# INVITED LECTURE

# A FOCUS ON ITALY TO DISENTANGLE THE EARLIEST MIGRATION OF *HOMO SAPIENS* IN SOUTHERN EUROPE

Stefano BENAZZI

Department of Cultural Heritage, University of Bologna, Italy; stefano.benazzi@unibo.it

Compelling fossil and genetic evidence indicate that our species originated back before 300,000 years ago (ka) in Africa (Hublin et al., 2017; Lipson et al., 2020; Petr et al., 2020). Though, how we became the worldwide dominant, sole human species is a later story of dispersal, admixture and replacement that took place with archaic humans in Eurasia, where preexisting populations (e.g., Neanderthals, Denisovans) were assimilated in a web of gene flow (Pääbo, 2015; Slon et al., 2018).

Recent paleogenomic studies signal interbreeding between Neanderthals and *H. sapiens* took place before 200 ka (Posth et al., 2017). Likewise, the fossils from Misliya, Israel (Hershkovitz et al., 2018), and Apidima, Greece (Harvati et al., 2019), identified as early *H. sapiens*, concur to support their expansion into the Levant and Europe before 200 ka. However, it appears that these first waves of Sapiens were unable to establish themselves permanently in Eurasia.

Then, more successful waves of Sapiens out of Africa into Eurasia occurred between 60 and 40 ka. A partial cranium from Manot cave (Israel) attests *H. sapiens* in the Levant ca. 55 ka (Hershkovitz et al., 2015), and human remains from western Siberia, East and Southeast Asia document a rapid dispersal of Sapiens in Eurasia ca. 45 ka (e.g., Fu et al., 2014; Higham et al., 2008).

In Europe this period (ca. 50-40 ka, also referred to as the Middle-to-Upper Paleolithic Transition) documents dramatic changes in human behavior and the appearance of various technocomplexes (e.g., the Châtelperronian in central and southwestern France and northern Spain, the Uluzzian in Italy and Greece) that replaced pre-existing Mousterian cultures. Some scholars (e.g., Mellars, 2005) have suggested that these changes, coinciding with the origins of modern human behavior in Europe, are directly related to the appearance and dispersal of Sapiens. Other scholars postulate that cultural innovations were either independently achieved by Neanderthals, and that Sapiens entered Europe after Neanderthals had disappeared (d'Errico et al., 1998; Zilhão, 2007), or were produced by late Neanderthals as a result of some level of cultural diffusion from Sapiens to Neanderthals (Hublin et al., 2012).

In this debate, Italy plays a pivotal role for 1) its geographic position and ecological variability at the intersection between eastern and western Mediterranean Europe, 2) the important archaeological sites dating to the transitional period, 3) the presence of transitional and early Upper Paleolithic cultures (e.g., the Uluzzian) and 4) the presence of human fossil remains associated with these technocomplexes (Fig. 1).

Here, I'll present results obtained for Italy between 50-40 ka in the framework of my ERC CoG grant SUCCESS (n. 724046), where we support the attribution of the Uluzzian to *H. sapiens*, and how these results can contribute to disentangling the earliest migration of *H. sapiens* in southern Europe.

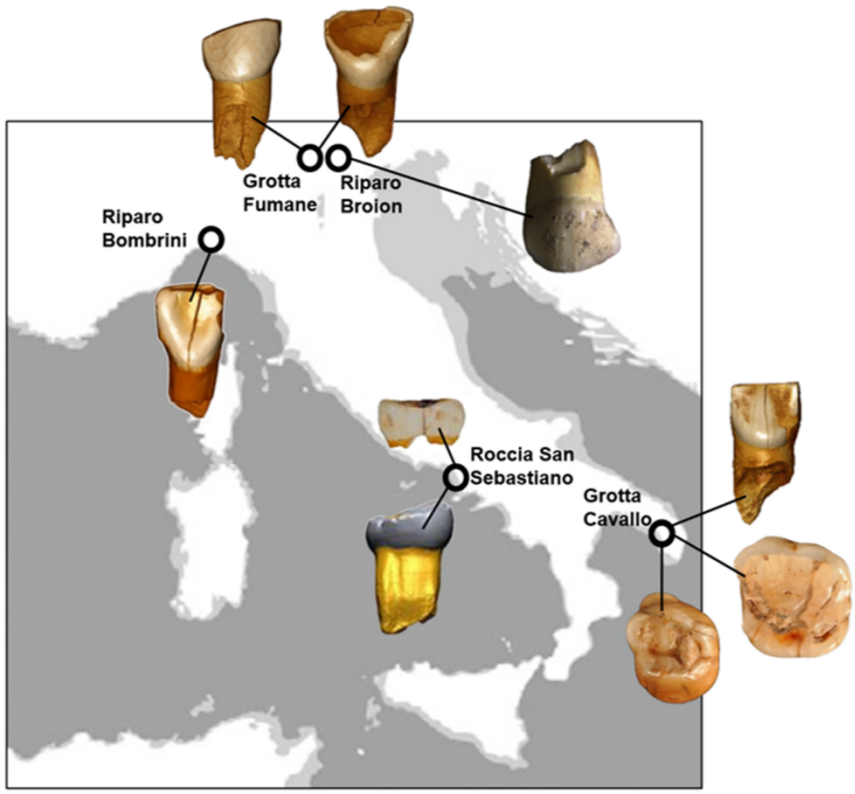


**Fig. 1** The Italian human fossil record between 50-40 ka

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