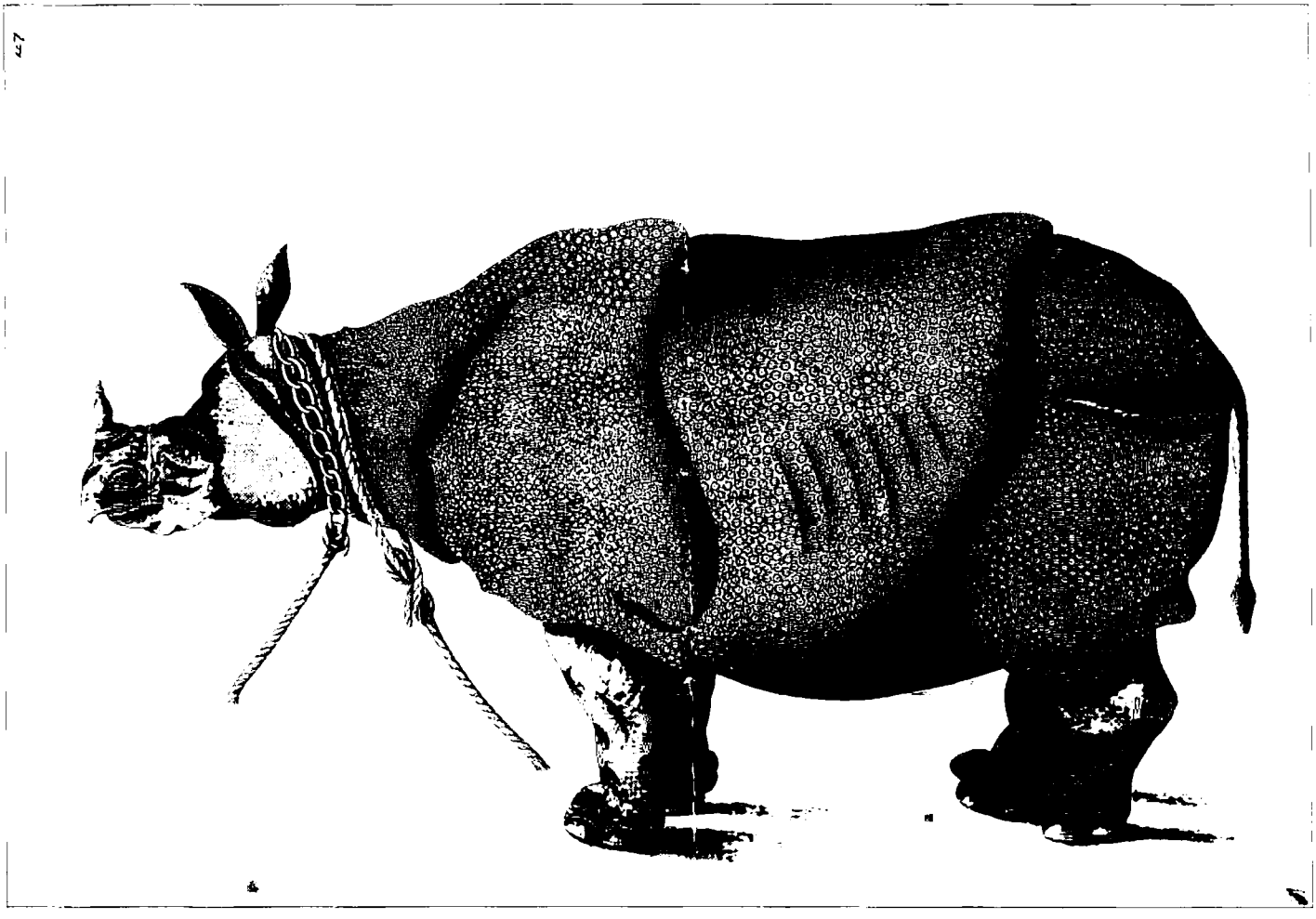
British Library
exhibition notes

Wonders of Creation:
natural history drawings in the British Library



An exhibition in
the British Library
3 April to
12 July 1987

plate 1
Indian Rhinoceros
(Rhinoceros unicornis)
Watercolour by Indian
artist. Late 18th or early
19th century.
Wellesley Collection
IOLR NHD 32, f.47

The dawn of botanical and zoological art

Natural history drawing began with Palaeolithic man who painted some of the animals he hunted with confidence and in bold colours on the walls of caves he inhabited. Plants were absent from his artistic repertoire, and it was probably not until they were grown for food or medicine that any serious attempt was made to draw them. In Egypt and Assyria flowers figured as decorative motifs, unlike animals which were frequently depicted with a naturalism and vigour clearly based on direct observation. The garden scenes featured in Roman murals incorporated flowers and birds painted with a creditable realism.

Pliny the Elder recorded that Greek herbals of the first century before Christ were embellished with coloured illustrations of plants. The plant portraits in *De materia medica* of Dioscorides, a Sicilian of Greek extraction and a physician in Nero's Roman army, were repeatedly copied. The extremely competent paintings of flowers in the *Codex Vindobonensis* (now in the National Library, Vienna), written at Constantinople in the sixth century, were a landmark in botanical art. However, the practice of illuminators consulting other drawings rather than the plants themselves gradually degraded their illustrations into meaningless diagrams which were more decorative than informative. A revival in naturalism began in Northern Italy in the fifteenth century and the *Carrara herbal** and the *Codex Bellunensis** are notable examples of this return towards reliable botanical illustration.

An account of animals in the *Physiologus*, written in Greek, possibly at Alexandria, between the second and fourth centuries AD, inspired the illuminators of medieval bestiaries. But the animals they drew, real and mythological, were crude caricatures, intended primarily as symbols of moral and religious precepts. Like many of the illustrations in contemporary herbals, they were an artistic indulgence in symmetrical patterns, painted with an arbitrary use of colour.

The incidental delineation of flowers, small animals, birds and insects in the margins of Books of Hours and other devotional works confirm the gradual return towards the study of Nature itself rather than of working according to a prescribed formula, mechanically copying existing designs. Vivid vignettes of landscape and rural life are found in the ornamental borders of the Luttrell Psalter and the Sherborne Missal*.

plate 2
Koala
(Phascolarctos cinereus)
Watercolour by John
William Lewin.
Early 19th century.
Wellseley Collection
IOLR NHD 33, f.40

The Renaissance

The rediscovery of classical texts through Arabic translation contributed to the intellectual movement that began in Italy in the fourteenth century. Modern science has its roots in this climate of enquiry when the inherited knowledge of the ancients was tested by observation and research. The microscope which superseded the primitive magnifying glass revolutionized the investigation of nature. A preference for experimental research led to the formation of scientific academies and societies in the seventeenth century. Printing facilitated the propagation of new theories and the precision of wood and copper engraving was indispensible in the laborious recording of the natural world.

Voyages of discovery introduced many new plants and animals to the gardens and menageries of Europe. Natural objects and artefacts brought back by explorers, merchants and missionaries were prominently and proudly displayed in 'cabinets of curiosities' – the forerunners of modern museums – in colleges, monasteries, and homes. This intensive scrutiny of the physical world encouraged artists to seek their models directly from Nature. Antonio Pisanello (c 1395-1455) was the first major animal painter to discard the bonds of medieval tradition and to make an objective study of the world about him. Plant sketches by Leonardo da Vinci (1452-1519) were as much an expression of his interest in science as they were a shorthand notation of ideas for development in projected paintings. Albrecht Dürer (1471-1528) drew plants and animals with infinite patience and scientific exactitude.

Conrad Gesner (1516-65)* and Ulisse Aldrovandi (1522-1605) were the first of the great encyclopaedists who ambitiously sought to comprehend the whole of nature. John Ray (1627-1705) and his companion, Francis Willoughby (1635-72), committed to writing a comprehensive account of natural history and toured Europe collecting data. At Strasburg, Willoughby purchased Leonhardt Baldner's album of waterfowl, fishes and insects painted with delicate precision*.

The flora of newly explored lands eventually found its way to botanic and private gardens where artists drew exotic and rare blooms. Some particularly fine examples of florilegia (as these albums of drawings are called) were produced during the seventeenth century. Gaston d'Orléans, younger brother of Louis XIII, who created a botanic garden and menagerie at Blois, engaged the artist Nicolas Robert to record some of his plants and animals. These paintings were bequeathed to Louis XIV who continued to add to the collection which, maintained by successive French monarchs, had by the nineteenth century become an unrivalled repository of natural history drawings.

Zoological research lagged behind botany for much of the seventeenth century. Engravings of animals reveal an uncertain knowledge of their anatomy. The insects casually introduced in Dutch flower compositions were often better drawn than those in contemporary books.

The Golden Age

By the eighteenth century new plants and animals were being discovered at such a rate that the main thrust of biological research was now directed towards their identification, description, naming and illustration. It was the great Swedish naturalist Carl Linnaeus (1707-78) who had both the intellect and the determination to undertake the formidable task of devising a convenient classification of living organisms, thereby transforming the scientific and popular study of natural history. This burgeoning interest in nature, assisted by enlightened patronage, prepared the way for what has been called the Golden Age of biological illustration, a period roughly from the mid-eighteenth century to the mid-nineteenth century.

The demand in England for flower painters to teach their skills or to paint an owner's prized blooms, attracted to this country European artists of the stature of Georg D Ehret (1708-70), Ferdinand Bauer (1760-1826), and his brother Francis Bauer (1758-1840) who became resident botanical artist at Kew Gardens. The *Botanical Magazine,* launched in 1787 in response to a demand for coloured illustrations of attractive garden plants, soon found itself in competition with other similarly illustrated horticultural periodicals.

In Paris a galaxy of artistic talent was nurtured by Gerard van Spaendonck, Professor of Natural History Iconography at the Muséum National d'Histoire Naturelle. Probably his most distinguished assistant was Pierre-Joseph Redouté (1759-1840), known to most people for his ravishing portraits of roses.

For centuries bird portraiture had been subservient to flower illustration, the consequence, perhaps, of more attention having been given to plants as a source of drugs; there were also the practical frustrations of trying to paint a subject that seldom remained still. Eighteenth-century painters usually depicted their birds motionless on a branch or tree stump. George Edwards (1694-1773)* tried to relax this formal posture, frequently enlivening his composition with a hovering insect.

In North America this static portrayal of birds was copied in the paintings of John Abbot (1751-c 1840)*. The first American artist to abandon such rigid poses was John James Audubon (1785-1851)* with his dramatic tableaux of birds in motion, flying, swimming, swooping on their prey, and painted with impressive panache, if not always with scientific accuracy.

The nineteenth and twentieth centuries

After filling the role of poor relation to botany for so long, zoology was at last coming into its own, and the skills of artists were sought to paint the creatures in public and private menageries. Lord Derby invited the young Edward Lear to record the animals at Knowsley. His brilliant bird studies earned him a favourable comparison with the great Audubon. John Gould deserved the epithet 'Bird Man' for his forty volumes of almost 3,000 lithographs of birds, both British and foreign.

There was no diminution in the flood of natural history illumination in Victorian England. Lithography had now superseded the traditional media of graphic reproduction thereby releasing the artist from the bondage of the engraver. Lithographs had a spontaneity and a freshness usually encountered only in original works of art. Wood-engraving also enjoyed a revival and, amongst the other processes competing for attention, nature printing*, in which the actual object was used to obtain a facsimile copy, was the most novel.

The indefatigable Marianne North travelled the world painting flowers in their natural habitat and deposited her many canvasses in a specially-constructed gallery in Kew Gardens; Edward Ladell's popular flower compositions imitated the seventeenth century Dutch masters; the Impressionists sought to capture the chromatic resonance of exotic blooms; and the Pre-Raphaelites diligently painted the physical world with delicacy and complete honesty.

In the present century Archibald Thorburn, Charles Tunnicliffe and Sir Peter Scott have maintained the highest standards of bird portraiture. Innumerable publications have demonstrated that the skills of the botanical artist are still in demand. For all its technical virtuosity the camera has not yet usurped the role of the artist; it cannot provide the diagnostic details that the botanists require, nor perhaps convey the personality of animals with quite the same sympathetic rapport as that of a painter.

Voyages and exploration

A few of the colonising expeditions to North America in the sixteenth century included a professional artist. Jacques Le Moyne was cartographer and artist on the ill-fated French expedition to Florida, and another artist, John White, was among the first British settlers on Roanoke Island off the North Carolina coast. Four of his insect drawings were copied in T Penny and T Mouffet's *Insectorum**.

When William Dampier sailed to Australia in 1699 he had on board "a person skill'd in Drawing". The *Endeavour* voyage to the Pacific in 1768 under the command of Captain Cook included in the ship's complement the young Joseph Banks, his retinue of naturalists and the artist Sydney Parkinson. A selection of Parkinson's botanical drawings were engraved on Banks' return to England and a limited edition of impressions from the 738 surviving copper plates is now being made by Alecto Historical Editions in one of the most ambitious publishing ventures of today*. Though there were precedents for Banks' team of naturalists and artists, it was nevertheless the *Endeavour* voyage which established the pattern for all future scientific voyages.

In the absence of an official artist there was usually a member of the crew with artistic talent or a strong urge to record the passing scene. Francis Fletcher, Drake's chaplain on the *Golden Hind,* rapidly sketched the flying fish and dolphins he saw from the side of the ship*. I W Price, surgeon on the *Minerva*, added neat little watercolours to the pages of the journal recording his voyage to Australia*. Strange antipodean creatures like the kangaroo and the duck-billed platypus were compulsive subjects for his fluent brush. Supported

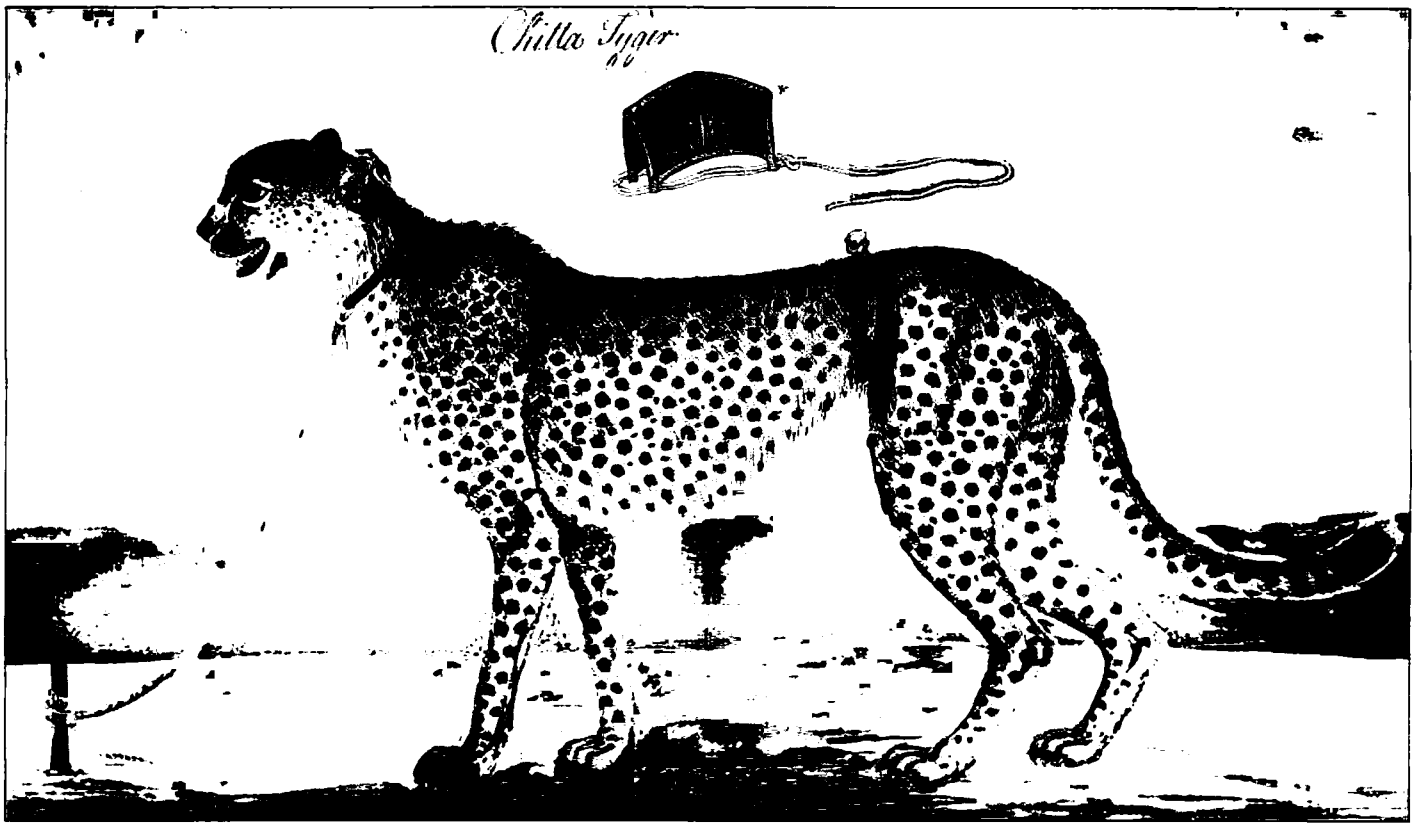


plate 3
Cheetah
(Acinonyx jubatus)
Watercolour by Indian artist. Early 19th century. Raja Sarabhoji Collection IOLR NHD 7, f.1036

by a recommendation from the British Home Secretary, the artist John William Lewin arrived in New South Wales in 1800, eager to explore its wealth of flora and fauna*.

The Islamic world and Asia

By the ninth century Islam dominated many of the countries contiguous to the Mediterranean and became the inheritor and disseminator of the philosophy and science of late antiquity. The scientific observations of Aristotle, Dioscorides*, and Theophrastus were rendered into Arabic and through these translations became known to Western naturalists.

There was a tendency in Islamic art towards a decorative rather than a scientific interpretation of animals, because of a religious prohibition on the representation of living things. The Mughal Emperor, Akbar (1542-1605), opposed to such restrictions, encouraged his artists to draw actual animals. During his reign several copies of the memoirs of his grandfather, Babur (1483-1530), included miniatures of the Indian flora and fauna*. The album which Dara Shikoh, the eldest son of the Emperor Shah Jahan, presented to his wife in the early 1640s contains some exquisite bird and flower studies, all splendidly mounted in gold borders of floral and animal motifs. The Crown Imperial* is drawn with a reasonable regard for objective truth but other flowers were sacrificed to the requirements of decorative appeal.

Those Indian artists taught by European naturalists to paint in the Western idiom exhibit a formality and lack of suppleness in their botanical drawings, suggesting their unease in this unfamiliar style*. Much more naturalistic were their vigorous drawings of animals: the portraits in this exhibition of a rhinoceros, oriole, parrot and a falcon amply confirm their skill in rendering surface textures.

Artists in the Far East sought to comprehend the essence of beasts and flowers in an attitude of reverence, nurtured by Taoism, Buddhism and Shintoism, faiths which proclaimed the sanctity of all life. The European artist painted what he saw, the Chinese or Japanese artist what he felt after careful scrutiny. Like his fellow artist the calligrapher, he manipulated the skills of brush and ink and suggested life and movement through the rhetoric of line. Chinese workshops in Canton produced a plethora of export paintings for the European market: pretty compositions of flowers, birds and insects, often routine and lifeless with little evidence of that innate feeling for nature which is abundantly manifest in the best of their artistic heritage*.

Redouté stipulated 'the threefold combination of accuracy, composition and the art of colouring, the union of which alone can bring perfection to botanical painting'. These criteria are equally applicable to animal painting.

The bewildering variety of animal and plant life has always challenged and inspired artists. The success of their interpretation depends not only on their training and skills, but also on prevailing attitudes towards nature and the state of scientific knowledge. This exhibition sets out to display some of the peaks of their achievement from the wealth of natural history drawings in the British Library.

** against any item mentioned in the account above indicates that it is on display in the exhibition.*

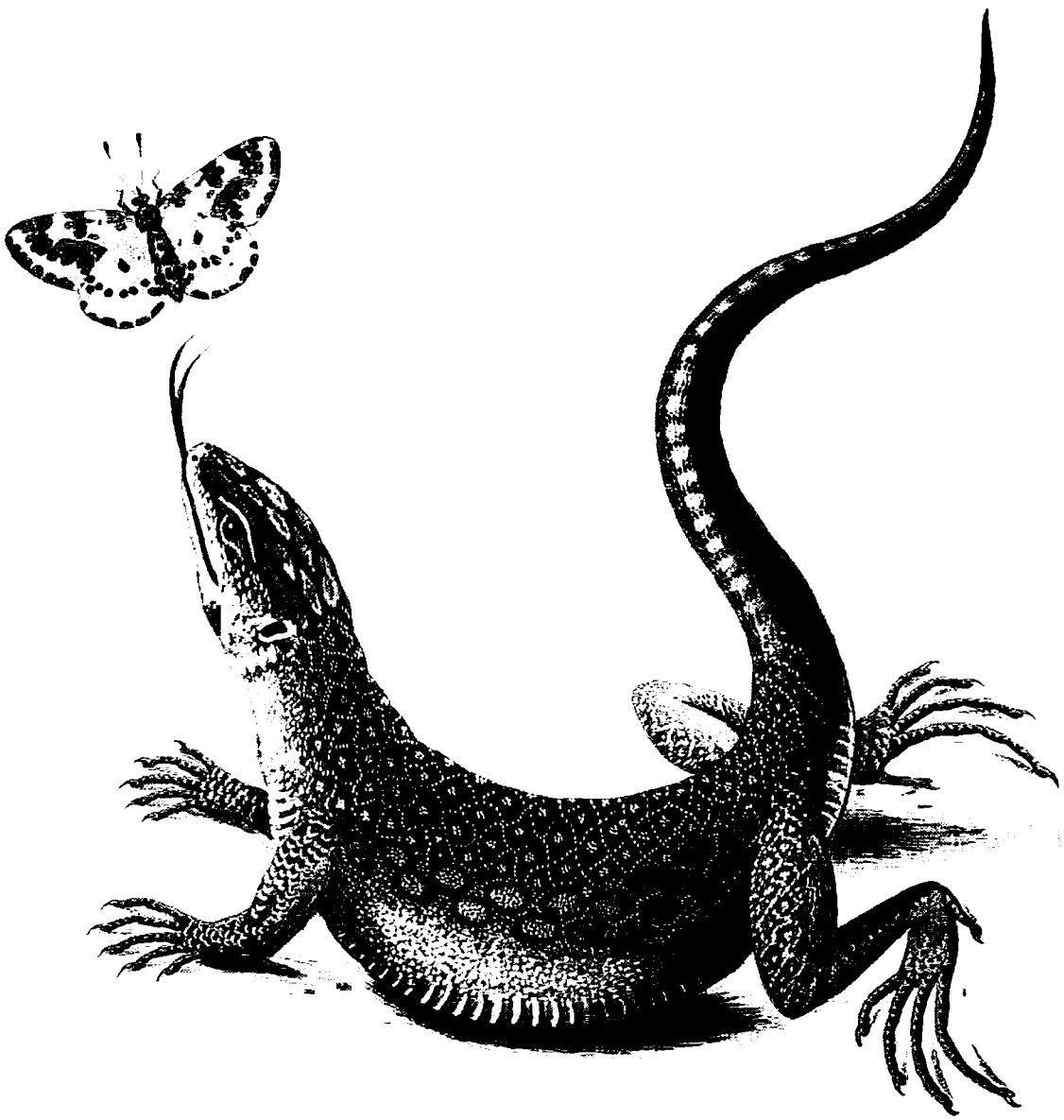


plate 4
Lizard *(Lacerta lepida)*
and Moth
(Abraxas grossulariata)
Watercolour by George
Edwards. First half of
18th century
Add MS 5272, f.20

List of exhibits

■ Flora

Yarrow *(Achillea millefolium)*
Apuleius Platonicus. Herbal.
England. Mid-11th century
Cotton MS Vitellius C 111, f.46

Date Palm *(Phoenix dactylifera)*
al-Qazwīnī, *The wonders of creation.*
Arabic. *c.*1300
Or. 14140, f.83v

Chicory *(Cichorium intybus)*,
Dropwort *(Filipendula vulgaris)* and elephant
Liber de simplici medicina.
Italy. Early 14th century
Egerton MS 747, f.91

Aeonium arboreum
Dioscorides, *De simplicibus libri 111, IV.*
Arabic. 1334
Or 3366, f.142

Melons
Serapion the Younger. Herbal. Italy. 1390-1400
Egerton MS 2020, f.161v

Polypodium vulgare and ***Plantago major***
Codex Bellunensis. Italy. Early 15th century
Additional MS 41623, f.39

Florilegium
England. Mid-15th century
Additional MS 29301, f.52

Saffron crocus *(Crocus sativus)*
Horae Beatae Mariae Virginis et Officia Varia.
Germany. Early 16th century
Egerton MS 1146, f.293

Border of garden plants
Hastings Hours. Probably Ghent. Late 1470s
Additional MS 54782, f.49

Carnation *(Dianthus caryophyllus)* and
Daisy *(Bellis perennis)*
Huth Book of Hours.
Probably Valenciennes. Late 1480s
Additional MS 38126, f.110

Iris germanica
Breviary of Queen Isabella of Castile.
Bruges. Before 1497
Additional MS 18857, f.111v

Crown Imperial *(Fritillaria imperialis)*
Dara Shikoh album. Mughal. *c.*1633-42
IOLR Add. Or. 3129, f.62

Mustard Seed Garden Manual of Painting
(Chieh Tzu Yuan Hua Chuan). China. 18th century
OMPB 15255 e 28, vol.3

Banksia serrata
By G Smith after Sydney Parkinson. 1770-73
Lent by Alecto Historical Editions and
British Museum (Natural History)

Yam *(Dioscorea* sp.*)*
India. Late 18th century
IOLR NHD 58, f.2

Upland Cotton *(Gossypium hirsutum)*
India. Late 18th or early 19th century
IOLR NHD 19, f.8

Nymphaea sp.
India. Late 18th or early 19th century
IOLR NHD 16, f.91

Hibiscus rosa-sinensis
India. *c.*1800
IOLR NHD 19, f.26

Cocoa *(Theobroma cacao)*
East Indies. Early 19th century
IOLR NHD 48, f.35

Curcuma xanthorrhiza
East Indies. Early 19th century
IOLR NHD 48, f.8

Eugenia malaccensis
East Indies. Early 19th century
IOLR NHD 48, f.26

Camellia japonica
China. Early 19th century
IOLR NHD 52,f.42

Irises
Yamaguchi Soken, *Soken gafu.* Kyoto. 1806
Or. 16111 c 10

Grasshopper and butterfly on hibiscus (?)
China. *c.*1807
IOLR NHD 43, f.102

Floral cover of a ***Shahnama.***
Persia. 1810
IOLR Ethé 901

Nature's selfprinting.
Mangalore. 1862
IOLR X459, vol.1

■ Fauna

Naming of the animals
Aelfric's Old English metrical paraphrase
of the Pentateuch and Book of Joshua.
England. Mid-11th century
Claudius MS B1V, f.6

Mandrake
Apuleius Platonicus. Herbal. England. *c.*1200
Sloane MS 1975, f.57

Manticore, Parandrus and Yale
Bestiary. Durham? Early 13th century
Royal MS 12C X1X, ff. 29v-30

Elephant
Matthew Paris, *Liber additamentorum.*
England. *c.*1255
Cotton MS Nero D1,f.169v

Lion, Cheetah, Rabbit or Hare and Elephant
Compendium of medicinal plants.
Italy. Second half of 14th century
Sloane MS 4016, f.50

De septem vitiis
Italy. Late 14th century
Additional MS 28841, f.3

Hounds, Hare, Fox and Stoat (?)
Sherborne Missal. England. *c.*1400
Loan MS 82, p.47

Bactrian camel *(Camelus bactrianus)*
Conrad Gesner, *Icones animalium quadrupedem viviparorum et oviparorum*. Tiguri. 1553
459 c9 (1), plate 17

Flying fish, Dolphin, Tuna
Francis Fletcher, *Account of part of Francis Drake's voyage, 1577-1580*. 1577
Sloane MS 61, f.13

Indian Rhinoceros *(Rhinoceros unicornis)*
Baburnama. Mughal. *c*.1590
Or. 3714. f.379

Red Jungle Fowl *(Gallus gallus)*
Baburnama. Mughal. *c*.1590
Or. 3714, f.388

Swallow-tail Butterfly *(Papilio glaucus)*
Thomas Penny and Thomas Mouffet, *Insectorum sive minimorum animalium theatrum*.
England. Late 16th century
Sloane MS 4014, f.96

Flying Squirrel *(Glaucomys volans)*
17th century
Additional MS 5310, f.11

Night Heron *(Nycticorax nycticorax)* and
Martagon lily *(Lilium martagon)*
Dara Shikoh album. Mughal. *c*.1633-42
IOLR Add. Or. 3129, f.9v

Theodor de Bry
Collectiones peregrinationem Indiam orientalem et occidentalem. Part 4, Indiae orientalis.
Frankfurt. 1601
G6609 (4)

Squirrels in a plane tree
Mughal. *c*.1610
IOLR Johnson album 1, f.15

An assembly of birds
Husain Va'iz Kashifi, Anvar-i Suhaili.
Mughal. 1610-11
OMPB Add. MS 18579, f.201v

European Catfish *(Silurus glanis)*
Leonhardt Baldner, *Coloured drawings of waterfowl, fish & four footed beasts, insects, etc at Strasburg*. 1653
Additional MS 6485. f.39

Spiders
Eleazar Albin, *Descriptions & delineations of English & some foreign spiders*. England. 1732
Sloane MS 4001, f.62

Lizard *(Lacerta lepida)* and
Moth *(Abraxas grossulariata)*
By George Edwards. England. 18th century
Additional MS 5272, f.20

Kangaroo *(Macropus* sp.*)* and
Duck-billed platypus *(Ornithorhynchus anatinus)*
I W Price, *Journal kept on board the Minerva transport from Ireland to New South Wales*.
1798-1800
Additional MS 13880, f.86

Mermaid
Late 18th or early 19th century
IOLR NHD 46, f.53

Black-throated Weaver *(Ploceus benghalensis)*
India. Late 18th or early 19th century
Additional MS 10985, f.11

Indian Rhinoceros *(Rhinoceros unicornis)*
India. Late 18th or early 19th century
IOLR NHD 32, f.47

Ring-tailed lemur *(Lemur catta)*
India. Late 18th or early 19th century
IOLR NHD 32, f.34

Black-headed Oriole *(Oriolus xanthornus)*
India. Late 18th or early 19th century
IOLR NHD 29, f.36

Parrot *(Eclectus roratus)*
India. Late 18th or early 19th century
IOLR NHD 29, f.8

Composite Elephant
India. 19th century?
IOLR Add. Or. 4303

Cheetah *(Acinonyx jubatus)*
India. Early 19th century
IOLR NHD 7, f.1036

Elephant *(Elephas maximus)*
Burma. Early 19th century
IOLR Burmese MS 204, f.1

Hairy-nosed Otter *(Lutra sumatrama)*
Sumatra. Early 19th century
IOLR NHD 47, f.50

Orang-utan *(Pongo pygmaeus)*
East Indies. Early 19th century
IOLR NHD 49, f.31

Koala *(Phascolarctos cinereus)*
By John William Lewin. Early 19th century
IOLR NHD 33, f.40

Peregrine Falcon *(Falco peregrinus)*
India. Early 19th century
IOLR NHD 7, f.1014

Red-cockaded Woodpecker
(Dendiocopus borealis)
John Abbot, *Drawings and natural history of birds of Georgia in America*. USA. 1804
Egerton MS 137, vol.1, f.59

Wild Turkey *(Meleagris gallopavo)*
J J Audubon, *Birds of America*. London. 1827-38
Lent by Alecto Historical Editions and American Museum of Natural History

Mallard Duck *(Anas platyrhynochos)*
J J Audubon, *Birds of America*. London. 1827-38
Lent by Alecto Historical Editions and American Museum of Natural History

Horse
Tughra calligraphy. By Sayyid Husain 'Ali. 1849
IOLR Pers. 4805

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