



FSC

Centro Culturale
della Fondazione
Collegio San Carlo

GIORGIO MANZI

EVOLUZIONE, NON PROGRESSO

IL CASO DELLA STORIA NATURALE DELL'UOMO

14 NOVEMBRE 2014

PROGRESSO. STORIA E TEORIA DI UN'ESPERIENZA FILOSOFICA E POLITICA

OTTOBRE - DICEMBRE 2014

DIAPOSITIVE



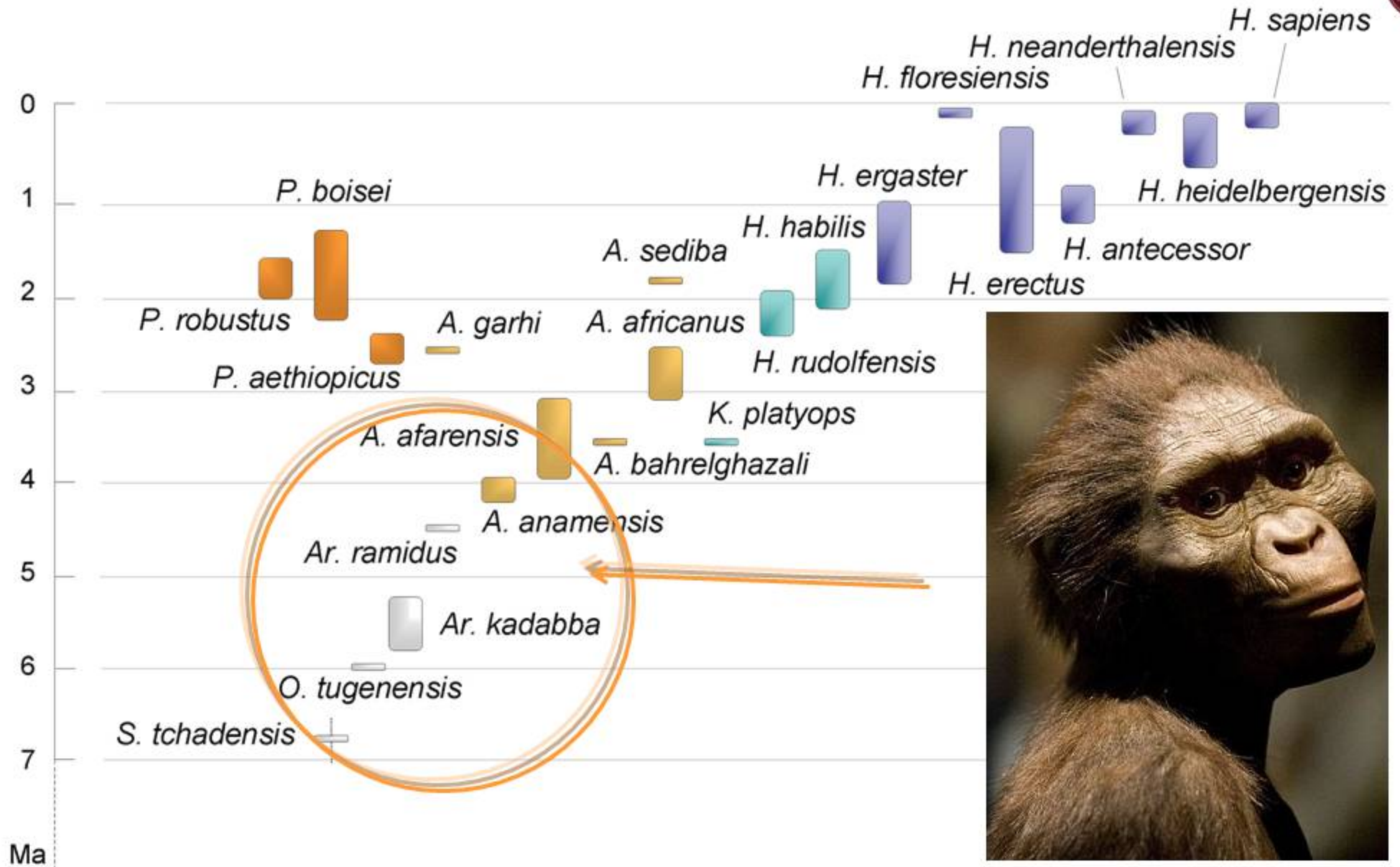
Fondazione Collegio San Carlo di Modena

**La Fondazione Collegio San Carlo
ricorda che le seguenti diapositive costituiscono
materiale sottoposto alla normativa vigente
in materia di diritto d'autore.**

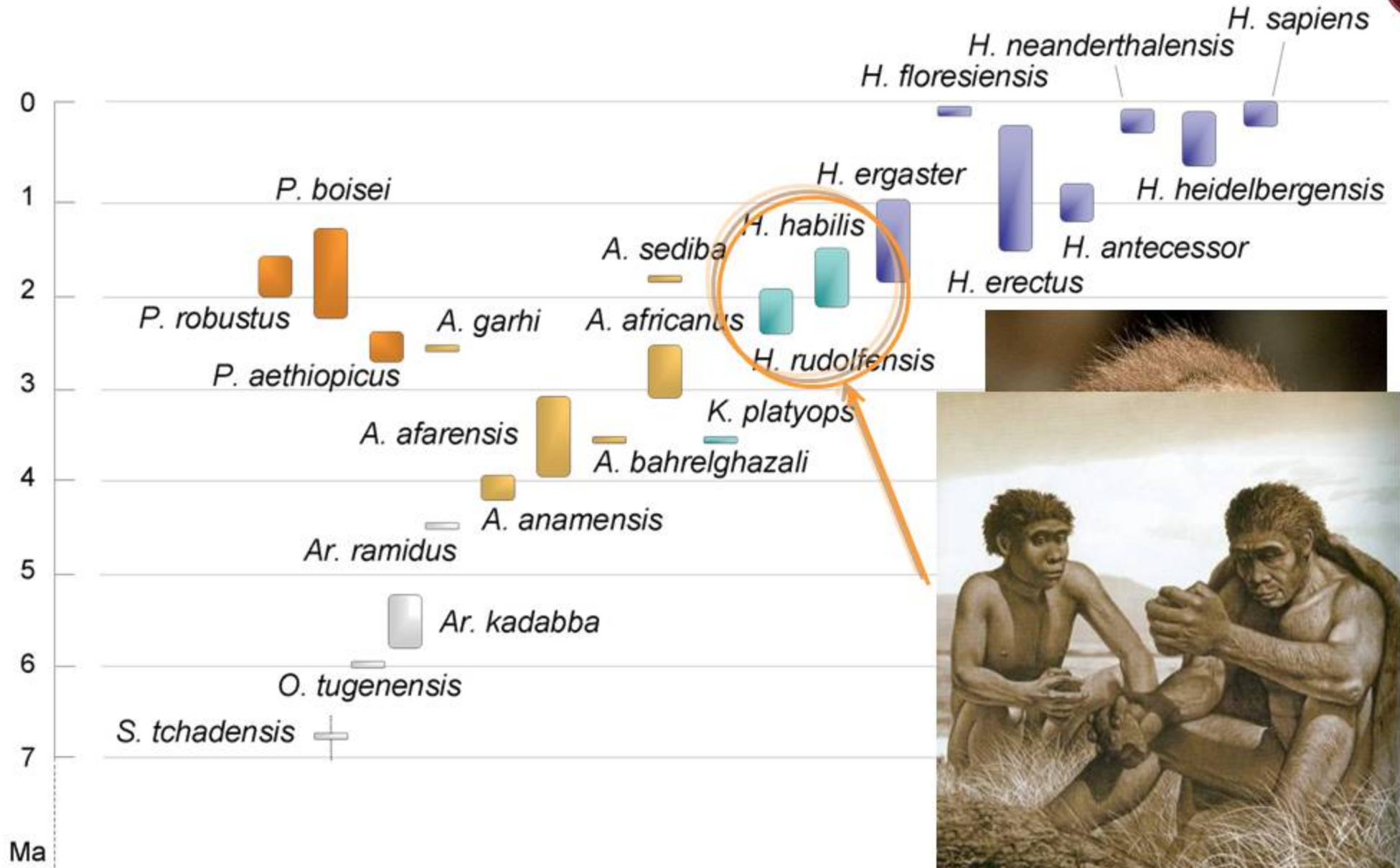
**Le diapositive non possono essere
né modificate, né commercializzate.**

**Possono invece essere condivise
gratuitamente, ma solo citando
la fonte e l'autore.**

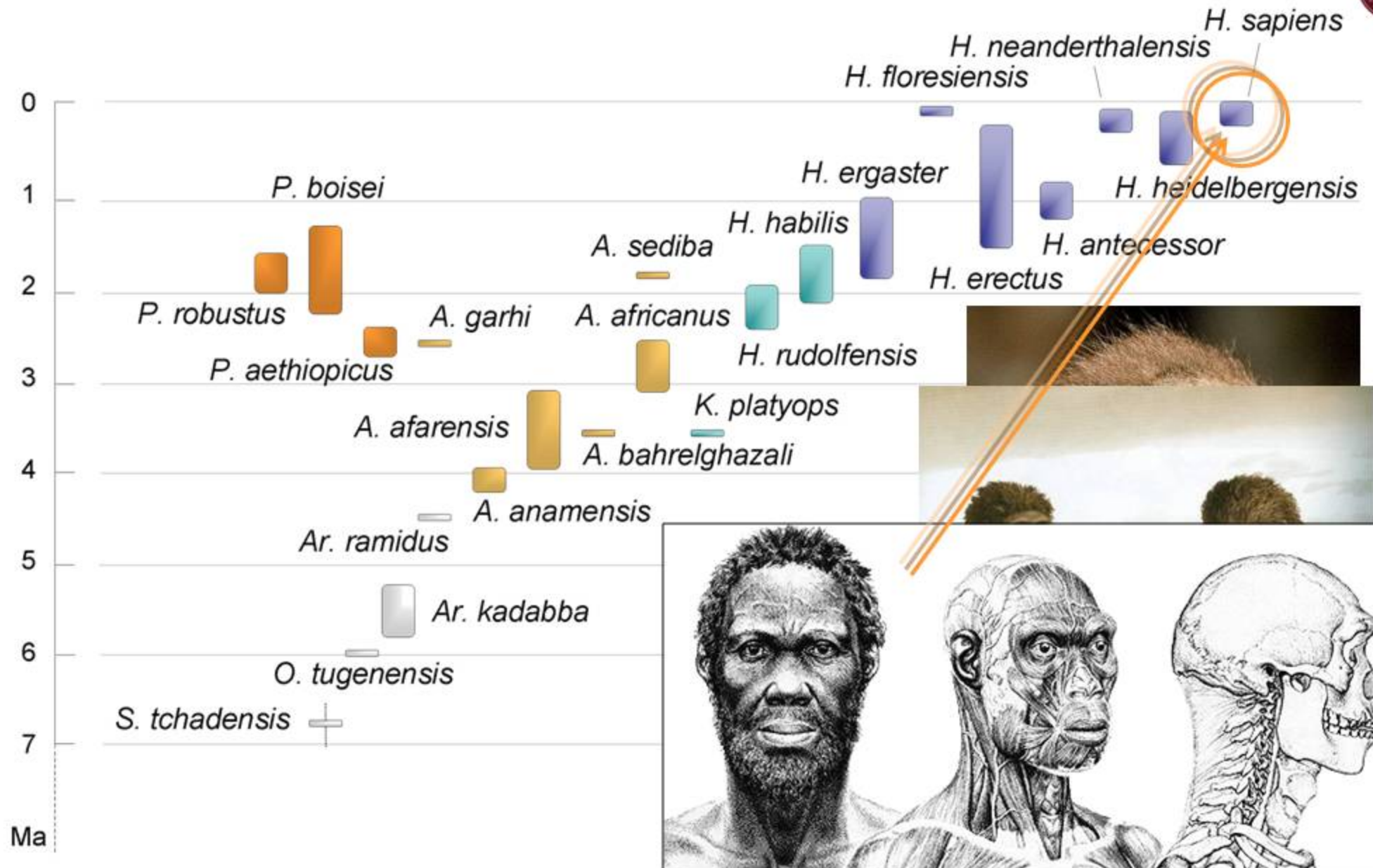
Origin of our bushy tree



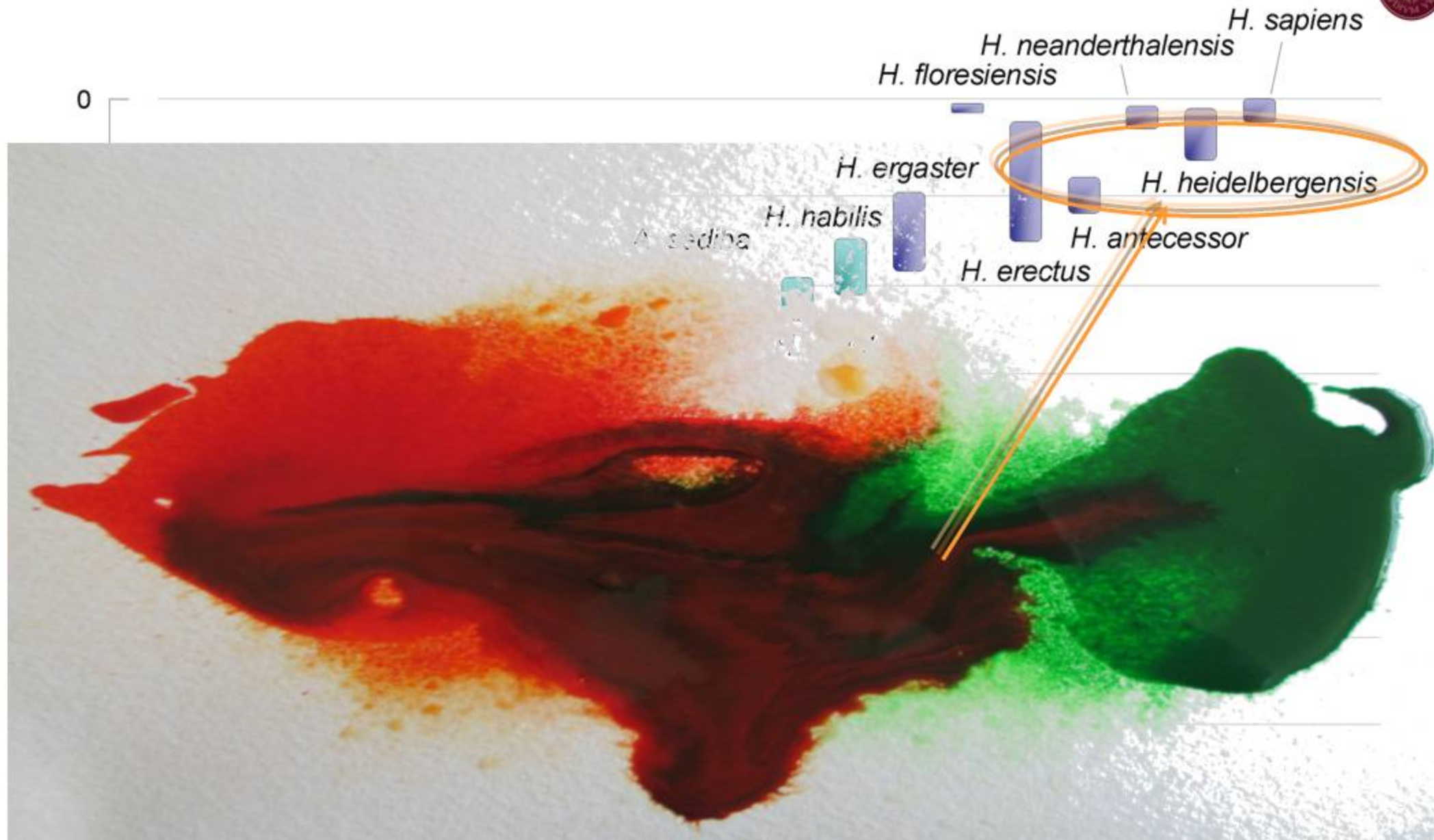
Origin of the genus Homo

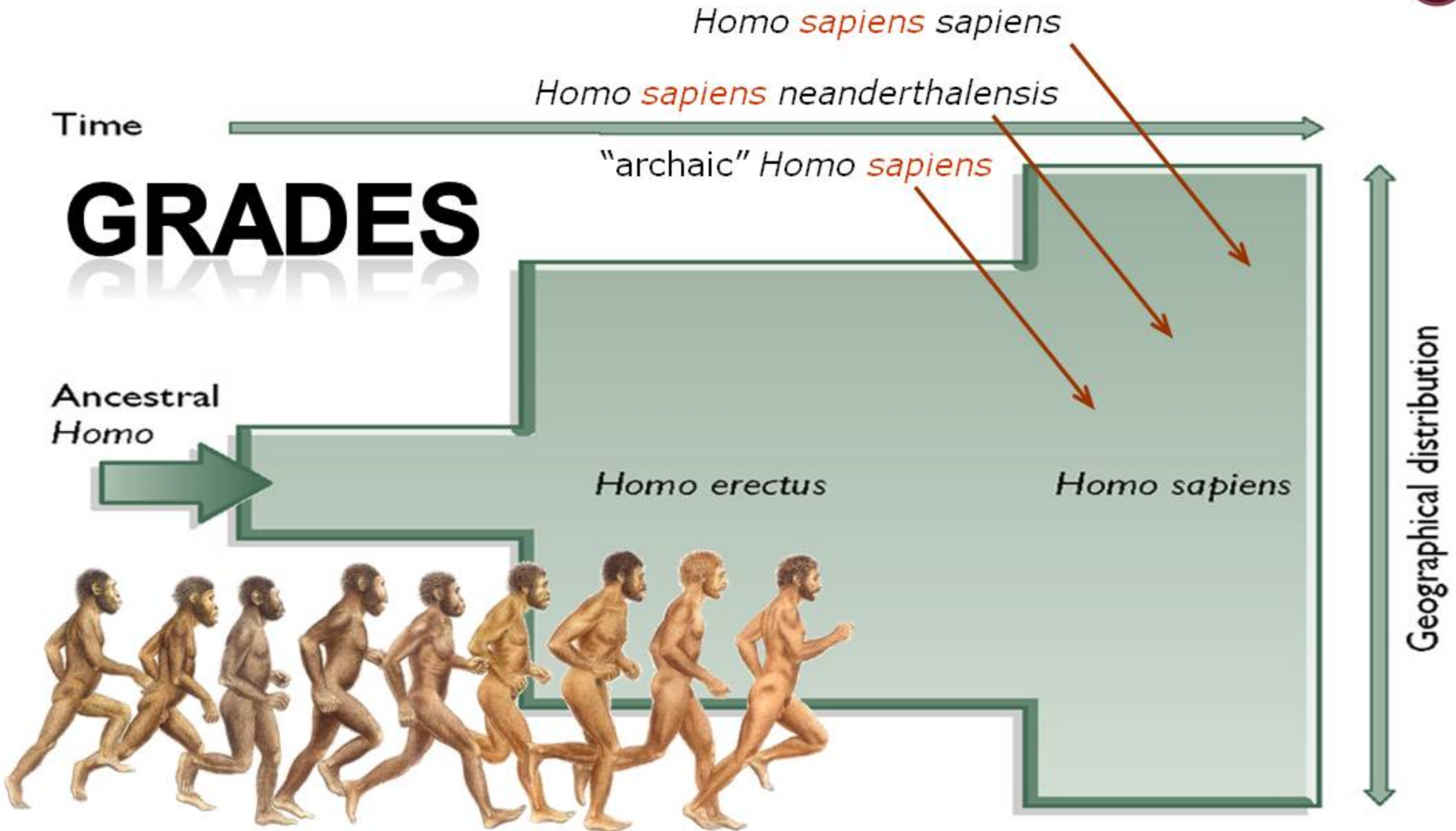


Origin of Homo sapiens

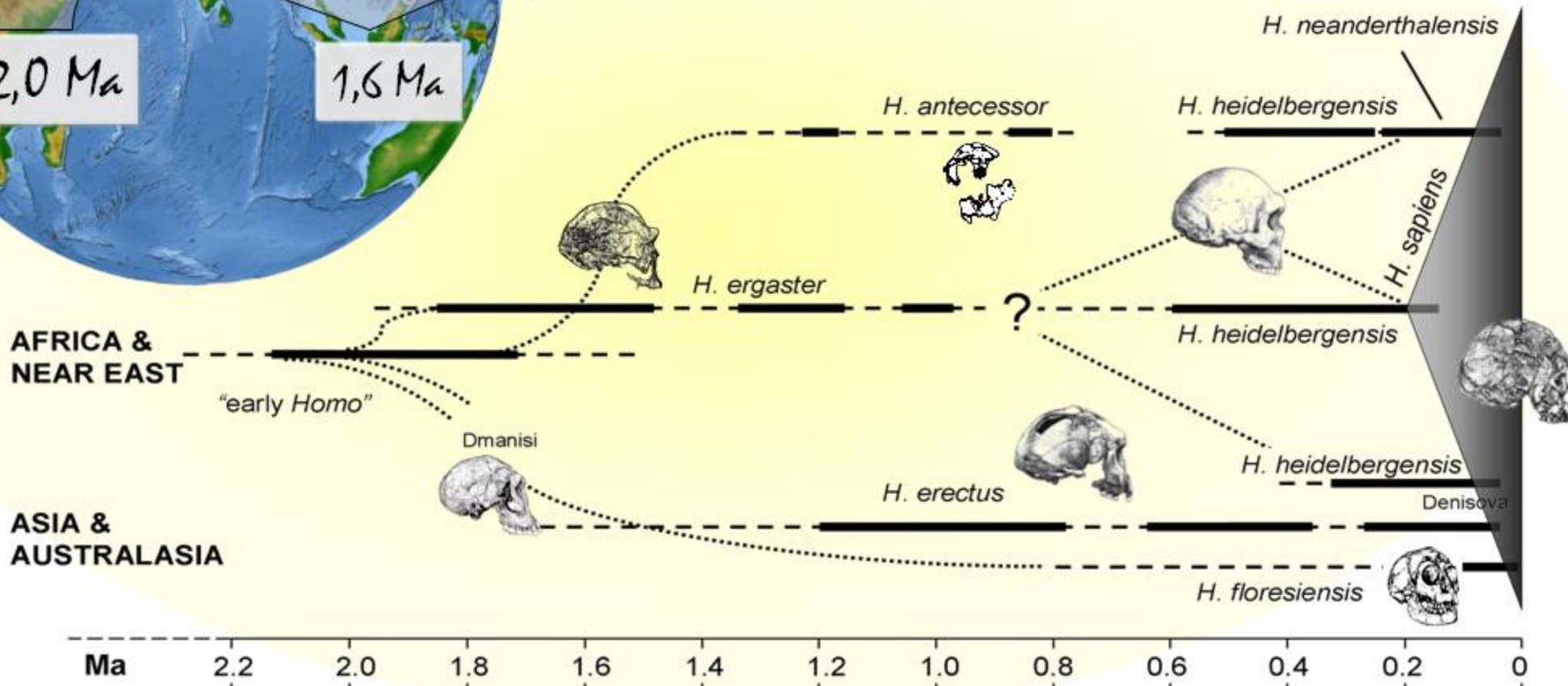
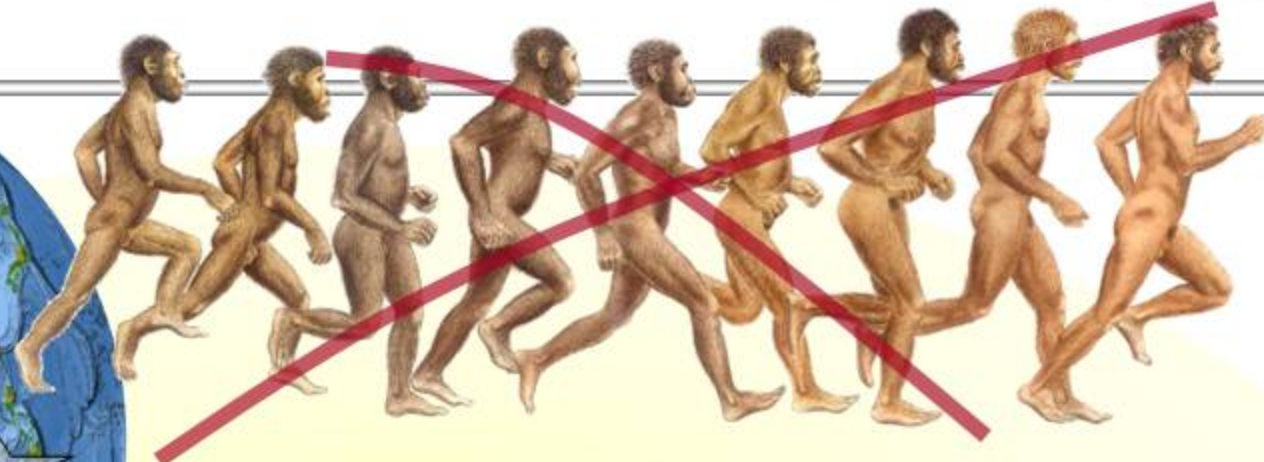
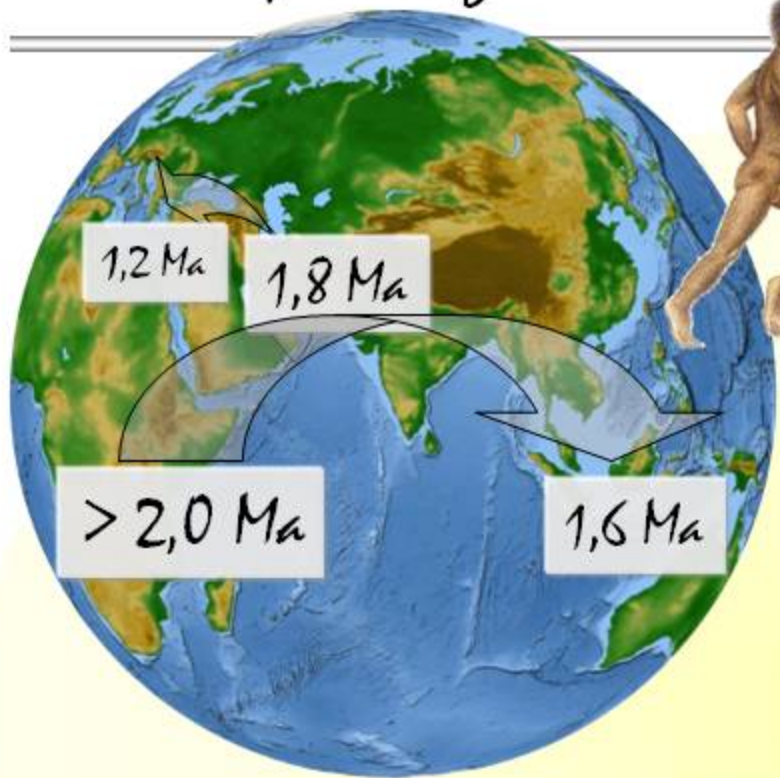


The "muddle in the middle"





The new paradigm





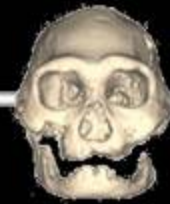
D 2280



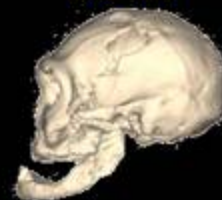
D 2282



D 2700

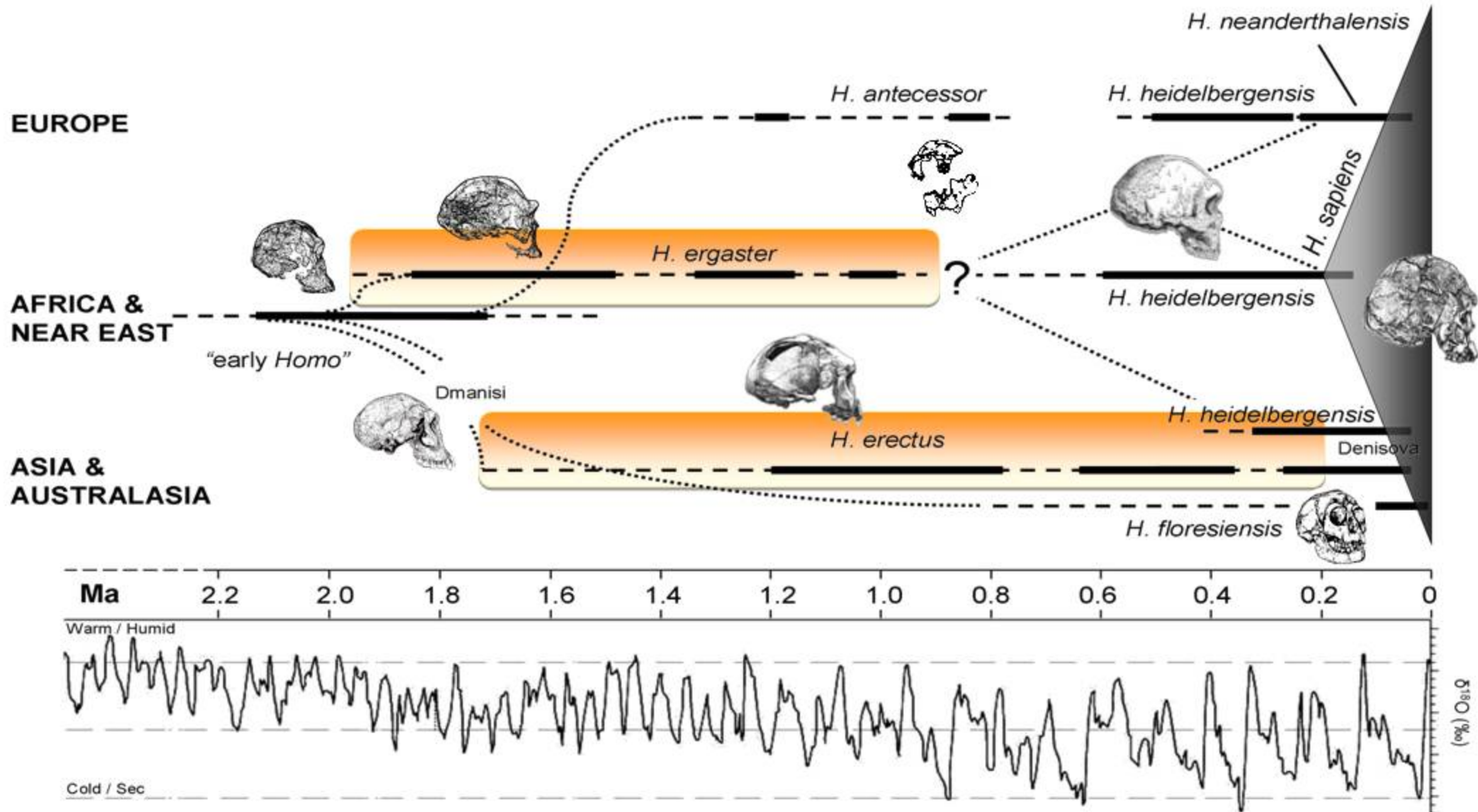


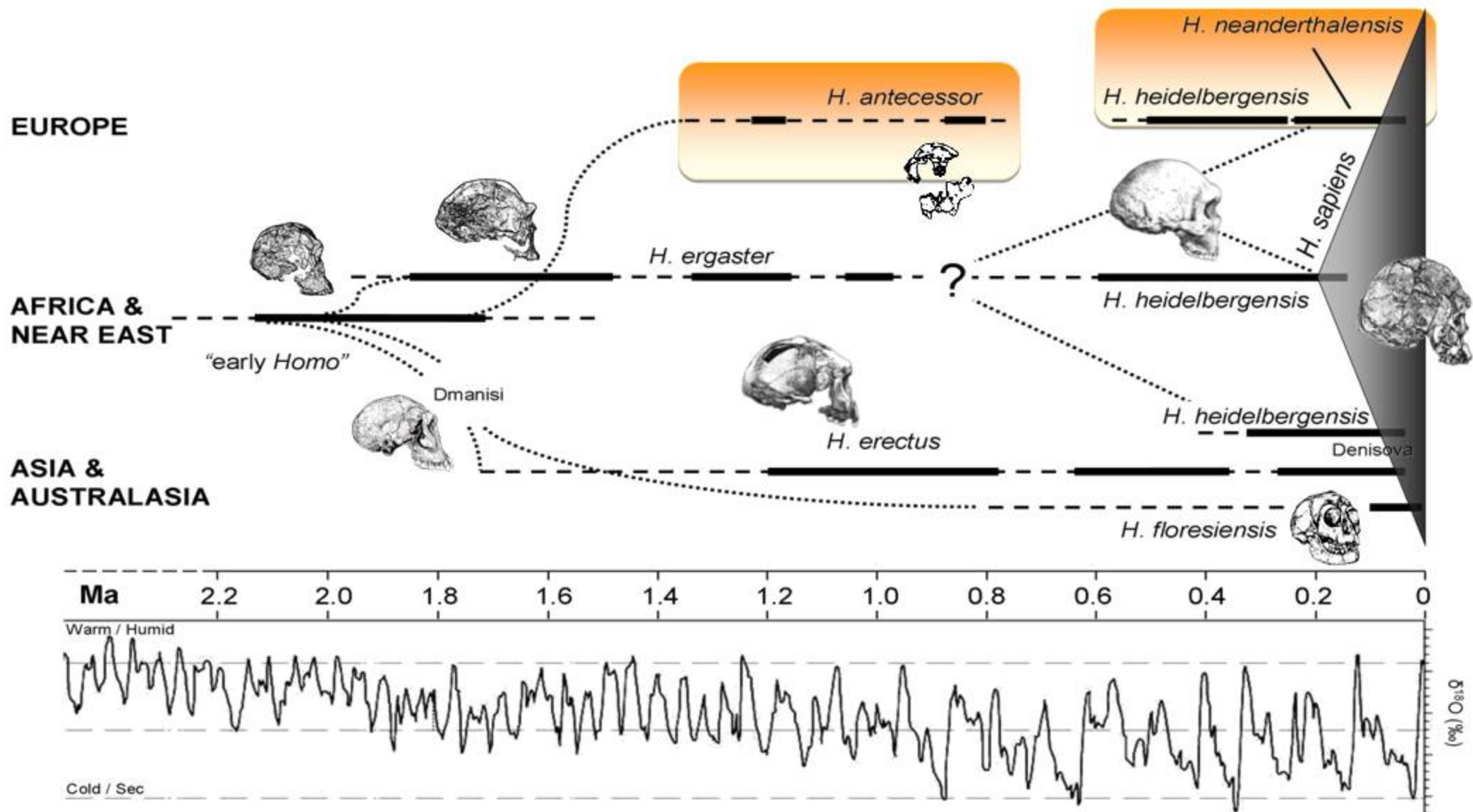
D 3444



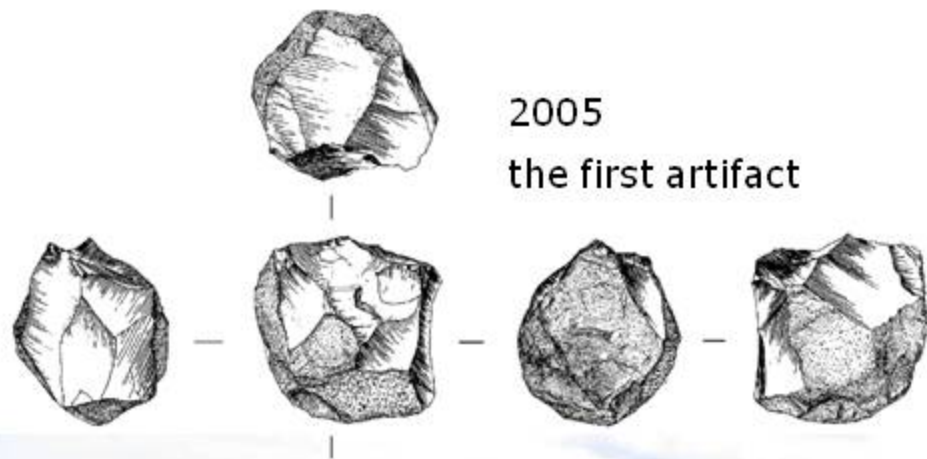
D 4500







Pirro Nord (Italy)



2005
the first artifact



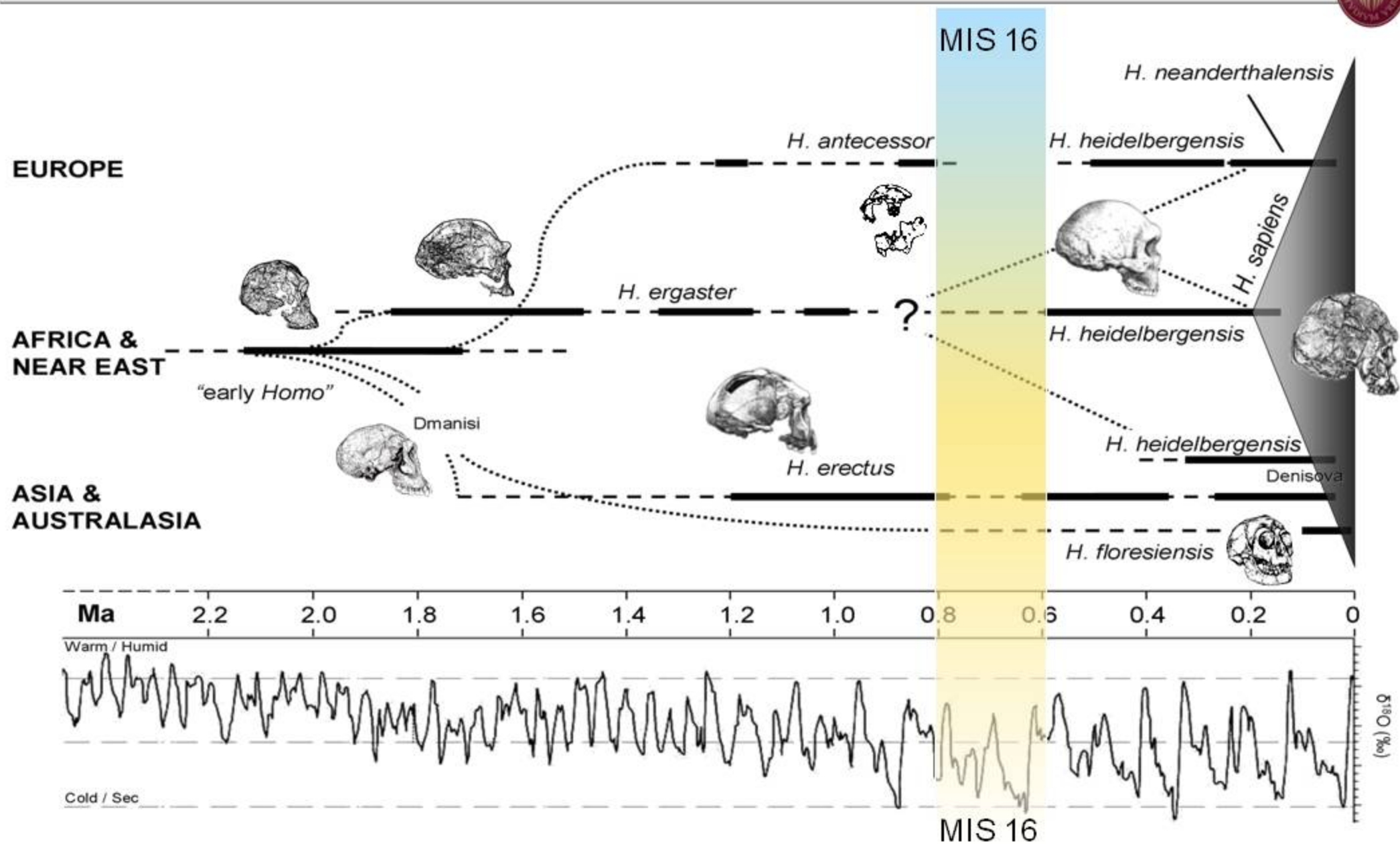
*Pachycrocuta
brevirostris*





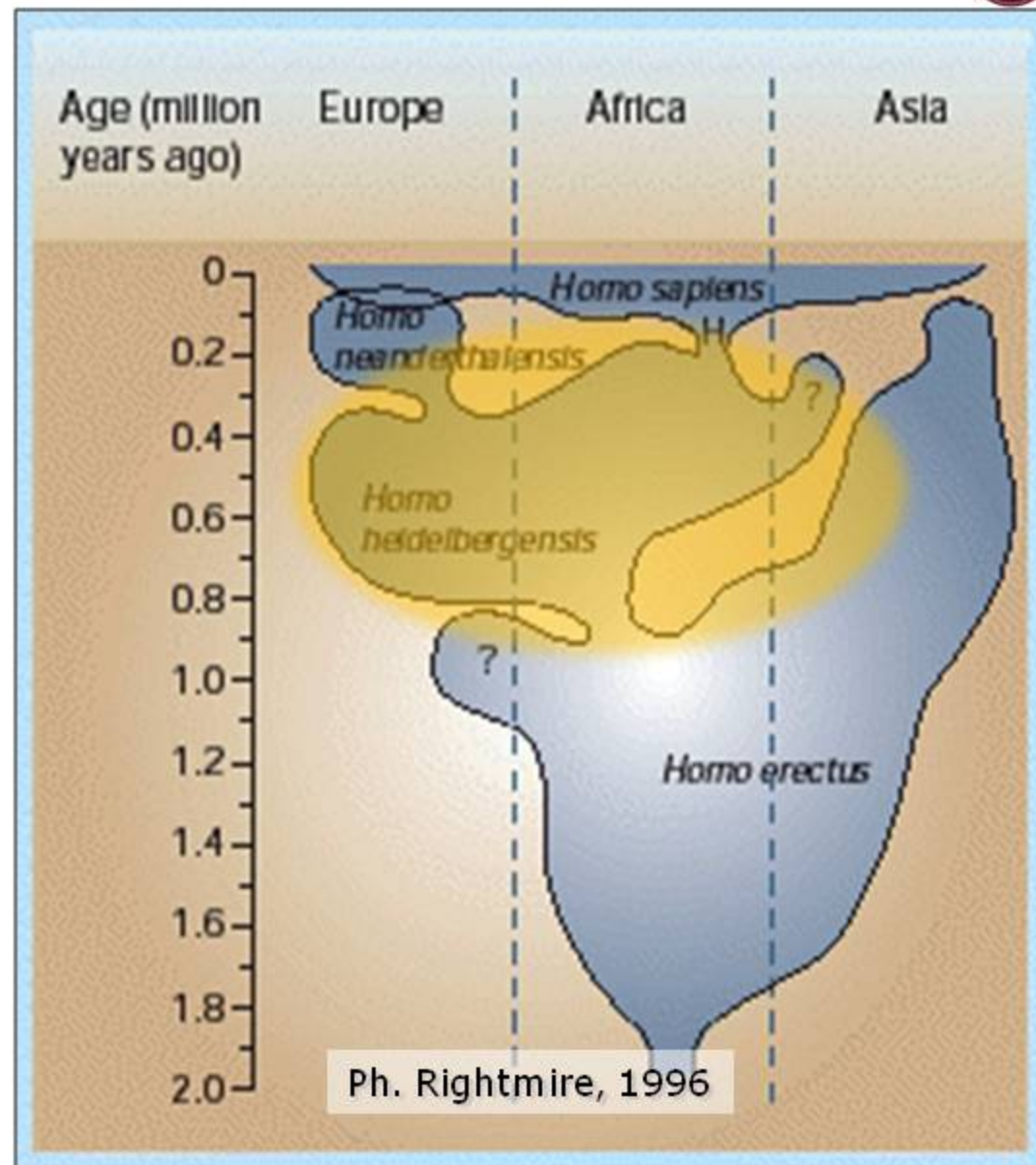
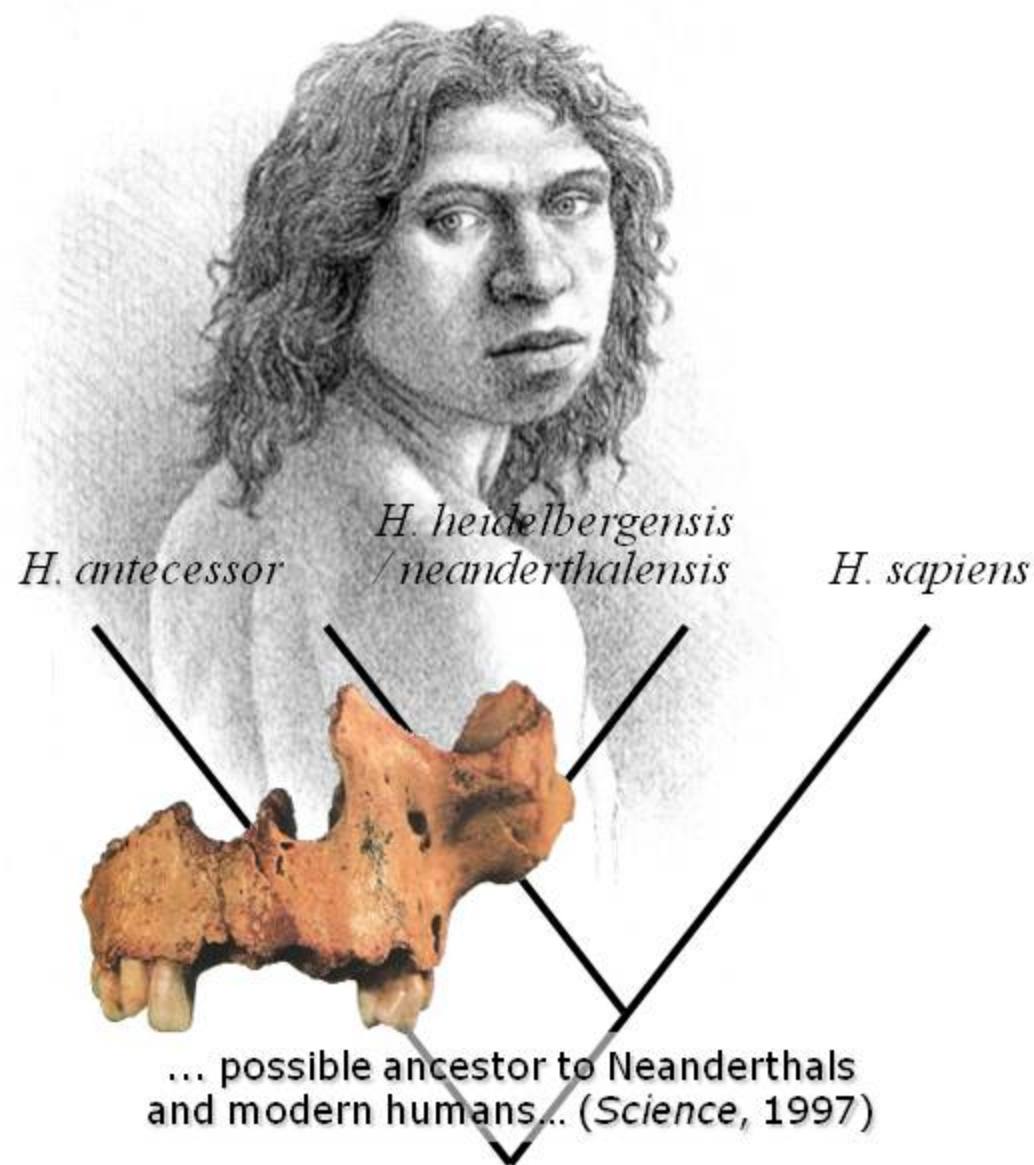
Homo antecessor

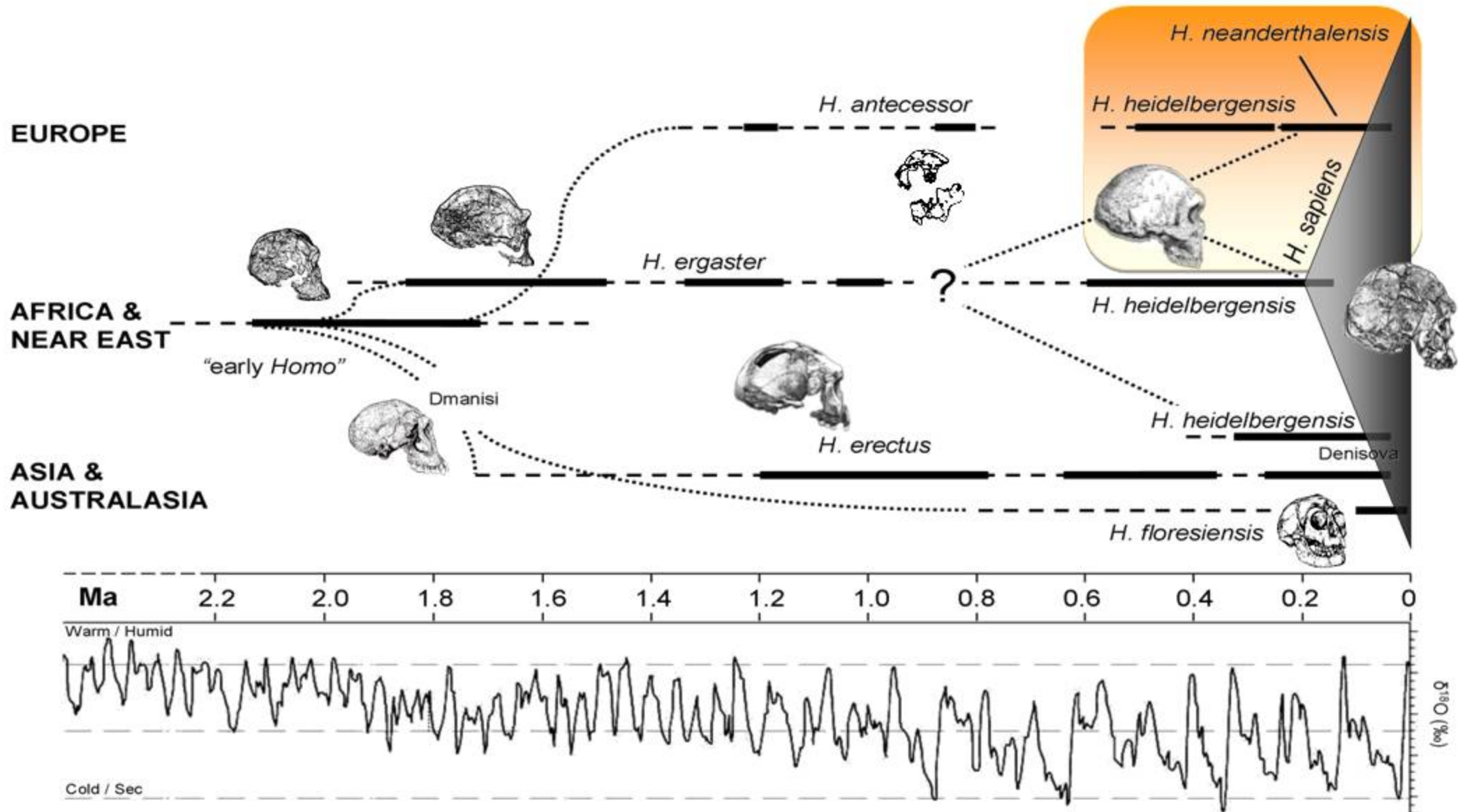
Marine isotope stage 16





Homo antecessor vs. Homo heidelbergensis





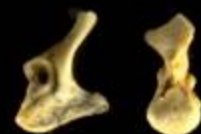
Sima de los Huesos (~400 ka)

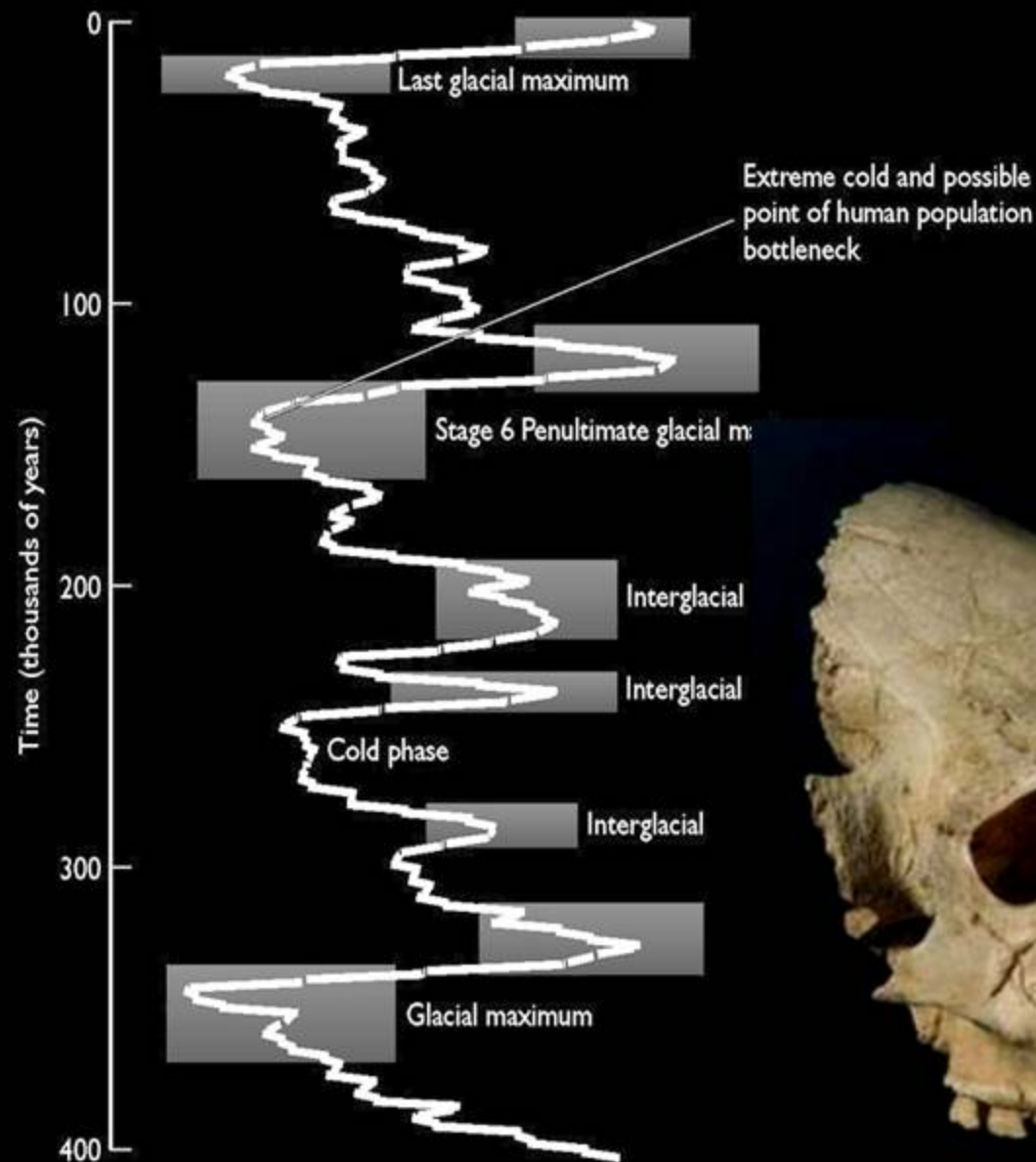
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nature
INTERNATIONAL WEEKLY JOURNAL OF SCIENCE

Nature 502 No. 7420 8 Oct 2013 £10.00





[humans in Europe] evolved
in partial or complete genetic
isolation from the rest of
humanity, through the gradual
accumulation of distinctive
morphological traits ...



Hawks & Wolpoff, 2001

Uno scheletro!

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Saccopastore (Roma) e Guattari (M. Circeo)

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Saccopastore 1
1929

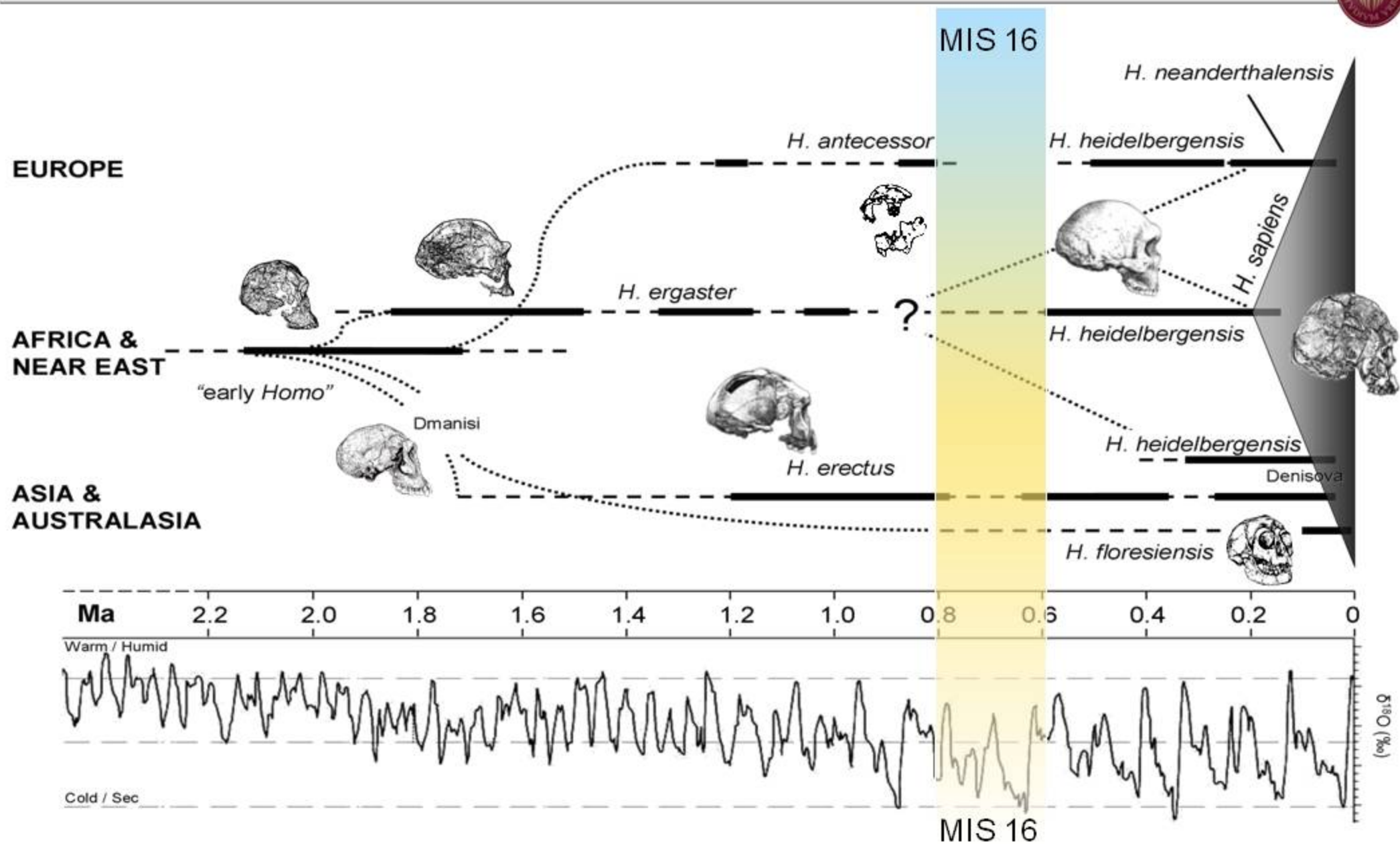


Guattari (Circeo) 1
1939



Saccopastore 2
1935

Marine isotope stage 16



The African "gap"



ER 3733

Daka



1,700,000 years

1,000,000 years

900 ka

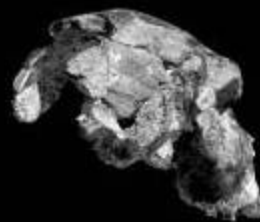
H. erectus/ergaster

Bodo

Kabwe

Herto

Qafzeh 9



500,000 years

100,000 years

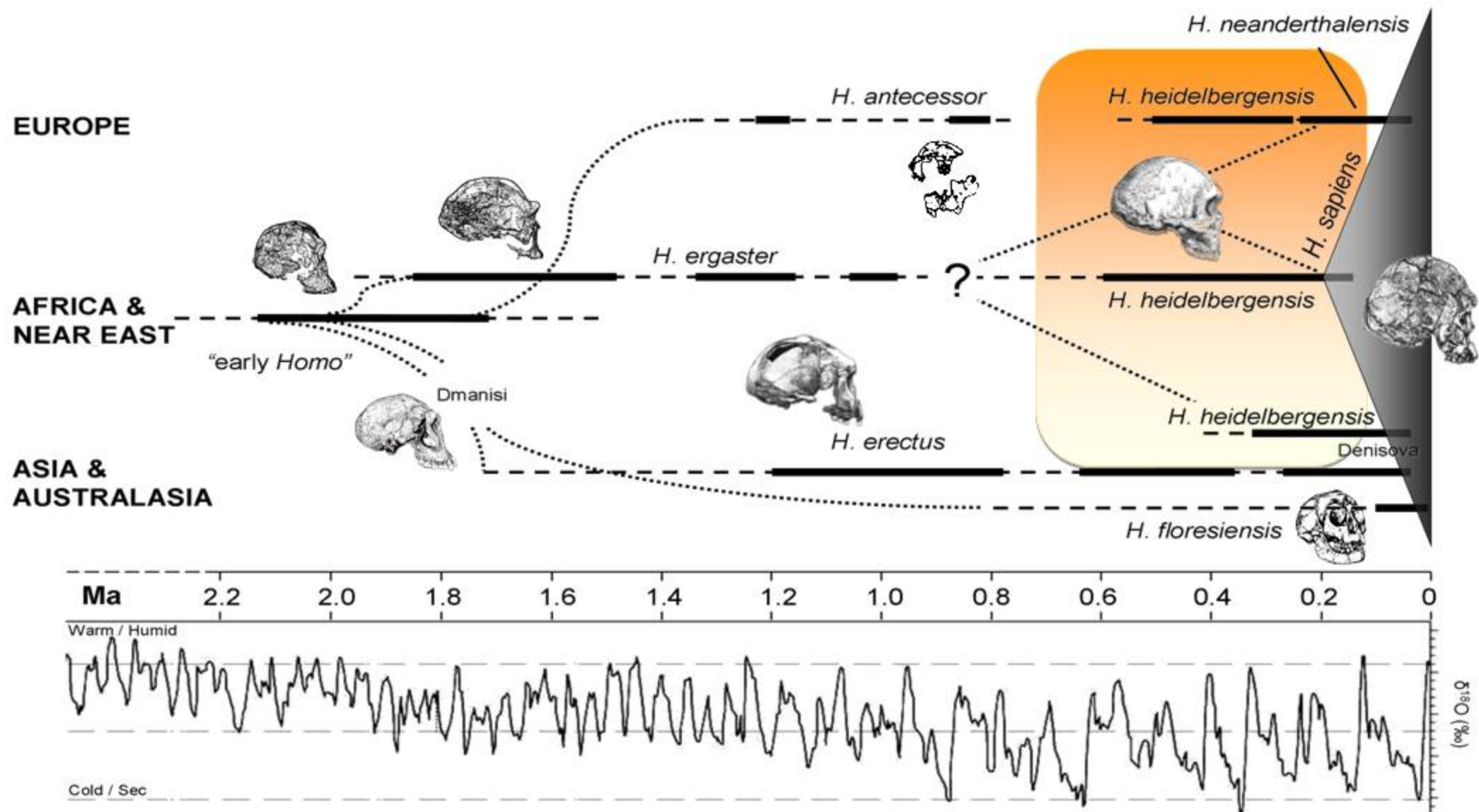
600 ka

H. heidelbergensis

H. sapiens



Homo heidelbergensis



Homo heidelbergensis

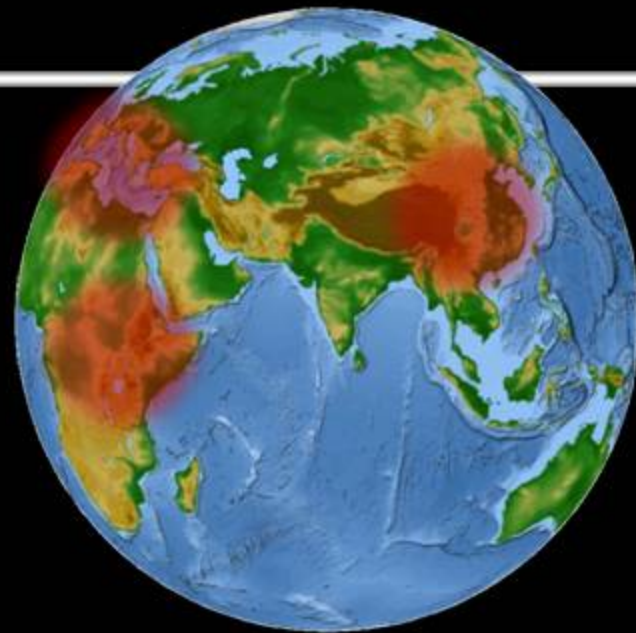
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Mauer, 1907



Homo heidelbergensis (Schoetensack, 1908)



Ceprano (Italy)



Petralona
(Greece)



Jinniushan (China)



Kabwe
(Zambia)



Ceprano: discrete features



Angulated occipital,
with torus and
supratotal sulcus

Large, thick
supraorbital ridge
with supraorbital sulcus
Mid-orbit discontinuity

Low cranial
vault

Angulated
(posterior view)
and gently curved
(lateral view) parietal

Opistocranium
coincident with inion

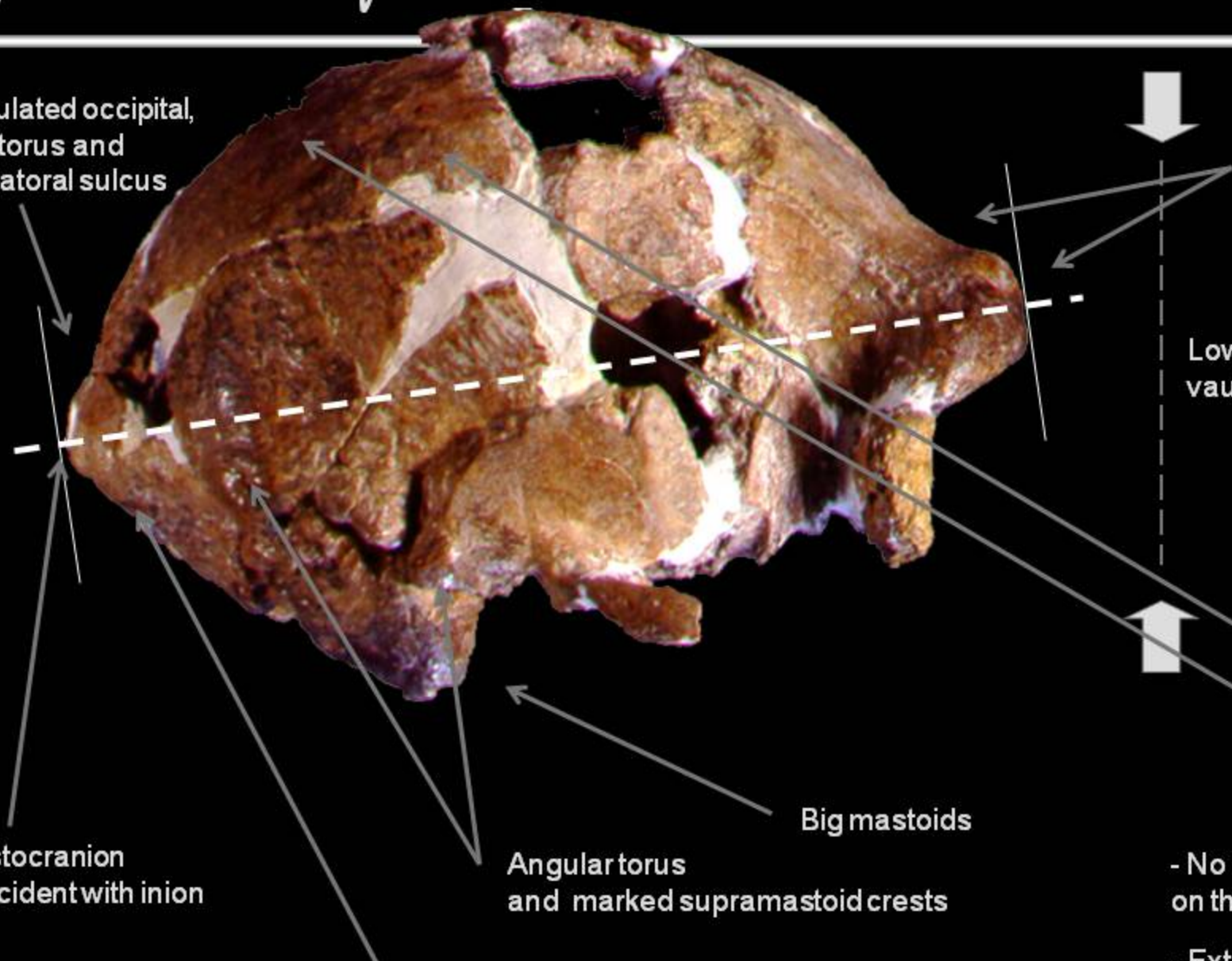
Angular torus
and marked supramastoid crests

Big mastoids

- No keel / ridges
on the vault

- Extremely
thick vault bones

Inion $\neq$ endinion

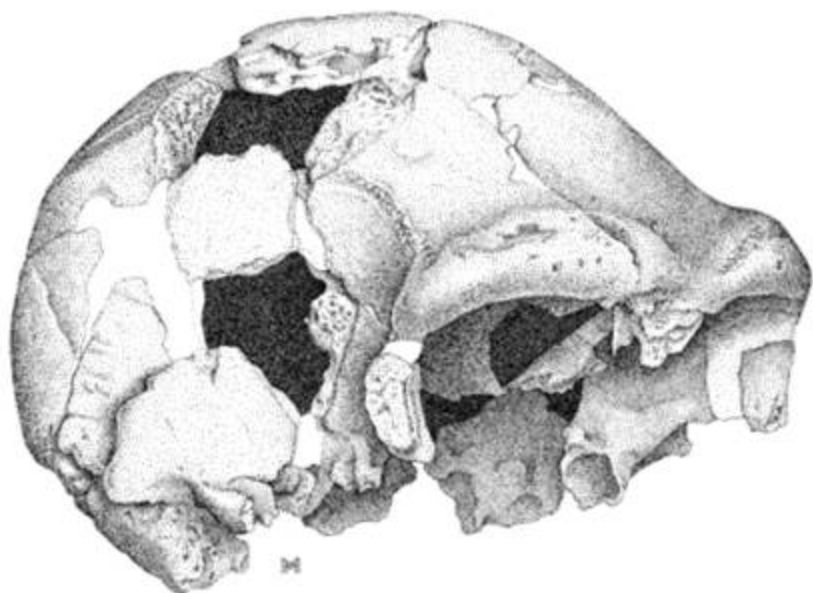


... like a "bridge"



Manzi, Mallegni & Ascenzi 2001

Proceedings of the National Academy of Sciences USA



Samples

ASIA

Sng. 2
Sng. 17
Zkd. III
Zkd. X
Zkd. XI
Zkd. XII
Ngd. 7

AFRICA

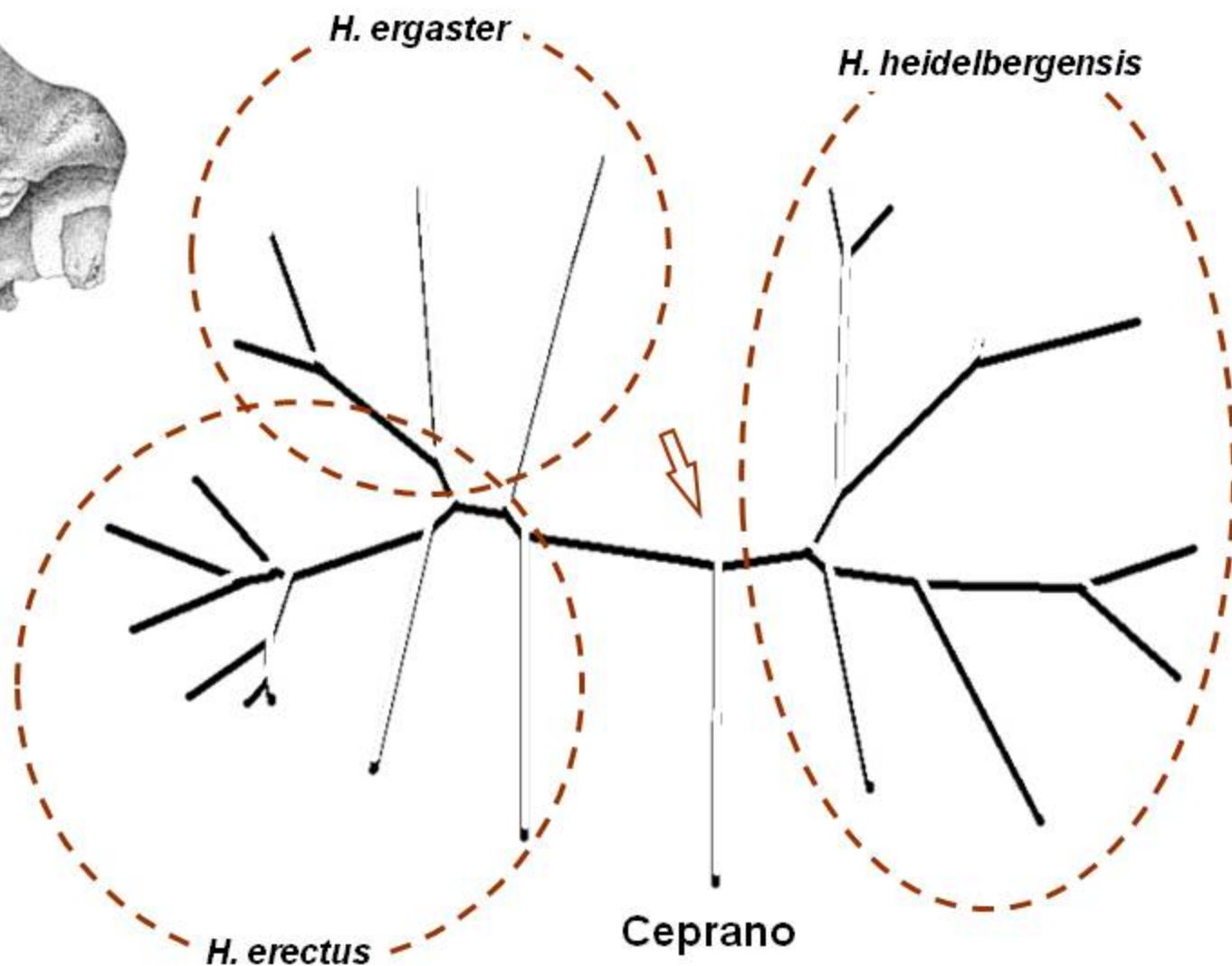
ER 3733
ER 3883
OH 9
Bodo
Kabwe
Saldanha

LEVANT

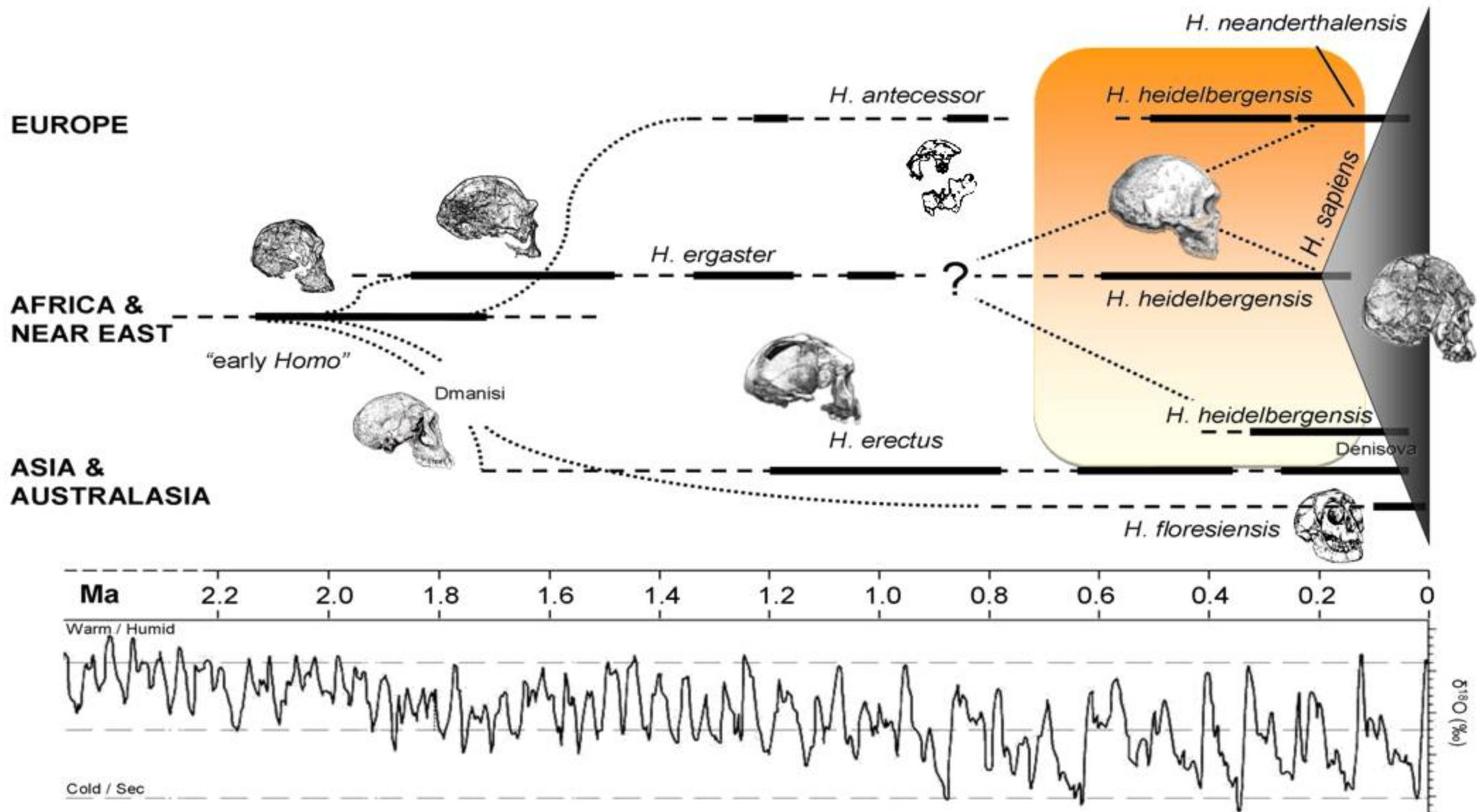
Dmn. 2280
Dmn. 2282

EUROPE

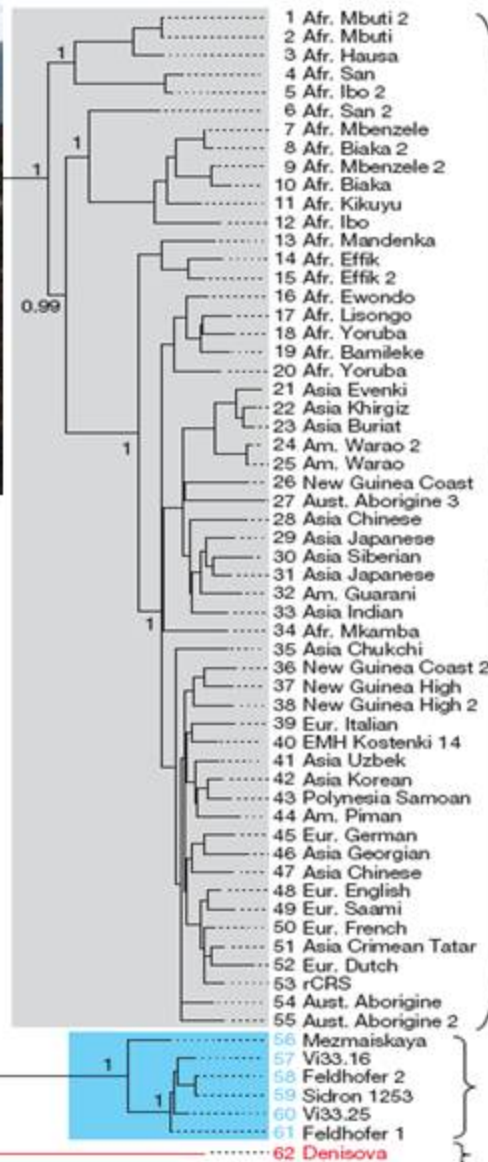
Arago
Ceprano
Steinheim
Petalona
At-SH Cr.4
At-SH Cr.5



Homo heidelbergensis

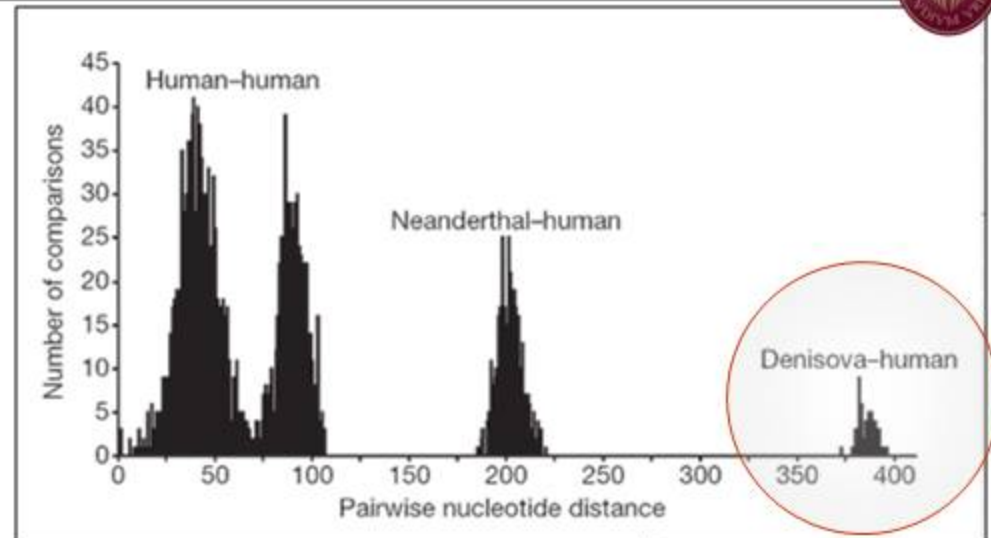


Denisova mtDNA

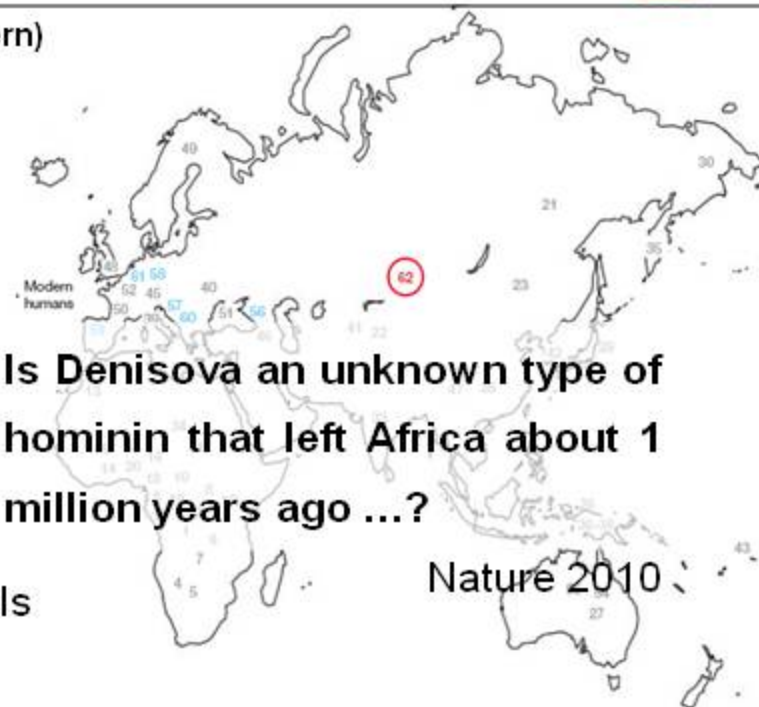


0,47 Ma

0,78 ka – 1,30 Ma



Humans (modern)



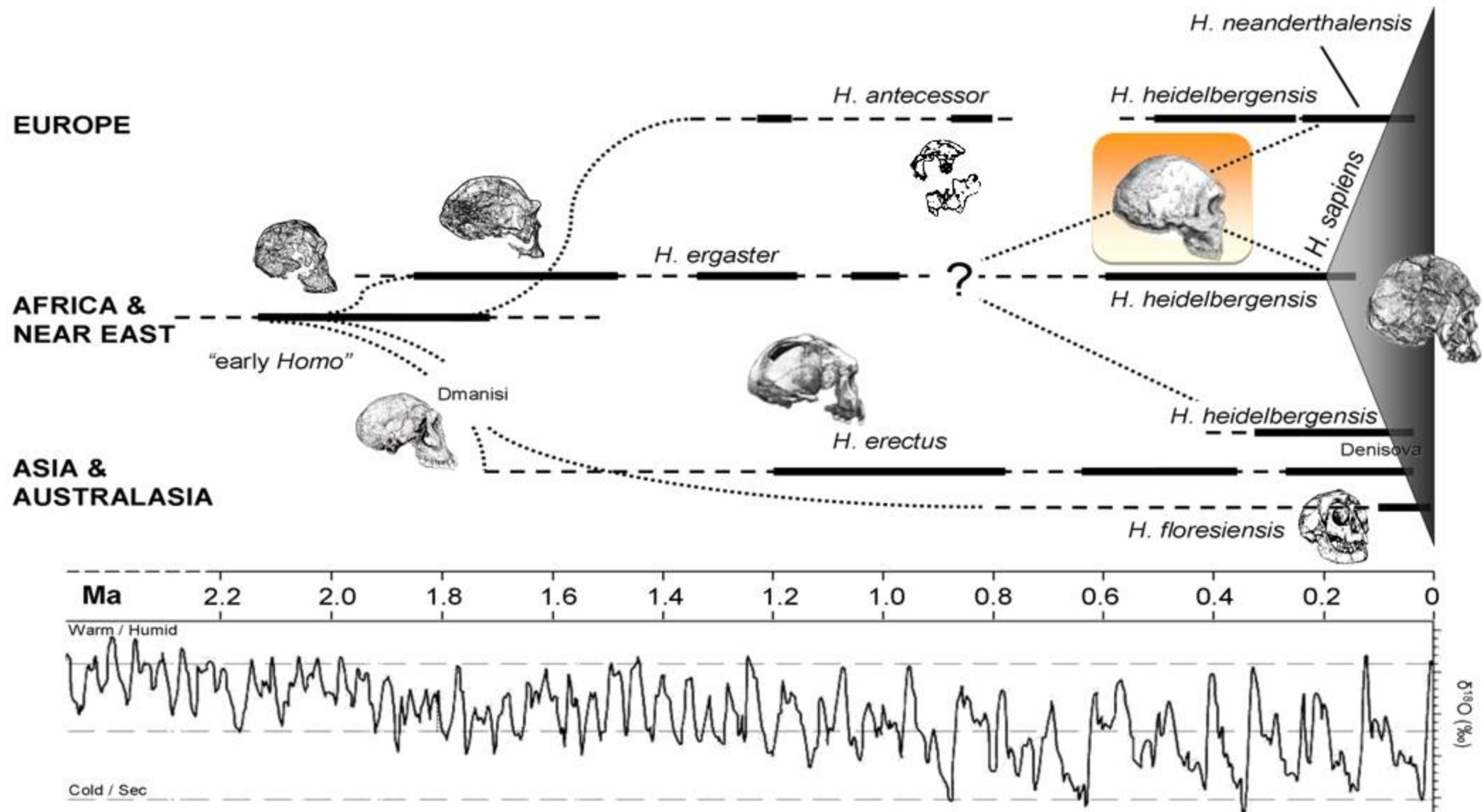
Is Denisova an unknown type of hominin that left Africa about 1 million years ago ...?

Neanderthals

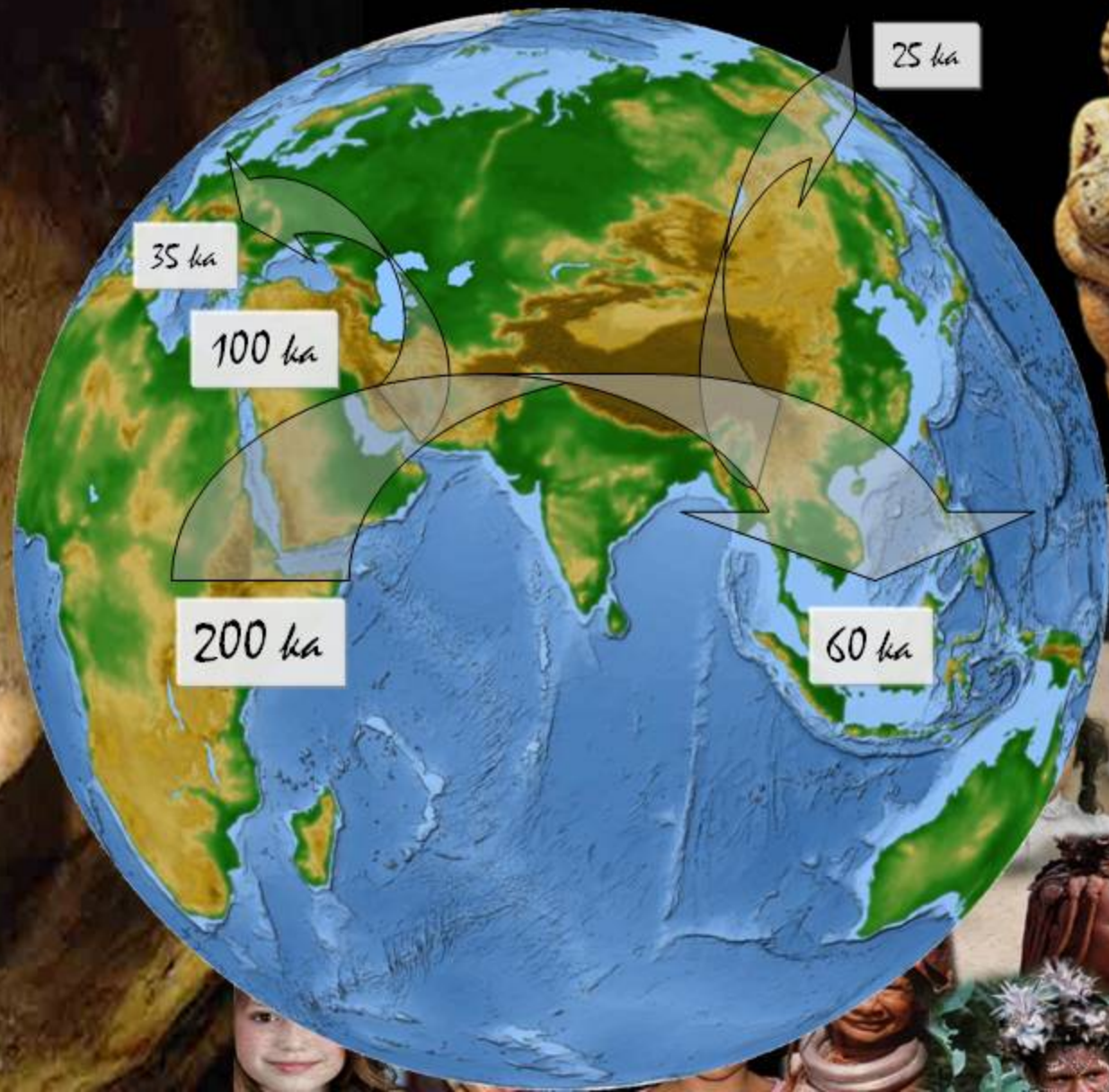
Denisova

Nature 2010

Neantertal/modern coalescence



Homo sapiens



Grazie!

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EUROPE

AFRICA &
NEAR EAST

ASIA



H. neanderthalensis

H. heidelbergensis

H. sapiens

H. heidelbergensis

H. heidelbergensis

Denisova

H. floresiensis

1.8 1.6 1.4 1.2 1.0 0.8 0.6 0.4 0.2 0

$\delta^{18}O$ (‰)

Cold / Sea