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Pets: to keep or not to keep – perhaps EMODE has the answer

AS links between animal welfare, public health and species and environmental issues become increasingly clear, and the “healthy animals equals healthy people” message widens, arguably, so too does the veterinary community’s role as moderator at the interface of animal-human relationships.

For those considering acquiring pets, measured forethought and relevant responsibilities are likely to be mainstays of advice from the vet to the client, although imparting the raft of essential pet-keeping considerations is routinely beyond the convenience of an everyday consultation.

For dogs, cats and, increasingly, rabbits, most if not all vets are well placed to introduce an enquiring mind to the pros, cons and prospects of pedigrees and mixed breeds by providing help via the practice team and support literature.

In contrast, few vets are well equipped to handle the novel biological needs of exotic animals (Whitehead and Forbes, 2013), or even physically handle some of those animals.

On the one hand, this situation is improving a little as more vets train for or become familiar with the exotic patient. On the other hand, clinical familiarity does not always prepare a practitioner for the wider and often highly complex biological and behavioural requirements of what remain essentially wild animals of various classes, orders and taxa.

While there are modest improvements in familiarity with the care of exotics, this awareness does not keep pace

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consider the importance to animal welfare of potential owners making a reasoned and informed decision about a pet and suggest a helpful guide

with the increasing research demonstrating that – once holistic needs are factored in – species we previously thought were “simple” are anything but “easy to keep”.

Many observers have long recognised the remarkable behavioural, social and psychological characteristics present among mammals and birds, but it is probably fair to say this same level of appreciation has typically not extended to invertebrates, fishes, amphibians and reptiles.

The more science examines the natural lifestyles and requirements of these ectothermic relatives, the more it is revealed they are no less deserving of appreciation regarding their physical, behavioural and mental attributes – which in some cases appear to excel over their endothermic cousins (Burghardt, 2013; Crook, 2013; Horvath et al, 2013; Warwick et al, 2013).

In short, the more we learn about the lives and needs of exotic animals, arguably the more unsuitable as pets they appear.

In a major published scientific review, one of the world’s leading research ethologists, Gordon M Burghardt concluded: “We need to realise no captive environments

can ever hope to fully simulate or mimic those lived in by wild animals, even the smallest and most seden-

tary species. All we can really do in zoos and aquariums is to work within the parameters of controlled deprivation” (Burghardt, 2013). Given that Prof Burghardt’s words were primarily directed at the relatively high-level husbandry realm of the professional zoo, what does this message deliver for the non-professional “home-keeper” of wildlife?

Increasingly, veterinarians, scientists and relevant organisations

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Timneh grey parrots, like many other birds, commonly manifest serious behavioural problems around humans.

IMAGE: Greg Glendell, Birdsfirst.



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ABSTRACT

For those considering acquiring pets, measured forethought and relevant responsibilities are likely mainstays of advice from vet to client, although imparting the raft of essential pet-keeping considerations is routinely beyond the everyday consultation. At the heart of avoiding poor animal welfare, zoonotic disease, unwanted pets and other consequences is the prevention of bad decision-making by prospective keepers. However, personal passions, demanding children and persuasive promoters of pet-keeping can all influence what should be a rational, very well considered and informed decision – and above all, commitment.

It is for these reasons EMODE has been developed. EMODE is a user-friendly system that allows anyone to score animal species or types as easy, moderate, difficult or extreme in terms of how challenging they are to keep, according to managing their biological needs as well as human health and safety issues in the home.

EMODE offers a more objective, evidence-based, tool to aid informed decision-making by prospective pet keepers – free and, importantly, free from commercial influence.

Keywords: EMODE, pet, suitability

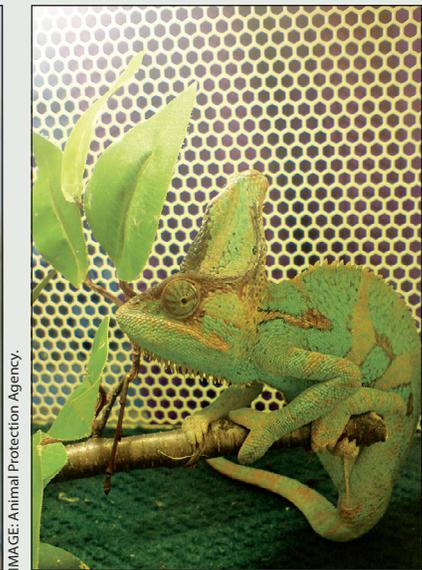


IMAGE: Animal Protection Agency.

IMAGE: Phillip Arena.

Bearded dragons are among the most popular pet reptiles, but, like all reptiles, should not be considered easy to keep.

Lizards, such as this veiled chameleon, manifest highly diverse forms and have challenging biological needs.

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recognise that what is needed to prevent and control (especially exotic) pet problems is the generalised introduction of the positive list system. In a sense, this system requires the pet industry abides by the basic rules of “proponent proves their product’s suitability” before sale. The fact the pet industry opposes the positive list at about every turn suggests to the authors an inability to meet what are accepted normal safeguards of business.

A positive list system relies on a list of species of animal, shown through clear and evidence-based assessment, to be suitable for care as a pet (primarily focused on the health and welfare needs of the animal as defined by the

“five freedoms” principles, but also encompassing public health considerations).

However, despite the increasingly recognised problems surrounding both the trade and keeping of (especially exotic) pets, animals are often wrongly sold or mistakenly acquired as being easy to keep. That may be good for pet dealers, but commonly leads to many animals receiving poor care, leading to high morbidity and premature mortality. For example, while most dogs achieve natural longevities (Mitchell, 1999), most reptiles do not survive their first year in the home (Toland et al, 2012).

And, of course, stressed and sick animals are more likely to shed pathogens to their keepers and to others.

An investigation by Ashley et al (2014) reported the cumulative mortality rate for invertebrates, amphibians, reptiles and mammals at a major pet supplier to be 72 per cent in only six weeks, and found early mistreatment probably adversely impacts on the rest of the trade and keeping pipeline.

Wild-caught species endure capture, handling and holding stresses, and harvesting natural populations is subject to poor monitoring and control, and frequently destructive in conservation terms (Auliya, 2003; Bohm et al, 2013; Bush et al, 2014; Koch et al, 2013; Laidlaw, 2005). Also, many animals of all kinds that survive “domesticity” become troublesome to their

keepers and are unwanted or abandoned. Others are abandoned locally and become invasive alien species (IAS).

The database, Delivering Alien Invasive Species Inventories for Europe (DAISIE), lists 10,000 IAS, from plants to pets (DAISIE, 2014). Close to home a study found 51 types of “alien” amphibian and reptile living wild in the London area (Langton et al, 2011).

At the heart of avoiding poor animal welfare, zoonotic disease, unwanted pets, and other consequences resides the prevention of bad decision making. However, personal passions, demanding children and persuasive promoters of pet keeping can all influence what should be an otherwise rational, very well considered and informed decision – and above all, commitment.

Introducing EMODE

It is for these reasons EMODE has been developed. EMODE is a user-friendly system that allows anyone to score animal species or types as easy, moderate, difficult or extreme, in terms of how challenging they are to keep according to managing their biological needs as well as human health and safety issues in the home.

The system is a collaborative endeavour involving 18 scientists, vets and technicians, and uses scientific evidence-based guidance to assess the suitability or unsuitability of animals as pets. EMODE’s aim is to offer a more objective, evidence-based,

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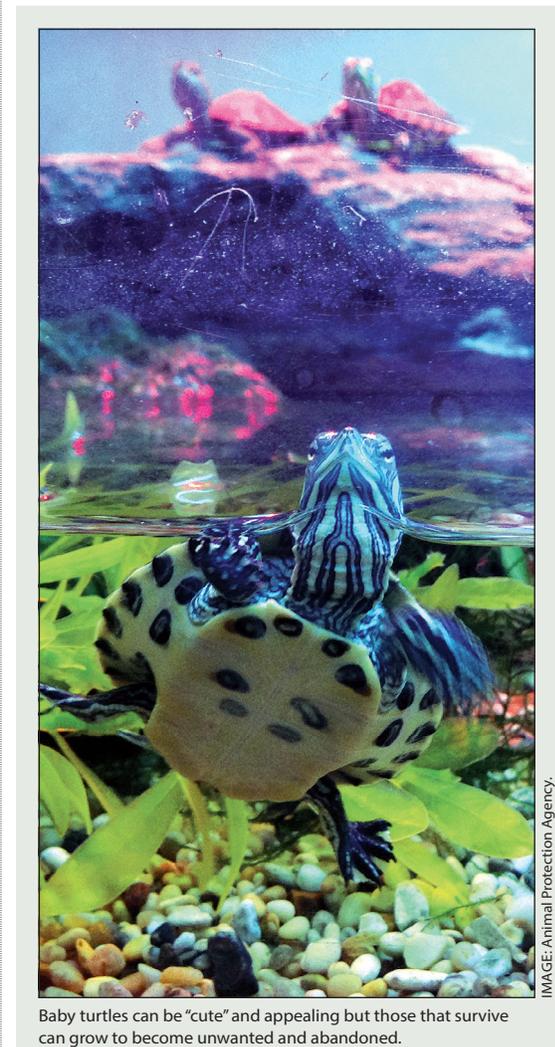


IMAGE: Animal Protection Agency.

Baby turtles can be “cute” and appealing but those that survive can grow to become unwanted and abandoned.

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tool to aid informed decision-making by prospective animal keepers – free of charge, and importantly, free from commercial influence.

For those with a deeply enquiring mind, the foundation for EMODE is set out in a 15-page, peer-reviewed scientific paper (Warwick, Steedman et al, 2013).

For the general user considering acquiring an animal (whether domesticated or exotic) the main “working tool” of EMODE is published as an annex to the main article, as well as being reproduced separately as a concise user-friendly colour brochure (<http://emergentdisease.org/assets/documents/emode-brochure-screen.pdf>), and as printed versions, which are available free on request from the Animal Protection Agency (www.apa.org.uk/about/contactUs.html).

EMODE has received broad interest from veterinary and animal welfare organisations in both Europe and the United States, with a number of clinics – especially in the US – actively promoting the system to clients. Local authorities in the UK and elsewhere

are seeking to formally adopt EMODE as part of responsible pet ownership messaging.

A key message is that even where the term “easy” is used, this is relative and qualified and may still imply an animal is more difficult to provide for than one might think.

A hamster or a goldfish might seem a logical easy choice, but once modern scientific understanding of biological, spatial and enrichment needs are considered, old ideas of diminutive wire cages and small glass bowls don’t stand up.

How it works

In designing EMODE, the 18-strong team of vets, biologists and technicians considered the following established key areas relating to animal care: biology and behaviour of animal species and types; welfare needs of the animals according to the “five freedoms” principles; degree to which impartial and qualified husbandry guidance is available; and potential public health and safety risks that animals may present to their keepers and others.

There are two main parts to EMODE’s guidance. The first part offers primary (in effect

quick reference) categorisation of animals by biological class or group (Table 1). This quick reference guide emerged following assessment of relevant literature for many kept species, and used approaches borrowed from previous animal suitability assessment models by Schuppli and Fraser (2000) and Koene (2012). These two models offer technical excellence, but are aimed largely at the scientist rather than the lay pet keeper.

For EMODE, both biological and common classifications for animals are used to reflect popular understanding, thus EMODE divides animals as invertebrates, fish, amphibians, reptiles, birds, unusual mammals, primates, domesticated animals, and dogs and cats.

Two examples from these classifications – reptiles and dogs and cats – indicate the broad considerations and the basic score rationale underlying animals each section (Table 1).

Reptiles (for example, crocodiles, turtles, tortoises, lizards and snakes) include a wide variety of species that require greatly differing degrees of complex maintenance in

enclosed environments and manifest high premature mortality. Availability, independence, and quality of guidance on care are limited. There are significant zoonotic, and often human, safety risks that require very careful management, and availability and quality of guidance on injury and disease prevention and control is limited, and compliance with guidance is very poor. Accordingly, their range in this summary excludes easy.

Dogs and cats range from easy to difficult because the degree of care varies with breed. Availability, independence and quality of guidance on care are excellent, and even the most challenging species and breeds benefit from widely available qualified guidance. There are significant zoonotic risks that require careful management, and availability and quality of guidance on prevention and control is excellent. Accordingly, they are not listed as extreme in this summary.

Literature reviews and group consensus highlighted important questions that animal keepers (prospective and existing) ought to be asking, and from this arose the six self-assessment questions in Table 2, which serve to refine the basic pre-weighted scores set out in Table 1. However, to complete Table 2, the user is required to conduct some research (from impartial sources) into the animal he or she is considering keeping. That research in itself may provide an early insight into the responsibilities of animal care.

The six questions in Table 2 relate to the animal and the person’s individual circumstances and deliver a score on a scale of one to 40 that converts to easy, moderate, difficult or extreme.

Conclusion

As many readers may appreciate, for too long decisions to acquire animals, both domestic and foreign, have been over-influenced by pet traders, television programmes, movie characters, hobbyists, adverts and anecdotes. Many, if not most, pets are obtained in scenarios of incomplete or very poor understanding, misinformation, curiosity or complacency.

Vets and others must continue to do what they can to objectively guide people through the mire of complexities surrounding better husbandry, and of course, “pick up the pieces” when things go wrong.

However, EMODE’s prevention over cure approach offers the potential for avoiding the poor decision-making that gives rise to the raft of increasingly concerning animal and people problems, and this is, surely, a message for everyone.



Unwanted and abandoned turtles living wild in the UK become invasive alien species.



Housing animals in minimalistic enclosures, such as goldfish in a bowl, wrongly conveys that their biological needs are easily met.

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Table 1. EMODE: indication of degree of ease or difficulty to keep animals by class or group.

Easy	Moderate	Difficult	Extreme
	Invertebrates		
	Fish		
		Amphibians	
		Reptiles	
		Birds	
		Mammals (unusual)	
		Mammal-primates	
	Domesticated animals		
	Dogs and cats		

Table 2. EMODE: indication of degree of ease or difficulty to keep animals by species or breed. Questionnaire and categorisation.

Foundation question	Points		
Which class or group of animal does the species or breed belong to? Assign the animal the number of points (pts) indicated.			
Invertebrate	5 pts		
Fish	5 pts		
Amphibian	18 pts		
Reptile	18 pts		
Bird	18 pts		
Mammal (unusual)	18 pts		
Mammal-primate	20 pts		
Domesticated animal	10 pts		
Dog or cat	5 pts		
Specific questions	Answer	Points	
If answer is yes, assign 5 points. If answer is no, move to next question.			
1. Is the animal an especially sensitive species (such as marine tropical fish, chameleon, human-imprinted bird, bat)? or an especially small and/or delicate animal (such as stick insect, neon tetra fish, newt, baby crested gecko)? or an especially sensitive breed (such as bulldog, great Dane, Bengal cat)?	yes/no		
2. Does the animal have a long potential lifespan (such as more than 10 years)?	yes/no		
3. Does the animal have specialised feeding habits that can make its dietary requirements subject to restricted supply (such as unusual live food or plants)?	yes/no		
4. Does the animal require a specialised habitat/microhabitat (for example, 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 (for example, under five years, elderly, pregnant, diagnosed with HIV or other immune disease, drug user, receiving chemotherapy for 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			

MIKE JESSOP qualified in veterinary science at the RVC in 1984 and has been a small animal practitioner since. He is a partner in a five-veterinarian practice in south Wales, and has a keen interest in exotic animal medicine and surgery, with a focused interest in chelonians. He co-authored the tortoise chapter in *BSAVA Manual of Exotic Pets*, and has written numerous other articles.



CLIFFORD WARWICK graduated at the Institute of Biology in 1990 having specifically worked on non-invasive research involving reptiles, captive-reptile behaviour and biological strategies. In 2004, he qualified in primary health care at the University of Leeds Medical School, where he specialised in zoonotic disease. He has worked both in the field and clinical environments, has produced more than 100 peer-reviewed publications in biology and medicine, and works as a private consultant.

