

The musk deer and its musk in classical Indian literature

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The musk deer (*Moschus chrysogaster* Hodgson) is a small hornless animal, only 40–60 cm high. It lives in the Himalayas and Tibet between 2100 and 3300 m. The caudal musk gland of the adult male provides the famous aromatic black substance known as musk which is traditionally much used in perfumery.

After a short introduction about the animal and its habits, its role in Indian classical literature is discussed. It is missing in the Veda and epics (except one short mention in the *Mahābhārata*), but since the early first millennium it is rather often mentioned. It is variously called *karāla*, *kastūrīmṛga*, and *mṛganābhi*. Part of the accounts are rather fanciful.

The second part of the article concentrates on musk itself, Sanskrit *kastūrikā*, also *mṛgamada* and *kuraṅgamada*. It was variously used perfuming the body, clothes, and even as a condiment added to drinks. Physicians mixed it in various medicines.

Finally, the role of musk in ancient international trade is discussed. In the Graeco-Roman world it became known in the fourth and fifth century and later on it was also much appreciated in the Islamic world. Its name, Greek μύσχος, Latin *muscus*, is probably borrowed from Persian (Middle and New Persian *mušk* ‘musk’) as *muṣka* in Sanskrit means ‘testicle.’ However, it seems that also in India the musk gland was occasionally confused with testicles.

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Musk deer live in the Himalayas and Tibet between 2100 and 3300 m. It is known as *Moschus chrysogaster* Hodgson, with the traditional name *Moschus moschiferus* L. now only being used for the related Siberian species (there are altogether seven species of musk deer). The architect Linnaeus himself coined the name *Moschus moschiferus* in the 18th century. He had little access to Himalayan nature but was actively corresponding with several colleagues who were studying nature in Siberia. The animal was still rather poorly known in Linnaeus’ time and only later was it understood that in fact there are several closely related species. Brian Houghton Hodgson gave the name *Moschus chrysogaster* to the Himalayan species which he studied for many years in Nepal. Apart from his studies on nature, he also carried out research

on local ethnography, languages, and religion and he is therefore also well-known in the history of Indology.¹

The musk deer is a small animal, only 40–60 cm high, and instead of horns, it has long upper canines (which in the male can be even as long as 7 cm). It lives singly or in pairs, mainly in the birch forests above the pine zone, but sometimes also descends to lower levels searching for food. Its diet consists of grass, lichens, leaves, and flowers. The caudal musk gland of the adult male provides the famous aromatic black substance known as musk which is traditionally much used in perfumery. A single male secretes c. 28 g musk. When fresh it “has an unpleasant, pungent, urinary odour, the aroma of musk appears when it is dried” (Prater 1971: 295).² Because of illegal hunting and habitat loss the species is nowadays on the endangered list.

Musk deer and musk are not mentioned in Vedic and epic texts,³ but appear quite often in classical Sanskrit literature. In Sanskrit the animal is known as *karāla*, *kastūrīmṛga*, and *mṛganābhi*; sometimes also *gandhahariṇa* and other rare terms (*puṣkalaka*). The *Suśrutasaṃhitā* lists *karāla* among the different kinds of deer flesh in the *jaṅghala* group, and Ḍalhaṇa confirms that the word means *kastūrīmṛga*.⁴ The texts rightly locate it in the Himalayas⁵ (and of course in Kailāśa). Thus, according to Bāṇa, in the Kailāśa the slope was lined by the hoofs of yaks and female musk-deer sank in the sand⁶ and it was covered with the hair of other cervids and antelopes (*rallakas* and *raṅkus*). Here we meet the rather common tendency to put together various species of deer, even as part of the same herd. Our texts were written by urban people and Brahmins, often vegetarians, who had little knowledge of the animal world. Hunters knew better, but they did not write books.

A common idea is that of the musk deer spreading its smell around—to stones, the leaves of trees, even to the air (the north wind smells of musk). Thus, in the *Meghadūta* Himalayan stones retain the

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² The preceding account is also founded on Prater (1971).

³ An exception is perhaps the list of things that one should keep at home for good luck described in the *Mahābhārata* 5, 40, 9. After a goat, a bullock, sandalwood, a lute, a mirror, honey and butter, iron, copper, a conch shell, and gold it ends with musk (*nābhi*) and *rocanā* pigment.

⁴ *Suśruta Sūtra* 20, 5 and 4, 54 and Ḍalhaṇa on both, cf. Meulenbeld (2002: IB, 341, note 517).

⁵ E.g. Ḍalhaṇa on *Suśruta Sūtra* 4, 54 *karālaḥ adhonikāntadantaḥ himavadādīparvateṣu kastūrīmṛgaḥ iti loke*.

⁶ *Kādambarī* p. 243 *sikatā-nimagna-camaramṛga-kastūrikāmṛgī-khara-pañktinā*. See further *Bhāgavatapurāṇa* 4, 6, 20 listing animals found in Kailāśa (my text reads *vrkanābhibhiḥ*, but perhaps musk-deer as *mṛganābhi* is meant).

scent of the musk deer who had sat on them.⁷ In another description of the Himalayas we read that in the shade of the *nameru* trees (*Elaeocarpus serratus*), the surfaces of stones have been perfumed by the musk-deer (*mṛganābhi*) reclining on them (*Raghuvamśa* 4, 74). According to Jayadeva, the fresh leaves of the *tamāla* trees absorb the strong scents of deer musk in the spring.⁸ In the *Harṣacarita* the list of royal presents includes musk deer (*kastūrikākuraṅgān*) which spread their scent in the space all round them.⁹ For Rājaśekhara the north wind is made fragrant through the favour of the musk deer (*kastūrikaiṇa*).¹⁰ Elsewhere the same author claims that the musk deer (*gandhahariṇa*) likes to circle around the sprigs of the tender rosebay, but takes no delight in a wormwood meadow.¹¹ Bāṇa states that in the happy country great men are its bulwarks, clad, like the feet of the Himalayas, with the hair of deer bearing the fragrance of musk.¹²

As this gland secretion was highly appreciated, musk deer was also eagerly hunted. Thus e.g. in the *Kāśikā* on P. 2, 3, 36 the musk deer is hunted because of its musk gland (*somni puṣkalako hataḥ*).¹³ In the *Kādambarī* p. 64 (NSP) the Śabara king hunted many kinds of animals (peacocks, deer) and followed the musk deer (*gandha-anusāriṇam*). When the deer had been killed, the hunter removed the entire musk gland as this was an easy way to preserve the valuable substance in good condition. In one source kings also tame deer to procure musk and also to keep them for their amusement.¹⁴

Musk (Sanskrit *kastūrikā*, also *mṛgamada*, *kuraṅgamada*)¹⁵ was highly appreciated and popular as a perfume and it is therefore also often mentioned in texts. According to Hooper (1910: 520) “Bhāvaprakāśa describes three variants of musk: Kamrupa, the best; Nepala, of intermediate quality; and Kashmiri, inferior.” Other sources also confirm that the best sort comes from the east (McHugh 2015: 172f.). Musk was famous for its strong and penetrating smell. In a *Subhāṣita* we learn that like

⁷ Meghadūta 52 āsīnānāṃ surabhitaśilaṃ nābhigandhair mṛgāṇām; Mallinātha explains nābhigandhaiḥ kasturīgandhaiḥ, etc.

⁸ Jayadeva: Gītagovinda 1, 29 mṛgamadasaurabhasavaśaṃvadanavadalamālatamāle.

⁹ Bāṇa: Harṣacarita 7 (Kane 1986: 117; Cowell and Thomas 1993: 214).

¹⁰ Rājaśekhara: Bālarāmāyaṇa 5, 33 (5, 35 of Warder 1988: 471).

¹¹ Rājaśekhara: Viddhaśālabhañjikā 3, 5+.

¹² Bāṇa: Harṣacarita 3 (Kane 1986: 43) mṛgamadaparimalavāhimṛgaromācchādītair. Note that Cowell and Thomas 1993: 81 mistakenly render mṛgamada as ‘civet’.

¹³ A similar idea without musk deer is found in Jātaka (Fausbøll 1991: 6, 61, verse 269): an elephant is killed for ivory, a leopard for its skin.

¹⁴ Yuktikalpataru p. 211 v. 82 quoted by Gopal (1989: 118).

¹⁵ To these McHugh 2015: 174 adds some less common names: mārjārī ‘cat-related,’ mṛgāṇḍaja ‘produced from deer testicles,’ mṛgadarpa ‘deer-pride,’ and mṛgodbhava ‘deer-arisen.’

musk, fondness can never be concealed; even though it is concealed, its scent goes everywhere.¹⁶ Musk was used as such or mixed in various preparations, e.g. in sandal paste.¹⁷

Different methods for testing musk are described in the *Mānasollāsa* (3, 5, 992ff.)—this was important, because musk could also be falsified, often by mixing a small amount of real musk with inferior substances (McHugh 2015: 196). McHugh (2015: 190 with note 35) indicates a short text, *Kastūripaṛikṣā*, devoted to such testing.

Musk was applied directly onto the skin or on clothes. At his coronation the young king had his body smeared with sandal paste mixed with fragrant musk.¹⁸ In another passage from Kālidāsa celebrating women drink wine and smear their breasts with sandal paste mixed with musk.¹⁹ In the *Kathāsaritsāgara* the wife of the Bhilla chief has her garments perfumed with musk (*mṛgamada*).²⁰

Besides actual perfumes, musk was also used for drawing cosmetic designs, for perfuming clothes, and even as a condiment added to drinks. A number of examples are found e.g. in Murāri's *Anargharāghava*. He tells how in the morning a maiden rubs off the design of a *makara* (representing Kāma's mount) drawn with musk (*kastūri*) on her breasts.²¹ In another passage the Yamunā is compared to an ink-black musk mark decorating the goddess Earth.²² Jayadeva mentions leaf designs drawn with musk (*kastūrikāpātrakam*) decorating women's breasts (*Gītagovinda* 11, 11).

Jayadeva seems to be fond of musk drawings. Thus, in *Gītagovinda* 4, 6, the dejected Rādhā secretly uses deer musk to draw Kṛṣṇa (*kuraṅgamadena*) in the likeness of the love god and then worships him. In 7, 22 Kṛṣṇa uses deer musk to draw the form of a stag on the moon (*mṛgamadatilakam likhati sapulakam mṛgam iva rajanīkare*) and then (24) also smears the domes of Rādhā's swelling breasts with shining musk; in 12, 12 Rādhā says to Kṛṣṇa: 'paint a leaf design on my breast with deer musk (*mṛgamadatilakam*)' and again in 16 'make a mark with liquid deer musk (*mṛgamadarasa*) on my moonlight brow.'

¹⁶ Indische Sprüche 7597: *mṛganābhisamā prītir na tu gopāyyate kvacit, āvṛtāpi punas tasya gandhaḥ sarvatra gacchati*.

¹⁷ E.g. *Ṛtusaṃhāra* 6, 12, and *Raghuvamśa* 17, 24 both quoted below; Bilhaṇa 8 (Northern recension) *adyāpi tāṃ masṛṇacandana-paṅkamiśrakastūrikāparimalotthavisarpigandhām [...]* smarāmi.

¹⁸ Kālidāsa, *Raghuvamśa* 17, 24 *mṛganābhisugandhinā*.

¹⁹ Kālidāsa, *Ṛtusaṃhāra* 6, 12 *priyaṅgukāliyakakuṅkumāni stanāṅgarāgeṣu vicarcitāni / āsevayate candanam aṅganābhir madālasābhir mṛganābhiyuktam*.

²⁰ Somadeva, *Kathāsaritsāgara* 18, 4 (123), 51 (Tawney 1992: 2, 595).

²¹ *Anargharāghava* 4, 3 (Törzsök 2006: 232f.), also in Vidyākara: *Subhāṣitaratnakośa* 633. Lines drawn with musk also in 2, 22 (Törzsök 2006: 130f. the lines formed by ants collecting millet and rice grains resemble the lines drawn with musk), in 1, 2+ (p. 48f. drawn by Viṣṇu on Lakṣmī's breasts), in 7, 107 (p. 522f. musk design on women's cheeks washed away by sweat falling from their foreheads).

²² *Anargharāghava* 7, 116 (Törzsök 2006: 528f.) *devyā bhūmer mṛgamadamaṣīmaṇḍanaṃ*.

Karpūramañjarī wrote a love letter on the leaf of a *ketaka* flower with reddish-yellow ink made of musk.²³

As a highly appreciated perfume, musk was naturally present in many royal enjoyments. It is thus mentioned at least half a dozen times in this connection in the *Mānasollāsa* (as *kastūrī*, *kastūrikā*). We find it applied on the faces of the ladies of the harem (3, 11, 1176), also on the king's eyes (5, 6, 304), among the condiments added to *tāmbūla* (3, 4, 963), in the water used for sprinkling (5, 4, 214 and 224), and among other things to give a nice smell to incense (3, 19, 1698). A king enjoying his free time has a *kastūritilaka* on his forehead (5, 8, 354). Much earlier Varāhamihira included it, together with camphor, as a perfume ingredient.²⁴

There were also some medical uses. Among the early sources, both Caraka and Vāgbhaṭa use musk (*kastūrī*) as one of the ingredients in a paste that alleviated the problems caused by *vāta* such as e.g. dyspnoea, coughing, fever, hiccups and vomiting.²⁵

The musk gland (*kastūrikākośa*) was often given as a royal present. The above-mentioned list in the *Harṣacarita* also contains musk glands. In the *Kathāsaritsāgara*, the Bhilla chief, as she gives away her daughter, presented the bridegroom with a hundred camels laden with pearls and musk.²⁶

Naturally there were also some purely literary ideas connected with musk and its strong smell, usually in an erotic context. Quite often it is said to attract bees, who then harassed the women using musk perfume. Thus e.g. in Mañkha, *Śrīkaṇṭhacarita* 12, 90 (translation in Warder 2004: 89): 'That cosmetic which you put on, produced from paste of musk (*kastūripaṅkajanma*), was certainly a mistake, since your every frail limb is full of wounds caused by the stings of bees attached to the fragrance' (with an allusion to the bites of love-making).

In later literature we find a nice piece of poetical imagination. In this case, the musk deer himself supposedly does not understand that the smell is his own and looks for its source in vain. Kabīr used this as a comparison: musk lies in the musk deer's own navel, but it roams in the forest hoping to find it, just as God pervades every heart, but men of the world do not conceive this.²⁷ The same idea is then

²³ Rājasekhara, *Karpūramañjarī* 2, 7 with *eṇanāhī* 'antelope's nave' = *kastūrikā*.

²⁴ Varāhamihira, *Bṛhatsaṃhitā* 77, 13 *kastūrikayā deyaḥ karpūrasaṃyutayā*. In two other passages (77, 12 and 17) just *mṛgakarpūra* indicates the same.

²⁵ *Carakasamhitā* Cikitsā 28, 152 and *Aṣṭāṅgasamgraha* Cikitsā 23, 45. Also in *Aṣṭāṅgasamgraha* Cikitsā 2, 95 in a paste applied to the body to ward off chills. According to Meulenbeld 2002: IB 703 (note 726) the *Carakasamhitā* passage is probably the earliest mention of musk.

²⁶ Somadeva, *Kathāsaritsāgara* 18, 4 (123), 77 (Tawney 1992: 2, 597) *muktākastūrikābhārabhṛtoṣṭraśata*.

²⁷ Kabīr no. 45 v. 1f. (Karki 2001: 90) *kastūrī kuṇḍil^a basai, mṛg^a dhūṃḍhai van^a māṃhi / aise ghaṭi ghaṭi rām^a haiṃ, duniyām [...]*.

also found in a poem by Ravidās: with the scent in its body the musk deer searches, but does not find the secret.²⁸

Despite the quite large number of references to musk deer in texts, according to van der Geer (2008: 425), it seems to be completely absent in Indian art.

Musk became an item of international trade early on. In ancient times it was exported from India to Rome, where it is mentioned in some texts of late antiquity, first by Jerome on a list of odoriferous substances.²⁹ It was known in Greek as μύσχος, in Latin as *muscus*. The name corresponds to the Indian *muṣka*, which in Sanskrit means ‘testicle’, but in Middle and New Persian the probably related word *mušk* means ‘musk.’ It thus seems that μύσχος was borrowed from Persian. But it also seems that musk glands were sometimes confused with testicles even in India.³⁰

In the 6th century, Cosmas Indicopleustes (11, 6) gave a short description of the musk deer as an Indian animal and he knew its Indian name (as καστοῦρι).³¹ Like some Indian sources, he locates the musk gland in the navel; the hunter takes it from the animal he had killed with an arrow.

Musk was brought from India to the Islamic world in the Middle Ages³² and part of it then travelled further to Europe. In most European languages, its name was borrowed from the Graeco-Latin word, thus e.g. English *musk*, but Portuguese *almiscar* betrays its Arabic origin. In Europe the word was also applied to other animals that smell (muskkrat,³³ muskox) and plants.

Nowadays musk is commonly substituted with synthetic products.

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²⁸ Ravidās 110, 2 (Callewaert and Friedlander 1992; from *Ādi Granth* 37, 1, 1196) *jaise kuraṃk^a nahī pāio bhedu, tani sugaṃdh^a ḍhūḍhai pradesu*.

²⁹ Jerome, *Adversus Iovinianum* 2, 8 (337A, Bickel 1915: 405).

³⁰ Note the rare *mṛgāṇḍaja* mentioned above.

³¹ Note that Greek καστόριον (Latin *castor*) is a different fragrant substance, namely, the secretion obtained from a beaver. Mayrhofer (1997: 79) suggests that Sanskrit *kastūri* is borrowed from this, but I am rather inclined to accept Kirfel’s suggestion (“vielleicht stammen beide Wörter aus einer dritten Quelle,” quoted by Mayrhofer).

³² In the 9th century Ibn Masāwaih’s (777–857 CE) treatise on aromatic substances mentioned musk as one of the primary aromatics, together with ambergris, aloeswood, camphor, and saffron (McHugh 2015: 165).

³³ According to Yule and Burnell (1903: 600), the first uses of the word *muskkrat* are from the late 16th century. In the passage from Jerome cited earlier, *peregrini muris pellicula*, mentioned immediately after *muscus*, may refer to the muskrat.

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