinging to the mother's belly and later sit on her back. After six months, the young are weaned. Initially, the young baboons play with each other in a very rough manner but soon they are educated by the older males. These also step in if a young animal needs help. Insubordinate baboons are punished by a short bite to the neck.

Feeding behaviour:

At times the animals cover long distances to feed, roaming a territory sized from two to thirty square kilometres, depending on the species. The diet consists of grass, herbs, seeds, fruit, roots, bulbs, leaves, nuts, wild fruit but also of invertebrates, young birds, small mammals and, occasionally, young gazelles.

Baboons *(Papio sp.)*

(Not suited for keeping in circuses, see page 94!)

1. Inside enclosures:

Space requirements:
For up to 5 animals: 30 sq m plus 1.5 sq m for each additional specimen
Height of enclosure: at least 3 m

Climate:
Baboons can be kept in outside enclosures through the years if given the possibility to retire to moderately heated rooms (5-8° C).

Composition of ground/litter/furnishing:
Straw litter; sufficient climbing facilities, hiding-places, recesses and other possibilities to withdraw in accordance with the number of animals. Facilities for playing and to occupy the animals' attention, e.g. branches, straw, moving structures such as ropes, chains etc.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
1 - 5 animals: 30 sq m plus 2 sq m for every additional specimen
Height of enclosure: at least 5 m

Enclosures must be equipped with a fence or grate to function as a closed cage; electrified wire is only acceptable as an additional safety device or in case of very large outside enclosures or compounds.

Composition of ground/furnishing:
Climbing facilities, hiding-places, recesses and other possibilities to withdraw in accordance with the number of animals. Facilities for playing and to occupy the animals' attention, e.g. branches, straw, moving structures such as ropes, chains etc.

3. Other factors:

Keeping of baboons in groups:
Big harem groups; keeping of single specimens is not acceptable.
If groups containing several males are kept, well-structured enclosures must be available. Here the minimum requirements specified above are not sufficient, and the enclosure size must be determined on a case-to-case basis.
It is not recommended to keep groups entirely composed of males.

Feeding:

The animals should be fed at least twice daily with a diversified diet of fruit and vegetables, corn, sufficient quantities of animal protein, leaves, twigs, maize etc.

Capuchin monkeys *(Cebus sp.)*

Biological characteristics:
Capuchins are new-world monkeys inhabiting all South American forest zones. They are small and weight between 2 and 4 kg, depending on the respective species. Since capuchins are the sturdiest and toughest South American monkeys, they are often kept in circuses.

Social behaviour:
Capuchin monkeys live in big communities, usually, the number of females is higher than that of males. About half of the group consists of young animals of various age. The groups are characterized by a high degree of cohesion. While males sometimes tend to change from group to group, capuchins principally defend their own group. Depending on the respective species, each group has up to 30 members and always contains at least two adult males.

Groups present a particular hierarchy: there is one dominant male and one dominant female. Both are somewhat isolated from the rest of the group. It is the aim of the dominant female to develop a relationship with the dominant male and to drive off all other animals that try to approach him. The rest of the group can be split up into various subgroups which may be based on one-on-one relationships. Social contacts between males usually find expression in play while females prefer to groom each other and sit close to other females. Grooming between females of different subgroups is a very rare phenomenon.

Agonistic behaviour:
Capuchin males fight occasionally. The dominant male defends the group.

Sexual behaviour:
Usually, the females court the males by approaching the selected male and inviting him by means of gestures and typical sounds to follow her.

Mother-child behaviour:
New-born capuchin monkeys are utterly helpless and spend the first three weeks of life nearly immobile in a transversal position on their mother's back. Their only activities are sucking, looking around, scratching and climbing or raising their body on their mother's back. Beginning with the second month of life, they are also carried by other females of the group. After the second month, they are able to climb on their own and eat solid food. Young capuchin monkeys establish their first active contacts with conspecifics in their third month. The close relationship with the mother continues until the end of the sixth month. In some cases, the young animals are suckled by their mother even after the eleventh month of life.

Feeding behaviour:
At dawn, the young animals are the first to leave the trees where capuchin monkeys spend the night; until dusk, the entire group is busy searching for food (with the exception of a long siesta at noon). Capuchin monkeys search for food in all areas of their habitat; therefore they can be found on the forest soil as well as on the highest treetops. While searching for food, the monkeys of one group spread over an area of one

hundred metres in every direction (especially when hunting for insects); as a result, some animals are often separated from the rest. Their diet consists of fruit, insects and small vertebrates. When drinking, capuchin monkeys sometimes also use their hands to scoop water.

Territorial behaviour:
The territory sizes range from 0.3 sq km to 80 hectares, depending on the species.

Capuchin monkeys *(Cebus sp.)*

(Principal reservations regarding the keeping of monkeys in circuses: see page 94!)

1. Inside enclosures:

Space requirements:
2 to 5 animals: 20 sq m plus 3 sq m for each additional specimen
Height of enclosure: at least 3 m

Climate:
Protect against draught and direct exposure to the sun.
During the cold season, the inside enclosures must be heated to a minimum temperature of 15° C. In case of animals not adjusted to lower temperatures, it may be necessary to increase the ambient temperature to 22° C.

Composition of ground/litter/furnishing:
In accordance with the animals' needs, there should be a sufficient quantity of climbing and swinging facilities as well as hiding-places, recesses and other possibilities to withdraw, above all in the upper part of the cage; elastic structures such as ropes, nets, hammocks; seats at varying heights in accordance with the number of animals.

2. Outside enclosure:

The animals must have the possibility to move freely through the outside enclosure for at least eight hours per day.

Space requirements:
2 - 5 animals: 20 sq m plus 3 sq m for every additional specimen
Height of enclosure: at least 3.5 m

Composition of ground/litter/furnishing:
In accordance with the animals' needs, there should be a sufficient quantity of climbing and swinging facilities as well as hiding-places, recesses and other possibilities to withdraw, above all in the upper part of the cage; elastic structures such as ropes, nets, hammocks; seats at varying heights in accordance with the number of animals.

3. Other factors:

Requirements regarding inside and outside enclosures:
The animals must not be tied to a post! This would amount to cruelty to animals and thus constitute a punishable offence!
In case of outside temperatures below 15° C, the animals must have the possibility to retreat to protected rooms; delicate animals need an ambient temperature of at least 22°C (see above).

Keeping of capuchin monkeys in groups:
Must be kept in groups; the keeping of single capuchin monkeys is absolutely inadmissible!

Feeding:
All south American monkeys are so-called "food wasters", i.e. animals that only select individual items without waiting until the remaining food has been eaten. Several feeding places are necessary to ensure that animals ranking low in the hierarchy will also have their fill. The needs of the species should be met by providing a diversified diet (lots of leaves, foliage etc.). In addition to sufficient quantities of fruit and vegetables, the animals should also be given corn, nuts, curd, grasshoppers, crickets, meal beetle larvae, new-born mices, eggs, boiled meat etc.

Ostriches *(Struthio camelus)* ⊗

Biological characteristics:
The African ostrich forms part of the order cursores.
Its habitat extends from grassy savannahs to deserts and thorny bushland low in vegetation as well as to rugged mountains.

Social behaviour:

Social structure:
Ostriches live in permanent family communities.

Sexual behaviour:
Being a polygamous species of bird, ostriches form so-called reproduction communities generally consisting of one male and three to five females.
The prime female is the first to begin laying the eggs.
The prime female alternates with the male in breeding the clutch of eggs.

Mother-child behaviour:
Social contacts between the young and their parents as well as amongst. The young ostriches begins already a few days before hatching by means of melodious calls.

Exploration behaviour:
Ostriches have highly developed sight and hearing. While they are curious animals, they are also very timid in their natural surroundings. In fact, they exhibit typical distance/avoidance behaviour; their reaction to avoid enemies is to flee in panic, attaining maximum velocities of 70 km/h.

Ostriches have no uropygial gland and are therefore highly susceptible to protracted humidity.

Summary:

Due to their extensive space requirements (at least 1,000 sq m are required for each small group), their highly developed social behaviour (the keeping of single animals would run counter to the provisions of animal protection), their susceptibility to wet climates (the animals must be at any time able to retire to a shelter providing at least 25 sq m of space per animal) and their total unsuitability to frequent transport, the keeping of ostriches in circuses is unacceptable.

Reptiles *(Reptilia)* ⊗

Making reptiles "performances" in circuses (although such acts can never be true performances but only a form of "show") causes anxiety in these animals. Circuses cannot give reptiles a possibility to behave in a manner in accordance with their natural instincts.

The keeping of reptiles must therefore correspond to the minimum requirements concerning the keeping of reptiles in zoos or private collections.

As a rule, reptiles react very sensitively to all sorts of vibrations and temperature changes and are therefore totally unsuited for frequent transport.
If only for the above-mentioned reasons, the keeping of reptiles in circuses is entirely unacceptable.

Annex

Data sheet for use by public veterinarians

Enterprise:	
Location:	
Recorded on:	
Species:	
Number of animals:	
Sex:	
Age:	
Inside enclosure:	
Size:	
Litter:	
Equipment/Furnishing:	
Outside enclosure:	
Size:	
Litter:	
Equipment/Furnishing:	
Health status:	
Body surface (coat of hair):	
Nutrition status:	
Injuries:	
Diseases (symptoms):	
Ethopathies:	
Daily work:	
Feeding/Drinking:	
Equipment of animals:	
Remarks:	

Behavioural Enrichment
Promotion of Natural Behavioural Patterns as a Significant Contribution to the Improvement of Animal Keeping

Over the past years, behavioural enrichment has become a catchphrase of modern animal keeping techniques. Although the founder of zoological garden biology, H. Hediger, had already demanded the structural enrichment of zoological establishments and enclosures in the 1940s to enable a more natural behaviour of the animals inhabiting these facilities, these demands have not yet been sufficiently implemented to this day.

The enrichment of the range of stimuli provided usually depends on the intelligence and commitment of competent animal keepers. For this reason, a specific programme must be developed which first of all enumerates various ideas and suggestions, stipulates an implementation time schedule and finally provides for the continuous variation of this programme. The enrichment programme can be principally implemented at five levels:

1. Animal keeping system (social structure)

The requirements regarding solitary or social lifestyles must be implemented in accordance with the needs of the respective species. This means that the keeping of single animals is not acceptable in most cases.

2. Structure of animal keeping facilities

Adequate three-dimensional structures, providing for a wide variety of different materials, should enable the animals to demonstrate forms of behaviour such as climbing, leaping etc., but also to withdraw from the gaze of visitors or another animals inhabiting the compound or enclosure.

3. Wide range of objects and items for playing

The period of food acquisition can be artificially extended by means of specific objects linked to the feeding process. The best-known example concerns the artificial termitaries in enclosures for anthropoids. However, there are practically no limits to the implementation and adaptation of this basic concept for many other animal species.

On the other hand, items for playing serve as objects for practising manipulation behaviour mainly for young animals but also for many adult specimens. This approach will, however, only be successful if a wide variety of objects and items is provided.

4. Feeding methods

Development of a feeding schedule for all species, considering seasonal and weekly cycles and provision of a varied diet that also occupies the animals' attention and interest:

a) The daily feed should be split up in several rations and qualities (in accordance with the needs of the respective species), e.g. for horses: hay - green forage - leaves, green forage - hay - pellets (at least four feedings per day).

b) Rations should not be offered on a serving tray but spread all over the compound, providing for different degrees of difficulty, e.g. positioning baskets with fodder for elephants high up in trees.

c) In general, rations of concentrate should not be offered in one spot only but spread all over the compound, both in inside and outside enclosures; e.g. hay and green forage should also be provided in the open.

d) Specific feed for selected species should be provided in containers that can be handled by the animals; e.g. offering raisins to primates in holes drilled into pieces of wood, providing swings combined with feed, or fitted pipes from which pieces of food can be extracted by means of tools.

e) The feed selection should be specified according to the animal's need to handle objects; e.g. fruit should not always be cut into pieces but suspended in branches whole. Corn, too, should be spread all over the area.

f) The feed should be adapted to the season. Not only economic aspects should be decisive; rather, the seasonal cycle should be imitated by modifying the feed provided.

g) Weekly feeding schedules should be developed to avoid daily routines.

h) Insects should be provided as feed as well as specific feeding devices, e.g. offering crickets in plexiglass boxes with holes to spider monkeys.

In general, the intention should be to provide feed that is as close as possible to the animal's natural diet in both quantity and quality.

5. Direct contact of animal keepers with animals

By communicating with the animals entrusted to them, keepers can target their efforts to positively influence the system of animal keeping. Moreover, it is easier to carry out ministrations e.g. in the course of medical care extended to wild animals if these animals are used to communicating with humans.

The following contains a list with suggestions for behavioural enrichment.

Examples of Behavioural Enrichment

Elephants *(Elephantidae):*

Suggestion:	Trees for scratching and rubbing
Activity:	Enabling the animals to groom themselves in a natural manner
Suggestion:	Daily supply with fresh branches
Activity:	Manipulation/handling behaviour, teeth grooming
Remark:	Trunk and limbs are used to break and handle branches.
Suggestion:	Facilities for sand bathing and bathing in water
Activity:	Natural bathing behaviour
Remark:	Elephants need both bathing in water and in sand (mud bath).
Suggestion:	Distributing nuts and other small edible objects all over the compound
Activity:	Searching behaviour, mobility training for trunk muscles
Suggestion:	Positioning of small edible objects at great heights
Activity:	Stimulation of food procurement conditioning, searching behaviour
Suggestion:	Walking around with the elephants
Activity:	Additional conditioning and change of scenery

Lions *(Panthera leo):*

Suggestion:	Placing skins of various animals in the compound
Activity:	Object for playing, especially for cubs
Suggestion:	Hiding of small chunks of meat all over the compound
Activity:	Searching behaviour

Tigers *(Panthera tigris):*

Suggestion:	Vertical tree-trunks
Activity:	Marking behaviour
Remark:	Tigers like to mark their territory a great heights.
Suggestion:	Suspended tree-trunks
Activity:	Stimulates play behaviour
Suggestion:	Breaking up the compound by means of transversal tree-trunks, big rocks and other specific obstacles
Activity:	Hiding, playful hunting behaviour

Suggestion:	Observation posts situated at great height
Activity:	Permits the animals to look beyond the compound.
Suggestion:	Feeding with entire animals
Activity:	Handling of quarry, increased staining of coat, leading to grooming
Remark:	It is impossible to provide just one big quarry since tigers cannot feed on one animal together in the manner of lions.
Suggestion:	Placing skins of various animals in the compound
Activity:	Object for play and hunting behaviour, especially for cubs

Bears *(Ursus sp.)*:

Suggestion:	Spreading syrup or honey in difficult positions, e.g. on trees
Activity:	Natural searching for food, exploration behaviour, climbing behaviour
Remark:	A special honey pump inside a dead tree was built in Copenhagen.
Suggestion:	Natural ground, e.g. earth, sand etc.
Activity:	Stimulates digging behaviour
Suggestion:	Big trees with long roots and wide branches, bark
Activity:	Exploration behaviour; these trees contain many small animals.
Suggestion:	Suspended objects
Activity:	Simulating of hunting techniques
Suggestion:	Varied diet including berries, fresh hay, entire pea plants etc. together with nourishing food spread all over the compound
Activity:	Stimulates food procurement behaviour, curiosity
Suggestion:	Entire coconuts, possibly covered with honey
Activity:	Manipulation/handling behaviour

Primates:

Suggestion:	Grains of wheat, sunflower seeds, nuts etc. mixed into the soil
Activity:	Exploration behaviour
Suggestion:	Live insects (up to size of migratory locusts)
Activity:	Hunting behaviour
Suggestion:	Fresh branches with leaves
Activity:	Food procurement, use of tools, plays , exploration

Suggestion:	Wood chips or straw as ground cover
Activity:	Hiding of insects, larvae and other objects - exploration behaviour
Suggestion:	Big rotting tree-trunks, roots of trees
Activity:	Exploration behaviour, searching for insects and larvae, material for gnawing and manipulation
Suggestion:	Fresh grass, possibly mixed with straw
Activity:	Is sorted out and eaten.
Suggestion:	Entire cereal plants with seeds
Activity:	Occupation, feeding behaviour
Suggestion:	Heaps of leaves on the ground
Activity:	Hiding place for insects and larvae, improves feeding behaviour

Overview of the most important RELEVANT LEGAL PROVISIONS

1. Viennese Law on Animal Protection and Animal Keeping (Provincial Gazette for Vienna, No. 39/1987 as amended):

1.1. The Viennese Law on Animal Protection and Animal Keeping distinguishes between **"domestic animals"** (Art. 3 (1)), i.e. dogs, all domesticated species of cats, fowl (chicken, turkeys, guinea fowl, geese, ducks, doves), horses, donkeys, cattle, pigs, sheep and goats;
"pets" (Art. 3 (2)) comprises all animals which in accordance with their species or subspecies are suitable for keeping at home, e.g. dogs, cats, golden hamsters, guinea pigs, budgerigars and comparable birds as well as toy fish, and
"wild animals" (Art. 3 (3)), i.e. all animals that are not domestic animals or pets.

1.2. In Article 4, the Viennese Law on Animal Protection and Animal Keeping defines the **principles of animal protection:**
According to these principles, nobody shall maliciously or wilfully kill an animal, cause it to experience unnecessary pain, suffering, injury or other damage, or cause it unnecessarily to experience grave anxiety (para 1, lit. 1):
Animals shall be treated in a way that corresponds to their species-related or subspecies-related needs as far as this is possible (para 2).

1.3. The statutory offence of **cruelty to animals** according to Art. 4 paras 1 and 2 of the Viennese Law on Animal Protection and Animal Keeping comprises, inter alia, the following:
- the application of excessive harshness (Art. 5, lit. 3 first part),
- the use of spiked collars as well as the application of methods that will cause pain, injury or other damage to the animal (Art. 5, lit. 4),
- the exacting of performances exceeding the strength of the animal (Art. 5 lit. 7),
- the use of animals for show, for advertising or similar purposes if this will cause the animal to experience pain, suffering, injury or other damage, or will cause it unnecessarily to experience grave anxiety (Art. 5 lit. 8),
- the causing of marked or protracted anxiety to animals.

1.4. The 3rd Section of the Viennese Law on Animal Protection contains provisions concerning the **legally permitted forms of animal keeping:**
Under Art. 11, any person who shall take charge of an animal shall be obligated **to provide it with food and care in accordance with its species, subspecies and age, and shall accommodate it in a manner in accordance with its species, subspecies and behaviour** (para 1, first part).
The animal's **need for movement in accordance with its species, subspecies and age** shall not be continuously or unnecessarily restricted if this will cause

the animal to experience pain, suffering, injury or other damage, or will cause it unnecessarily to experience grave anxiety (para 2).
Moreover, animals shall be kept in such a manner as not to disturb their bodily functions and behaviour or to overstrain their adaptive capacity (para 3).

With respect to the **keeping of wild animals**, the provisions of **Art. 15** are of particular relevance:
Principally, the keeping of wild animals requiring special standards of animal keeping and care (see Item 1.5.) shall be prohibited for reasons of animal protection. However, the authorities may upon request grant a special permit if it has safeguarded that the standards of animal keeping correspond to the principles of the Viennese Law on Animal Protection and Animal Keeping (see Item 1.1.).

However, this prohibition shall not apply to variety shows, circuses and animal shows organised in their context as well as for the professional presentation of performing animal acts *if these establishments actually give performances*. In any other case, they shall also require a official permit.

1.5. The **First Viennese Ordinance on Animal Keeping** (Provincial Gazette for Vienna, No. 48/1987) contains a list of the wild animal species requiring special standards of animal keeping and care.
(This ordinance has been extensively rewritten at the moment of publication of the present guidelines.)

2. Viennese Law on Public Entertainment (Provincial Gazette for Vienna, No. 12/1971 as amended):

Except for the above-mentioned provisions of the Viennese Law on Animal Protection and Animal Keeping, several general provisions of the Viennese Law on Public Entertainment are of special relevance for circuses and animal shows:

2.1. The Viennese Law on Public Entertainment defines the term "circus" as follows:
"The term 'circus' shall be deemed to refer to performances which fall to a large extent within the range of equitation or animal training and may also comprise acrobatic feats, serious and comic numbers (clown numbers), pantomime as well as dance and musical numbers."

2.2. Circus performances shall require a special official permition ("licence") of the Municipal Department (Art. 9 of the Viennese Law on Public Entertainment as amended, Art. 16). Without referring to the individual licensing requirements in more detail, it should be emphasised that the Viennese Law on Public Entertainment applies strict standards both to the

personal qualification of the licence applicant and to the suitability of the venue for the performances.

3. Viennese Law on Animal Protection and Animal Keeping in connection with the Viennese Law on Public Entertainment:

3.1. In its Art. 6 ("Participation of Animals in Performances"), the Viennese Law on Animal Protection and Animal Keeping concretely refers to the Viennese Law on Public Entertainment:
The organiser or managing director shall be obligated to notify the authority in charge of animal protection (Municipal Department) of the participation of animals in performances (concretely: of circus performances) at least one week before the day of the performance (paras 1 and 2). Special consideration should be given to paras 3 and 4 of this provision:
"If such performances carry the danger of cruelty to animals, the Municipal Department shall stipulate that the organiser comply with the relevant necessary requirements in accordance with animal protection." (para 3)
"If the interests of animal protection cannot be sufficiently safeguarded even by way of restrictions, conditions or requirements, the participation of animals shall not be permitted." (para 4)

3.2. The definition of "circuses" (see Item 2.1.) as laid down in the Viennese Law on Public Entertainment shall also apply for the Viennese Law on Animal Protection and Animal Keeping. From the above, it follows that the element of "performance" is *the* typical characteristic of circuses. If a circus enterprise does not organise public performances (e.g. during the winter months), it shall require an official permit for the keeping of its wild animals (as listed in the First Viennese Ordinance on Animal Keeping) analogous to any other private enterprise.

4. Protection of Species:

In evaluating the admissibility of the keeping of wild animals in circuses, the aspects of the protection of species shall be considered in addition to the above-mentioned aspects of animal protection (cf. Convention on International Trade in Endangered Species of Wild Flora and Fauna/CITES including the implementing laws of the Federal Republic, Federal Gazette No. 189/1982 as amended, and of the Province of Vienna, Provincial Gazette for Vienna No. 20/1983)!

5. Animal Transport Law:

On January 1, 1995, the Law on the Transporting of Animals on Roads (TTGSt) came into force (Federal Gazette No. 411/1994).

In accordance with Art. 1 para 1 lit. 6, it also applies to the transport of animals owned by circuses. The law contains relatively strict provisions regarding the

implementation of transports, the choice of the means of transport and the care extended to the animals during the voyage. In particular, one sufficiently qualified person authorised to take care of the transported animals shall at all times be available and shall accompany the animal or animals during the entire transport procedure. This keeper shall also provide the animals with suitable feed and water in the required regular intervals. To provide proof of his/her qualification, this person shall dispose of a certificate issued by the competent authority, which must be taken along for the transport and submitted to the competent officials upon request.

With respect to the equipment and furnishing of the means of transport selected, the Law on the Transporting of Animals on Roads also contains relatively strict provisions. The means of transport must in any case be suited for the conveyance of the respective animal in a manner that corresponds to its species-specific needs.

Although the Law on the Transporting of Animals on Roads will be probably adapted to the corresponding EU legislation in the near future, it may be expected or rather hoped that the above-mentioned provisions will continue to apply.

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