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Guinea pig and its husbandry

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Abstract

The widespread popularity of the Guinea pig, especially in households with children, guinea pigs have shown a presence in our culture since long time. This article gives the basic details of the Guinea pig husbandry practices for rearing as a pet animal.

Keywords: Guinea pig, husbandry, vitamin c, sexing

Introduction

Guinea pigs (*Cavia porcellus*) are rodent mammals of the order Rodentia, which are characterized by a single pair of continuously growing incisors in each of the upper and lower jaws. Guinea pigs originated from the Andes Mountains of Peru and are actually rodents, not pigs like the name implies. Many also believe the "pig" portion of the name comes from their squeaking noise that reminded people of baby piglets. The "guinea" portion of the name may have originated when sailors brought the animals from South America and sold them for a guinea, a term for an old English coin (globo.newswire, 2011). About 40% of all mammal species are rodents; they are found in vast numbers on all continents except Antarctica. They are the most diversified mammalian order and live in a variety of terrestrial habitats, including human-made environments. Guinea pigs are hystricognath rodents from caviidae family, which contain 14 species of animals commonly known as cavies and Patagonian hares.

Nowadays increasing number of guinea pig as pet turning the page to know more about it. This article will provide a room to learn more about these delicate creatures – also known as the cavy.

Guinea pig

Guinea pig resembles other cavies in having a robust body with short limbs, large head and eyes, and short ears. The feet have hairless soles and short sharp claws. There are four toes on the forefeet and three on the hind feet. Several breeds of domesticated guinea pigs exist, which are sometimes grouped by coat texture and hair length.

They live in family groups with one dominant male, using rocky outcrops and ledges for shelter with no permanent dens or nesting sites. They are strictly herbivorous, they forage from site to site, grazing on grasses and leafy plants.

Laboratory animals

The use of guinea pigs in scientific experimentation dates back at least to the 17th century, when the Italian biologists Marcello Malpighi and Carlo Fracassati conducted vivisections of guinea pigs in their examinations of anatomic structures (Guerrini and Anita, 2003) [2]. Guinea pig has been commonly used as laboratory animals and have contributed greatly to the understanding of many human diseases and in the development of vaccines. This little pig has become a household favourite and makes an ideal small pet. They are docile and rarely bite in any situation. They are easy to handle and require little in the way of housing or specialized needs (Vicki Judah and Kathy Nuttall, 2008) [6].

Breeds

There are 13 breeds of Guinea pig has been recognized by American Cavy Breeders Association, the most common breed is the American cavy and originally known as English cavy. The coated cavies include the Abyssinian, Res, Longhaired varieties (Peruvians, Silkies, Shelties, Coronets and Texels), Crested, Teddy and Satins.

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Voice of Guinea pig

The guinea pig can make 7 to 11 distinct sound patterns. These sounds have unique names, there is a general agreement on 7 sounds.

Table 1: Physiology

Lifespan		4-8 years
Body Weight	Male	1000-1200 g
	Female	750-1000 g
Dentition		2(I 1/1 C 0/0 P 1/1 M 3/3)
Respiratory rate		90-150 breaths per minute
Tidal volume		5-10 ml/kg
Heart rate		190-300 beats per minute
Blood volume		70 ml/kg
Rectal temperature		38.6°C (37.2-39.5°C)
Water intake (average daily)		10 ml/100 g bodyweight
Urine pH		9
Sexual maturity	Male	9-10 weeks
	Female	4-6 weeks
Estrous cycle		17 (13-25) days
Duration of Estrus		1 - 16 hours
Length of gestation		59-72 days (depending on litter size)
Litter size		1-6 (average 1-13)
Birth weight		60-100 g
Weaning age		3 weeks

Housing

Guinea pigs cannot be housed in elaborate cages with platforms and wire floors. As they do not climb or attempt to jump out of the cage they can be housed in any enclosed area with sides that are at least eight to ten inches high will keep them safely inside. The floor space should be at least 36 inches long, providing ample room for exercise and food bowls. Guinea pigs urinate and defecate without a location preference and bowls are frequently contaminated. The food hopper can be used to prevent this. The recommended space (ILAR, 1996) [4] for a guinea pig is 101 sq in and cage height of 7 inches.

McKenzie and Illes (1976) [5] compared wood shavings and alfalfa hay as guinea pig bedding material over 12 months. They housed groups of one male and nine female guinea pigs in 20 sq-ft pens. Guinea pigs apparently preferred wood shavings in the light, spending much more time resting in them than in paper sheets. However, in the dark, the guinea pigs preferred paper sheets. Usually the wood shaving is not recommended as bedding material because aromatic hydrocarbons present in the shavings may cause respiratory problems, unless owners change the bedding frequently.

Guinea pigs are more tolerant of heat, and a temperature of 18 to 26 C (64–79 F) is recommended (ILAR, 1996) [4].

Sexing of guinea pigs

Sexing of guinea pigs and other hystricomorphic rodents can be difficult. Donnelly and Brown (2004) [1] describes that females have a vaginal closure membrane always seals the vaginal orifice except during estrous and parturition. The vaginal orifice is U-shaped and situated between the anus and the mound-shaped urethral orifice; distinguishing it when closed is difficult, and it is 'indicated' by a slightly raised semi-circular area. When its closure membrane covers the vaginal orifice, the urethral orifice can be mistaken as a genital opening. The well-developed clitoris of female guinea pigs can be manually extruded through the urethral orifice and mistaken as a penis. The clitoris consists of paired roots, a body, and glans, is covered by a prepuce, and is the female

homolog of the penis. It extends along the ventral surface of the urethra, and to the uninitiated, the clitoris can resemble a penis, albeit vestigial.

Male Guinea pig do not have a true scrotum. Instead, the testes are contained within the inguinal canal or abdomen, and there are two small moveable sacs (the post anal sacs) next to the anus, into which the caudal epididymis can drop. The penis is readily apparent below the anus, from which it is separated by an expanse of bare skin. The penis can be manually extruded 1 to 2 cm when flaccid. The tip of the erect penis extends to the level of the axilla, a distance of about 11 cm.

There are two major differentiating features: the penis is larger than the clitoris, and the extruded penis can be separated and distinguished from the prepuce, while the extruded clitoris tends to evaginate and the clitoral prepuce is not apparent (Donnelly and Brown, 2004) [1].

Nutrition

Guinea pigs are herbivores and can be fed a variety of fresh greens and vegetables. Guinea pig pellets have added vitamin C (Ascorbic acid) (Vicki Judah and Kathy Nuttall, 2008) [6]. It is an essential part of the daily diet as they are unable to synthesize it from other foodstuffs. Ascorbic acid is necessary for the metabolism of cholesterol, amino acids, and carbohydrates. Without adequate daily amounts in the diet, the signs of vitamin C deficiency can appear in a little as ten days to two weeks. Guinea pigs with vitamin C deficiency become weak and refuse to eat. Foods high in vitamin C and readily consumed by guinea pigs are kale, parsley, beet greens, spinach and broccoli. Once introduced to them, guinea pigs will also eat red and yellow peppers, tomatoes, kiwi fruit and orange segments.

Conclusion

Guinea pigs are very social animals and do best in pairs. Female pairs are a good option as well as pairs of neutered males with females. Male-male pairs can often lead to some aggressive behaviours. Understanding the animal behaviour and following good husbandry practices will make the guinea pig happy and comfortable pet.

References

1. Donnelly TM, CJ Brown. Guinea pig and chinchilla care and husbandry. *Vet. Clin.Exot.Anim.* 2004; 7:351-373.
2. Guerrini, Anita. *Experimenting with Humans and Animals.* Johns Hopkins, 2003, p. 42. ISBN 978-0-8018-7196-2.
3. <https://www.globenewswire.com/news-release/2011/09/27/457230/233382/en/Why-is-a-Guinea-Pig-Called-a-Guinea-Pig.html> (September 27, 2011).
4. Institute of Laboratory Animal Research (ILAR). Commission on Life Sciences, National Research Council. *Guide for the care and use of laboratory animals.* Washington (DC): National Academies Press, 1996, p.140.
5. McKenzie RA, C Illes. Comparison between wood shavings and Lucerne hay for guinea-pig bedding. *Guinea-Pig NewsLett.* 1976; 10:6-7.
6. Vicki Judah, Kathy Nuttall. *Guinea Pigs, In: Exotic Animal Care and Management.* Thomson Delmar Learning. Chapter. 2008; 6:48-59.