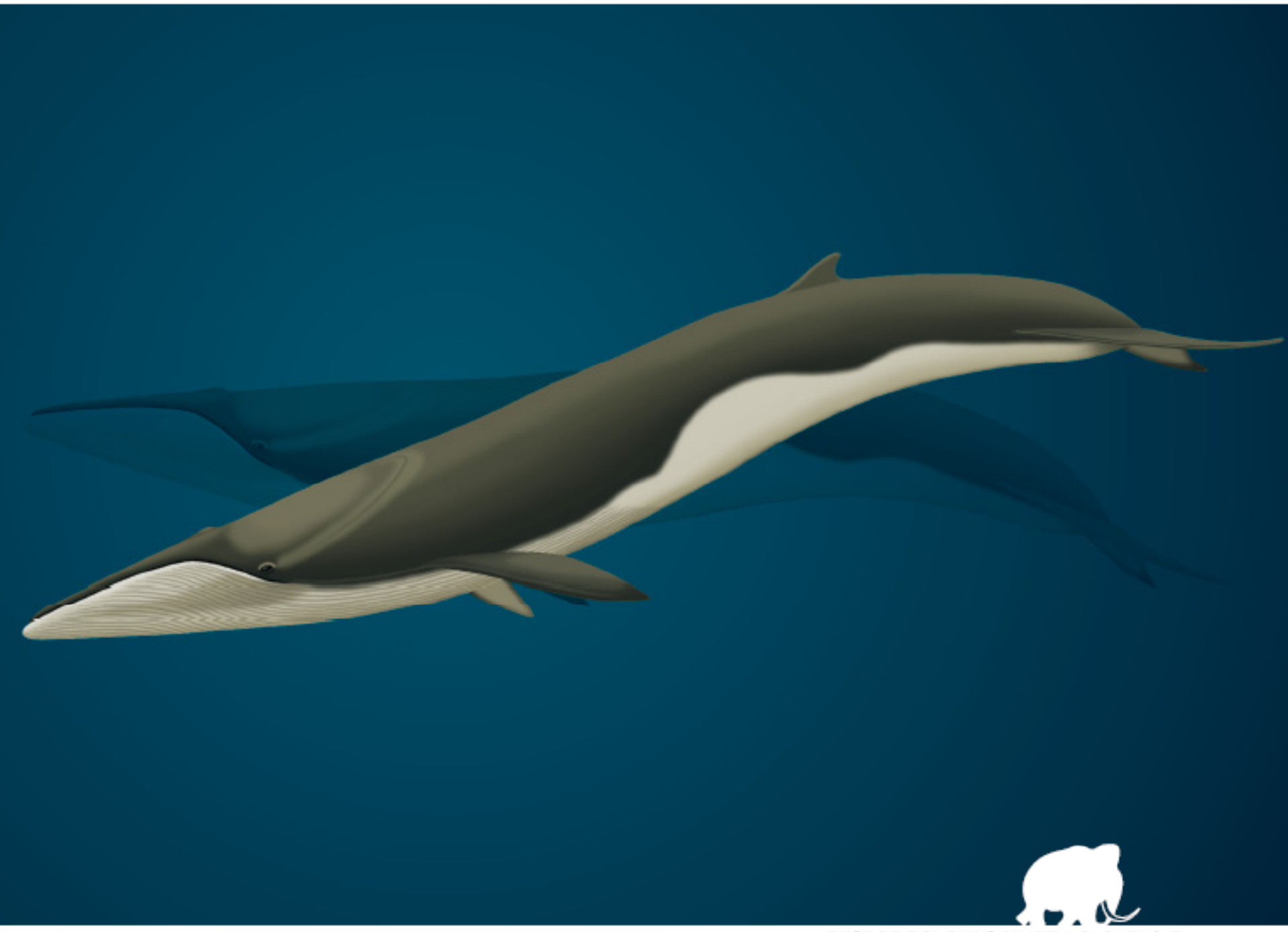

PRIRODOSLOVNI MUZEJ SLOVENIJE

Boris Kryštufek

Brazdasti kit

Balaenoptera physalus

v Prirodoslovnem muzeju Slovenije

- **Kit v muzeju**

- Kit v muzeju

- **Naravoslovne muzealije**

10. marca 2003

- **odločitev o prevzemu**
- sredstva za delo
- načrt dela
- pridobitev dovoljenj

- odločitev o prevzemu
- **sredstva za delo**
- načrt dela
- pridobitev dovoljenj

- odločitev o prevzemu
- sredstva za delo
- **načrt dela**
- pridobitev dovoljenj

Medalja "Spiridion Brusina"

Spiridion Brusina

1845 - 1908

- odločitev o prevzemu
- sredstva za delo
- načrt dela
- **pridobitev dovoljenj**

- Ministrstvo za kmetijstvo, gozdarstvo in prehrano (VURS)
- Ministrstvo za okolje in prostor
- Ministrstvo za zdravje
- Ministrstvo za promet

PRIRODOSLOVNI MUZEJ SLOVENIJE

Ugo Fonda s.p.

PRIRODOSLOVNI MUZEJ SLOVENIJE

PRIRODOSLOVNI MUZEJ SLOVENIJE

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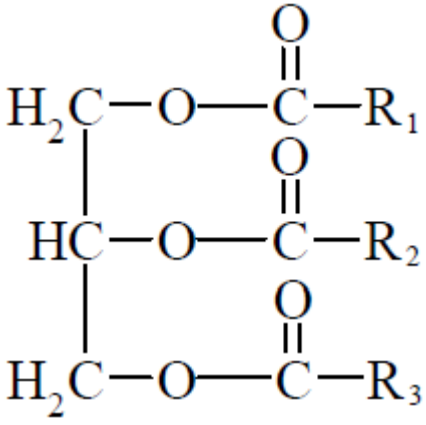
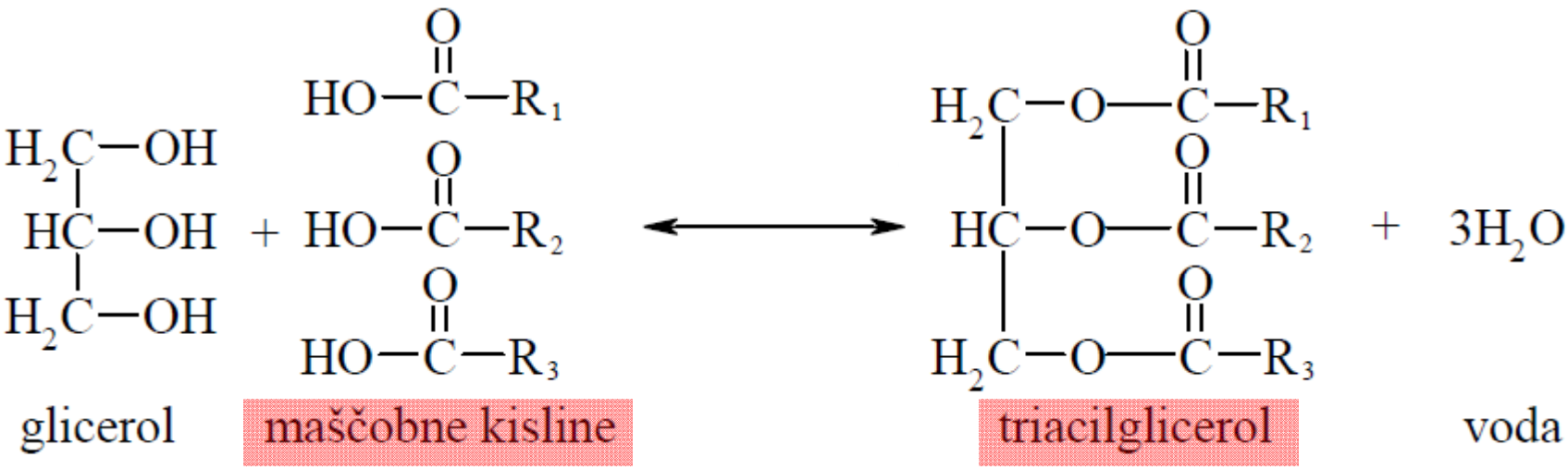
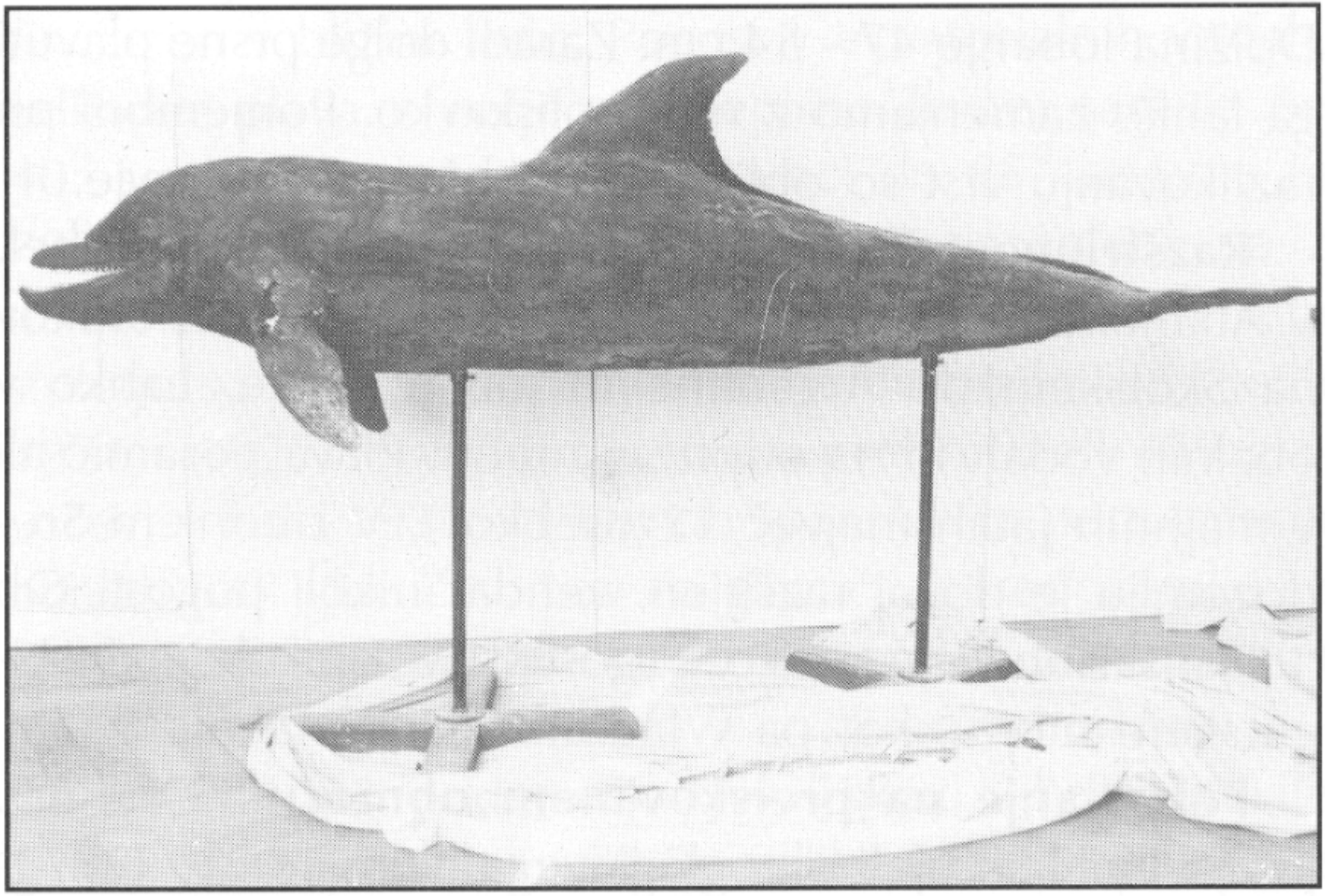
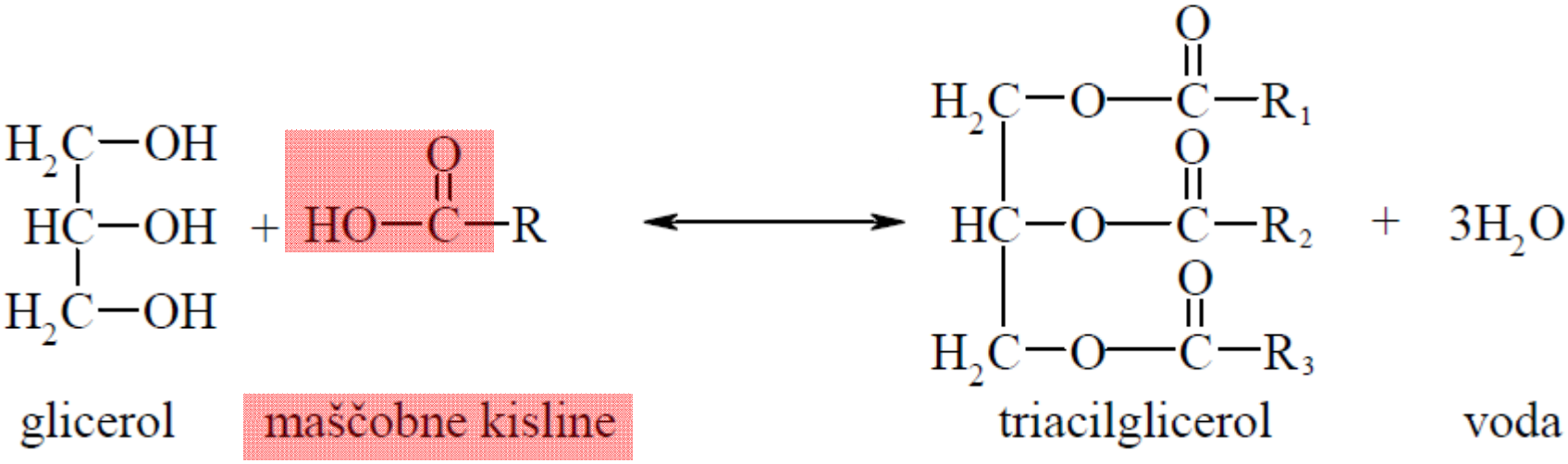
Maščobe





Nastanek triacilglicerola z zaestrenjem med glicerolom in maščobnimi kislinami




H2C—OH
HC—OH
H2C—OH
+
O
HO—C—R
H2C—O—C—R1
O
HC—O—C—R2
O
H2C—O—C—R3
+ 3H2O
glicerol
maščobne kisline
triacilglicerol
voda

PRIRODOSLOVNI MUZEJ SLOVENIJE

PRIRODOSLOVNI MUZEJ SLOVENIJE

KEMIS
Kemični izdelki

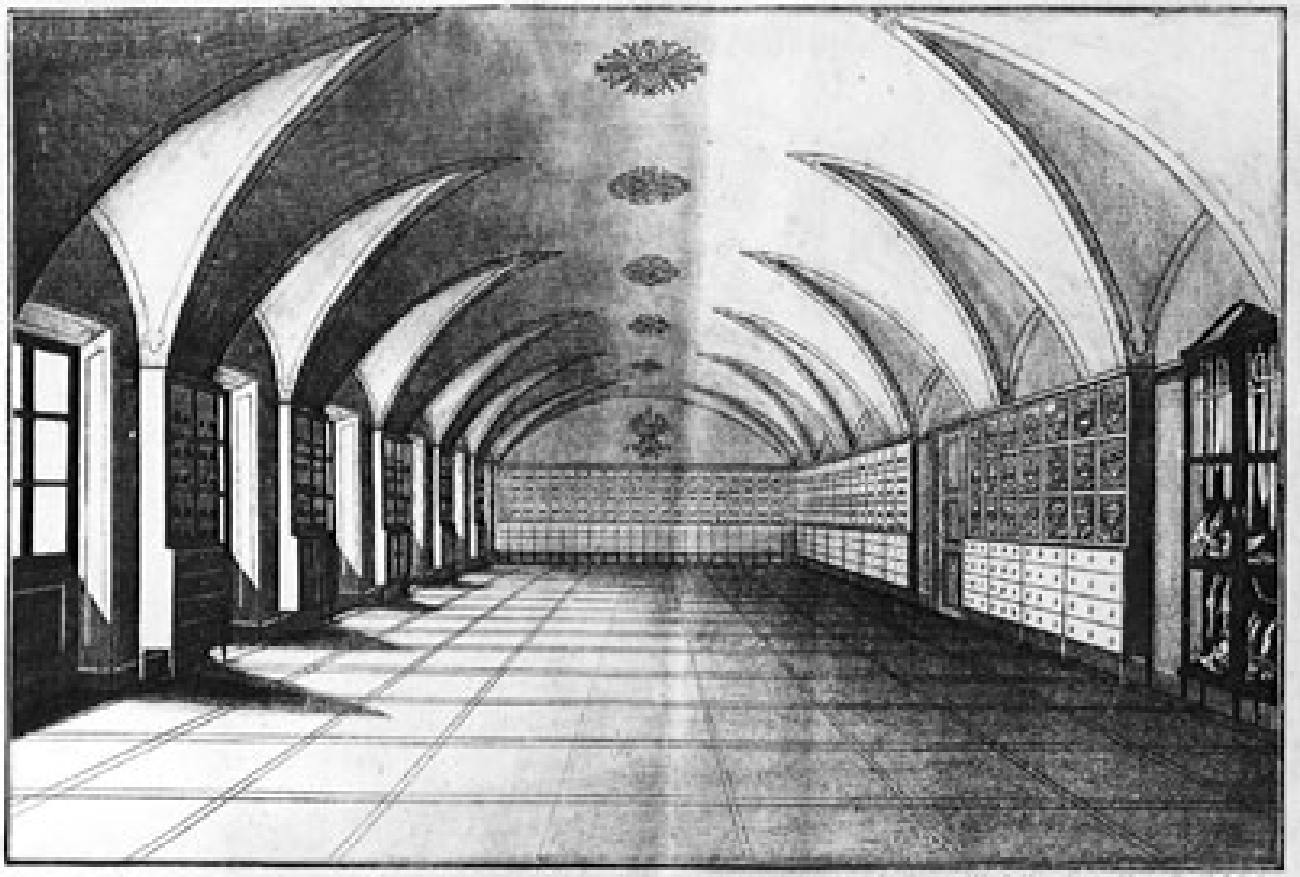
Franci Lipovšek
univ. dipl. inž. kem. teh.

PRIRODOSLOVNI MUZEJ SLOVENIJE

PRIRODOSLOVNI MUZEJ SLOVENIJE

PRIRODOSLOVNI MUZEJ SLOVENIJE

190. obletnica Prirodoslovnega muzeja Slovenije



Ansicht des Museums-Saales in Laibach.

PRIRODOSLOVNI MUZEJ SLOVENIJE


THE WORLD

Naravoslovni muzej Budimpešta

Jure Malovič s.p.

PRIRODOSLOVNI MUZEJ SLOVENIJE

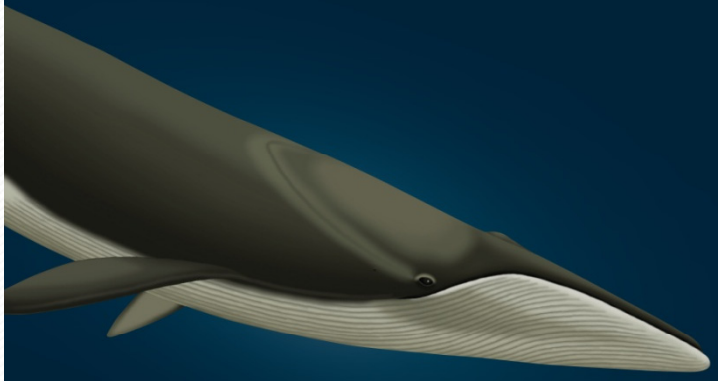
PRIRODOSLOVNI MUZEJ SLOVENIJE

PRIRODOSLOVNI MUZEJ SLOVENIJE

Brazdasti kit

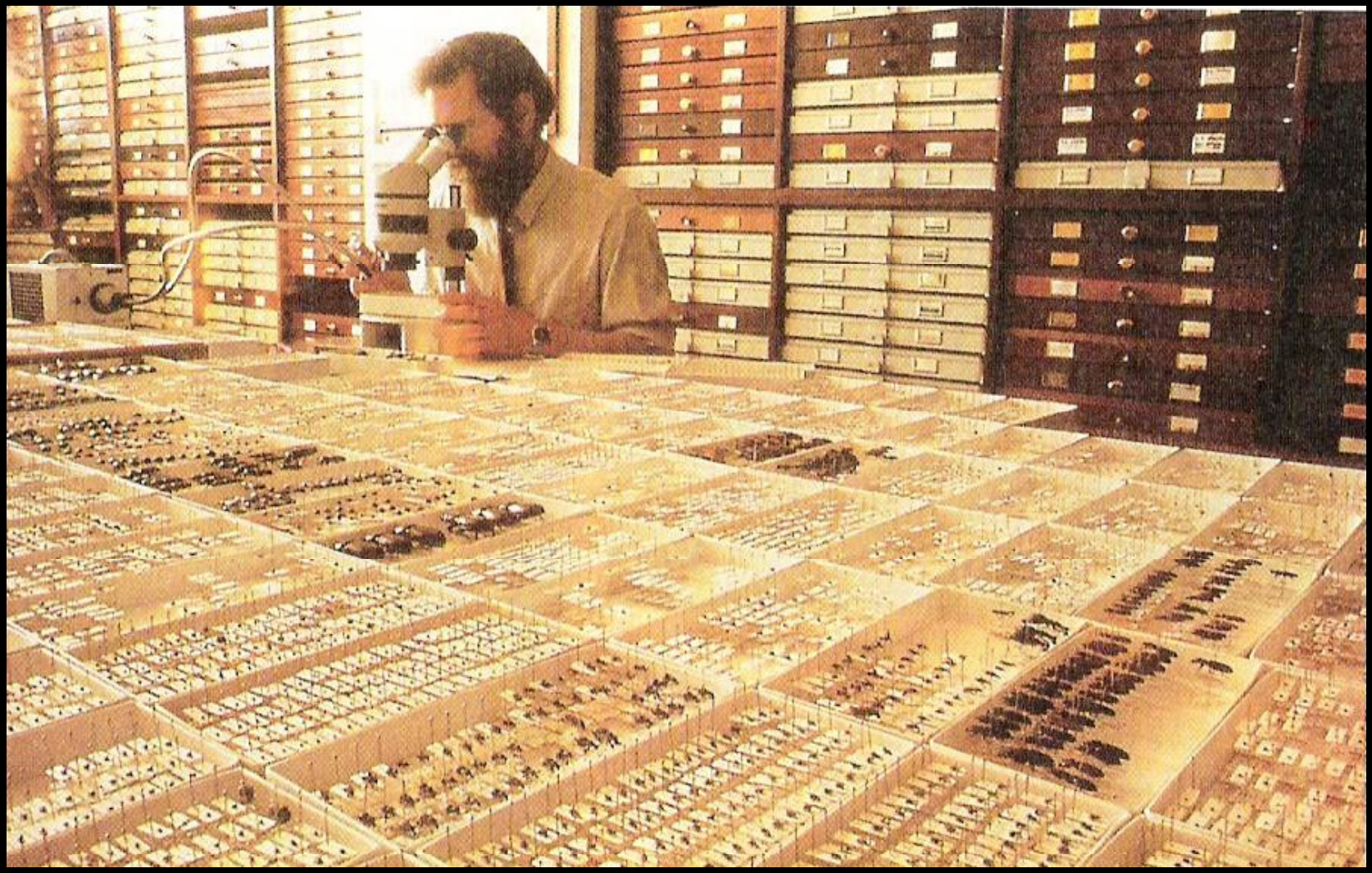
Balaenoptera physalus

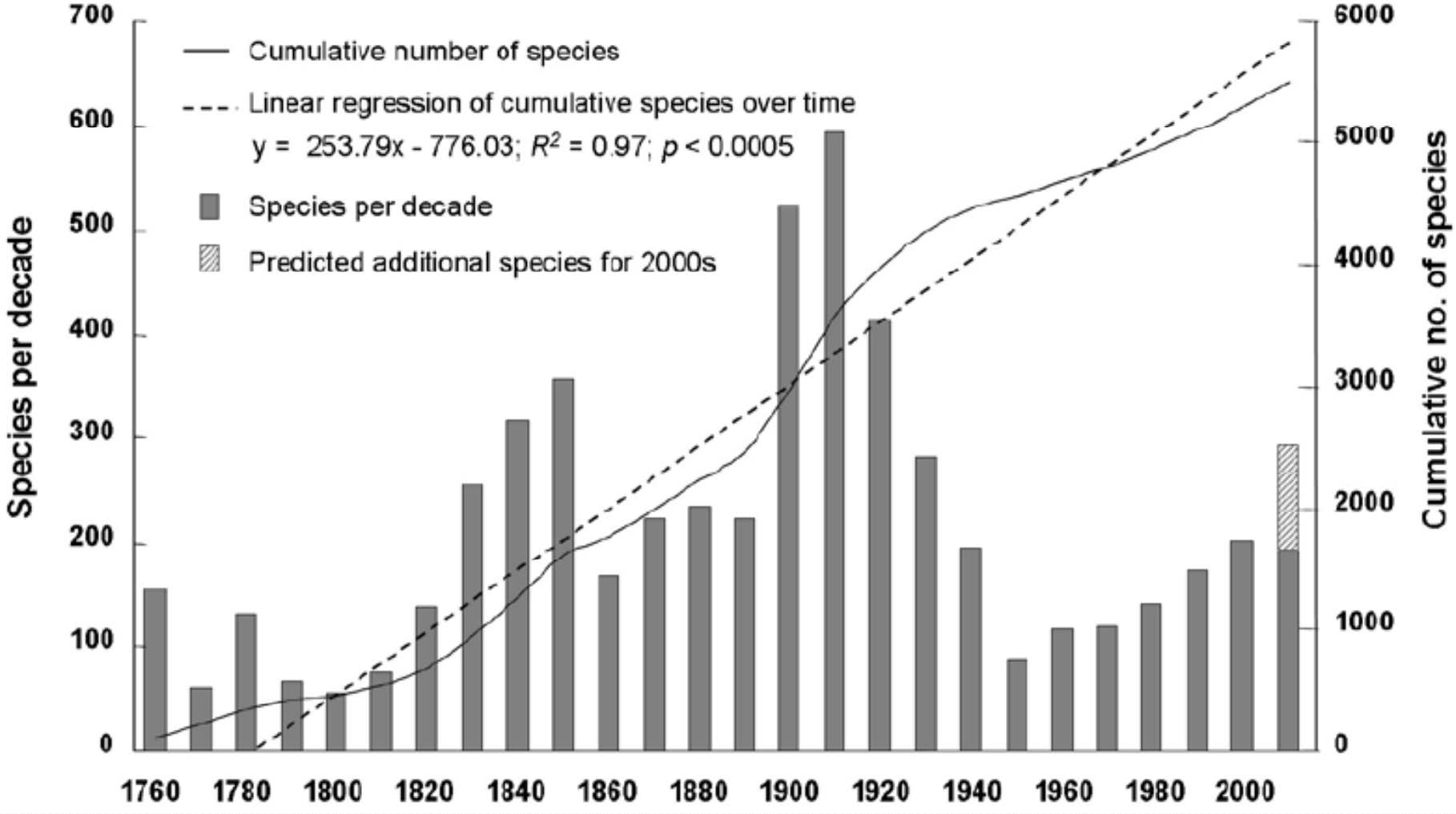
v Prirodoslovnem muzeju Slovenije



Mojca
Jernejc Kodrič

PRIRODOSLOVNI MUZEJI




Cumulative number of species
Linear regression of cumulative species over time
y = 253.79x - 776.03; R^2 = 0.97; p < 0.0005
Species per decade
Predicted additional species for 2000s
Species per decade
Cumulative no. of species
0
100
200
300
400
500
600
700
0
1000
2000
3000
4000
5000
6000
1760
1780
1800
1820
1840
1860
1880
1900
1920
1940
1960
1980
2000

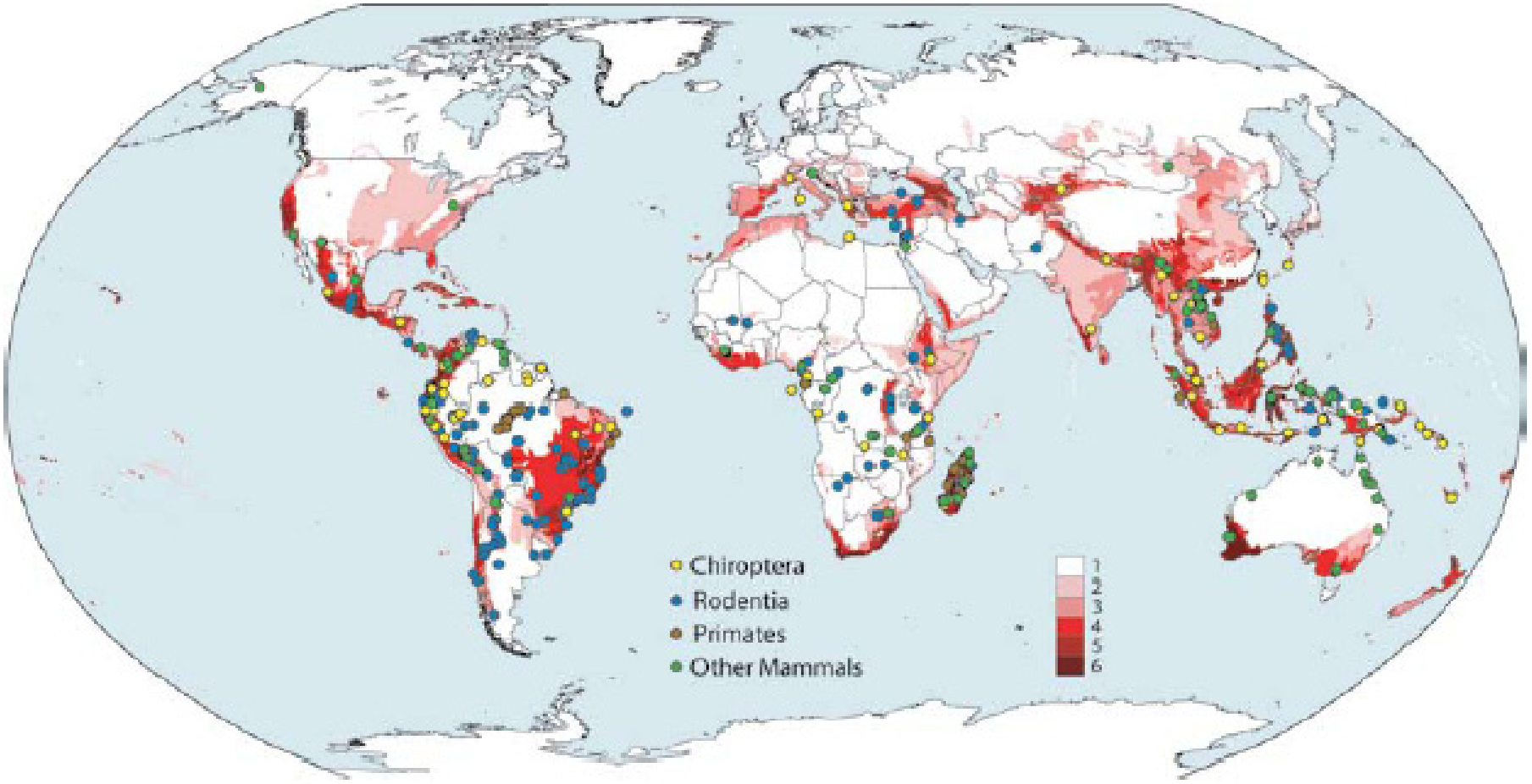
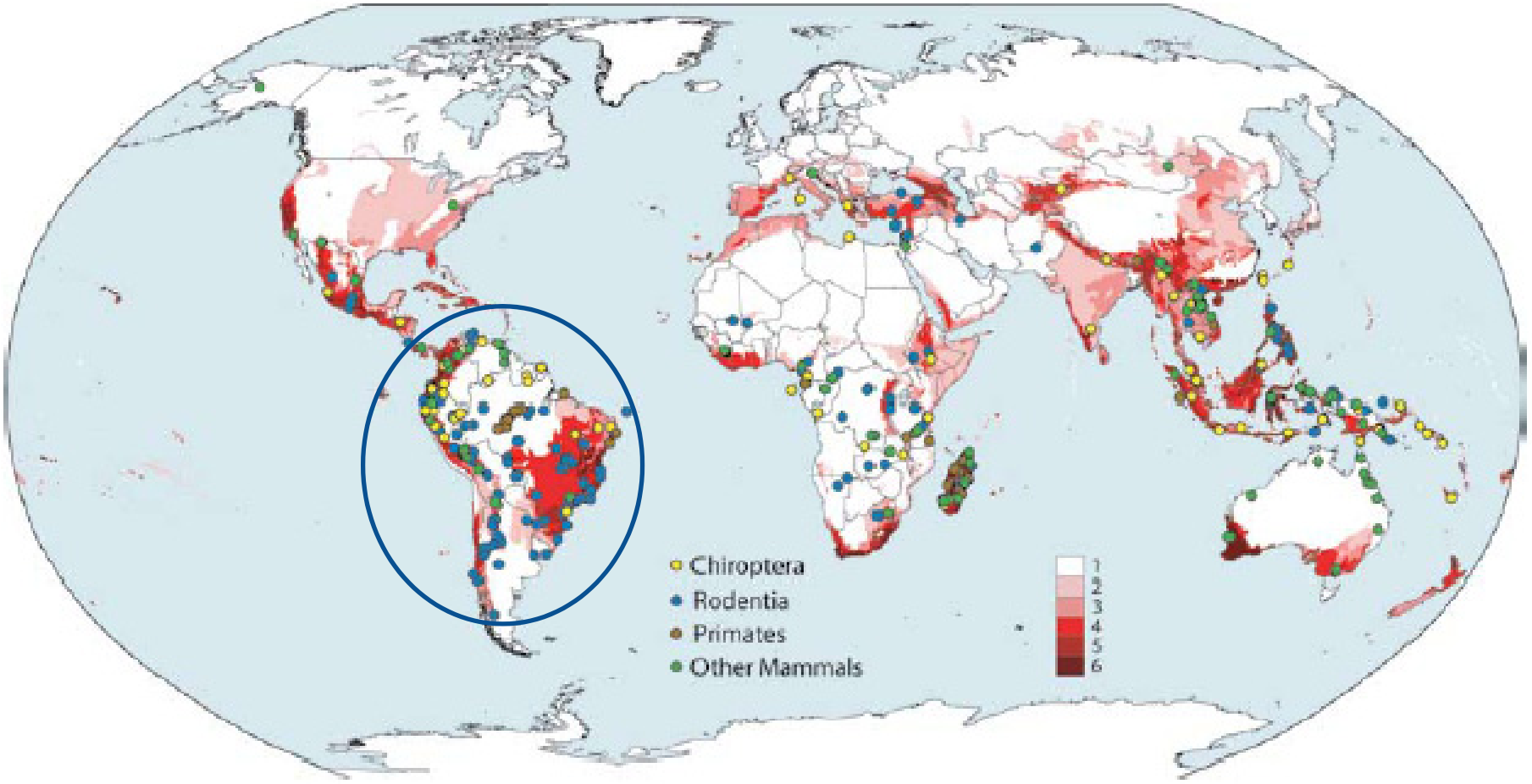


Figure 2. Global distribution of new mammals described since 1992. The distribution is overlaid on currently recognized regions of high threat and irreplaceability. Variable levels of shading indicate the number of global biodiversity conservation templates that prioritize the region (Brooks et al. 2005).



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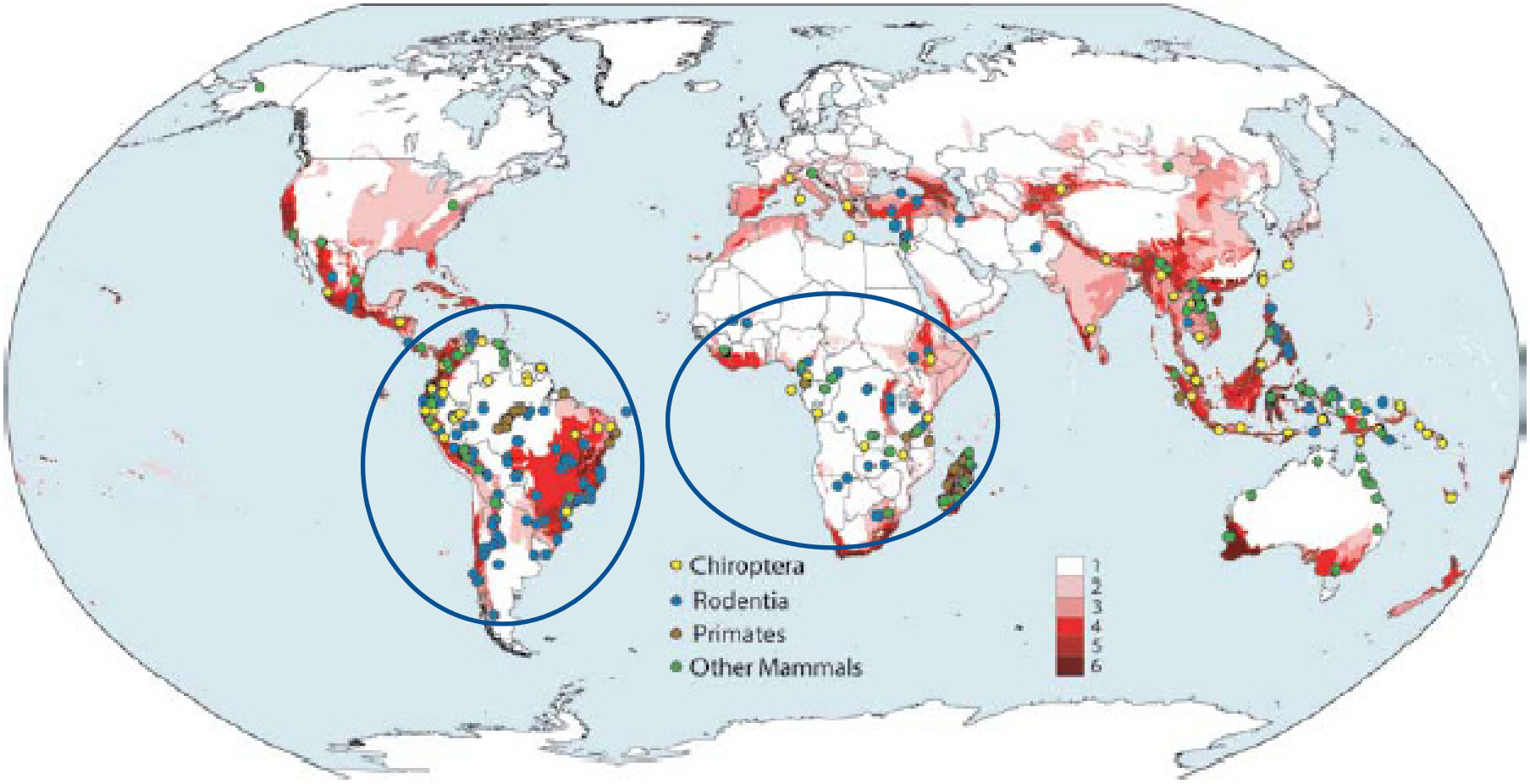

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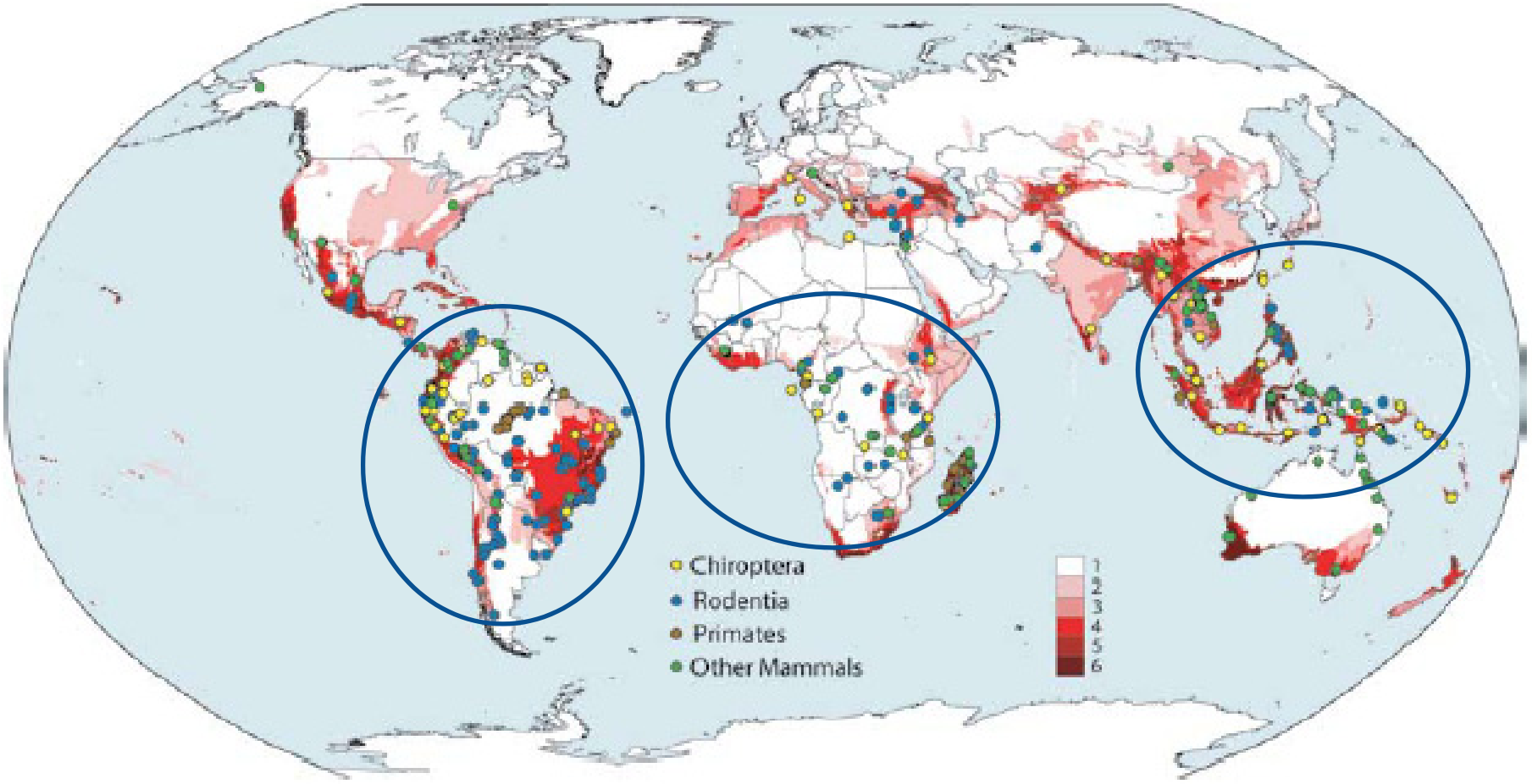

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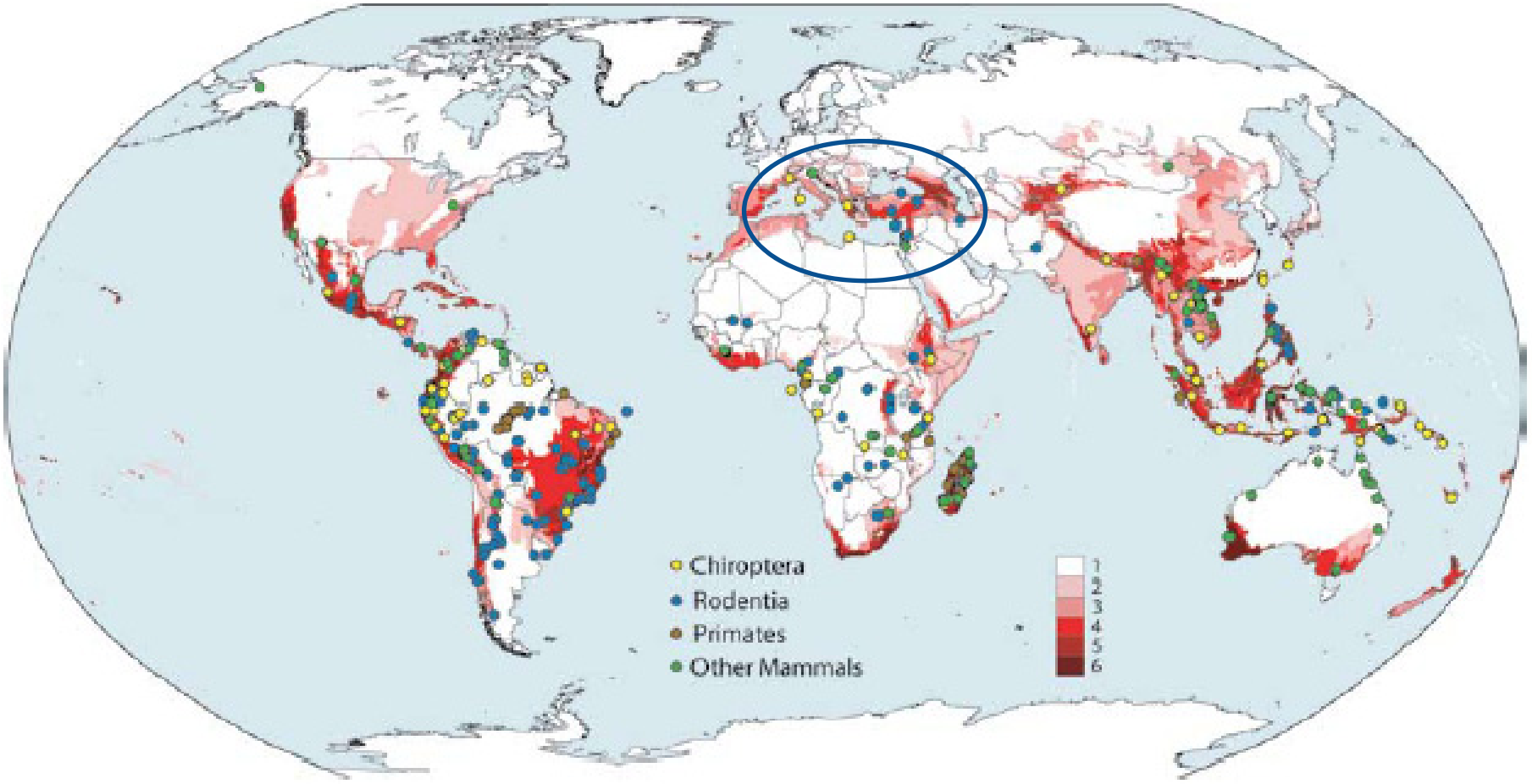

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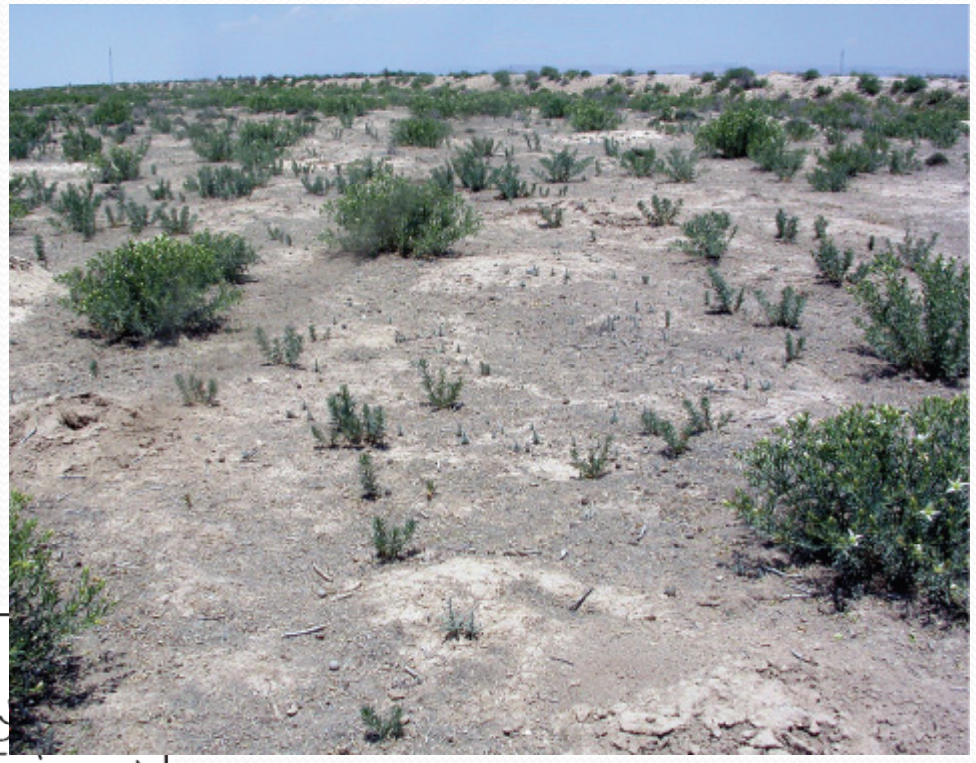
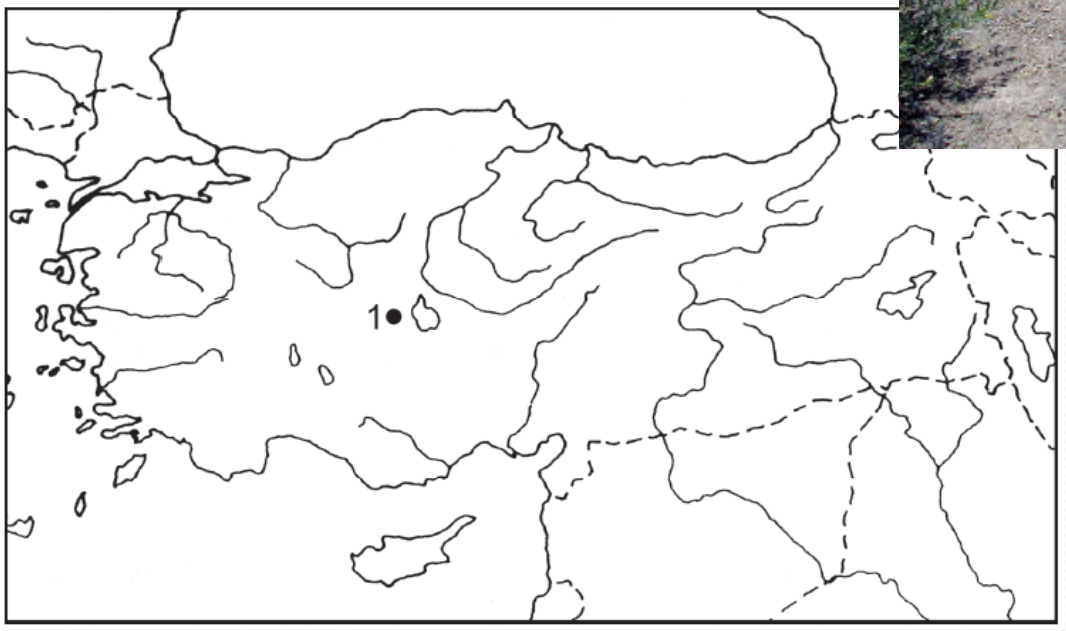
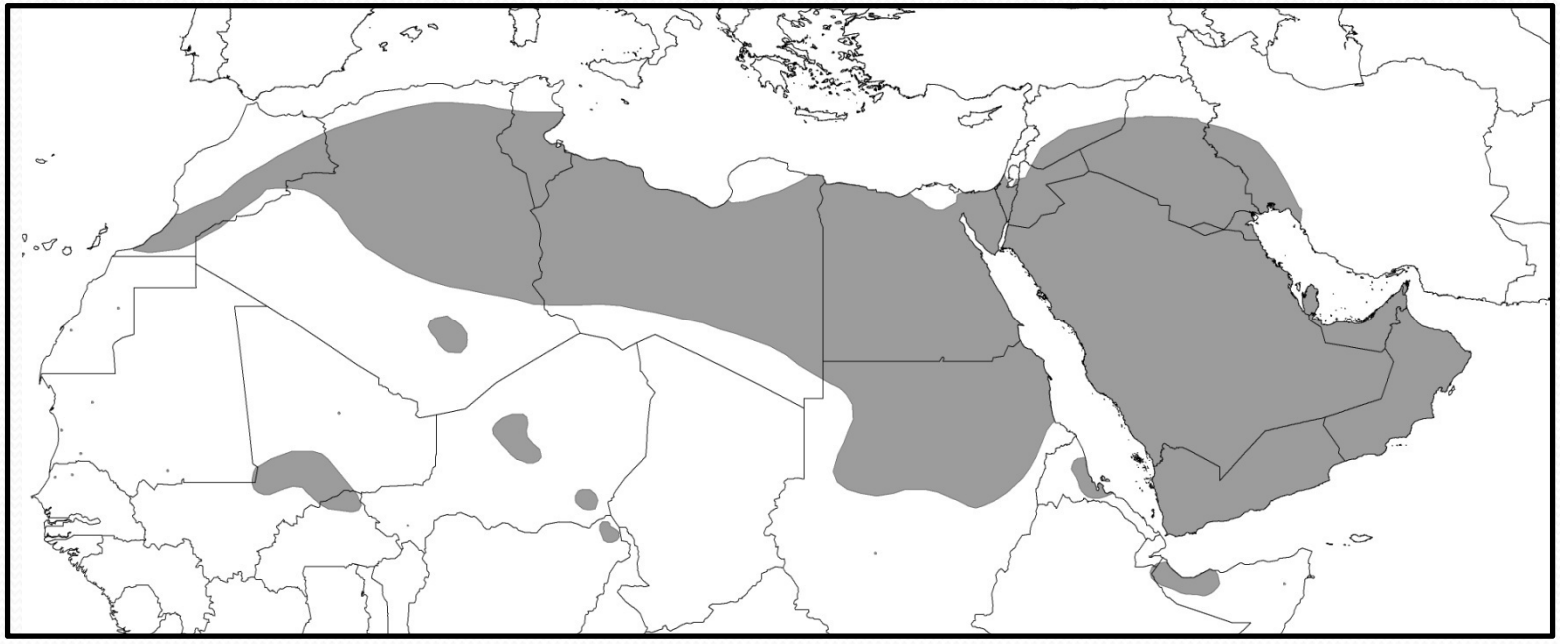
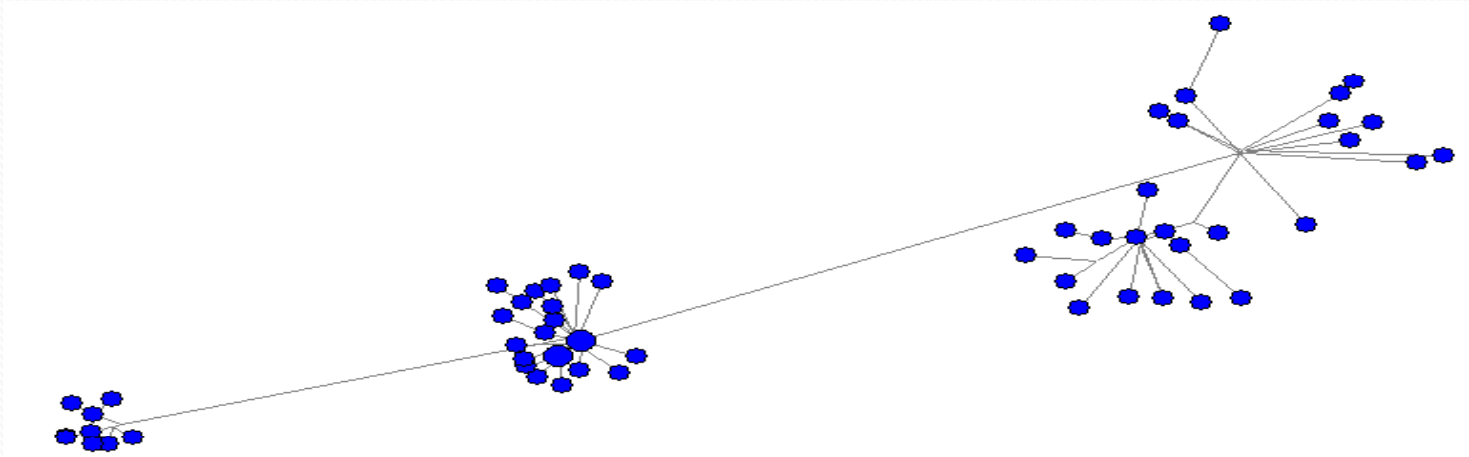
2001

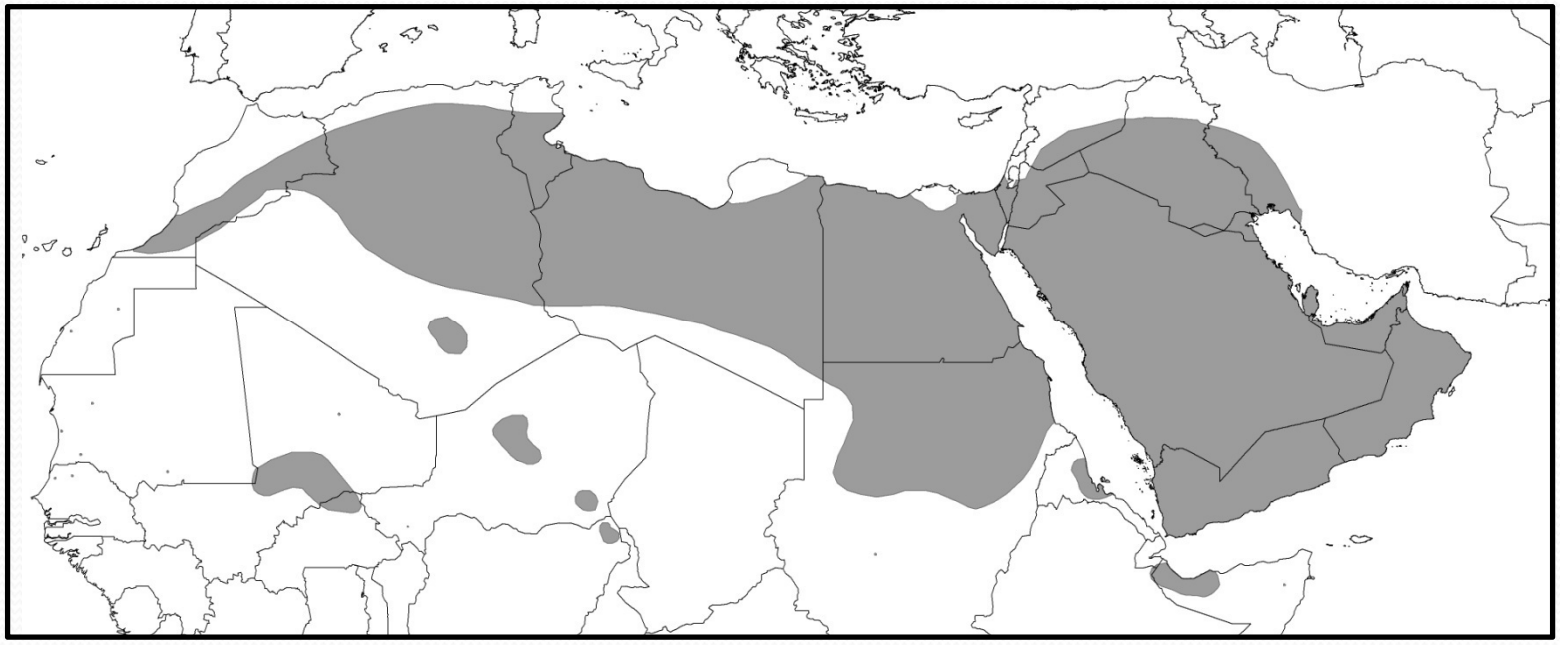


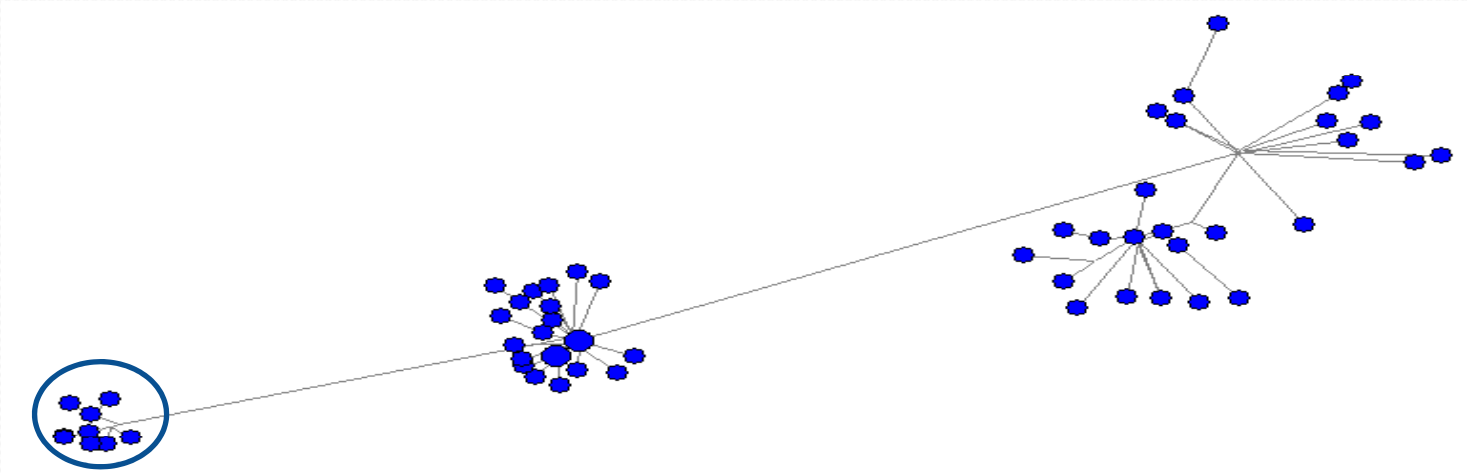

1

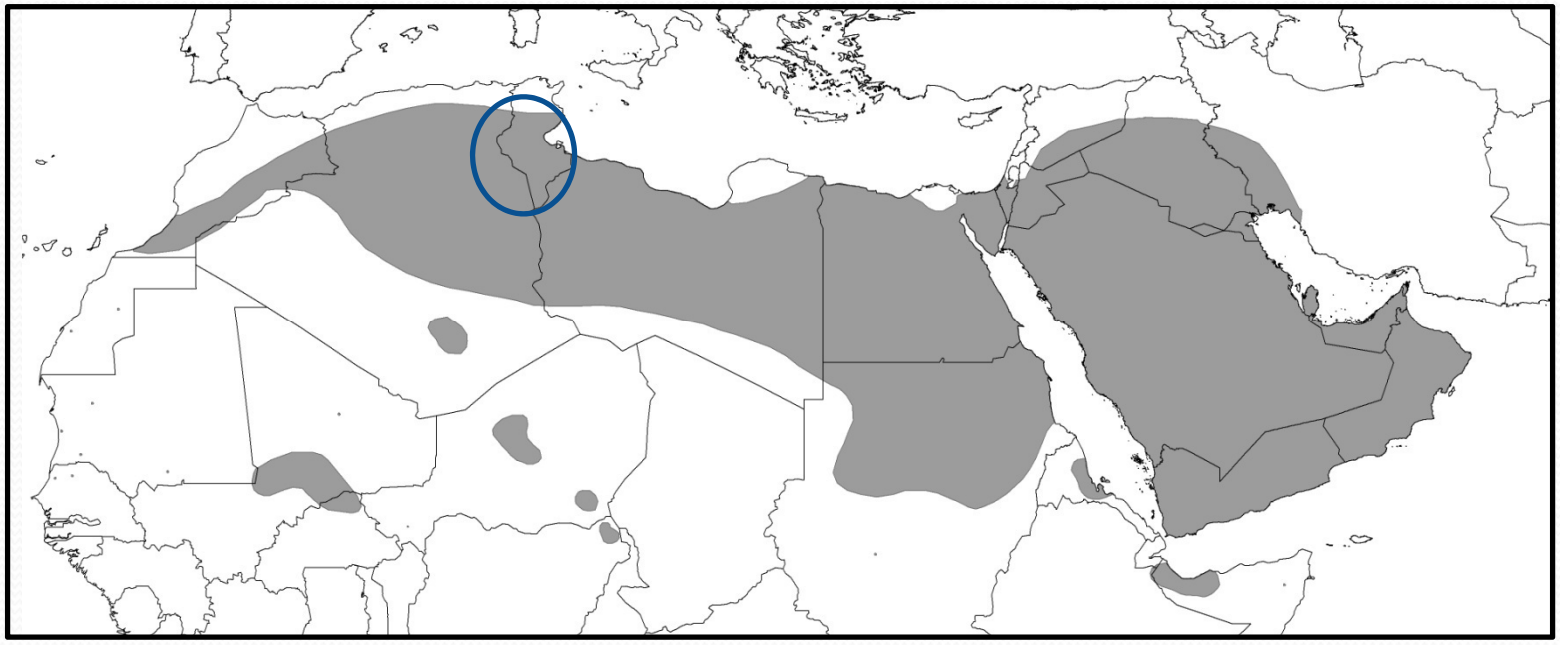
Jaculus jaculus

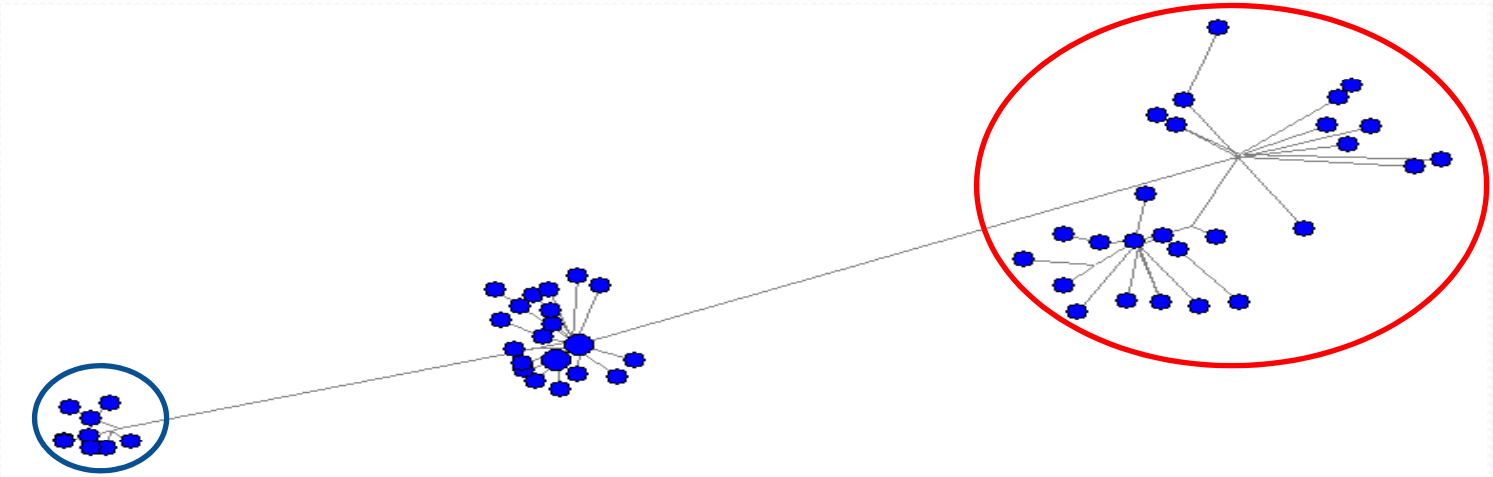


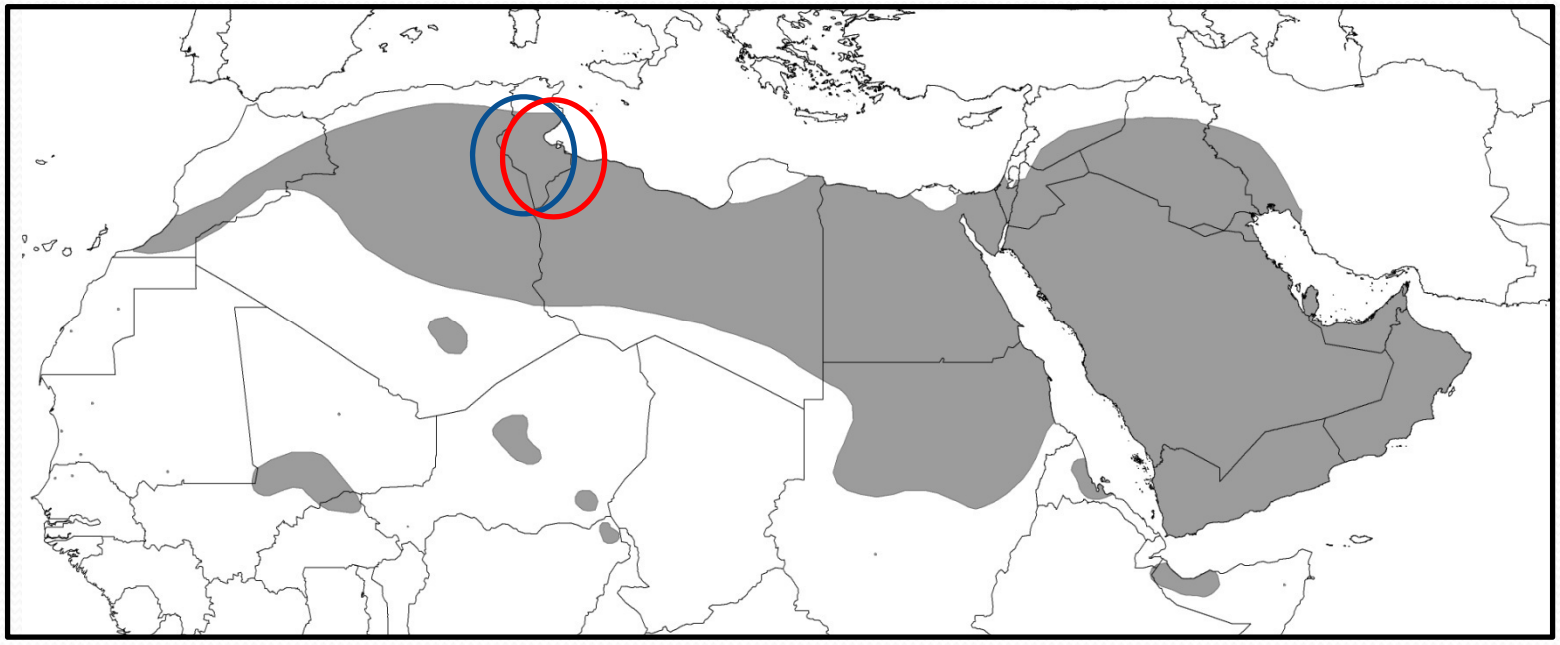


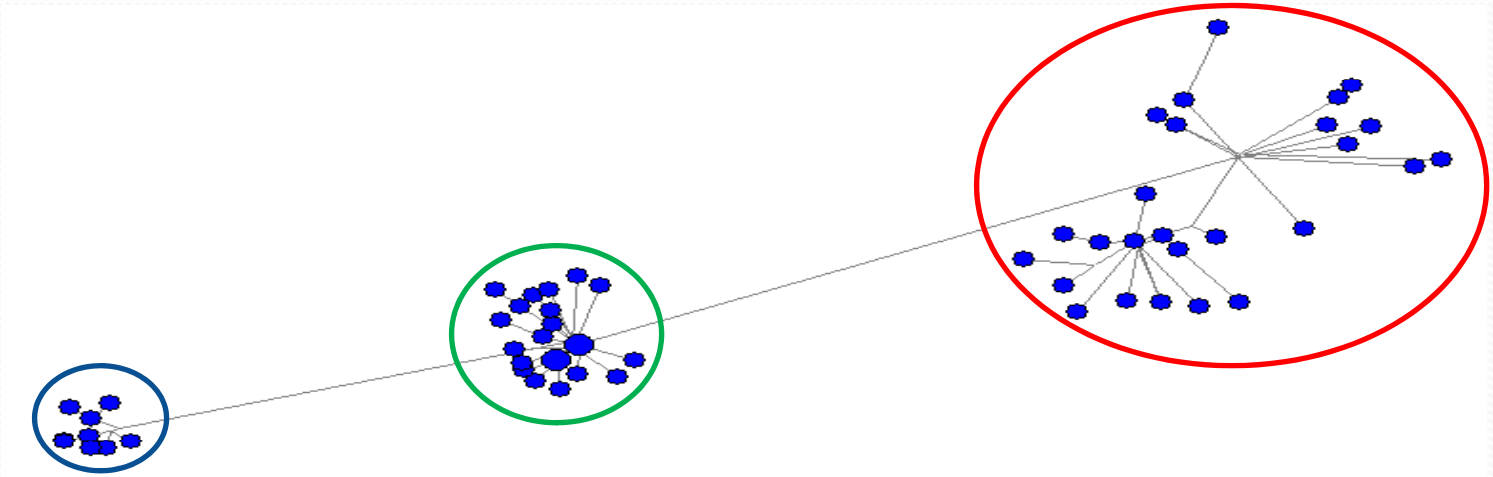


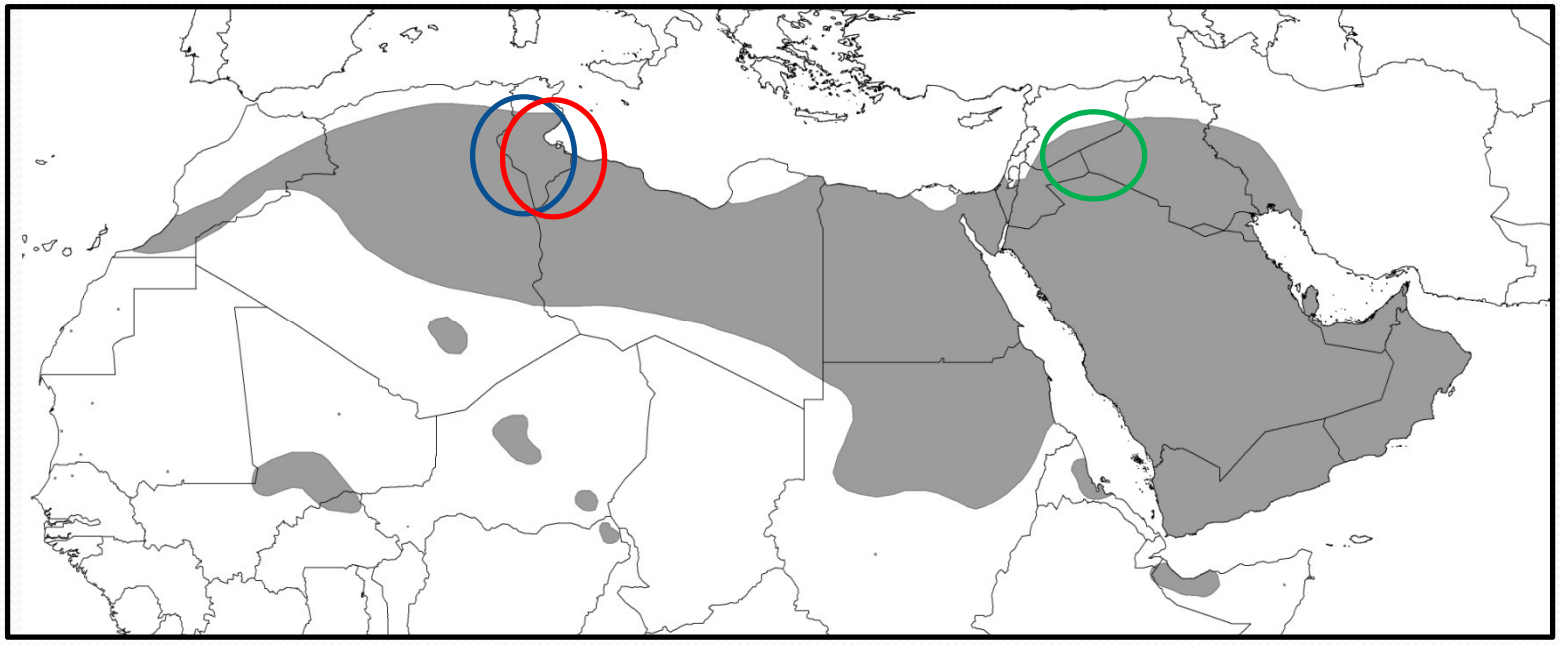












Allactaga euphratica

Classification	Total number of extant species named before 1 July 1992	New Extant Species Observed
Class Mammalia	5080	341
Order Monotremata	4	1
Order Didelphimorphia	85	7
Order Paucituberculata	5	1
Order Microbiotheria	1	0
Order Notoryctemorphia	2	0
Order Dasyuromorphia	65	6
Order Peramelemorphia	19	1
Order Diprotodontia	131	9
Order Afrosoricida	45	7
Order Macroscelidea	15	0
Order Tubulidentata	1	0
Order Hyracoidea	4	0
Order Proboscidea	3	0
Order Sirenia	4	0
Order Cingulata	20	1
Order Pilosa	9	1
Order Scandentia	20	0
Order Dermoptera	2	0
Order Primates	352	36
Order Rodentia	2113	155
Order Lagomorpha	86	5
Order Erinaceomorpha	23	1
Order Soricomorpha	398	20
Order Chiroptera	1055	78
Order Pholidota	8	0
Order Carnivora	281	1
Order Perissodactyla	16	0
Order Artiodactyla	230	9
Order Cetacea	83	2

Classification	Total number of extant species named before 1 July 1992	New Extant Species Observed
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Order Peramelemorphia	19	1
Order Diprotodontia	131	9
Order Afrosoricida	45	7
Order Macroscelidea	15	0
Order Tubulidentata	1	0
Order Hyracoidea	4	0
Order Proboscidea	3	0
Order Sirenia	4	0
Order Cingulata	20	1
Order Pilosa	9	1
Order Scandentia	20	0
Order Dermoptera	2	0
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Order Carnivora	281	1
Order Perissodactyla	16	0
Order Artiodactyla	230	9
Order Cetacea	83	2

Order Cetacea			
Family Delphinidae	*Orcaella heinsohni*	Beasley, Robertson, and Arnold 2005	Mar. Mam. Sci. 21:378
Family Ziphiidae	*Mesoplodon perrini*	Dalebout et al. 2002	Mar. Mam. Sci. 18:577

Orcaella heinsohni

2,3 m samice

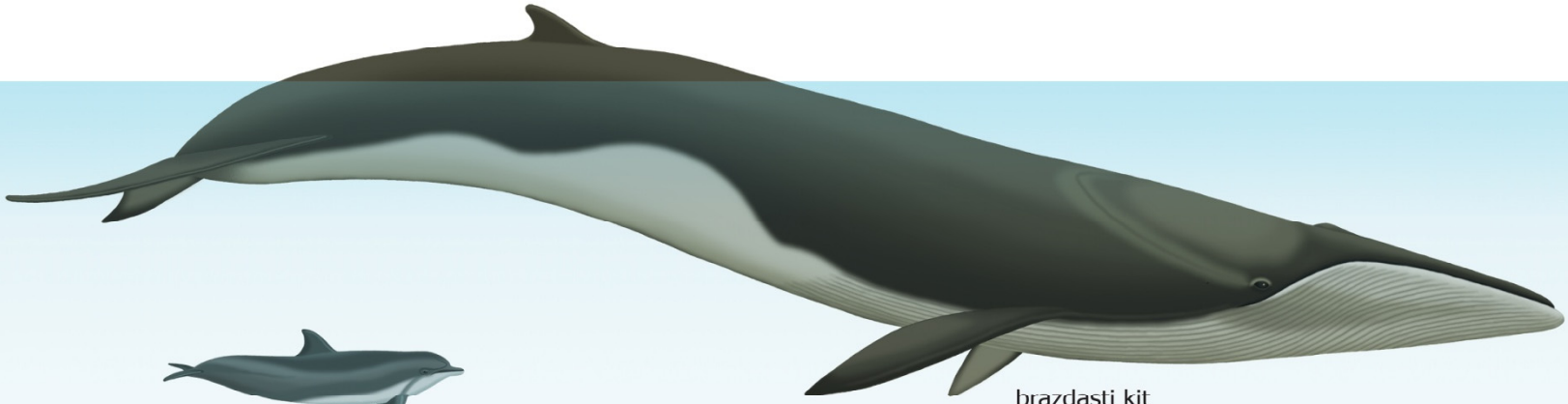
2,7 m samci

Mesoplodon perrini

4,4 m samice

3,9 m samci


1997
1976
1975, 1978, 1979
1978



brazdasti kit

velika pliskavka

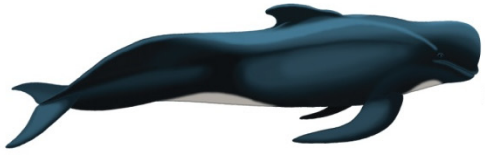
navadni progasti delfin

navadni delfin

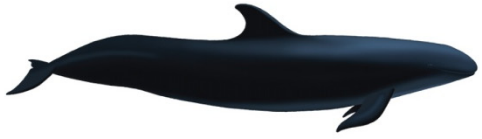
okrogloglavi ali Rissov delfin

kit grbavec

kit glavač



mrka pliskavka



mala orka

Brazdasti kit v Piranskem zalivu avgusta 2011.

Fotografija: Rok Dolničar

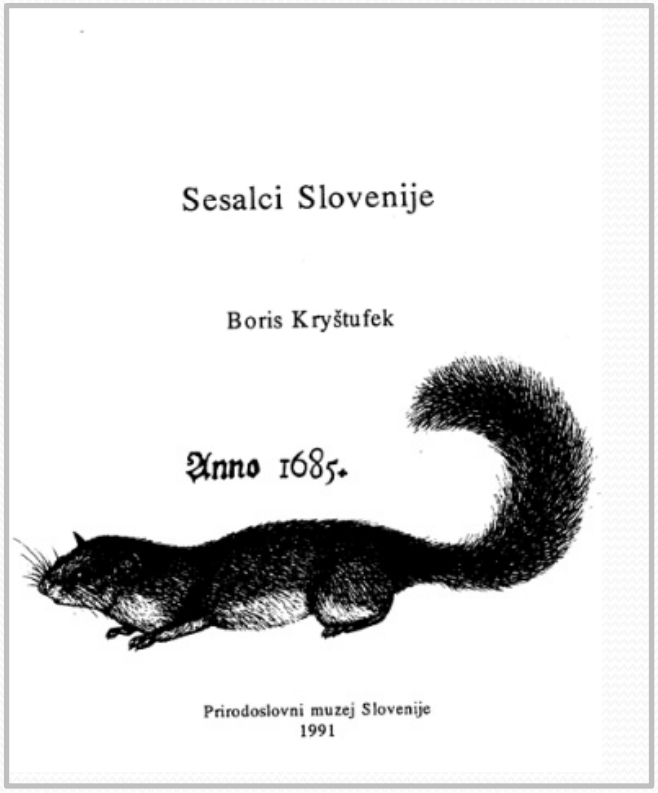
PRIRODOSLOVNI MUZEJ SLOVENIJE

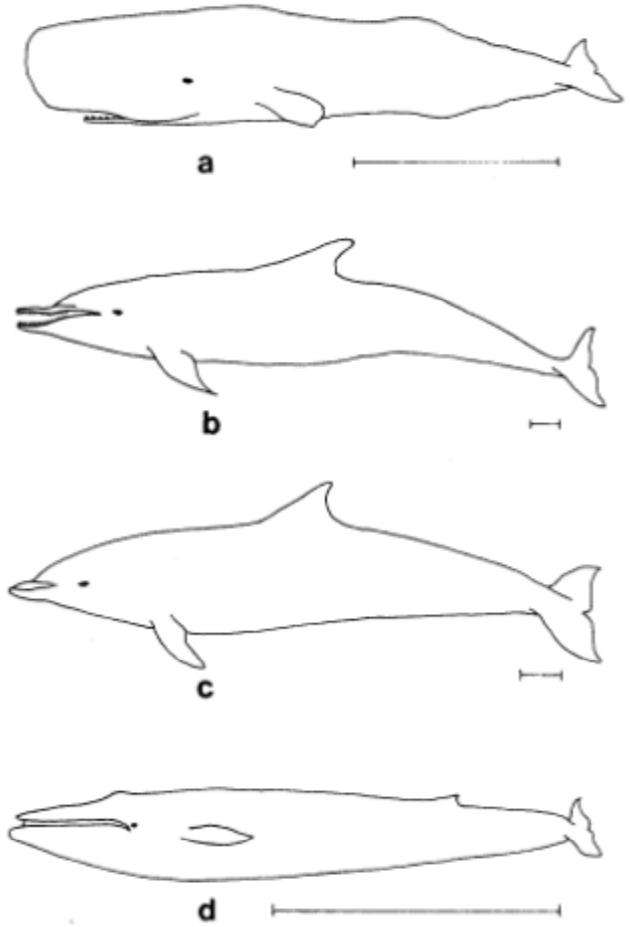
PMS 18.024

Strunjan

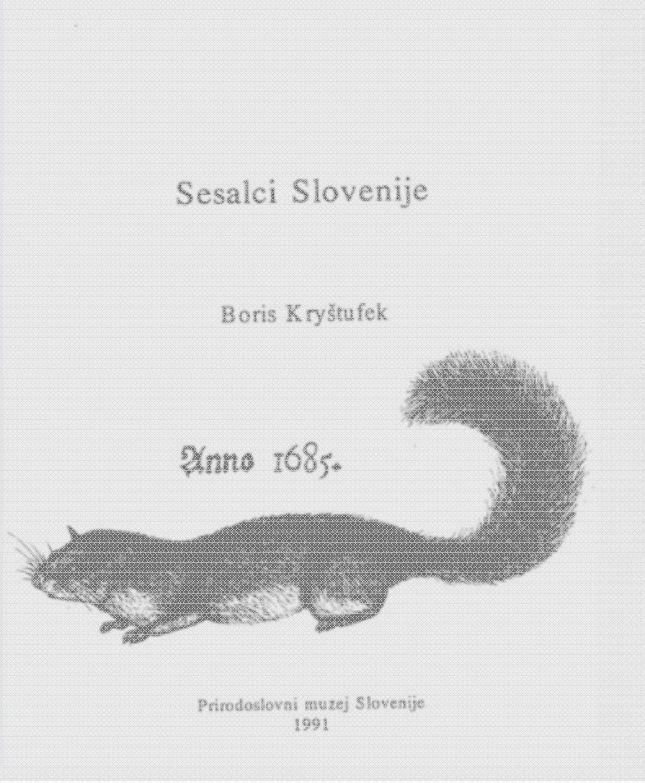
19. januar 2003

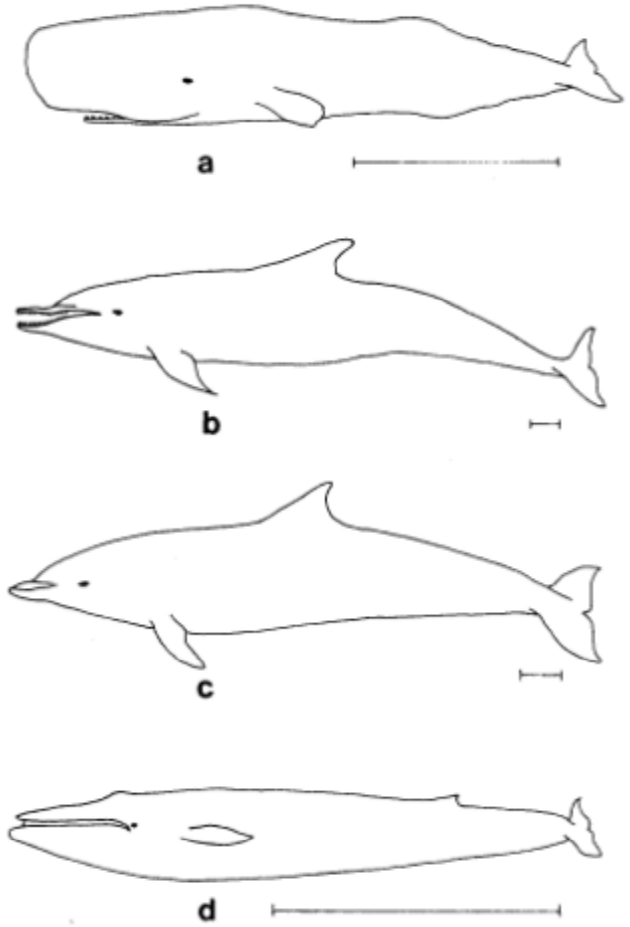
dolžina 191 cm
teža 90-100 kg





Slika 141: Kiti iz severnega Jadrana. Po dolžini črt, ki so pod njimi, lahko razberemo razmerje dolžin. a – glavač *(Physeter catodon);* b – navadna pliskavka *(Delphinus delphis);* c – velika pliskavka *(Tursiops truncatus);* d – sinji kit *(Balenoptera musculus).*





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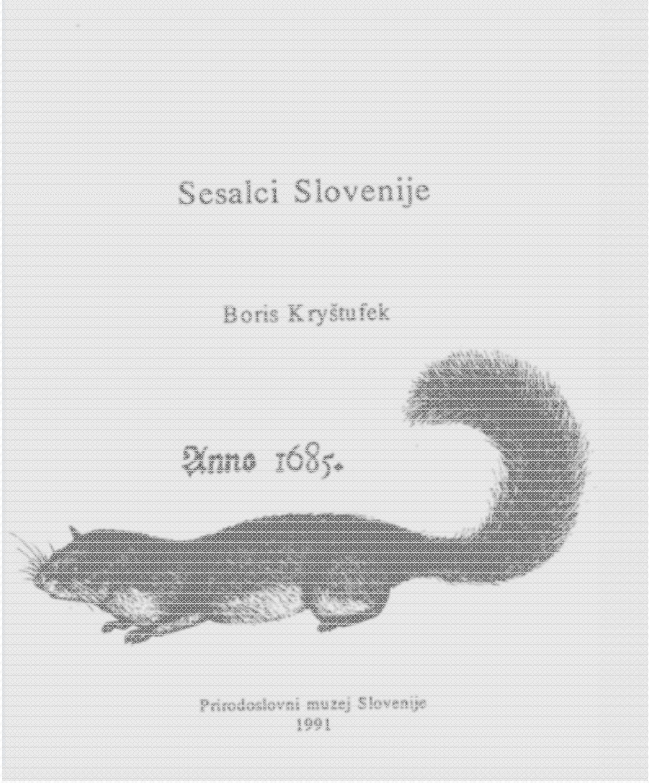

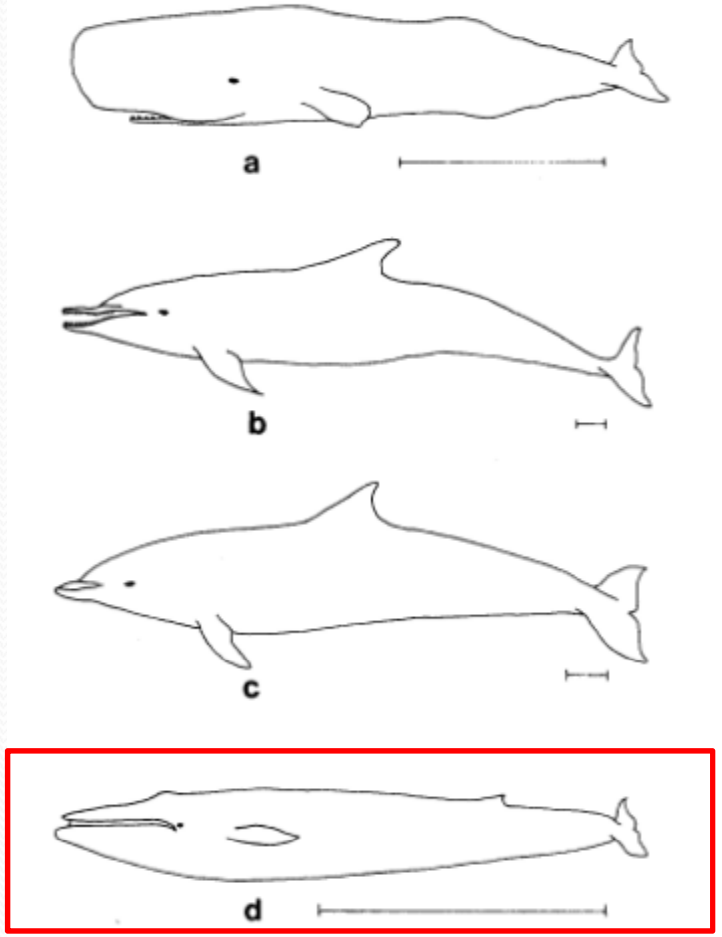

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trebuh pa bel ali svetlo rožnat. Žival, ki je nasedla na obalo, hitro potemni. V vsaki čeljustnici je 18–26 zob s premerom 10–13 mm. S starostjo zobje izpadajo. Samec, ki je nasedel v Ankaranu, je bil dolg 288 cm in težak 270 kg. Repna plavut je bila široka 70 cm. Zobe, ki jih je bilo le še 16, je imel samo v spodnji čeljusti. To kaže na zelo staro žival.

Habitat:

Morje, zaide pa tudi v sladke vode. Rad se drži v plitvinah.

Življenje:

Samotar, med parjenjem pa se druži v manjše jate. Je počasnejši od navadne pliskavke. Hrani se z ribami in glavonožci. Brejost traja 12–13 mesecev. Spolno zrelost dosežejo z dvanajstim letom, življenjska doba pa je 30 let. Populacije iz severnega Atlantika se selijo. Zelo inteligenten. V delfinarijih imajo večinoma to vrsto.

Variabilnost in podvrsta:

Leta 1867 je profesor Steenstrup kupil v Trstu kožo in skelet pliskavke iz Jadranskega morja. Na osnovi tega primerka je Van Benden leta 1886 opisal novo vrsto *Tursiops parvimanus*. Od velike pliskavke naj bi se ločila po manjšem telesu, manjših zobeh (oboje kaže, da je šlo morda za mlado žival), v prednjih okončinah pa je najdaljši tretji prst (pri veliki pliskavki je najdaljši drugi prst). Ellermann in Morrison-Scott (1966) sta označila sistematski položaj tega delfina kot negotov (»incertae sedis«). Čeprav ni verjetno, da bi bila jadranska pliskavka (ime je za *T. parvimanus* vpeljal Brusina, 1889) samostojna vrsta, pa vse nejasnosti v zvezi z njo le še niso pojasnjene.

V Sredozemlju živita dve podvrsti velike pliskavke: *T.t. truncatus* (Montagu, 1821), ki je bila opisana po primerkih iz Anglije, in *T.t. ponticus* Bobrinskii, 1944, ki poseljuje Črno morje. Pri nas se verjetno pojavlja nominatna podvrsta.

Družina: Brazdasti kiti (Balenopteridae)

Dva rodova brazdastih kitov s šestimi vrstami bomo našli v vseh morjih in oceanih. V Jadran so doslej zašle tri vrste brazdastih kitov, ki pripadajo enemu samemu rodu, to je *Balenoptera* Lacepede, 1804.

Sinji kit – *Balenoptera musculus* (Linnaeus, 1758)

Razširjenost:

Živi v vseh morjih in oceanih. V Jadranu, kamor zaide le izjemoma, je nasedel

Razširjenost v Sloveniji:

V knjigo je vključen na osnovi Brusinove navedbe za Milje (Brusina, 1889).

Opis:

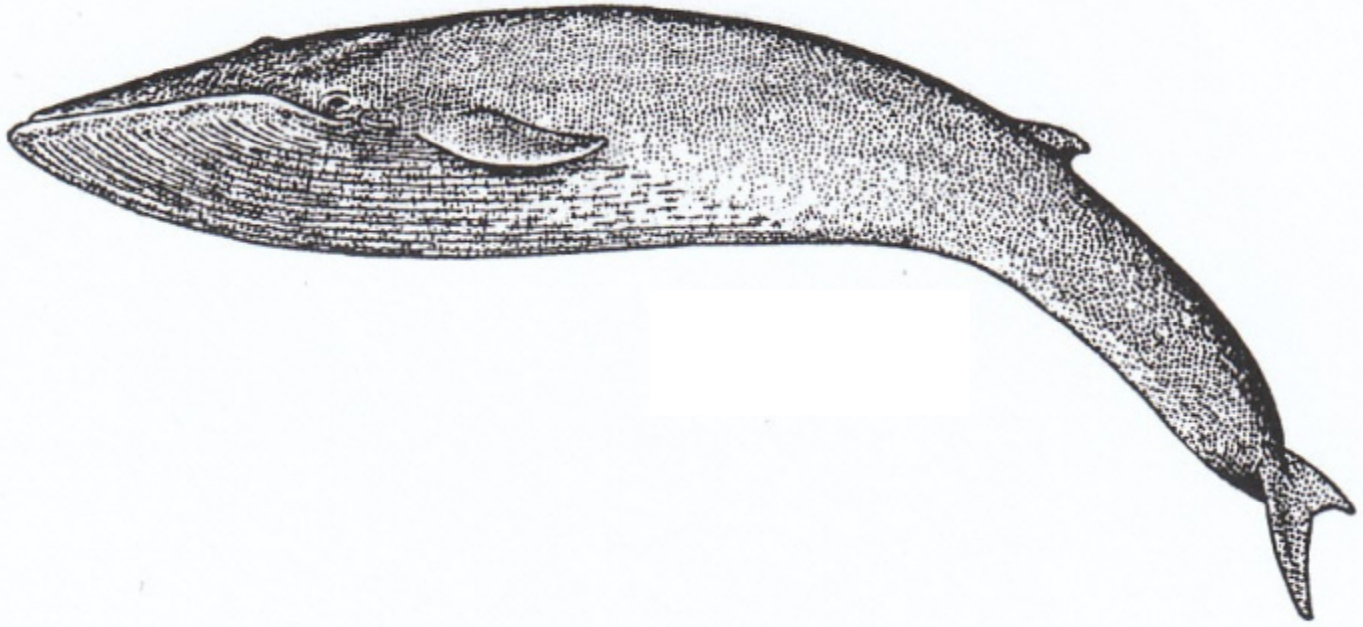
Največja žival, kar jih je kdaj živelo. Doseže dolžino celo do 30,5 m (navadno ne prek 28 m). Samci so manjši od samic, dolgi do 24 m. 27-metrska žival tehta 120 ton. Glava je zelo velika, saj odpade nanjo kar četrtina celotne dolžine. Koža je temno modra s številnimi belimi lisami na bokih in trebuhu. Temni vosi so kratki in široki.

Življenje:

Hiter plavalec, ki doseže do 30 vozlov (55 km/h). Poleti se zadržujejo v toplih vodah, kjer kotijo mladiče, pozimi pa odplavajo v polarne vode in se tam hranijo. Živijo predvsem od planktonskih rakov. Brejost traja 6–7 mesecev, mladič pa je eden ali redkeje dva. Samica koti vsako drugo leto. Spolno zrelost dosežejo v osmem do desetem letu, življenjska doba pa je 80 let. Kitolov je to vrsto že skoraj povsem iztrebil.

Opombe:

Nekateri avtorji uvrščajo sinjega kita v rod *Sibbaldus* Gray, 1864.



	sinji kit	brazdasti kit
• Št. brazd	55-88	50-100
• Št. vosov	270-395	260-480
• Barva glave	simetrična	asimetrična

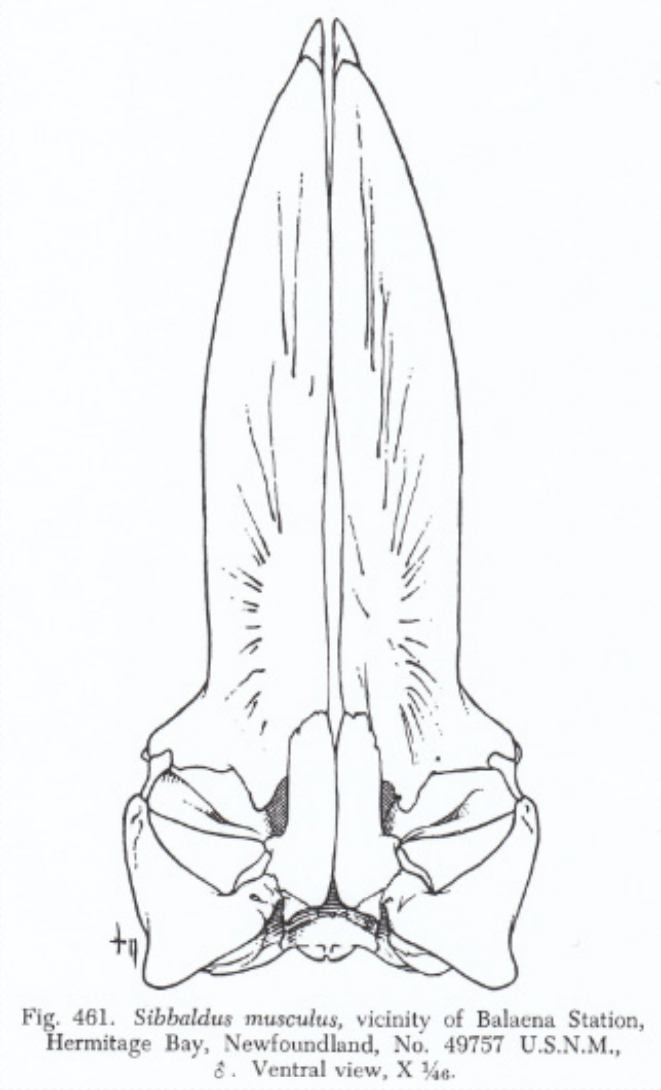
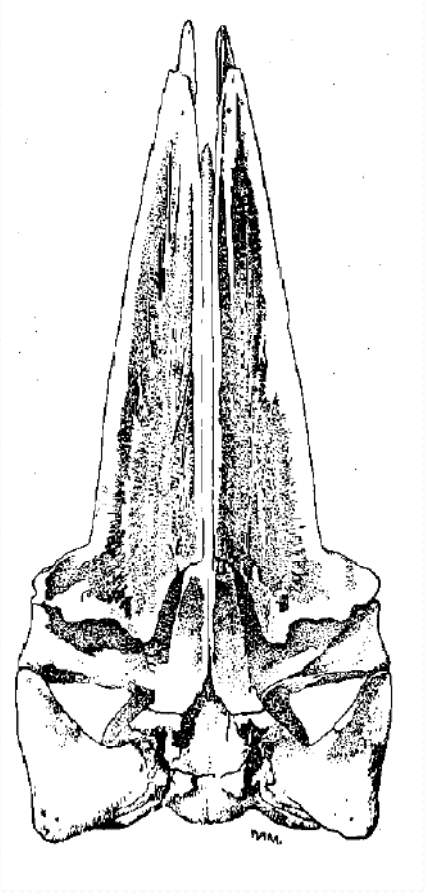


Fig. 461. *Sibbaldus musculus*, vicinity of Balaena Station, Hermitage Bay, Newfoundland, No. 49757 U.S.N.M., ♂. Ventral view, X 1/46.

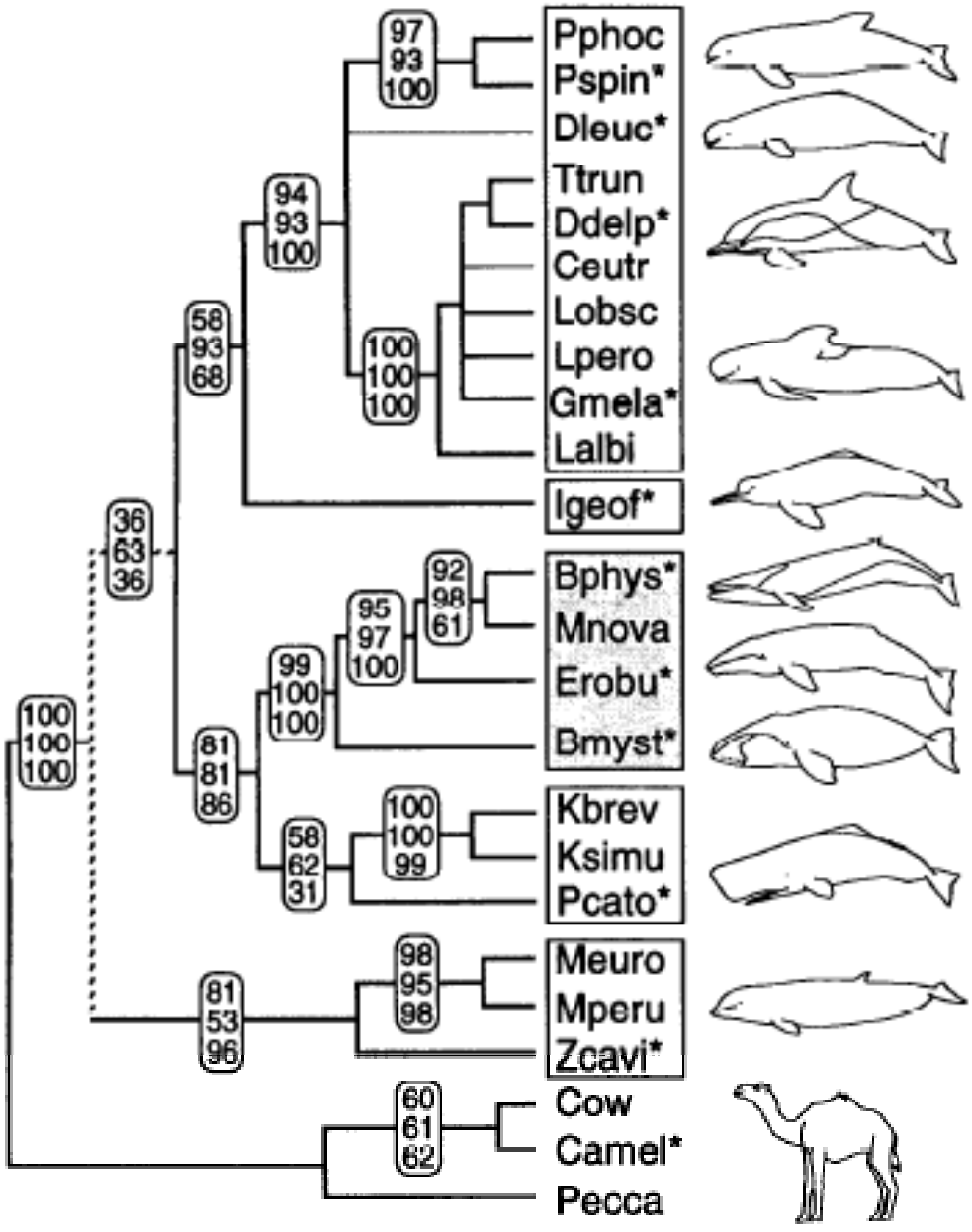
Sinji kit



Brazdasti kit

PRIRODOSLOVNI MUZEJ SLOVENIJE

mgr. Matija Križnar: Fosilni kiti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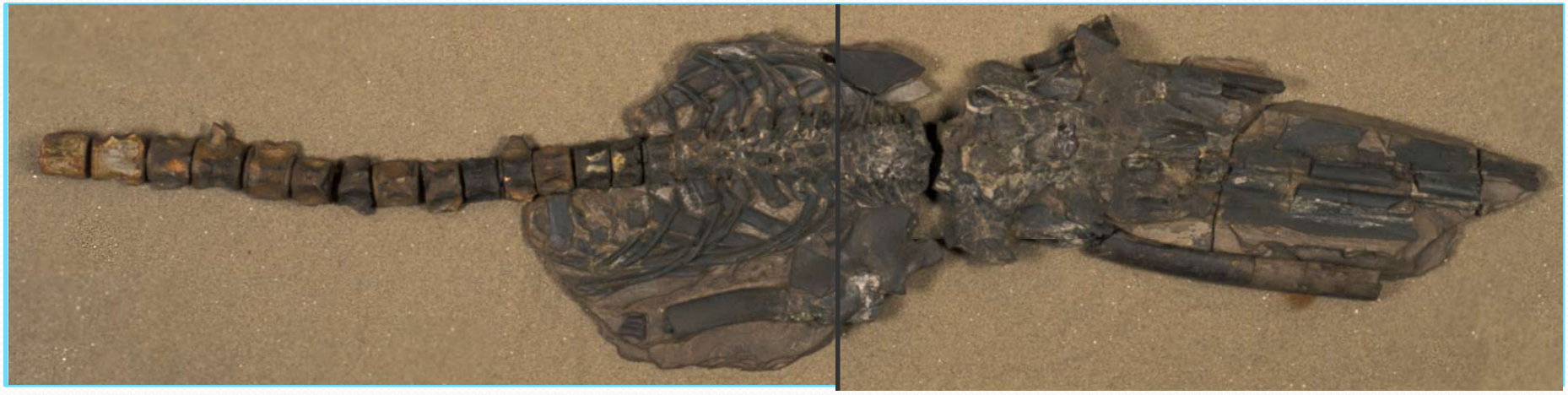

Balaenoptera acutorostrata cuvierii

Benedikt, Slovenske gorice

Miocen

GenBank Accession Number FJ767748)

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TTC ATC GAC CTC CCT GCC CCA TCA AAC ATC TCA TCA TGG TGA AAC TTC GGC
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CTA TTC GCC GTG ATA GCT ACA GCA TTT ATA GGT TAC GTA CTA CCA TGA GGC
CAA ATA TCA TTC TGA GGT GCC ACA GTC ATT ACA AAC CTA CTA TCA GCT ATC
CCC TAC ATC GGC ACT ACA CTA GTA GAA TGA ATC TGA GGC GGA TTC TCA GTA
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ATT ACC GCC CTT GTA CTA GTC CAC CTC CTC TTC CTT CAC GAA ACA GGA TCC
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CTG GTA GCC GAC CTC CTT GTC CTT ACA TGA ATC GGA GGA CAA CCA GTT GAA
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CTA GAT

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GenBank Accession Number FJ767748)

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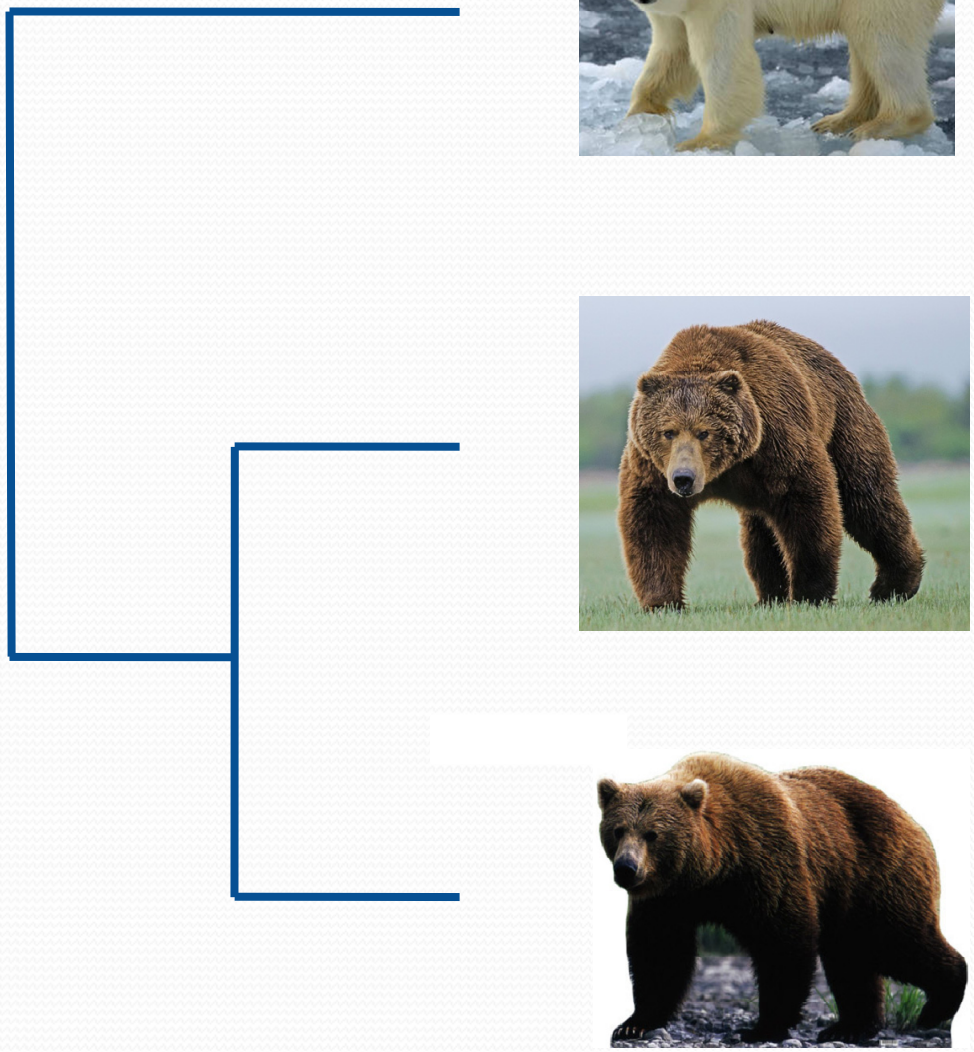
V srednjem veku so ljudje mislili, da je njihova usoda zapisana v zvezdah

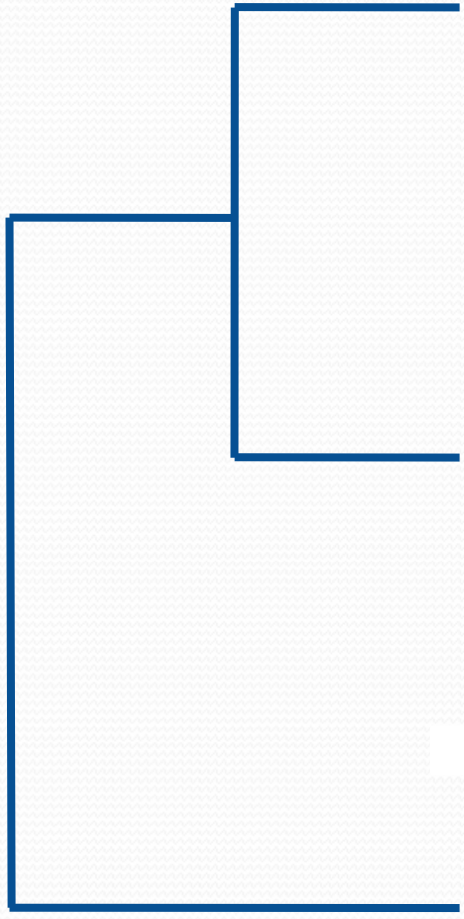
V srednjem veku so ljudje mislili, da je njihova usoda zapisana v zvezdah

danes mislimo, da je zapisana v genih



Aljaska

Evropa



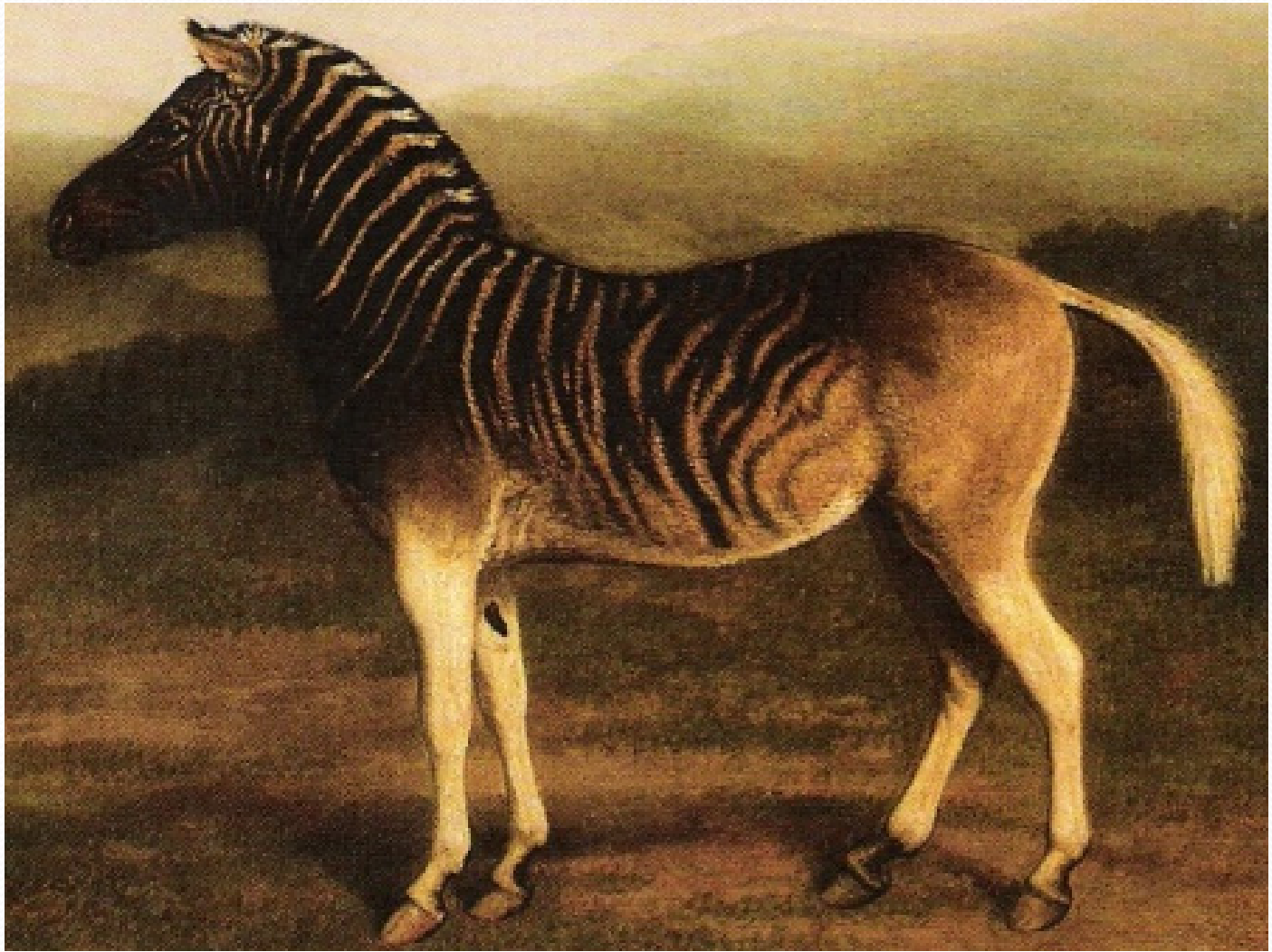
Aljaska

Evropa

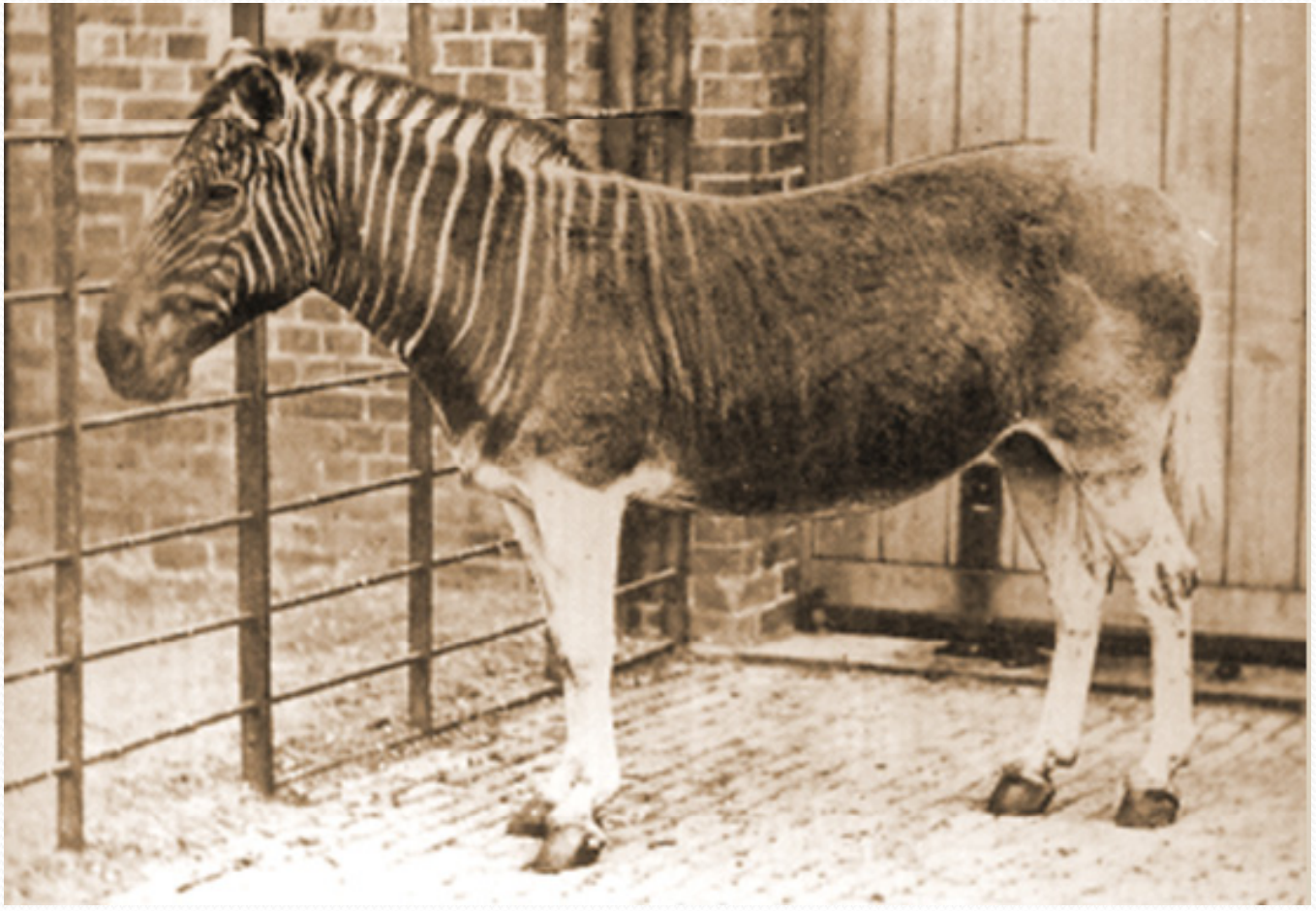
Aljaska

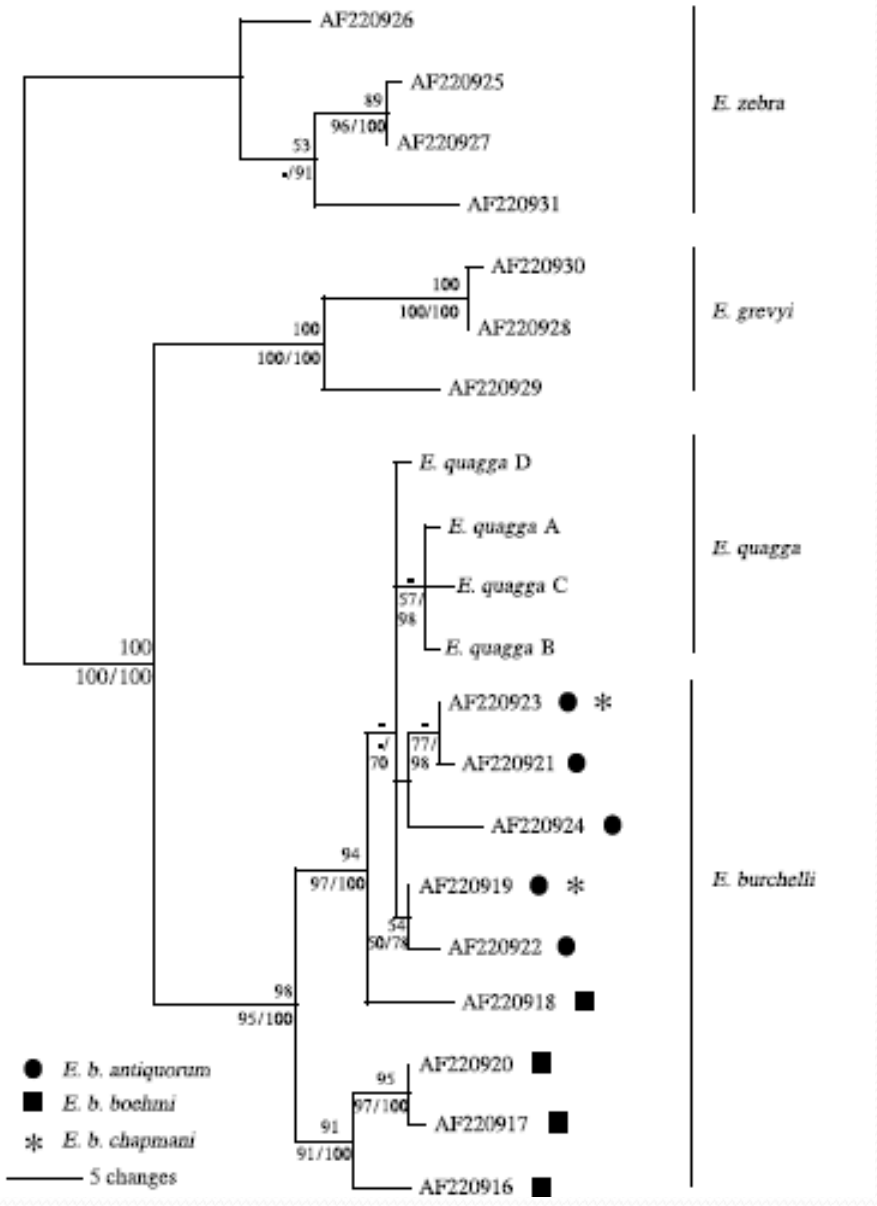
Evropa

Kvaga *Equus quagga*



Regent's Park Zoo, London 1870

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E. quagga C
E. quagga B
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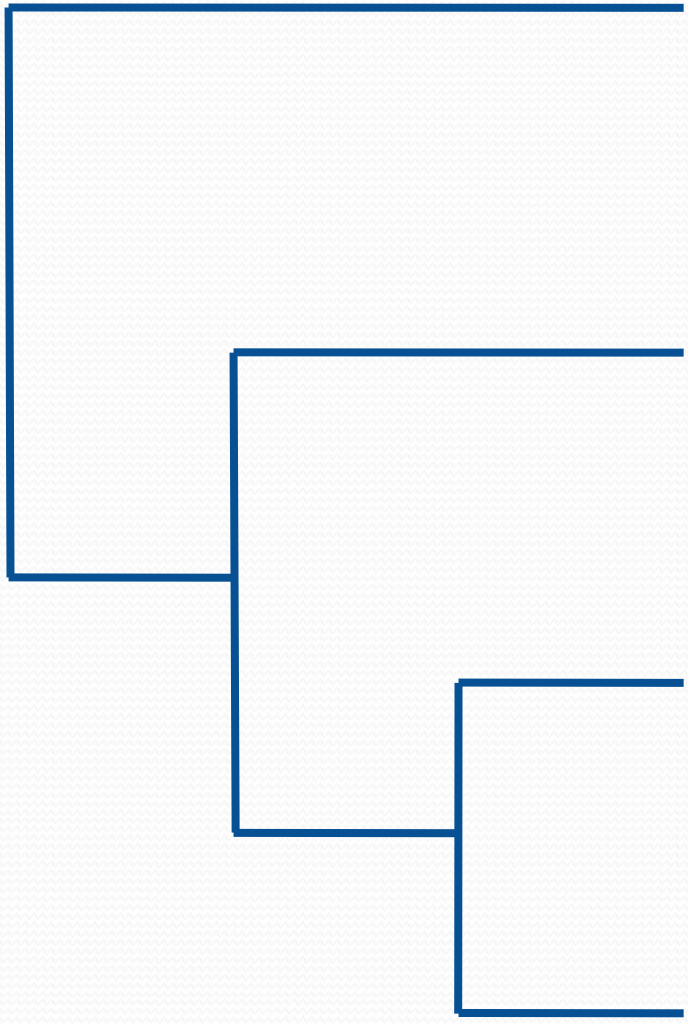

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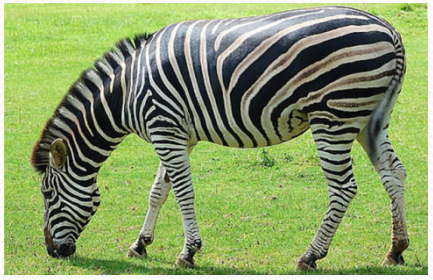

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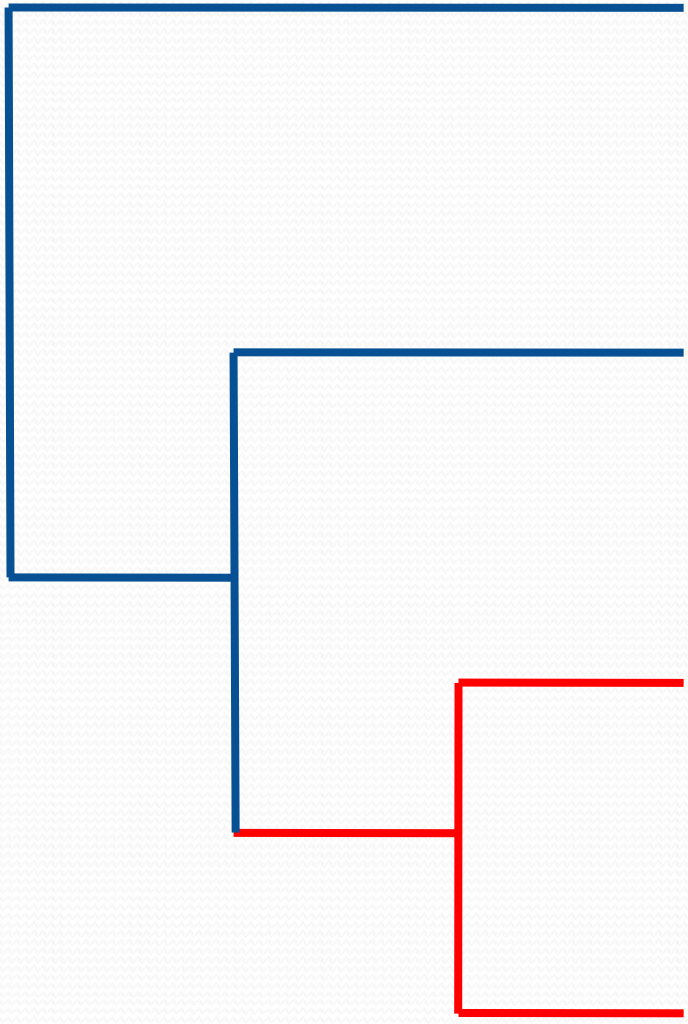

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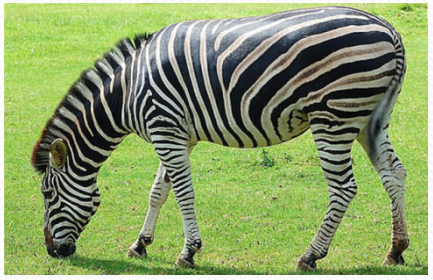

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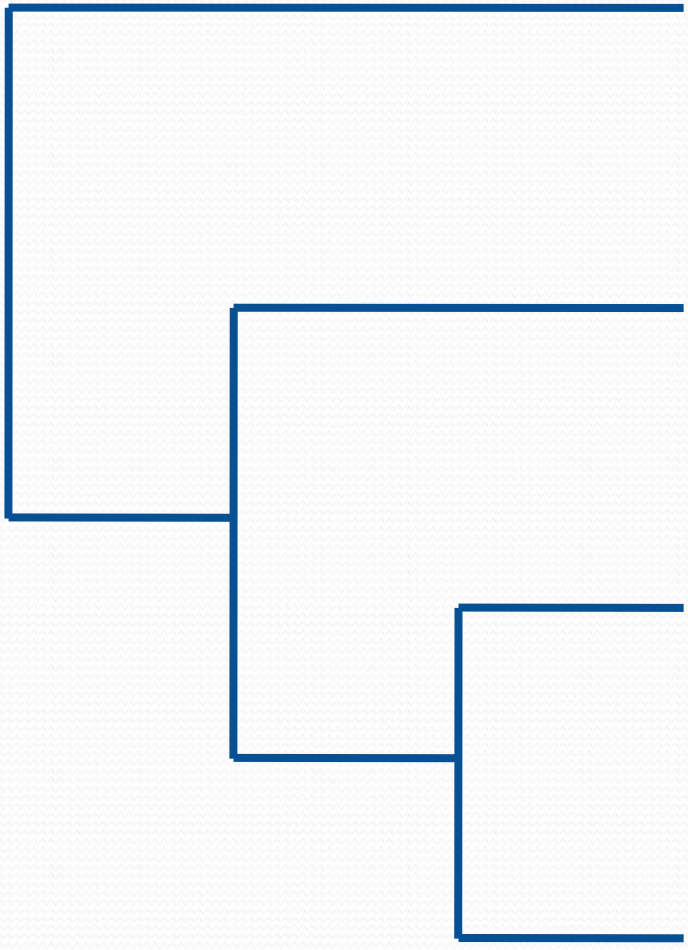

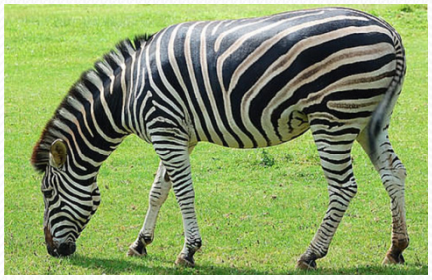

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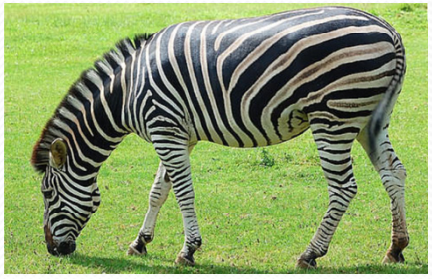
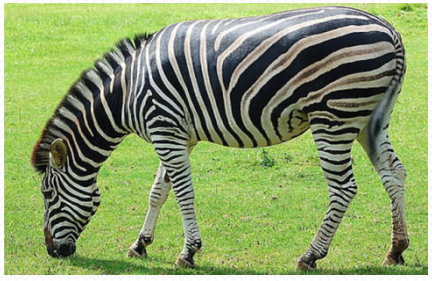


E. burchelli

E. quagga



E. burchelli

Planinski pupek *Mesotriton alpestris*

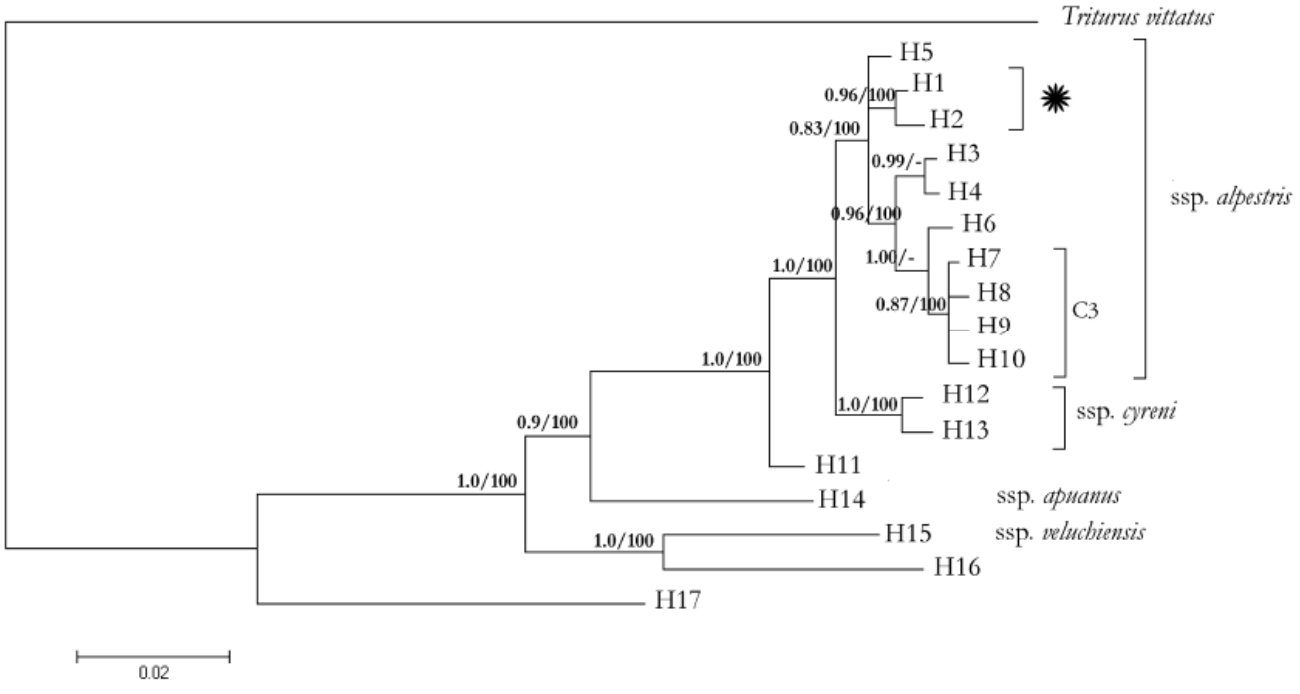
podvrsta *Mesotriton alpestris lacusnigri*

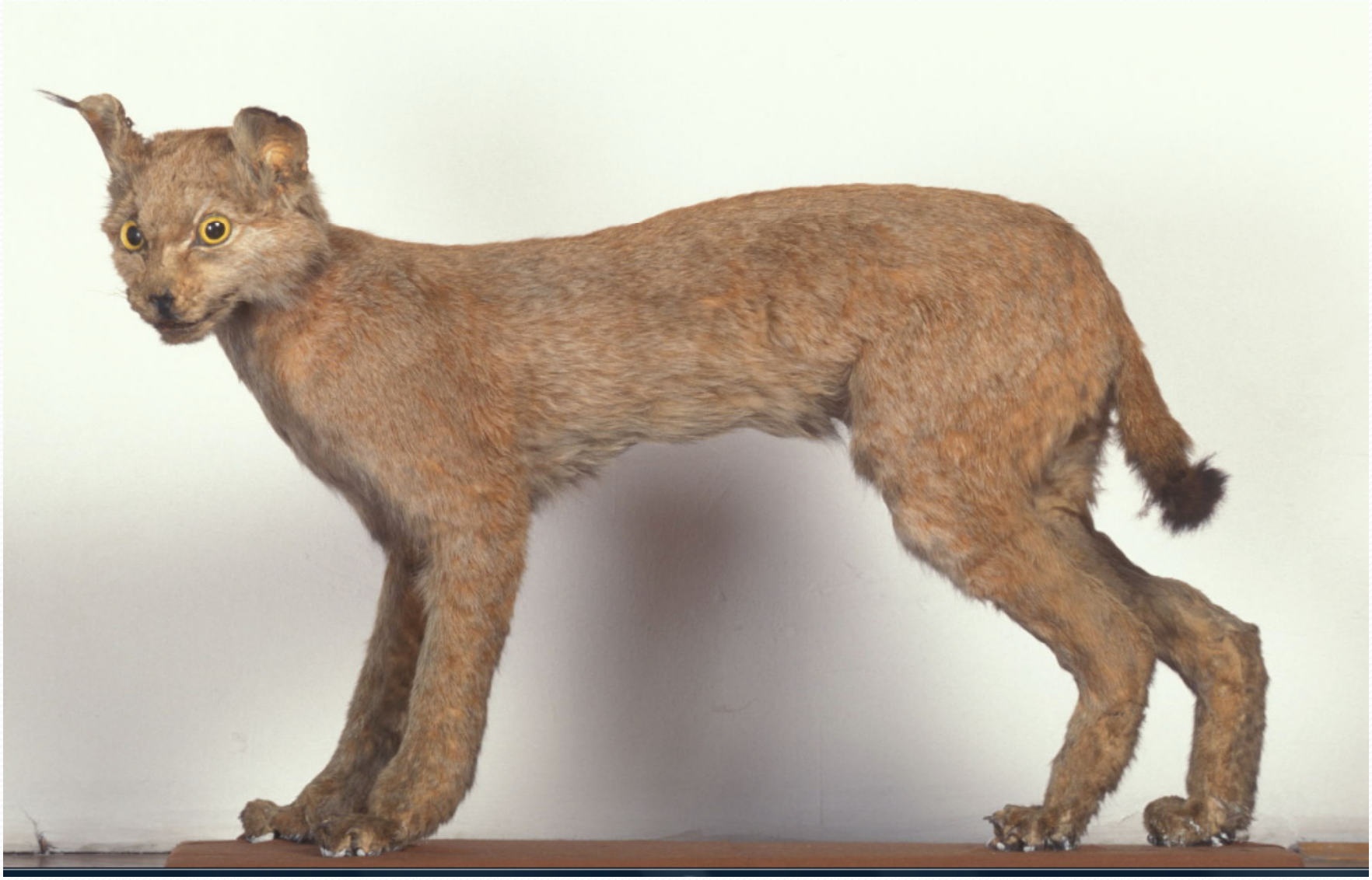

TRITARUS ALP
LACUS-NIGRA
PLANINSK
SEDMERA JEZERA

Amphibia-Reptilia 32 (2011): 435-440

Mitochondrial sequences do not support the independent taxonomic position of the extinct Alpine newt subspecies *Mesotriton alpestris lacusnigri*

Martina Lužnik*, Elena Varljen Bužan, Boris Kryštufek





NATURAL SCIENCE COLLECTIONS

Informing Climate Change and Biodiversity

Climate change and biodiversity conservation are major issues of concern to the public and policymakers. Informed policy and economic responses to these challenges requires timely and accurate scientific information. Natural science collections, such as those at public and private natural history museums, government laboratories, or university-based research centers provide this knowledge, and help point us toward solutions to preserving America's climate-dependent economic resources and protecting the country's astounding natural beauty.

Conserving Biodiversity

Natural science collections chronicle Earth's biological diversity, past and present.

- In 2004, resource managers at Everglades National Park could not locate Miami blue or Atala hairstreak butterflies. The park's **natural science collections showed that these species had once existed in the park.** The National Park Service launched an initiative to restore these butterflies to the park, attracting visitors to see the rare butterflies.

- In only 10,000 years, the climate of Bighorn Basin, Wyoming, went from one similar to Florida to one like southern Mexico. **Scientists are using fossil plants stored at natural science collections to study patterns of plant migration and death** during this period. This information may inform current plant conservation strategies for responding to climate change.

- Biodiversity data provided by natural science collections are **irreplaceable and available through no other scientific resources or endeavors.** Protecting such resources is necessary to maintain accurate records of Earth's natural history.

Journal of Ecology

British Ecological Society

Journal of Ecology doi: 10.1111/j.1365-2745.2010.01727.x

Validation of biological collections as a source of phenological data for use in climate change studies: a case study with the orchid *Ophrys sphegodes*

Karen M. Robbirt[1,2], Anthony J. Davy[2]*, Michael J. Hutchings[3] and David L. Roberts[1,4]

[1]Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, UK; [2]Centre for Ecology, Evolution and Conservation, School of Biological Sciences, University of East Anglia, Norwich, Norfolk, NR4 7TJ, UK; [3]School of Life Sciences, University of Sussex, Falmer, Brighton, Sussex, BN1 9QG, UK; and [4]Durrell Institute of Conservation and Ecology, School of Anthropology and Conservation, Marlowe Building, University of Kent, Canterbury, Kent CT2 7NR, UK

Museum collections: Mining the past to manage the future

Karen R. Lips[1]
Department of Biology, University of Maryland, College Park, MD 20742

We are in the midst of the sixth mass extinction (1), and we are watching species disappear faster than we can describe them (2). Three of the major drivers of extinction, emerging infectious diseases (3), invasive species (4), and threats from climate change (5), are especially difficult to address because of their rapid spread, broad geographic effects, and widespread impacts on entire classes (6) or ecosystems (7). We urgently need a better catalog of the abundance and distribution of species on the planet and a broader understanding of biotic (e.g., parasites, diseases, seed dispersal, pollination, predation, and competition) and abiotic (e.g., ecophysiology and climate change) factors that influence species biology. Achieving this requires more field biologists, more collections, and more

Fig. 1. An undescribed species of *Diasporus* from El Cope, Panama.

spread of *Bd* in these areas (13, 14). Closer to home, this technique will be especially useful in reconstructing the history of *Bd* in the United States. *Bd* is currently found throughout the country

of *Bd* and determine whether its spread has negatively affected the distribution of amphibian species (19) and if it has caused a corresponding increase in the distribution of *Jliv*. More generally, knowing where *Bd* and *Jliv* occur today, how they interact, and where they occurred in the past will help us understand the spread of both across the landscape and may help us keep *Bd* out of as yet uninfected areas such as Madagascar and Papua New Guinea.

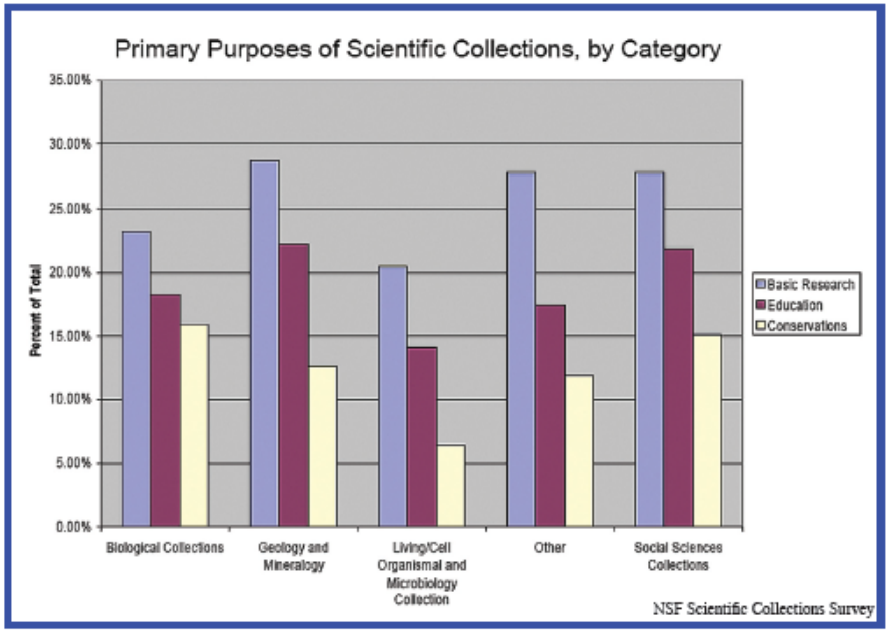
However, despite the promising applications of this (8) tool, we are still limited in quantifying the true effect of *Bd* on amphibian biodiversity, and this hampers effective conservation efforts (Fig. 1). We lack information on population demography for most amphibian species and from many habitats around the world. We cannot understand population decline and

NATURAL SCIENCE COLLECTIONS

America's Great Scientific Resource

Natural science collections are essential infrastructure supporting the nation's scientific research and development enterprise. The collections gathered and held by many institutions over the past half millennium are fundamental reference points for measuring and monitoring human health, safety, and the state of our planet. They are essential to the advancement of research in the biological, earth, environmental, and social sciences.

Collections Are Essential Support for Research



Natural science collections are vital research infrastructure that outlast the projects that created them.

- Collections **provide irreplaceable evidence of historical trends and unique historic events.** Specimens sometimes have been collected from areas that are no longer accessible, making their collection and storage essential for future scientific studies in certain subject areas.

- Scientific research may be called into question years after their publication and only well-maintained collections will allow researchers to replicate experiments and **successfully review past findings.**

- **Replacing existing collections would have enormous costs or be altogether impossible** for many specimens,

Replacing existing collections would have enormous costs or be altogether impossible for many specimens,

Nadomestiti obstoječe zbirke bi bilo povezano z velikanskimi stroški, za mnoge vrste pa to sploh ni mogoče …


C
C
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F
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G


HVALA
ZA
POZORNOST