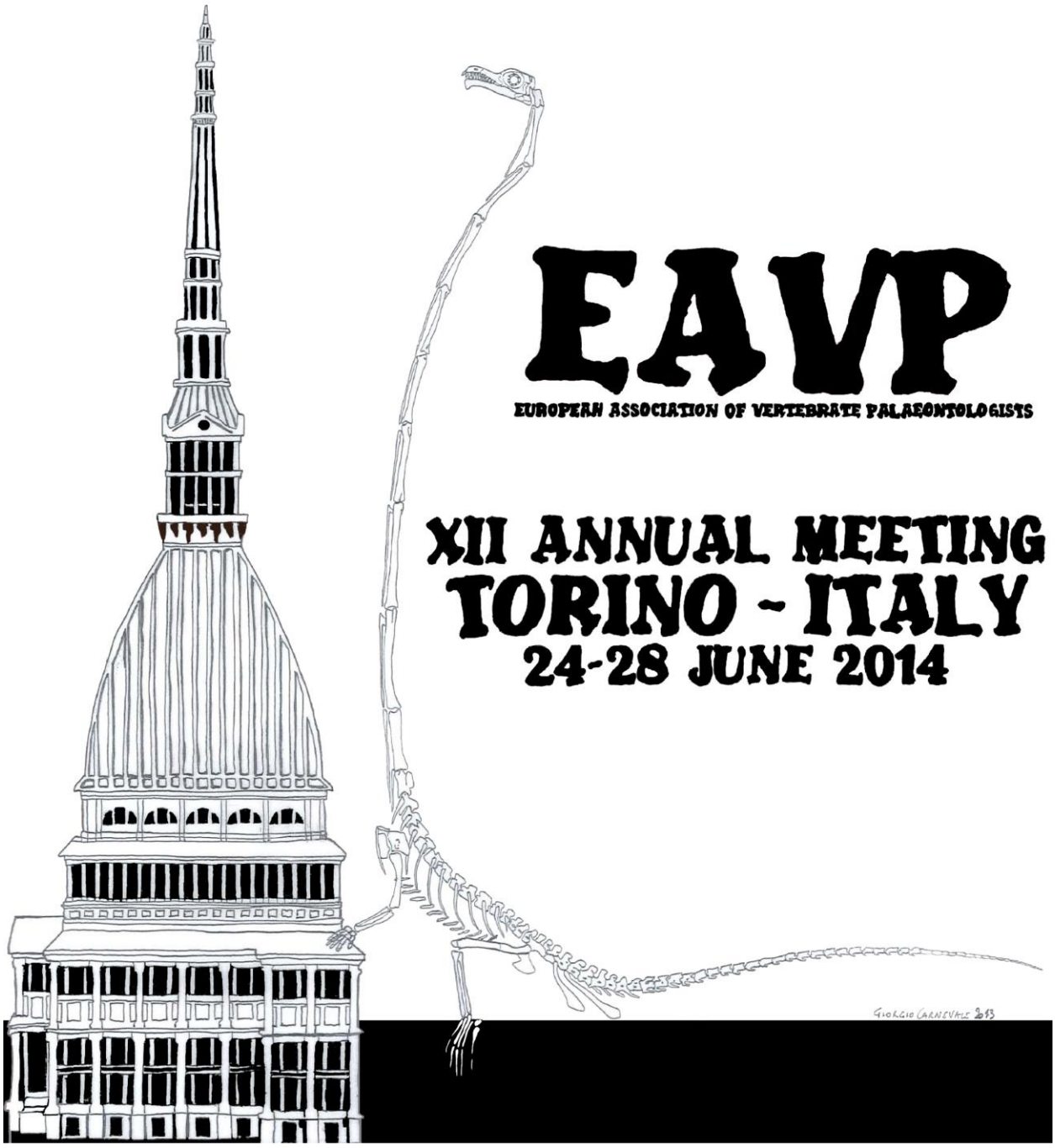
Abstract Book and Field Trip Guide



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SAUROPOD BODY FOSSILS IN EUROPE: OVERVIEW AND CURRENT ISSUES

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The very first sauropod taxa described in the world were the basal eusauropod *Cetiosaurus* and the tooth-based *Cardiodon*, from the Jurassic of England, UK. Since then new discoveries have led to a large European sauropod fossil record, including more basal forms from England (*Cetiosaurus*, *Cetiosauriscus*), France (‘*Bothriospondylus*’), and diverse turiasaurs from Portugal and Spain. However, many uncertainties concerning the systematics of some specimens exist; partly due to little knowledge existing on early eusauropod evolution in the Jurassic, but also due to the fragmentary nature of many of these finds.
Recent revisions of *Cetiosaurus* from England, as well as material from France and Switzerland, provide a better understanding of the distribution and taxonomy of these sauropods, and could possibly exclude some taxa from Eusauropoda, aiding in finding more valid synapomorphies of the clade. With this information, other basal eusauropods (from outside of Europe) can be revised and the early evolution and radiation of sauropods from the Early Jurassic onwards may be better understood.
Concerning the fragmentary dental material known from basal sauropods, enamel wrinkling pattern proved to be useful to distinguish morphotypes in Argentinian eusauropods, and can probably serve as well as a tool to assess taxonomic diversity of European sauropods.
A more diverse European record exists of more derived sauropods, particularly from Spain and Portugal, but also from Germany, Romania, and France. This high diversity in the Late Jurassic and Cretaceous is probably due to the patchy distribution of islands and shallow sea during those periods, resulting in diverging evolutionary trends. Indeed, Europe provides unique evidence for island dwarfing in sauropods, which are *Europasaurus* from the Upper Jurassic of Germany and *Magyarosaurus* from the Upper Cretaceous of Romania. In contrast, some of the largest sauropods in the world are known from the Upper Jurassic and Lower Cretaceous of Spain and Portugal.
Recent revisions of Portuguese taxa show a rich diversity of neosauropods including diplodocids, camarasaurids and basal titanosauriforms. The sauropod fauna of the Lourinhã Formation is thus very similar to the contemporary Morrison and Tendaguru Formations in the USA and Tanzania, respectively. Early Cretaceous taxa are mainly known from Spain, whereas Late Cretaceous forms were found in a number of European countries.
In total, 25 genera and species are considered valid in Europe. Representatives from all major subgroups other than Dicraeosauridae are present, and taxa are known from the Early Jurassic (*Ohmdenosaurus*) to the Late Cretaceous (*Magyarosaurus, Ampelosaurus*), covering nearly the entire period of sauropod evolution.