

Japanese macaque

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The **Japanese macaque** (/məˈkɑːk/;^[2] *Macaca fuscata*), is a terrestrial Old World monkey species native to Japan. They are also sometimes known as the **snow monkey** because they live in areas where snow covers the ground for months each year – no other non-human primate is more northern-living, nor lives in a colder climate.^[3]^[4] Individuals have brown-grey fur, red faces, and short tails. There are two subspecies.^[5]

In Japan, the species is known as *Nihonzaru* (*Nihon* ニホン "Japan" + *saru* サル "monkey") to distinguish it from other primates, but the Japanese macaque is very familiar in Japan, so when Japanese people simply say *saru*, they usually have in mind the Japanese macaque.

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Physical characteristics

The Japanese macaque is sexually dimorphic. Males weigh on average 11.3 kg (25 lb), while females average 8.4 kg (19 lb).^[6] Macaques from colder areas tend to weigh more than ones from warmer areas.^[7] Male average height is 570.1 mm (22.44 in) and female average height is 522.8 mm (20.58 in).^[6] Their brain size is approximately 95 g (3.4 oz). Japanese macaques have short stumps for tails that average 92.51 mm (3.642 in) in males and 79.08 mm (3.113 in) in females.^[7] The macaque has a pinkish face and posterior.^[8] The rest of its body is covered in brown, greyish, or yellowish hair.^[6] The coat of the macaque is well-adapted to the cold

Japanese macaque



Conservation status



Least Concern (IUCN 3.1)^[1]

Scientific classification

Kingdom: Animalia 
Phylum: Chordata 
Class: Mammalia 
Order: Primates 
Family: Cercopithecidae 
Genus: *Macaca* 
Species: ***M. fuscata*** 

Binomial name

Macaca fuscata

Blyth, 1875

Subspecies

Macaca fuscata fuscata
Macaca fuscata yakui



Skull of a Japanese macaque

and its thickness increases as temperatures decrease. The macaque can cope with temperatures as low as $-20\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$).^[9]

Macaques mostly move on all fours. They are semi-terrestrial, with females spending more time in the trees and males spending more time on the ground. Macaques



Japanese macaque range

are known to leap. They are also great swimmers and have been reported to swim over half a kilometer.^[6] The longevity for the macaque averages 6.3 years (at least for females).^[10] However, they have been known to live much longer; males have lived up to 28 years and females up to 32 years.^[11]

Behavior

Group structure

Japanese macaques live in matrilineal societies,^[6] and females stay in their natal groups for life, while males move out before they are sexually mature.^[12] Macaque groups tend to contain a number of adults of both sexes. In addition, a macaque troop contains several matrilineal lines. These matrilineal lines may exist in a dominance hierarchy with all members of a specific group ranking over members of a lower-ranking group.^[13] Temporary all-male groups also exist, composed of those that have recently left their natal groups and are about to transfer to another group.^[6] However, many males spend ample time away from any group^[14] and may leave and join several groups.^[6]



Macaques grooming



Japanese Macaques bathing in hot springs near Nagano, Japan.

Males within a group have a dominance hierarchy, with one male having alpha status. The dominance status of male macaques usually changes when a former alpha male leaves or dies.^[15] Other ways in which status changes is when an alpha male loses his rank or when a troop splits, leaving a new alpha position open.^[15] The longer a male is in a troop, the higher his status is likely to be.^[16] Females also exist in a stable dominance hierarchy, and a female's rank depends on her mother. Younger females tend to rank higher than their older siblings.^{[13][17]} Higher-ranking matrilineal lines have greater social cohesion.^[18] Strong relationships with dominant females can allow dominant males to retain their rank when they otherwise would not.^[19]

Females maintain both social relationships and hygiene through grooming. Grooming occurs regardless of climate or season.^[20] Females which are matrilineally related groom each other more often than unrelated individuals.^[21] Females will also groom unrelated females to maintain group cohesion and social relationships between different kinships in a troop.^[22] Nevertheless, a female will only groom a limited number of other females, even if the group expands.^[22] Females will also groom males, usually for hygienic purposes, but it can serve to attract dominant males to the group.^[23] Mothers pass their grooming techniques to their

offspring most probably through social rather than genetic means.^[24]

Mating and parenting

A male and female macaque will form a pair bond and mate, feed, rest and travel together, and this typically lasts 1.6 days on average during the mating season.^[25] Females enter into consortships with an average of four males a season.^[26] Higher-ranking males have longer consortships than their subordinates.^[25] In addition, higher-ranking males will try to disrupt consortships of lower-ranking males.^[27] Females will attempt to mate with males of any rank. However, dominant males mate more as they are more successful in mate guarding.^[28] The female decides whether mating will take place. In addition, dominance does not mean a male will successfully mate with a female.^[6] Males may also temporarily join another troop during the mating season and mate with the females.^[29] Females will also engage in same-sex mounting. Such behavior is likely because of hormones and females are mounted more often by other females than males.^[30]



Macaques mating

During the mating season, the face and genitalia of males redden and the tail will stand erect.^[31] In addition, females' faces and anogenital regions turn scarlet.^[31] Macaques will copulate both on the ground and in the trees,^[32] and roughly one in three copulations^[33] leads to ejaculation.^[33] Macaques signal when they are ready to mate by looking backward over a shoulder, staying still, or walking backwards towards their potential partner.^[34] A female will emit a "smooth-late-high coo", or "squawk", "squeak", or produce an atonal "cackle" during copulation. Males have no copulatory vocalizations.



Mother macaque with infant

A macaque mother moves to the periphery of her troop to give birth in a secluded spot,^[35] unless the group is moving, when the female will have to stay with it.^[36] Macaques usually give birth on the ground.^[6] Infants are born with dark-brown hair.^[37] They will consume their first solid food at five to six weeks old, and can forage independently from their mothers by seven weeks.^[37] A mother carries her infant on her belly for its first four weeks. After this time, the mother will carry her infant on her back, as well. Infants continue to be carried up to and past a year.^[37] A mother and her infant tend to avoid other troop members, and the mother may socialize again very slowly.^[38] However, alloparenting has been observed, usually by females which have not had infants of their own.^[37] Male care of infants occurs in some groups, but not in others; usually, older males protect, groom, and carry an infant as a female would.^[39]

Infants have fully developed their locomotive abilities within three to four months.^[40] When an infant is seven months old, its mother discourages suckling; full weaning happens by its 18th month. In some populations, male infants tend to play in larger groups more often than females.^[41] However, female infants have more social interaction than their male counterparts.^[41] Males prefer to associate with other males around the same age, when they are two years old.^[42] Female infants will associate with individuals of all ages and sexes.

Communication

During feeding or moving, Japanese macaques will often emit "coos". These most likely serve to keep the troop together and strengthen social relations between females.^[43] Macaques usually respond to coos with

coos of their own.^[44] Coos are also uttered before grooming along with "girney" calls. Variants of the "girney" call are made in different contexts.^[45] This call also serves as appeasement between individuals in aggressive encounters.^[46] Macaques have alarm calls for alerting to danger, and other calls to signal estrus that sound similar to danger alerts. Threat calls are heard during aggressive encounters and are often uttered by supporters of those involved in antagonistic interactions. The individual being supported will support the caller in the future.^[47]

Intelligence and culture

The Japanese macaque is a very intelligent species. Researchers studying this species at Koshima Island in Japan left sweet potatoes out on the beach for them to eat, then witnessed one female, named Imo (Japanese for yam or potato), washing the food off with river water rather than brushing it off as the others were doing, and later even dipping her clean food into salty sea water.^{[48][49][50]} After a while, others started to copy her behavior. This trait was then passed on from generation to generation, until eventually all except the oldest members of the troop were washing their food and even seasoning it in the sea.^{[48][49]} She was similarly the first observed balling up wheat with air pockets, throwing it into the water, and waiting for it to float back up before picking it up and eating it free from dirt.^{[49][50]} An altered misaccount of this incident is the basis for the "hundredth monkey" effect.^[51]



Macaques at a hot spring

The macaque has other unusual behaviours, including bathing together in hot springs and rolling snowballs for fun.^[49] Also, in recent studies the Japanese macaque has been found to develop different accents, like humans.^[52] Macaques in areas separated by only a few hundred miles can have very different pitches in their calls, their form of communication. The Japanese macaque has been involved in many studies concerning neuroscience and also is used in drug testing.

Ecology

The Japanese macaque is diurnal. In colder areas, from autumn to early winter, macaques feed in between different activities. In the winter, macaques have two to four feeding bouts each day with fewer daily activities. In the spring and summer, they have two or three bouts of feeding daily.^[32] In warmer areas such as Yakushima, daily activities are more varied. The typical day for a macaque is 20.9% inactive, 22.8% traveling, 23.5% feeding, 27.9% social grooming, 1.2% self-grooming, and 3.7% other activities.^[53] Macaques usually sleep in trees, but will also sleep on the ground, as well as on or near rocks and fallen trees.^[6] During the winter, macaques huddle together for warmth in sleeping grounds.^[54] Macaques at Jigokudani Monkey Park are notable for visiting the hot springs in the winter to warm up.

Diet

The Japanese macaque is omnivorous and will eat a variety of foods. Over 213 species of plant are included on the macaque's diet.^[55] It also eats insects, bark and soil.^[55] On Yakushima Island, fruit, mature leaves and fallen seeds are primarily eaten.^[56] The macaque also eats fungi, ferns, invertebrates, soil and other parts of plants.^[56] In addition, on Yakushima, their diets vary seasonally with fruits being eaten in the summer and herbs being eaten in the winter.^[57] Further north, macaques mostly eat foods such as fruit and nuts to store fat for the winter, when food is scarce.^[58] On the northern island of Kinkazan, macaques mostly eat fallen seeds, herbs, young leaves and fruits.^[59] When preferred food items are not available, macaques will dig up underground plant parts (roots or rhizomes) or eat soil and fish.^[55]

Distribution and habitat

The Japanese macaque is the northernmost-living nonhuman primate. It is found on three of the four main Japanese islands: Honshu, Shikoku, and Kyushu.^[6] The northernmost populations live on the Shimokita Peninsula, the northernmost point of Honshu.^[60] Several of Japan's smaller islands are also inhabited by macaques.^[6] The southernmost population living on Yakushima Island is a subspecies of the mainland macaques.^[60] The total population of Japanese macaques has been estimated to be 114,431 monkeys.^[6]

The Japanese macaque lives in a variety of habitats. It inhabits subtropical forests in the southern part of its range and subarctic forests in mountainous areas in the northern part of its range. It can be found in both warm and cool forests, such as the deciduous forests of central and northern Japan and the broadleaf evergreen forests in the southwest of the islands.^[60] Warm temperate evergreen and broadleaf forests and the cool temperate deciduous broadleaf forests are the most important habitats for macaques.^[6]

In 1972, a troop of about 150 Japanese macaques were relocated from Kyoto to a primate observatory in southwest Texas, USA. The observatory is an enclosed ranch-style environment and the macaques have been allowed to roam with minimal human interference. At first, many perished in the unfamiliar habitat, which consists of arid brushland. The macaques eventually adapted to the environment, and learned to forage for mesquite beans, cactus fruits, and other foods. The macaques flourished, and by 1995, the troop consisted of 500 to 600 individuals. In 1996, hunters maimed or killed four escaped macaques; as a result, legal restrictions were publicly clarified and funds were raised to establish a new 186-acre (75-ha) sanctuary near Dilley, Texas.^{[61][62]}

Relationship with humans

Traditional manmade threats to macaques have been slash-and-burn agriculture, use of forest woods for construction and fuel, and hunting. These threats have declined due to social and economic changes in Japan since World War II,^[63] but other threats have emerged. The replacement of natural forest with lumber plantations is the most serious threat.^[63] As human prosperity has grown, macaques have lost their fear of humans and have increased their presence in both rural and urban areas, with one macaque recorded living in central Tokyo for several months.^[12]

Cultural depictions

The Japanese macaque has featured prominently in the religion, folklore, and art of Japan, as well as in proverbs and idiomatic expressions in the Japanese language. In Shinto belief, mythical beasts known as *raijū* sometimes appeared as monkeys and kept Raijin, the god of lightning, company. The "three wise monkeys", which warn people to "see no evil, hear no evil, and speak no evil", are carved in relief over the door of the famous Tōshō-gū shrine in Nikkō. The Japanese macaque is a feature of several fairy tales, such as the tale of *Momotaro* and the fable about the *The Crab and the Monkey*.^{[64][65]} As the monkey is part of the Chinese zodiac, which has been used for centuries in Japan, the creature was sometimes portrayed in paintings of the Edo Period as a tangible metaphor for a particular year. The 19th-century artist and samurai Watanabe Kazan created a painting of a macaque.^[66] During the Edo Period, numerous clasps for *kimono* or tobacco pouches (collectively called *netsuke*) were carved in the shape of macaques.^[67]



The Japanese macaques at Jigokudani hotspring in Nagano have become notable for their winter visits to the spa.



Macaques being fed



Painting by Watanabe Kazan, 19th century

Spoken references to macaques abound in the history of Japan. Before his rise to power, the famed samurai Toyotomi Hideyoshi was compared to a monkey in appearance and nicknamed *Kozaru* ("Little Monkey") by his lord and master, Oda Nobunaga.^[68] This was a humorous jibe at first, but was later used pejoratively by Hideyoshi's rivals. In modern Japanese culture, because monkeys are considered to indulge their libido openly and frequently (much the same way as rabbits are thought to in some Western cultures), a man who is preoccupied with sex might be compared to or metaphorically referred to as a monkey, as might a romantically involved couple who are exceptionally amorous.

References

- Watanabe, K & Tokita, K. (2008). *Macaca fuscata* (<http://www.iucnredlist.org/apps/redlist/details/12552>). In: IUCN 2008. IUCN Red List of Threatened Species. Retrieved 4 January 2009.
- macaque (http://oxforddictionaries.com/view/entry/m_en_us1265048#m_en_us1265048) pronunciation by Oxford Dictionaries
- Jigokudani Monkey Park, Nagano: Explore the Heart of Japan (http://myoko-nagano.com/snow_monkeys/)
- Profile of Japanese macaques by Masahiro Minami, Simon Fraser University; Masui, K. (1988), *Nihonzaru no fudo*, Climatology of Japanese Macaque, Tokyo: Yuzankaku; Nakagawa, N., Iwamoto, T., Yokota, N., & Soumah, A.G. (1996). Inter-regional and inter-seasonal variations of food quality in Japanese macaques: constraints of digestive volume and feeding time. In J.E. FA., & D.G. Lindburg (Eds.), *Evolution and ecology of macaque societies* (pp. 207-234). New York, NY: Cambridge University Press. (<http://www.webcitation.org/query?url=http://www.geocities.com/Tokyo/Bay/9166/jmprof.htm&date=2009-10-25+11:31:27>)
- Groves, C. P. (2005). Wilson, D. E.; Reeder, D. M, eds. *Mammal Species of the World* (<http://www.bucknell.edu/mw3/browse.asp?id=12100545>) (3rd ed.). Baltimore: Johns Hopkins University Press. p. 162. OCLC 62265494 (<https://www.worldcat.org/oclc/62265494>). ISBN 0-801-88221-4.
- Fooden J, Aimi M. (2005) "Systematic review of Japanese macaques, *Macaca fuscata* (Gray, 1870) ". *Fieldiana: Zoology* 104:1-200.
- Hamada Y, Watanabe T, Iwamoto M. (1996) "Morphological variations among local populations of Japanese macaque (*Macaca fuscata*) ". In: Shotake T, Wada K, editors. *Variations in the Asian macaques*. Tokyo: Tokai Univ Pr. p97-115.
- Rowe N. (1996) *The pictorial guide to the living primates*. East Hampton (NY): Pogonias Pr. p124-5.
- Hori T, Nakayama T, Tokura H, Hara F, Suzuki M. (1977) "Thermoregulation of the Japanese macaque living in a snowy mountain area". *Jap J Physiol* 27:305-19.
- Takahata Y, Suzuki S, Agetsuma N, Okayasu N, Sugiura H, Takahashi H, Yamagiwa J, Izawa K, Furuichi T, Hill DA, Maruhashi T, Saito C, Sato S, Sprague DS. (1998) "Reproduction of wild Japanese macaque females of Yakushima and Kinkazan islands: a preliminary report". *Primates* 39(3):339-349.
- Nakamichi M, Kojima Y, Itoigawa N, Imakawa S, Machida S. (1995) "Interactions among adult males and females before and after the death of the alpha male in a free-ranging troop of Japanese macaques". *Primates* 36(3):385-96.
- Fukuda F. (2004) "Dispersal and environmental disturbance in Japanese macaques (*Macaca fuscata*) ". *Prim Rep* 68:53-69.

13. Koyama N. I (1967) "On dominance rank and kinship of a wild Japanese monkey troop in Arashiyama". *Primates* 8:189-216.
14. Sugiyama Y. (1976) "Life history of male Japanese monkeys". *Adv Stud Behav* 7:255-84.
15. Sprague DS, Suzuki S, Tsukahara T. (1996) "Variation in social mechanisms by which males attained the alpha rank among Japanese macaques". In: Fa JE, Lindburg DG, editors. *Evolution and ecology of macaque societies*. Cambridge (UK): Cambridge U Pr. p 444-58.
16. Takahashi H. (2002) "Changes of dominance rank, age, and tenure of wild Japanese macaque males in the Kinkazan A troop during seven years". *Primates* 43(2):133-8.
17. Takahata Y. "Diachronic changes in the dominance relations of adult female Japanese monkeys of the Arashiyama B group". In: Fedigan LM & Asquith PJ, editors. *The monkeys of Arashiyama: Thirty-five years of research in Japan and the west*. Albany(NY): SUNY Pr. p123-39.
18. Koyama NF. (2003) "Matrilineal cohesion and social networks in *Macaca fuscata*". *Intl J Primatol* 24(4):797-811.
19. Nakamichi M, Kojima Y, Itoigawa N, Imakawa S, Machida S. (1995). "Interactions among adult males and females before and after the death of the alpha male in a free-ranging troop of Japanese macaques". *Primates* 36(3):385-96.
20. Ventura R, Majolo B, Schino G, Hardie S. (2005) "Differential effects of ambient temperature and humidity on allogrooming, self-grooming, and scratching in wild Japanese macaques". *Am J Phys Anth* 126(4):453-7.
21. Koyama N. (1991) "Grooming relationships in the Arashiyama group of Japanese monkeys". In: Fedigan LM, Asquith PJ, editors. *The monkeys of Arashiyama: thirty-five years of research in Japan and the west*. Albany (NY): SUNY Pr. p211-26.
22. Nakamichi M, Shizawa Y. (2003) "Distribution of grooming among adult females in a large, free-ranging group of Japanese macaques". *Intl J Primatol* 24(3):607-25.
23. Tsukahara T. (1990) "Initiation and solicitation in male-female grooming in a wild Japanese macaque troop on Yakushima island". *Primates* 31(2):147-56.
24. Tanaka I. (1995) "Matrilineal distribution of louse egg-handling techniques during grooming in free-ranging Japanese macaques". *Am J Phys Anth* 98(2):197-201.
25. Huffman MA. (1992) "Influences of female partner preference on potential reproductive outcome in Japanese macaques". *Folia Primatol* 59(2):77-88.
26. Gouzoules H, Goy RW. (1983) "Physiological and social influences on mounting behaviour of troop-living female monkeys (*Macaca fuscata*)". *Am J Primatol* 5(1):39-49.
27. Perloe SI. (1992) "Male mating competition, female choice and dominance in a free-ranging group of Japanese macaques". *Primates* 33(3):289-304.
28. Soltis J. (1999) "Measuring male-female relationships during the mating season in wild Japanese macaques". *Primates* 40(3):453-67.
29. Sprague DS. (1991) "Mating by non-troop males among the Japanese macaques of Yakushima island". *Folia Primatol* 57(3):156-8.
30. Vasey PL, Foroud A, Duckworth N, Kovacovsky SD. (2006) "Male-female and female-female mounting in Japanese macaques: a comparative study of posture and movement". *Arch Sex Behav* 35(2):117-29.
31. Wolfe L. (1979) "Sexual maturation among members of a transported troop of Japanese macaques". *Primates* 20(3):411-8.
32. Yotsumoto N. (1976) "The daily activity rhythm in a troop of wild Japanese monkey". *Primates* 17(2):183-204.

33. MobileReference (15 December 2009). *The Illustrated Encyclopedia of North American Mammals: A Comprehensive Guide to Mammals of North America* (<http://books.google.com/books?id=VxK4KWrGn2cC&printsec=frontcover#v=onepage&q=copulate%20macaque&f=false>). MobileReference. ISBN 978-1-60501-279-7. Retrieved 23 April 2013.
34. Hanby JP, Brown CE. (1974) "The development of sociosexual behaviours in Japanese macaques *Macaca fuscata*". *Behaviour* 49:152-96.
35. Fedigan LM, Zohar S. (1997) "Sex differences in mortality of Japanese macaques: twenty-one years of data from the Arashiyama west population". *Am J Phys Anth* 102(2):161-75.
36. Thomsen R. (1997) "Observation of periparturitional behaviour in wild Yakushima macaques (*Macaca fuscata yakui*)". *Folia Primatol* 68(6):338-41.
37. Hiraiwa M. (1981) "Maternal and alloparental care in a troop of free-ranging Japanese monkeys". *Primates* 22(3):309-29.
38. Bardi M, Shimizu K, Fujita S, Borgognini-Tarli S, Huffman MA. (2001) "Social behavior and hormonal correlates during the perinatal period in Japanese macaques". *Horm Behav* 39(3):239-46.
39. Gouzoules H. (1984) "Social relations of males and infants in a troop of Japanese monkeys: a consideration of causal mechanisms". In: Taub DM, editor. *Primate paternalism*. New York: Van Nostrand Reinhold Co. p 127-45.
40. Minami T. (1974) "Early mother-infant relations in Japanese monkeys". In: Kondo S, Kawai M, Ehara A, editors. *Contemporary primatology, proceedings of the 5th International Congress of Primatology*. Basel(CH):S. Karger. p 334-340.
41. Glick BB, Eaton GG, Johnson DF, Worlein J. (1986) "Social behavior of infant and mother Japanese macaques (*Macaca fuscata*) : effects of kinship, partner sex, and infant sex". *Intl J Primatol* 7(2):139-55.
42. Nakamichi M. (1989) "Sex differences in social development during the first 4 years in a free-ranging group of Japanese monkeys, *Macaca fuscata*". *Anim Behav* 38(5):737-48.
43. Mitani M. (1986) "Voiceprint identification and its application to sociological studies of wild Japanese monkeys (*Macaca fuscata yakui*). *Primates* 27(4):397-412.
44. Sugiura H. (2001) "Vocal exchange of coo calls in Japanese macaques". In: Matsuzawa T, editor. *Primate origins of human cognition and behavior*. Tokyo: Springer. p135-54.
45. Masataka N. (1989) "Motivational referents of contact calls in Japanese monkeys". *Ethology* 80(1-4):265-73.
46. Blount B. 1985. "Girney" vocalizations among Japanese macaque females: context and function. *Primates* 26(4):424-35.
47. Machida S. (1990) "Threat calls in alliance formation by members of a captive group of Japanese monkeys". *Primates* 31(2):205-11.
48. Animal Diversity Web (http://animaldiversity.ummz.umich.edu/site/accounts/information/Macaca_fuscata.html), § "Other Comments", ¶ 1, sent. 5, downloaded 2009-02-15T16:00+09:00
49. Blue Planet Biomes (http://www.blueplanetbiomes.org/japanese_macaque.htm), ¶ 12, sent. 1, downloaded 2009-02-15T16:00+09:00
50. [1] (<http://content.karger.com/ProdukteDB/produkte.asp?Aktion=ShowPDF&ProduktNr=223842&Ausgabe=225011&ArtikelNr=21561>) "Carrying and Washing of Grass Roots by Free-Ranging Japanese Macaques at Katsuyama" by Nakamichi, Masayuki; Kato, Eiko; Kojima, Yasuo; and Itoigawa, Naosuke in "Folia Primatologica:International Journal of Primatology"; Vol. 69, No. 1, 1998, § "Abstract", ¶ 1, sent. 1, downloaded 2009-02-15T16:00+09:00
51. Amundson, Ron (Summer 1985). Kendrick Frazier ed. "The Hundredth Monkey Phenomenon". *Skeptical Inquirer*: 348-356.

52. [2] (http://news.nationalgeographic.com/news/2005/12/1228_051228_monkey_accents.html) "Monkeys Have Accent, Japanese Study Finds"
53. Maruhashi T. (1981) "Activity patterns of a troop of Japanese monkeys (*Macaca fuscata yakui*) on Yakushima island, Japan". *Primates* 22(1):1-14.
54. Takahashi H. (1997) "Huddling relationships in night-sleeping groups among wild Japanese macaques in Kinkazan island during winter". *Primates* 38(1):57-68.
55. Koganezawa M. (1974) "Food habits of Japanese monkey (*Macaca fuscata*) in the Boso mountains". In: Kondo S, Kawai M, Ehara A, editors. *Contemporary primatology, proceedings of the 5th International Congress of Primatology*. Basel(CH):S. Karger. p380-3.
56. Maruhashi T. (1980) "Feeding behavior and diet of the Japanese monkey (*Macaca fuscata yakui*) on Yakushima island, Japan". *Primates* 21(2):141-60
57. Hanya G. (2004) "Diet of a Japanese macaque troop in the coniferous forest of Yakushima". *Intl J Primatol* 25(1):55-69.
58. Hanya G, Kiyono M, Yamada A, Suzuki K, Furukawa M, Yoshida Y, Chijiwa A. (2006) "Not only annual food abundance but also fallback food quality determines the Japanese macaque density: evidence from seasonal variations in home range size". *Primates* 47(3):275-8.
59. Aetsuma N, Nakagawa N. (1998) "Effects of habitat differences on feeding behaviors of Japanese monkeys: comparison between Yakushima and Kinkazan". *Primates* 39(3):275-89.
60. Uehara S. (1975) "The importance of the temperate forest elements among woody food plants utilized by Japanese monkeys and its possible historical meaning for the establishment of the monkeys & apes; range: a preliminary report". In: Kondo S, Kawai M, Ehara A, editors. *Contemporary primatology, proceedings of the 5th International Congress of Primatology*. Basel(CH):S. Karger. p392-400.
61. Baker, Ed (5 August 2005). "The Legendary Snow Monkeys of Texas: A brief open season on monkeys resulted in protections for them in the Lone Star State" (<http://www.austinchronicle.com/news/2005-08-05/283057/>). *The Austin Chronicle*. Retrieved 3 May 2011.
62. *Born Free USA: Primate Sanctuary: About the Sanctuary* (http://www.bornfreeusa.org/sanctuary/b_about.php), 2003–2011, retrieved 3 May 2011
63. Sprague DS. (2002) "Monkeys in the backyard: encroaching wildlife and rural communities in Japan". In: Fuentes A, Wolfe LD, editors. *Primates face to face: conservation implications of human-nonhuman primate interconnections*. Cambridge (UK): Cambridge U Pr. p254-72.
64. Ozaki, Yei Theodora (1903). "The Quarrel of Tee Monkey and the Crab". *The Japanese Fairy Book* (<http://www.rickwalton.com/folktale/japan16.htm>). Archibald Constable & Co.
65. Ozaki, Yei Theodora (1903). "Momotaro, or the story of the Son of a Peach". *The Japanese Fairy Book* (http://books.google.com/books?id=V_RyPbadxJgC). Archibald Constable & Co.
66. Keene, Donald (2006). *Frog In The Well: Portraits of Japan by Watanabe Kazan 1793-1841*. Asia Perspectives. Columbia University Press. ISBN 0-231-13826-1.
67. Okada, Yuzuru (1951). *Netsuke: A Miniature Art of Japan*. Tokyo: Japan Travel Bureau.
68. Berry, Mary Elizabeth (1982). *Hideyoshi* (<http://books.google.com/books?id=HQTbDphPKmoC&printsec=frontcover#v=onepage&q=&f=false>). Harvard Univ Asia Center. ISBN 0-674-39026-1.

External links

- "Macaca fuscata" (http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=555659).



Wikimedia Commons has media related to ***Macaca***

Integrated Taxonomic Information System.

fuscata.

- Jigokudani Yaen-Koen Info Page (http://myoko-nagano.com/snow_monkeys)
- English Guide around Snow Monkey park (http://www.yudanaka-shibuonsen.com/snow_monkey_jigokudani_monkey_park)
- AcaPixus images of Japanese macaque (<http://www.acapixus.dk/galleri/?Macaca%20fuscata>)
- Primate Info Net *Macaca fuscata* Factsheet (http://pin.primate.wisc.edu/factsheets/entry/japanese_macaque)
- Human Factors & activities around Jigokudani-Shigakogen Forest Park (<http://www.forestrescue.com/Home/wildlife/snow-monkeys>)

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