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REVIEW
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Guidelines for Inspection of Companion and Commercial Animal Establishments

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Various establishments exist in which animals are held for a variety of reasons. Historically, the management and inspection of animals in commerce and in private keeping have involved a considerable degree of arbitrary evaluation based on the personal experience of the vendor, keeper, advisor, or inspector. Accordingly, relevant protocols and standards are subject to considerable variation. Relatedly, diversity of traded and privately kept species generates significant challenges for those responsible for facility management and inspection alike. Animal welfare and public health and safety are constant and major concerns that require objective methodologies to monitor and control. This report focuses on establishments concerned with the boarding, breeding, storage, vending or handover of animals intended for human "companions" or "pets", and aims to provide universal objective information for essential husbandry, inspection protocols and an allied inspection assessment tool for scoring establishments.

Keywords: guidelines, inspection, husbandry, animal, health, safety, companion, pet

OPEN ACCESS

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INTRODUCTION

In the UK alone, there are estimated to be ~5,000 dog breeding centers and 4,500 pet stores (1). At least 13,000 species across all classes, and including domesticated and non-domesticated (wild) animals, are kept for human purposes, mostly as "pets" (2–4). This diversity of species introduces significant inspection and husbandry problems, for example, difficulties in identifying species and their legality, risk to human health and safety, and biological needs. Welfare of captive animals (notably exotics) is frequently and inherently compromised by captive conditions, for example, inability to exhibit natural behavior such as climbing, flying, and burrowing or to roam freely over large distances, as well as imposed abnormal conditions such as transparent boundaries that are not accepted psychologically by some species (5–8). In addition, there are important animal and human health issues that require appreciable understanding of risk prevention and zoonotic disease control (9–14).

Historically, the management and inspection of animal establishments, both in commerce and in private keeping, have involved a considerable degree of arbitrary evaluation based on the personal experience of the vendor, keeper, advisor, and inspector. Relevant protocols and standards are subject to wide variation, both locally and internationally (15). In addition, obtaining objective expert-led and evidence-based material uncompromised by vested interests while combining both essential animal husbandry and inspection guidance is challenging. Highly limited and often regional guidance on animal husbandry and inspection of certain facilities is available [for example

Guidelines for husbandry and inspection

EMODE

Pets

easy or difficult to keep?

Guidelines for husbandry and inspection & EMODE

Clifford Warwick

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Biologist & Medical Scientist

In the media

OPINION

"Pet labelling is required and needs to be entirely independently and objectively formulated"

Clifford Warwick
Consultant Biologist and Medical Scientist

The term "exotic" can mean several things. Setting aside "unusual" or "strange", exotic might be interpreted as something that isn't where it should be. For most, if not all, exotic pets (ie pet wildlife), that pretty much sums things up. And if something really ought not to be here in the first place, how can a casual acquirer of a quotient of nature hope or plan to make good on a self-promise or a pet peddler's assurance that taking care of this hapless "misfit" will be straightforward?

Relatedly, companion animal establishments (eg pet shops, breeders, boarding kennels and sanctuaries) that supply or salvage exotic and domesticated species have long operated without consistent solid guidance on husbandry and facility assessment. Here, we take another look at alleviating some old problems from two new angles – a pet labelling scheme to promote informed decision making by pet acquirers and evidence-based guidance on husbandry and inspection.

Mis-marketing wild animals as "easy" or "beginner" pets largely sets up animals and people for some nasty falls. Whether from seller ignorance or deceit, sales pitches are as crass as adorning one's bearded dragon in a Batman outfit as if it were the most natural thing in the world. Well it isn't!

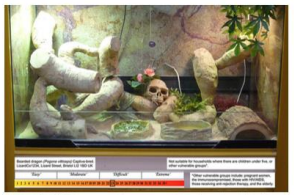


FIGURE 1 The EMODE system provides customers with a guide to how challenging an animal may be to keep

It isn't about being "bad" people either. It is about bad decisions and bad information leading to those decisions. With over 13,000 species in trade and keeping, any one of which can present at local vet clinics, many vets recognise that traders and public are not the only ones ill-equipped to cope, as they themselves become actors in what is a very diffuse story of "battlefield medicine". Research among vet professionals and allies indicates that exotics score relatively low estimates for suitability as pets. Indeed, at the 2017 London Vet Show, the Animal Protection Agency polled attendees, asking whether greater controls, eg a "positive list" of approved-only species in trade and keeping, were warranted, and an emphatic 512 to 1 (a pet seller) said "yes"!

A major recurring obstacle to progress on welfare, public health and safety, species conservation and invasive "pest" issues has been the catastrophic failure of efforts to educate people once animals arrive in their homes. In

BUSINESS & INNOVATION

Animal establishments inspection guide

NEW guidelines are available to help vets requiring definitive advice for inspecting establishments where animals are kept.

'Guidelines for the inspection of companion and commercial animal establishments' is open access and available at https://doi.org/10.3389/fvets.2018.00151

'This is the most comprehensive, objective, scientific, peer-reviewed, guidance on inspection and management of companion animal establishments', lead author Clifford Warwick says.

The advice was put together by a group of leading scientists who carried out extensive research work.

Shutterstock / Alpa Prod

27TH JULY 2018

New guidance for companion animal establishments and inspections (http://animalhealthmedia.com/new-guidance-companion-animal-establishments-inspections/)

New guidance for companion animal establishments and their inspection has been published following six years of research and development by an international team of leading scientists and vets.

Just published in the prestigious scientific journal *Frontiers in Veterinary Science, the 'Guidelines for Inspection of Companion and Commercial Animal Establishments'*, is believed to provide the best

New guidance for companion animal establishments and their inspection has been published following six years of research and development by an international team of leading scientists and vets.

BY JTS STAFF
Journal of Trading Standards' in-house team

TYPE
Updates
(http://www.journaloftradingstandards.co.uk/article_type/updates/)

SUBJECT
Health & safety
(http://www.journaloftradingstandards.co.uk/category/health-safety/)

Just published in the prestigious scientific journal *Frontiers in Veterinary Science, the 'Guidelines for Inspection of Companion and Commercial Animal Establishments'*, is believed to provide the best evidence-based and most objective information resource of its kind anywhere in the world.

For decades, concerns over animal welfare and public health issues have been reported for a variety of animal establishments including dog breeding kennels, pet shops and other facilities. Formal methods have been

VetSurgeon.org

Veterinary News

New health and welfare guidelines for animal establishments

Arlo Guthrie VetSurgeon News
16 Jul 2018 11:03 AM

The Animal Protection Agency (APA) is highlighting the publication of new, evidence-based guidelines for the inspection of animal establishments such as pet shops, breeding centres, boarding kennels and sanctuaries.

For decades, animal welfare and public health issues have been reported at a variety of animal establishments. The Animal

Globally popular

What's in the Guidelines?

Contents

Fire Safety

- **Staff must demonstrate to the satisfaction of the fire service or other relevant organization that they are at all times capable of safely evacuating all animals (including animals occupying aquatic enclosures) from the facilities in a manner and time frame as determined by the fire service.**

- A fire risk assessment document should be available for inspection, which will be prepared by the licensee and will list the areas of highest risk, as well as how these risks are mitigated. The fire risk assessment document must include a floor plan and details about fire monitoring equipment, fire fighting equipment, and escape routes. The risk assessment may need to be agreed on by the local fire service if not determined by them. Fire fighting and monitoring equipment must be appropriately serviced and maintained.

Evacuate in 20 mins?

Information/Care Guidance to customers

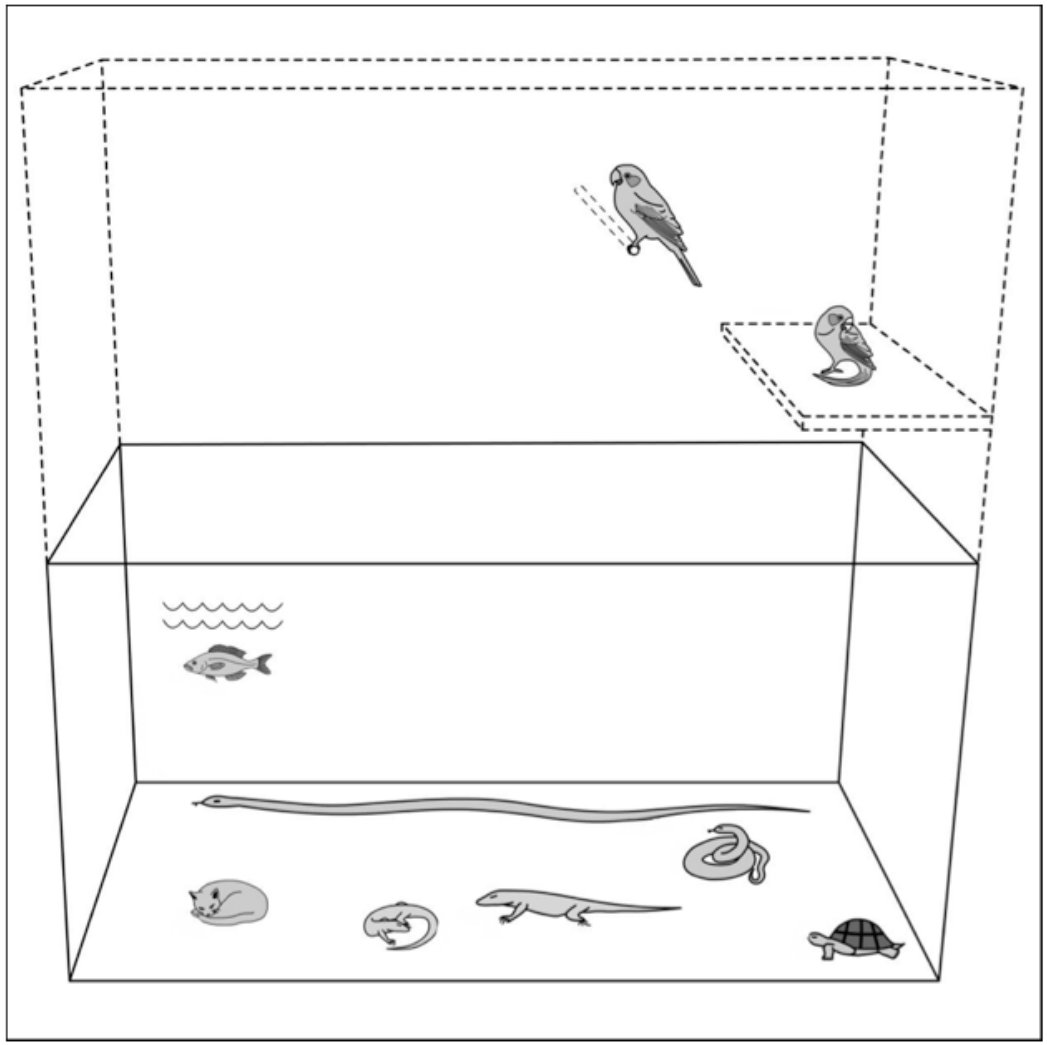
- Information provided to new acquirers of animals must be **scientific, evidence-based and independently prepared by relevant recognized experts with no conflict of interest** in the nature of the business of the establishment.

- The use of "care sheets" should be guarded due to their typical extremely minimalist content, and only utilized where: a. produced by wholly independent experts with no vested interests; and b. clearly stipulated to be considered in association with more substantial overarching independent expert evidence-based guidance.

Calculating space

- Enclosure length (and height for arboreal species) = visualise the animal coiled like a ball; 'draw' an imaginary line across its diameter; multiply diameter its 10 x - so an animal with a body-size diameter 15cm requires a 150cm long enclosure.
- Absolute minimum enclosure size = 100 cm.
- To assess stocking density = all animals must be able to use all facilities/furnishings (e.g., water bowls, bathing pools, perches, hides, basking sites) at any one time].
- Some species require additional exercise areas.

Absolute minimum space



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(Overt) overcrowding

(Overt) overcrowding

And kept badly!

(Covert) crypto-overcrowding

(Covert) crypto-overcrowding

Straight line body posture

Straight line body posture

Inability to adopt straight line

Inability to adopt straight line

Zero tolerance

Zero tolerance

Zero tolerance

Zero tolerance

Zero tolerance

Snake racks

Photo courtesy of Max Springer

Inside a rack

Photo courtesy of Max Springer

Safety net temperatures and humidity

TABLE 2 | Default ("safety net") guide to temperature and humidity provisions for terrestrial and aquatic animals.

Zone/climate	Temperature day	Temperature night	Humidity
Temperate	15–20°C	12–18°C	60–70%
Subtropical	20–25°C	18–20°C	60–70%
Tropical	25–30°C	24–27°C	70–80%
Semi-arid/desert	20–25°C	18–20°C	40–60%
Arid/desert	25–30°+C	21–24°C	30–45%
Dogs/cats	10–26°C	10–26°C	30–45%
Freshwater (cold)	10–15°C	10–15°C	N/A*
Freshwater (temperate)	10–25°C	10–25°C	N/A*
Freshwater (subtropical)	16–22°C	16–22°C	N/A*
Freshwater (tropical)	24–27°C	24–27°C	N/A*
Marine (cold)	7–12°C	7–12°C	N/A*
Marine (temperate)	10–18°C	10–18°C	N/A*
Marine (subtropical)	18–22°C	18–22°C	N/A*
Marine (tropical)	22–28°C	22–28°C	N/A*

Restricted by provision

Safety net lighting periodicity

TABLE 3 | Default ("safety net") guide to lighting periodicity.

Natural habitat type	Natural lifestyle type	Periodicity	
		Daytime (h)	Nighttime (h)
Open habitat	Diurnal	12–16	8–12
	Crepuscular (phased transition)	4	4
	Nocturnal	12	12
Closed habitat	Diurnal	12	12
	Crepuscular (phased transition)	4	4
	Nocturnal	12	12

Safety net UV lighting

TABLE 4 | Default ("safety net") guide to ultraviolet light (UV) exposure for species from different climates/habitat types.

Zone/climate	Habitat type	Intensity in nature values	Captive ("safety net") values		
			Diur	**Crep**	**Noct**
Equatorial	Tropical forest (rainforest)	3.5–13	2.5–5	0.5–1	0–3
	Subtropical/tropical swamp forest	3–9	2–5	0.5–1	0–3
	Subtropical/tropical dry forest	3–9	2–5	0.5–1	0–3
Arid	Arid desert	3.5–13	2.5–5	0.5–1	0–3
	Semi-arid desert	3–9	2–5	0.5–1	0–3
Semi-arid/Mediterranean	Dry savanna	3–11	2–5	0.5–1	0–3
	Savanna	3–11	2–5	0.5–1	0–3
Marine	Tropical marine	3–7	N/A	N/A	N/A
	Coral Reef	4.5–13	3.5–5	0.5–1	0–3
Temperate	Temperate forest & woodland	3–5	2–4	0.5–1	0–3
	Temperate marine	3–6	N/A	N/A	N/A

Sound and noise

TABLE 5 | Default guide to sound and noise perception in animals.

Animal	Audible range frequency = Hertz(Hz) kilohertz (kHz)	Intensity level = Decibels
Invertebrates		
Arthropods	up to 150 Hz	0–10
Marine	500 Hz–2 kHz	0–100
Fishes	1–3 kHz	0–40+
Amphibians	200 Hz–3 kHz	10–60
Reptiles		
Snakes	100–700 Hz	40–50
Lizards	1–3 kHz	40–50
Turtles	200 Hz–1.2 kHz	40–50
Birds	1–4 kHz	0–10 (occasionally 100)
Mammals		
Rabbits	360 Hz–42 kHz	20
Guinea pigs	50 kHz	20
Small prey mammals	20 Hz–85 kHz	20
Dogs	67 Hz–45 kHz	0–95
Cats	45 Hz–91 kHz	20
Humans (for comparative purposes)	20 Hz–20 kHz	60

Derived from reviewed literature (28, 65, 104, 112).

Substrate and bedding

TABLE 6 | Default substrates/bedding for animals.

Species habitat type	Enclosure substrate
Open habitat species	Soft (play-pit) sand with uncontaminated (e.g., pesticide-free etc.) topsoil @ 50/50 ratio; hay; sphagnum moss; pure/plain (e.g., pesticide-, fertilizer- and vermiculite-free) soil/peat moss.
Closed habitat species	Aspen and pine shavings; sphagnum moss; pure/plain (e.g., pesticide-, fertilizer- and vermiculite-free) soil/peat moss.
Subterranean/burrowing species	Soft (play-pit) sand mixed with sphagnum moss; pure/plain (e.g., pesticide-, fertilizer- and vermiculite-free) soil/peat moss; dried Spanish moss in small quantities.
Arboreal species	Aspen and pine shavings; sphagnum moss; pure/plain (e.g., pesticide-, fertilizer- and vermiculite-free) soil/peat moss.
Aquatic & semi-aquatic species	Fully aquatic species require, as environmental enrichment, a base substrate such as gravel or sand, although in very large enclosures and pools, microbially balanced detritus may be appropriate or beneficial. For certain bottom feeding species substrates may also be essential to provide an acceptably naturalistic environment for dietary habits. Substrate-free aquaria may be acceptable only when used for species that do not behaviorally interact with such media for any purposes. Semi-aquatic species should have submerged and dry areas of sand, gravel (too large to ingest) or stone (or combinations) to enable interaction for purposes of display, feeding or seclusion.
Domesticated dogs & cats	Absorbent floor coverings may include newspaper, shavings or hay/straw, but must be changed regularly to avoid soiling and wetting. Soft beddings such as proprietary items, blankets, towels, specialized materials must be available and regularly laundered.

Behavioural welfare signs - birds

TABLE 7E | Example welfare/behavioral criteria for assessment of stress: some key signs: birds.

Behavioral sign	Cause/Problem
Pacing; route-tracing of cage	1, 2, 11, 12
Head bobbing, spot-pecking (at point on others or items but not to eat)	1, 12
Huddled with consistently ruffled feathers and drooping wings	4
Self-plucking (with damaged/missing feathers, bald areas, skin lesions)	1, 12
Unable to stand	2, 4
Lunges and/or flies at cage bars repeatedly	2, 3, 4
A "perching" species not using perches	1, 3, 4
Fighting	1, 2
Vocalization/emits distress calls repeatedly	2, 3
Blood on bird and/or perches	1, 2, 3, 4
Lethargy	1, 2, 3, 4, 11, 12
Cowering, attempting to hide, attempts to dig/climb/escape from cage	2, 3, 4, 10, 11

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]*Overly restrictive/incorrect environment/inability to hide/retreat.* [2]*Co-occupant aggression/harassment.* [3]*Fear/defense.* [4]*Pain/trauma/disease.* [5]*Environmental stressor e.g., hyperthermia.* [6]*Environmental stressor e.g., hypothermia.* [7]*Environmental stressor e.g., hypoxia.* [8]*Hunger.* [9]*Environmental stressor e.g., incorrect humidity.* [10]*Excessive handling.* [11]*Learned helplessness" (includes apparently normal behaviors in highly adverse conditions).* [12]*Under-stimulation.*

Behavioural welfare signs - mammals

TABLE 7F | Example welfare/behavioral criteria for assessment of stress: some key signs: mammals.

Behavioral sign	Cause/Problem
Compulsive i.e., repetitive, apparently functionless behaviors: e.g., pacing, figure of eights, circling, spinning, self-mutilation, over grooming	1, 2, 3, 4, 10, 11, 12
Withdrawal, reduced responses, lethargy, vocalization	1, 2, 3, 4, 10, 11, 12
Aggression to humans or conspecifics	1, 2, 3, 4, 8, 10
Cowering, attempting to hide, attempts to dig/climb/escape from cage	1, 2, 3, 4, 8, 10

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]Overly restrictive/incorrect environment/inability to hide/retreat. [2]Co-occupant aggression/harassment. [3]Fear/defense. [4]Pain/trauma/disease. [5]Environmental stressor e.g., hyperthermia. [6]Environmental stressor e.g., hypothermia. [7]Environmental stressor e.g., hypoxia. [8]Hunger. [9]Environmental stressor e.g., incorrect humidity. [10]Excessive handling. [11]Learned helplessness" (includes apparently normal behaviors in highly adverse conditions). [12]Under-stimulation.

Behavioural welfare signs - reptiles

TABLE 7D | Example welfare/behavioral criteria for assessment of stress: some key signs: reptiles.

Behavioral sign	Cause/Problem
Interaction with transparent boundaries (ITB): frequent interaction/attempts e.g., scratch, "pace," "climb," rub against cage-glass	1, 12
Hyperactivity: moderate/greater locomotor activity/escape attempts e.g., "pacing" perimeter, digging, climbing	1, 2, 5, 12
Hypoactivity/sedentary behavior	1, 2, 3, 4, 6, 12
Avoidance behavior: e.g., fleeing from co-occupants, head-hiding	1, 2, 3
Hissing	1, 2, 3
Inflation of the body	1, 2, 3
Repeated inflation and deflation of the body	1, 2, 3
Repeated inflation and deflation of the throat	1, 2, 3
Open-mouth breathing (rapid or slow)	1, 2, 3, 4, 5
Voluntary regurgitation of food	1, 2, 3, 4, 6
Rapid pigmentation change	1, 2, 3, 5
Biting/cannibalism	1, 9, 12

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]*Overly restrictive/incorrect environment/inability to hide/retreat.* [2]*Co-occupant aggression/harassment.* [3]*Fear/defense.* [4]*Pain/trauma/disease.* [5]*Environmental stressor e.g., hyperthermia.* [6]*Environmental stressor e.g., hypothermia.* [7]*Environmental stressor e.g., hypoxia.* [8]*Hunger.* [9]*Environmental stressor e.g., incorrect humidity.* [10]*Excessive handling.* [11]*Learned helplessness" (includes apparently normal behaviors in highly adverse conditions).* [12]*Under-stimulation.*

Behavioural welfare signs - amphibians

TABLE 7C | Example welfare/behavioral criteria for assessment of stress: some key signs: amphibians.

Behavioral sign	Cause/Problem
Rapid body movements, such as jumping and climbing with falling	1, 2
Body "flattened" against cage floor, lethargy	1, 2, 4, 5, 6, 9
Closed eyes	1, 4, 5, 6, 9
Lethargy/reduced responsiveness	1, 4, 5, 6

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]*Overly restrictive/incorrect environment/inability to hide/retreat.* [2]*Co-occupant aggression/harassment.* [3]*Fear/defense.* [4]*Pain/trauma/disease.* [5]*Environmental stressor e.g., hyperthermia.* [6]*Environmental stressor e.g., hypothermia.* [7]*Environmental stressor e.g., hypoxia.* [8]*Hunger.* [9]*Environmental stressor e.g., incorrect humidity.* [10]*Excessive handling.* [11]*Learned helplessness" (includes apparently normal behaviors in highly adverse conditions).* [12]*Under-stimulation.*

Behavioural welfare signs - fishes

TABLE 7B | Example welfare/behavioral criteria for assessment of stress: some key signs: fishes.

Behavioral sign	Cause/Problem
Congregating at surface	1, 4, 7, 8
"Gasping" at surface	1, 4, 7
Rapid opercular ("gill-covers") movement	1, 4, 7
Avoidance behavior, hiding from light, others	1, 2, 3, 4
"Flashing" (darting moves)	1, 4
Rubbing against objects	1, 4
Anorexia/reduced response to food	1, 4

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]*Overly restrictive/incorrect environment/inability to hide/retreat.* [2]*Co-occupant aggression/harassment.* [3]*Fear/defense.* [4]*Pain/trauma/disease.* [5]*Environmental stressor e.g., hyperthermia.* [6]*Environmental stressor e.g., hypothermia.* [7]*Environmental stressor e.g., hypoxia.* [8]*Hunger.* [9]*Environmental stressor e.g., incorrect humidity.* [10]*Excessive handling.* [11]*Learned helplessness' (includes apparently normal behaviors in highly adverse conditions).* [12]*Under-stimulation.*

Behavioural welfare signs - invertebrates

TABLE 7A | Example welfare/behavioral criteria for assessment of stress: some key signs: invertebrates.

Behavioral sign	Cause/Problem
Lethargy	1, 6
Hyperactivity	1, 5
Release of urticating hairs (some tarantulas)	1, 3
Aggression	1, 3
Anorexia/reduced response to food/refusal to feed	1, 3

Derived from reviewed literature (1, 8, 44, 57, 79, 81, 115, 116).
Cause/problem keys:
[1]*Overly restrictive/incorrect environment/inability to hide/retreat.* [2]*Co-occupant aggression/harassment.* [3]*Fear/defense.* [4]*Pain/trauma/disease.* [5]*Environmental stressor e.g., hyperthermia.* [6]*Environmental stressor e.g., hypothermia.* [7]*Environmental stressor e.g., hypoxia.* [8]*Hunger.* [9]*Environmental stressor e.g., incorrect humidity.* [10]*Excessive handling.* [11]*Learned helplessness' (includes apparently normal behaviors in highly adverse conditions).* [12]*Under-stimulation.*

Physical welfare signs

TABLE 8 | Example welfare/physical signs of injury or ill health and possible causes.

Signs	Problem	Cause
Open mouth breathing	Hyperthermia; disease; major head/neck injury	Critically high temperature; infection/organic dysfunction; fall; drop; co-occupant attack; transport trauma
Panting	Hyperthermia	Too high temperature
Sores on head, neck, or dorsal region	Thermal burns	Too close or too hot "hot-spot" (basking lamp) often combined with too low environmental temperate
Hyperactivity	Hyperthermia	Too high temperature
Hypoactivity; anorexia	Hypothermia; disease; injury; pain	Too low temperature; infection/organic dysfunction; fall; drop; co-occupant attack; transport trauma
Emaciated appearance	Starvation/dehydration; chronic injury/disease	Infection/organic dysfunction; fall; drop; co-occupant attack; transport trauma
Uncharacteristic red or white patches on head, skin, extremities	Injury; disease	Infection/organic dysfunction; fall; drop; co-occupant attack. Attack by prey insects e.g., crickets
Deformities	Malnutrition, Injury	Metabolic Bone Disease. Co-occupant aggression. Trauma
Incomplete skin shed	Poor humidity. Poor environmental enrichment	To low humidity. Lack of provision of shedding aids
Damage to extremities. Especially tail tip and toes	Poor shedding, injury, trauma	Co-occupant aggression. Poor handling may induce tail drop in some lizard species. Incomplete shedding can damage toes in some lizard species.
Injuries anywhere on body	Attacks by co-occupants or self-harm	Co-occupant aggression, invasive courtship routines, hunger, inability to avoid cage-mates when required, overly restrictive, inappropriate environments.
Red patch on tip of snout	Rostral lesion/abrasion	Stress. Persistent attempts to push against, crawl up, dig under or round the transparent barriers of their enclosure

Scoring an establishment

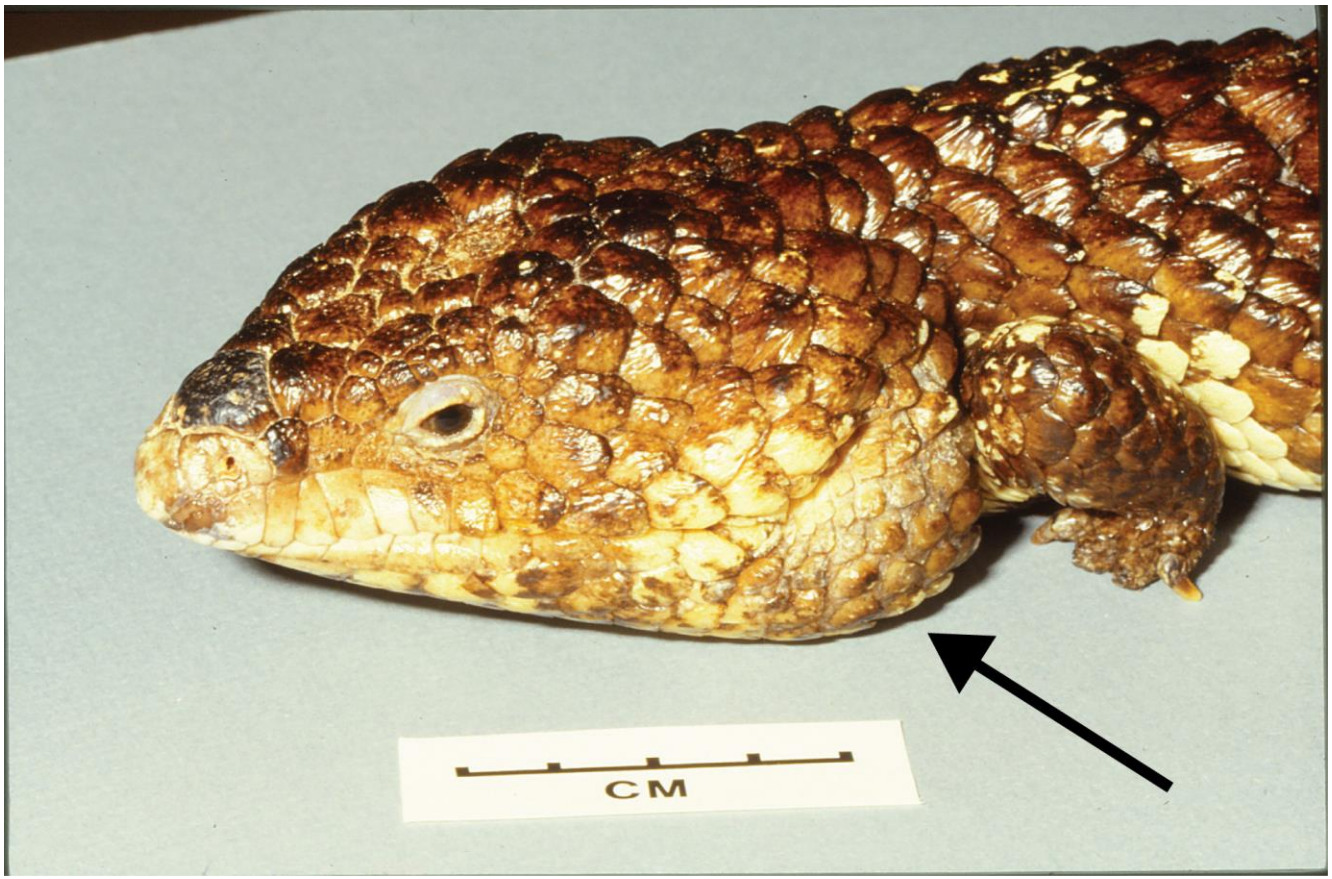
Category	Rating/Star(s) 0–3	Comment
Establishment/facilities		
Layout	2	
Housing of conspecifics/predator-prey avoidance; avoidance of drafts etc.		
Staff	1	
Hygiene		
Overall assessment	1	
Disease risk management people	1	
Disease risk management animals	1	
Isolation & quarantine facilities	2	
Food management		
Storage	2	
Safety protocols		
Dangerous wild animals (where applicable)	Yes	
Waste disposal	No	Advice given, re-inspect in 6 weeks
Fire safety	Yes	
Electrical safety	Yes	
Licence display	Yes	
Animals		
Register of animals (in/out)	2	
Veterinary records	2	
Transport of animals	1	Advice given, re-inspect in 6 weeks
Responsible handover		
Sale of animals/discharge	1	
Information/care guidance	1	
Minimum age of sale/handover	2	Advice given, re-inspect in 6 weeks
Environment		
Space	2	
Stocking density	1	
Temperatures/heating	1	
Lighting	2	
Humidity	2	
Sound/noise	1	
Ventilation	1	
Environmental enrichment		
Exercise facilities	2	
Base/substrate	2	
Sleeping/hide areas	2	
Nutrition—food and water		
Food & water hygiene	2	
Food & water availability and appropriateness	2	
Welfare assessment		
Behavioral	2	Advice given, re-inspect in 6 weeks
Physical	2	
Total score	43	
Overall rating	1.59	

FIGURE 2 | Sample overall performance rating chart for animal establishment (refer to Appendix 1 for blank template).

Common injuries: abrasions/impacts

Common injuries: thermal burns

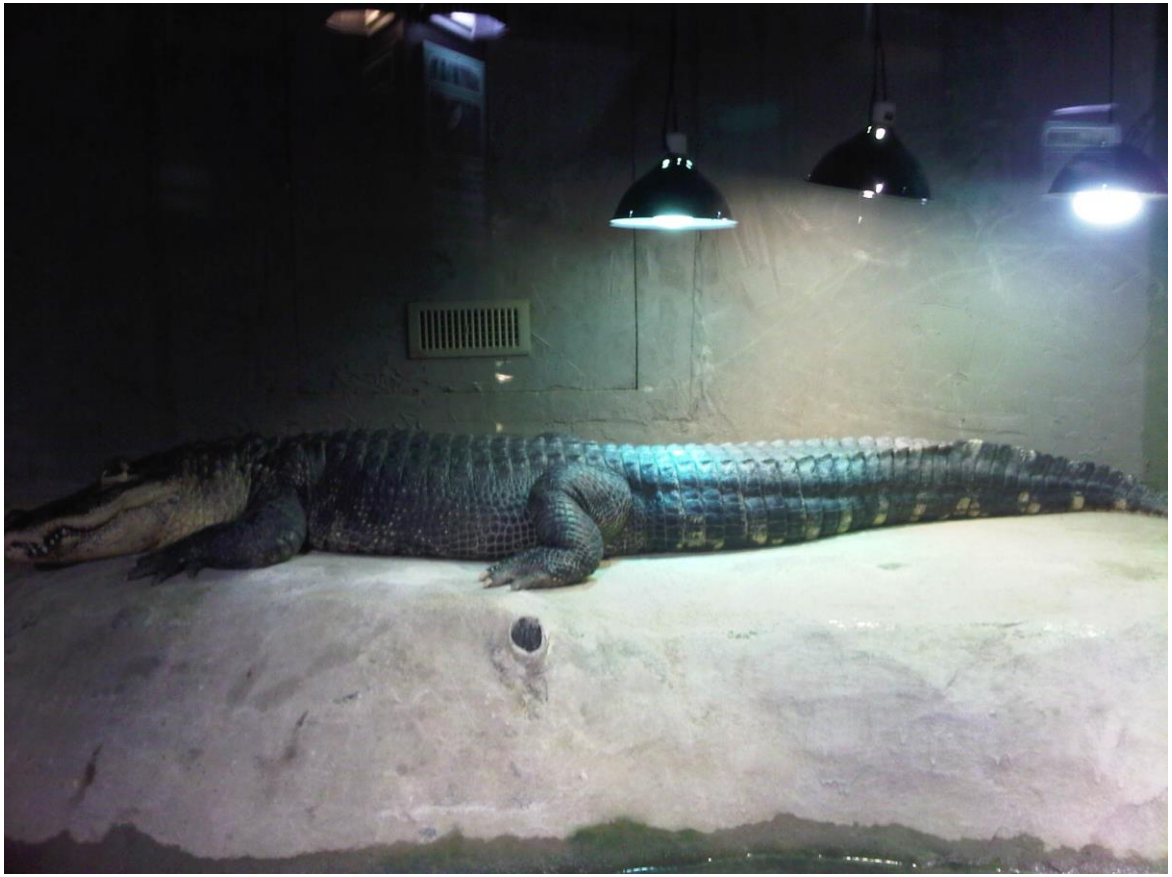
Common injuries: co-occupant aggression



Common captivity-stress behaviour: co-occupant aggression

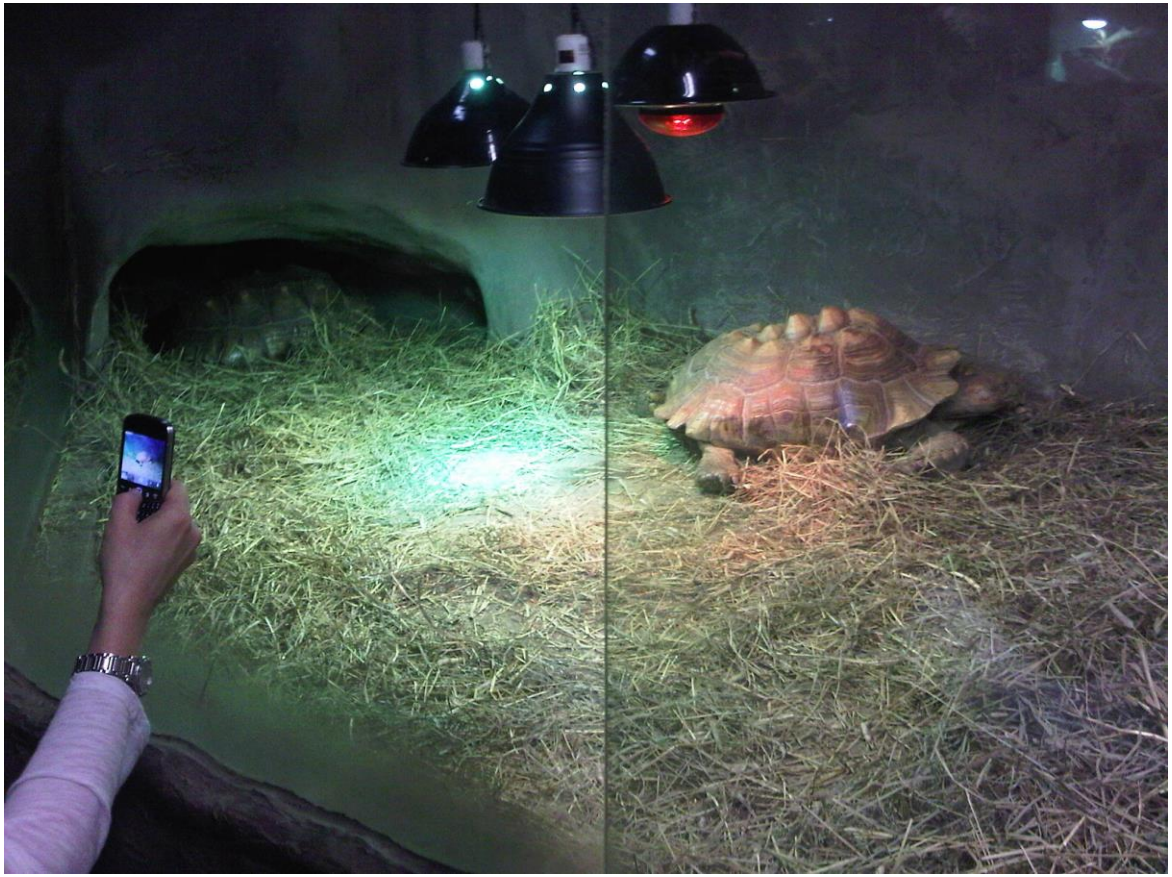
Looks goodish but…

Basking deficiency



Basking deficiency

Light disturbance



Mis-selling as ‘easy to keep’

“Perfect housing

for small

reptiles.”

© Exo Terra - PT-2300

Approximate Dimensions (Product):

L46.5 x D30.5 x W17.5cms

‘Faunarium’

or

‘*Funararium*’?

EMODE development

Developed by 18 independent

scientists, veterinarians & biologists

12 months development

Tested on >500 species and types

Published in high quality

peer-reviewed journal

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ARTICLES

Assigning Degrees of Ease or Difficulty for Pet Animal Maintenance: The EMODE System Concept

Clifford Warwick · Catrina Steedman · Mike Jessop · Elaine Toland · Samantha Lindley

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Abstract Pet animal management is subject to varied husbandry practices and the resulting consequences often impact negatively on animal welfare. The perceptions held by someone who proposes to keep an animal regarding the ease or difficulty with which its biological needs can be provided for in captivity are key factors in whether that animal is acquired and how well or poorly it does. We propose a system to 'score' animals and assign them to categories indicating the ease or difficulty with which they can be kept as pets in accordance with welfare and public health and safety considerations. The 'EMODE' ('Easy', 'Moderate', 'Difficult', 'Extreme') system has two fundamental components: animal welfare—which considers the 'five freedoms' principles; and public health and safety—which considers management associated with risks from disease or injury to the keeper and to others. EMODE incorporates two tiers of assessment and guidance, and may offer a reasonable guide for the majority of relevant animals. EMODE Tier 1 provides a primary and general assessment of animals by class or group, and EMODE Tier 2 provides a secondary refined assessment of animals by species or breed. EMODE offers a user-friendly and versatile foundation concept for the future development of guidance for the layperson who may be considering acquiring a pet or for certain personnel when considering assigning species to restrictive lists of suitable animals,

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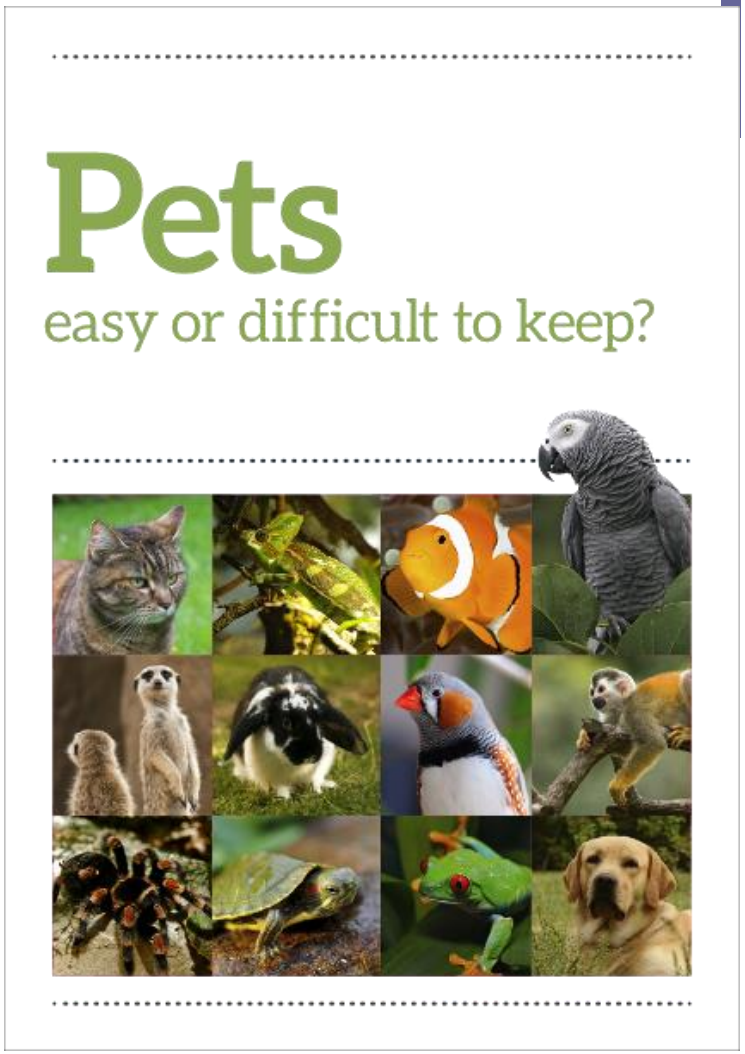
User-friendly scientific species-assessment system

- **E**asy
- **Mo**derate
- **D**ifficult
- **E**xtreme

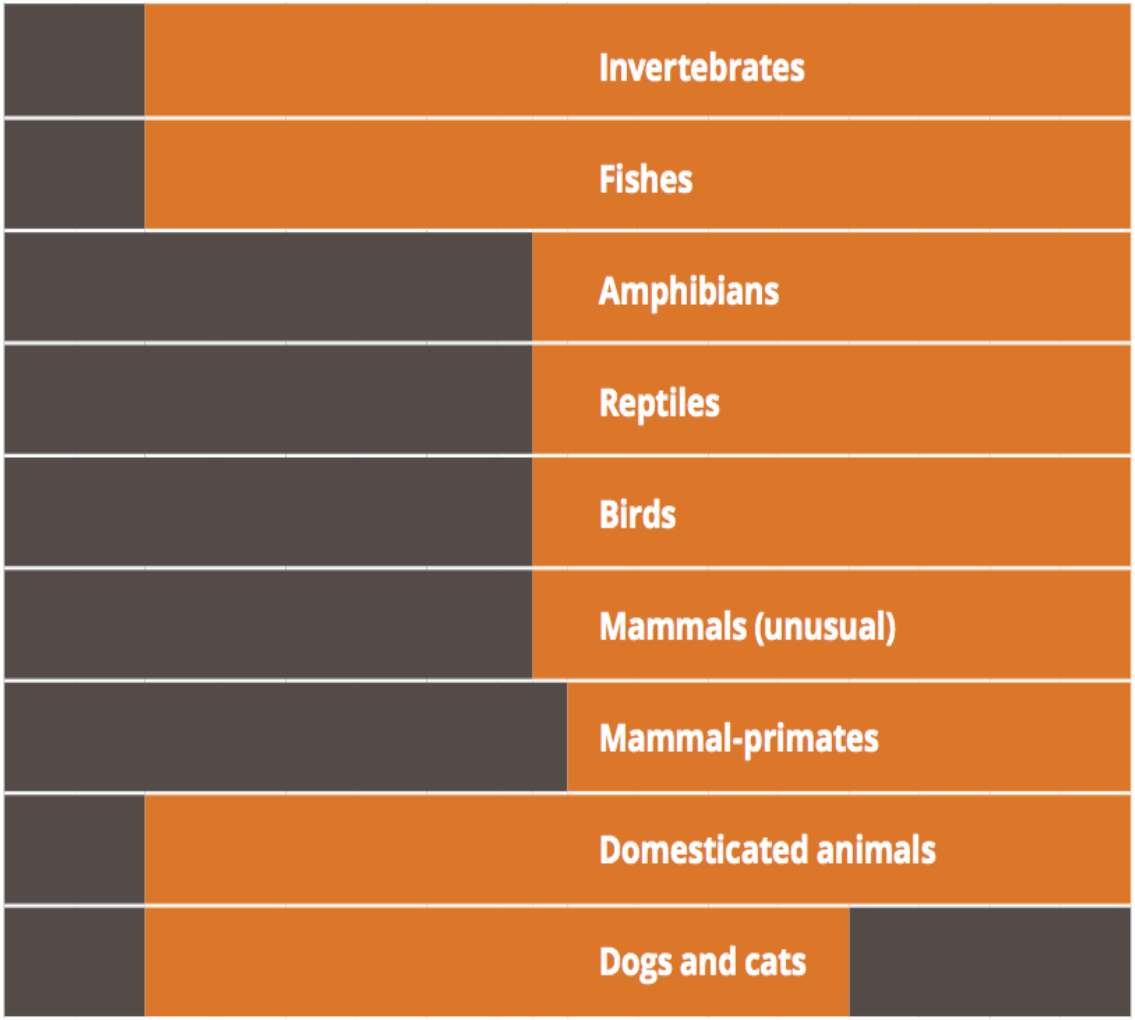


Step One continued

Table 1.

EMODE: indication of degree of ease or difficulty to keep animals by class or group.

'Easy'	*'Moderate'*	*'Difficult'*	*'Extreme'*



Step Two continued

Table 2.

EMODE: indication of degree of ease or difficulty to keep animals by species or breed. Questionnaire and categorisation.		
Foundation question *Which class or group of animal does the species or breed belong to?* *Assign the animal the number of points (pts) indicated.*		**Points**
Invertebrate		5pts
Fish		5pts
Amphibian		18pts
Reptile		18pts
Bird		18pts
Mammal (unusual)		18pts
Mammal-primate		20pts
Domesticated animal		10pts
Dog or cat		5pts
Specific questions **a.** *If answer is 'yes', assign 5 points.* **b.** *If answer is 'no', move to next question.*	**Answer**	**Points**
1. Is the animal an especially sensitive species (e.g. marine tropical fish, chameleon, human-imprinted bird, bat); or an especially small and/or delicate animal (e.g. stick insect, neon tetra fish, newt, baby crested gecko); or an especially sensitive breed (e.g. bulldog, great Dane, Bengal cat)?	Yes/No	
2. Does the animal have a long potential lifespan (e.g. >10 years)?	Yes/No	
3. Does the animal have specialised feeding habits that can make its dietary requirements subject to restricted supply (e.g. unusual live food or unusual plants)?	Yes/No	
4. Does the animal require a specialised habitat/microhabitat (e.g. is the animal dependent on sharing its life with a particular plant)?	Yes/No	
5. Is the animal poisonous, venomous, capable of growing large or inflicting appreciable injury at any point in its life?	Yes/No	
6. Is anyone in the household/extended circle immunocompromised (e.g. under 5 years, elderly, pregnant, diagnosed with HIV or other immune disease, drug user, receiving chemotherapy such as cancer and anti-rejection drugs)?	Yes/No	
Total points (check total points in row below to find EMODE score)		

'Easy'	'Moderate'	'Difficult'	'Extreme'
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40		

Soft toy turtle	Live turtle
Not injurious to owner and parts (e.g., eyes) secure	Injurious to keeper (e.g., bite/scratch)
Cleanable	Not cleanable (probably contaminated)
Fire resistant	Easily harmed and difficult to care for well
Product ID info on label	No "product" ID

Figure 2. Consumer advice—soft, inanimate toy turtle versus live active turtle.

EMODE summary

- Objective
- Independent
- Scientific
- Peer-reviewed & published
- Promotes informed decision-making
- Allows authorities to set their own challenge standard according to government and public skill sets

Free