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# Reassessing diagnostic postcranial traits in Pleistocene elephants: evidence from *Palaeoloxodon antiquus* and *Mammuthus* in Italy

Dario Stefanelli, Maria Marino, Beniamino Mecozzi, Raffaele Sardella, Andrea Zazzera, and Marco P. Ferretti

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The fossil elephant remains from the lower Middle Pleistocene site of Contrada Monticelli (Apulia, southern Italy) are described here in detail for the first time. The material, consisting of dental and postcranial bones from a single individual, was analyzed both morphologically and morphometrically. Estimates of shoulder height and body mass were calculated for the specimen. Based on dental characters, the Contrada Monticelli elephant is assigned to *Palaeoloxodon antiquus*. A comparative analysis with *Mammuthus* and *Palaeoloxodon* specimens from the Lower and Middle Pleistocene of Italy indicates the Contrada Monticelli individual represents a medium-sized, old male straight-tusked elephant. The comparative study also demonstrated that several morphological traits of the humerus, ulna, femur, and tibia, previously proposed as diagnostic in distinguishing between *Mammuthus* and *Palaeoloxodon* , are not consistent when intraspecific variability is taken into account. Furthermore, the morphometric analyses revealed no significant differences in size and proportions of the studied limb bones between *Mammuthus meridionalis* and *Palaeoloxodon antiquus* that would allow for a reliable discrimination between the two taxa. The Contrada Monticelli elephant represents one of the few known European straight-tusked elephant skeletons dated to the interval between 0.8 and 0.5 million years ago, corresponding to the dispersal of the genus into Eurasia, and contributes to a better understanding of the biochronological, paleoecological, and paleobiogeographical context of the early evolution of *Palaeoloxodon* in Europe.

**Key words:** Elephantidae, *Palaeoloxodon* , morphology, anatomy, Middle Pleistocene, Mediterranean Europe, Italy, Contrada Monticelli.

Dario Stefanelli [dario.stefanelli@uniba.it; ORCID: https://orcid.org/0000-0002-6601-1875], Maria Marino [maria. marino@uniba.it; ORCID: https://orcid.org/0000-0001-6239-0786 ] and Andrea Zazzera [andrea.zazzera94@gmail. com; ORCID: https://orcid.org/0000-0001-7989-5449 ], Dipartimento di Scienze della Terra e Geoambientali, Università degli Studi di Bari Aldo Moro, Campus universitario, via Orabona 4, 70126, Bari, Italy. Beniamino Mecozzi [beniamino.mecozzi@uniroma1.it

; ORCID: https://orcid.org/0000-0002-7097-3217], Dipartimento di Biologia Ambientale, Sapienza Università di Roma, Piazzale Aldo Moro 5, I-00185, Rome, Italy. Raffaele Sardella [raffaele.sardella@uniroma1.it ; ORCID: https://orcid.org/0000-0002-9752-6281], Dipartimento di Scienze della Terra, laboratorio PaleoFactory, Sapienza Università di Roma, Piazzale Aldo Moro 5, 00185, Roma, Italy. Marco P. Ferretti [marcopeter.ferretti@unicam.it ; ORCID: https://orcid.org/0000-0002-9660-628X], Sezione di Geologia, Università degli Studi di Camerino, Via Gentile III da Varano 7, I-62032, Camerino (Macerata), Italy.

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