



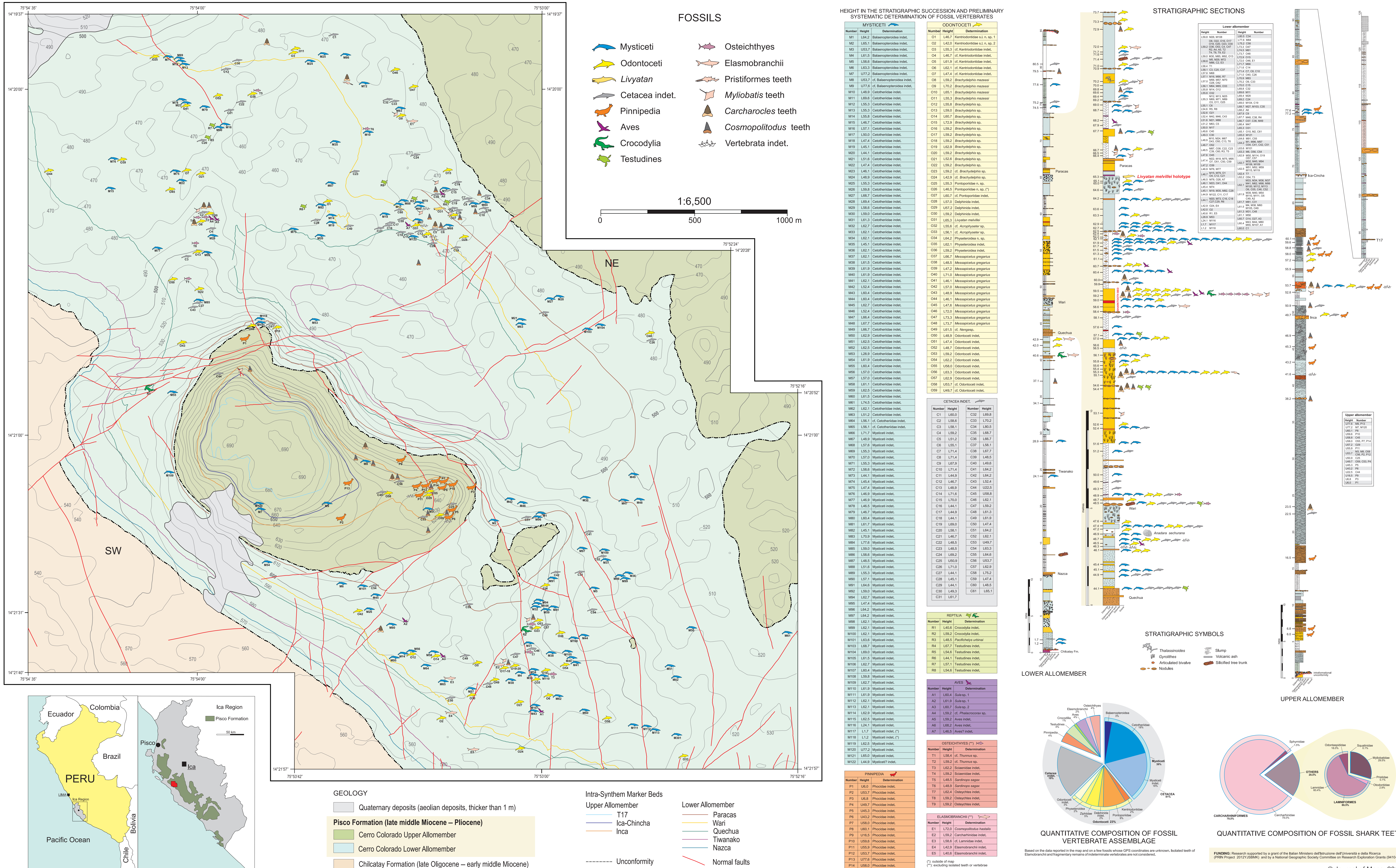
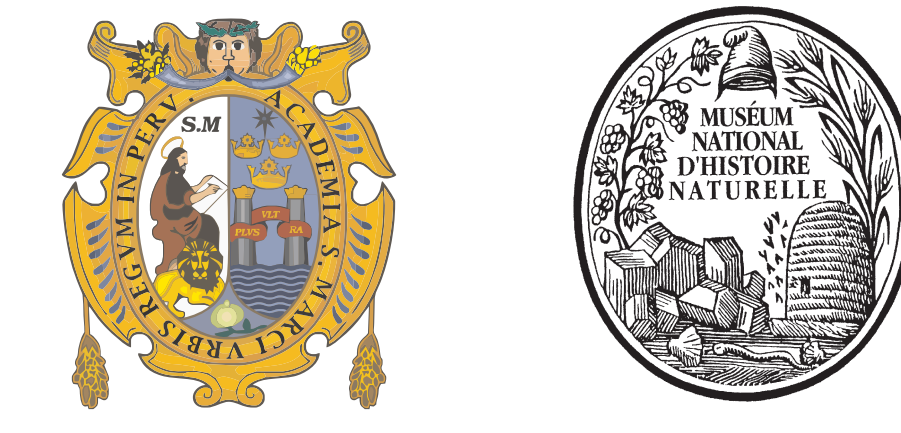
Fossil Marine Vertebrates in Cerro Colorado

The Type Locality of the Giant Raptorial Sperm Whale *Livyatan melvillei* (Miocene, Pisco Formation, Peru)

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Giovanni Bianucci¹, Claudio Di Celma², Walter Landini³, Klaas Post⁴, Chiara Tinelli⁵, Christian de Muizon⁶, Karen Gariboldi⁶, Elisa Malinverni⁶, Gino Cantalamessa⁷, Anna Gioncada⁸, Alberto Collareta^{9,10}, Rodolfo Salas-Gionda¹¹, Rodolfo Salas-Gionda¹¹, Rafael Varas-Malca¹², Mario Urbina¹³, Olivier Lambert¹⁴

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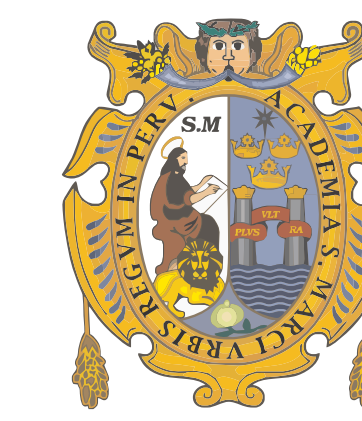
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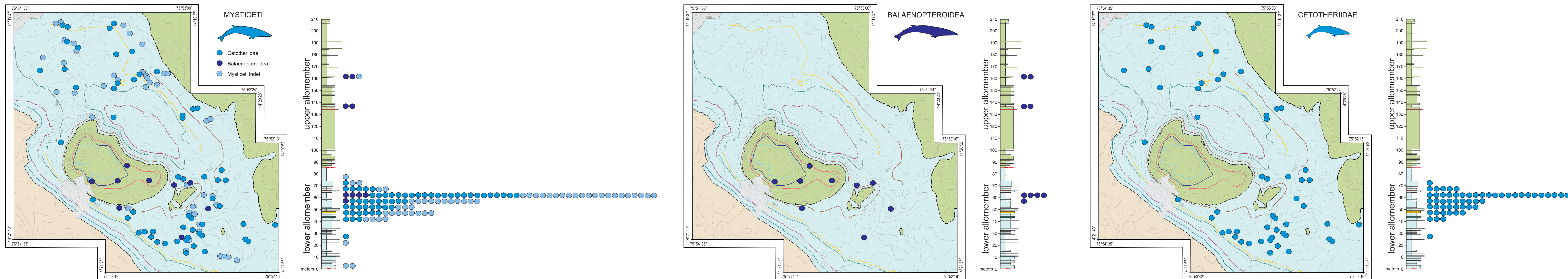
Page 2

Giovanni Bianucci^a, Claudio Di Celma^b, Walter Landini^a, Klaas Post^c, Chiara Tinelli^a, Christian de Muizon^d, Karen Gariboldi^a, Elisa Malinverno^e, Gino Cantalamessa^a, Anna Giocada^a, Alberto Collareta^{a,g}, Rodolfo-Salas Gismondi^a, Rafael Varas-Malca^a, Mario Urbina^a, Olivier Lambert^f

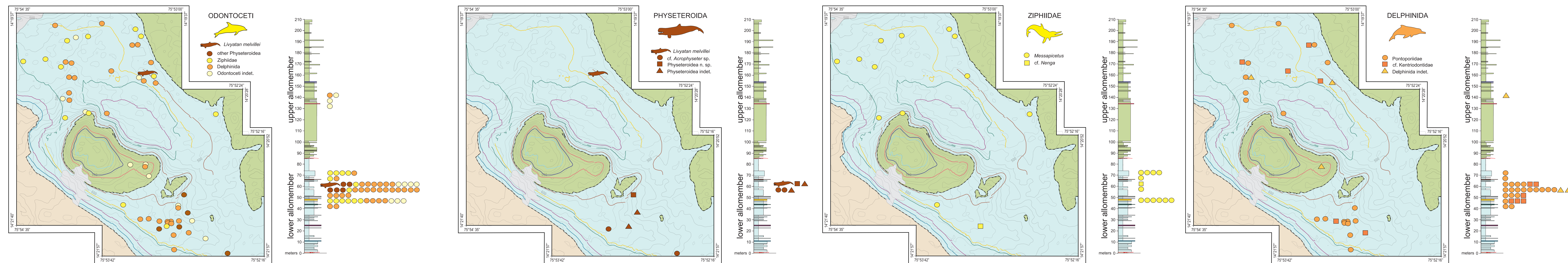
^aDipartimento di Scienze della Terra, Università di Pisa, Pisa, Italy; ^bScuola di Scienze e Tecnologia, Università di Camerino, Camerino, Italy; ^cNatuurhistorisch Museum Rotterdam, Rotterdam, The Netherlands; ^dDépartement Histoire de la Terre (CRP - CNRS, MNHN, UPMC, Sorbonne Université) Muséum national d'Histoire naturelle, Paris, France; ^eDottorato Regionale in Scienze della Terra Pegaso, Pisa, Italy; ^fDipartimento di Scienze dell'Ambiente e del Territorio e di Scienze della Terra, Università di Milano-Bicocca, Milan, Italy; ^gDepartamento de Paleontología de Vertebrados, Museo de Historia Natural-UNMSM, Lima 14, Peru; ^hInstitut royal des sciences naturelles de Belgique, D.O. Terre et Histoire de la Vie, Brussels, Belgium



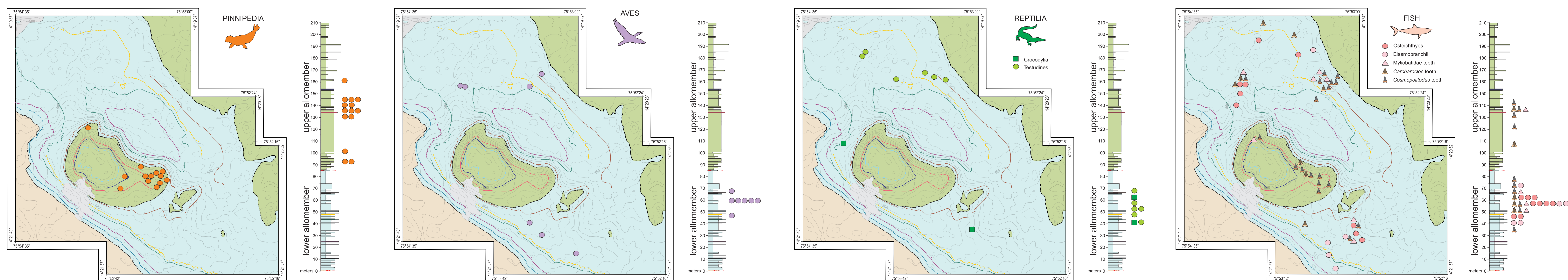
MYSTICETI



ODONTOCETI



OTHER VERTEBRATA

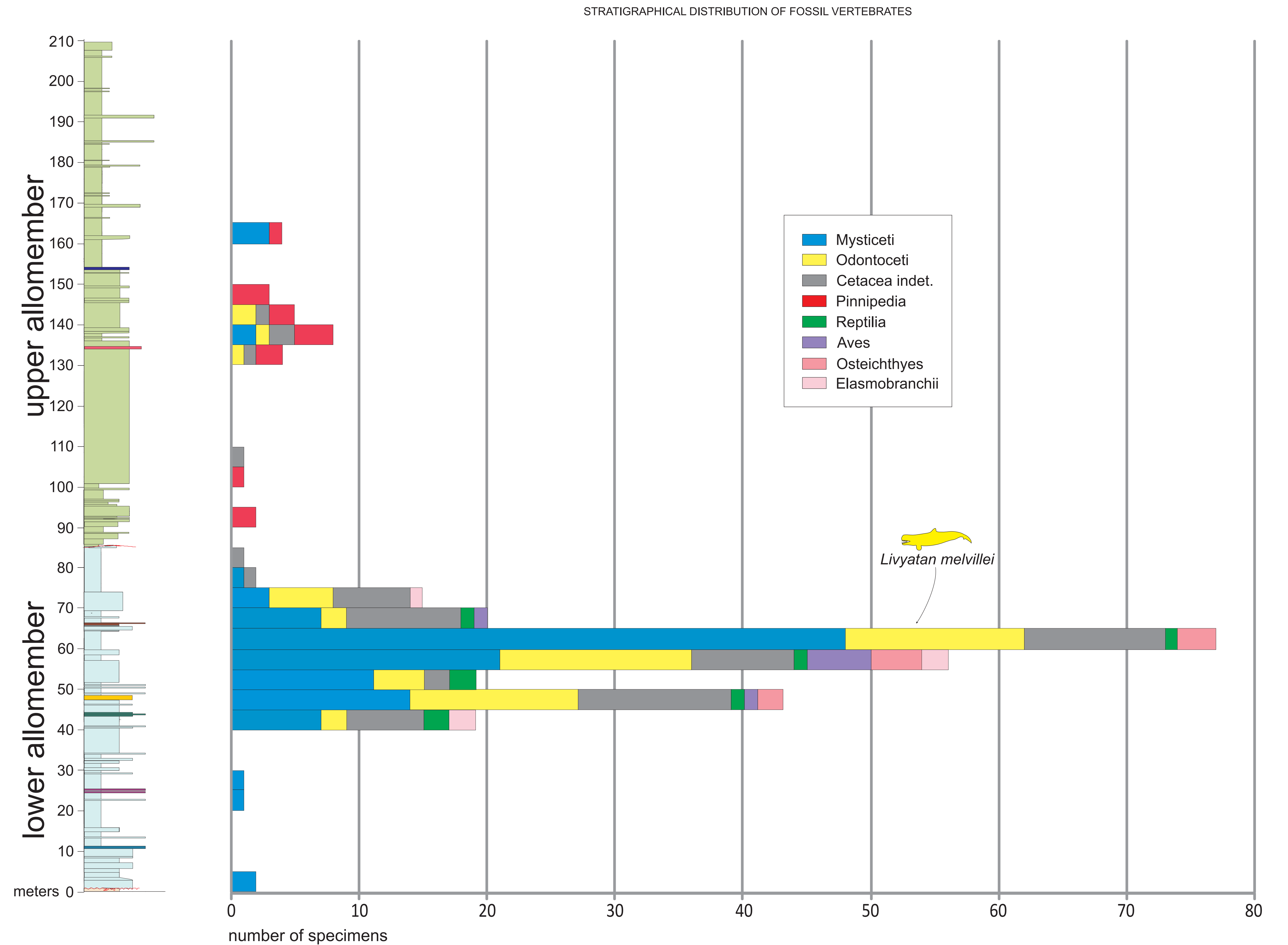
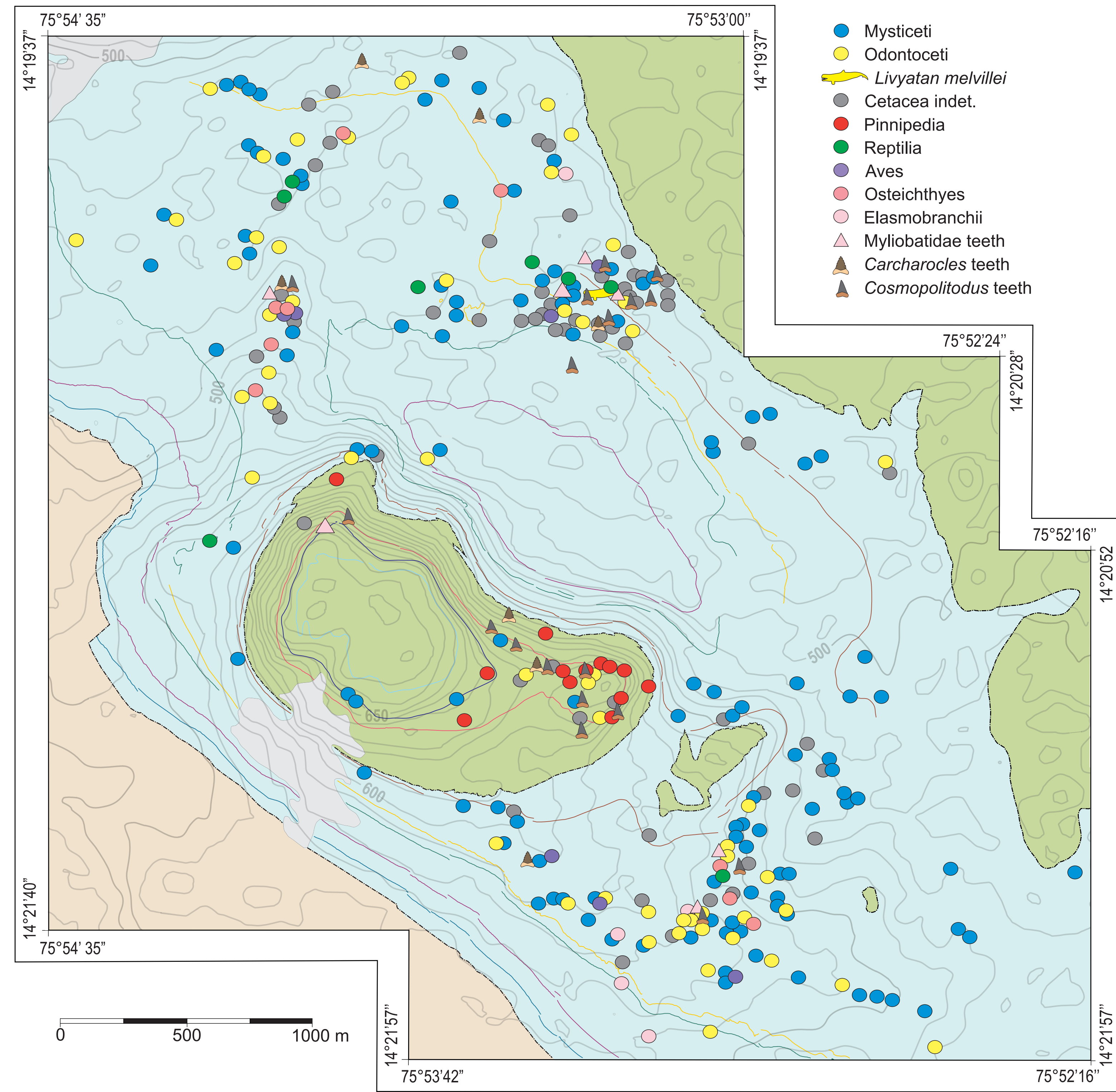


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Quaternary deposits (aeolian deposits, thicker than 1 m)

Pisco Formation (late middle Miocene – Pliocene)

- Cerro Colorado Upper Allomember
- Cerro Colorado Lower Allomember
- Chilcatay Formation (late Oligocene – early middle Miocene)

Intra-Synthem Marker Beds

Upper Allomember

- T17
- Ica-Chincha
- Inca

Lower Allomember

- Paracas
- Wari
- Quechua
- Tiwanako
- Nazca

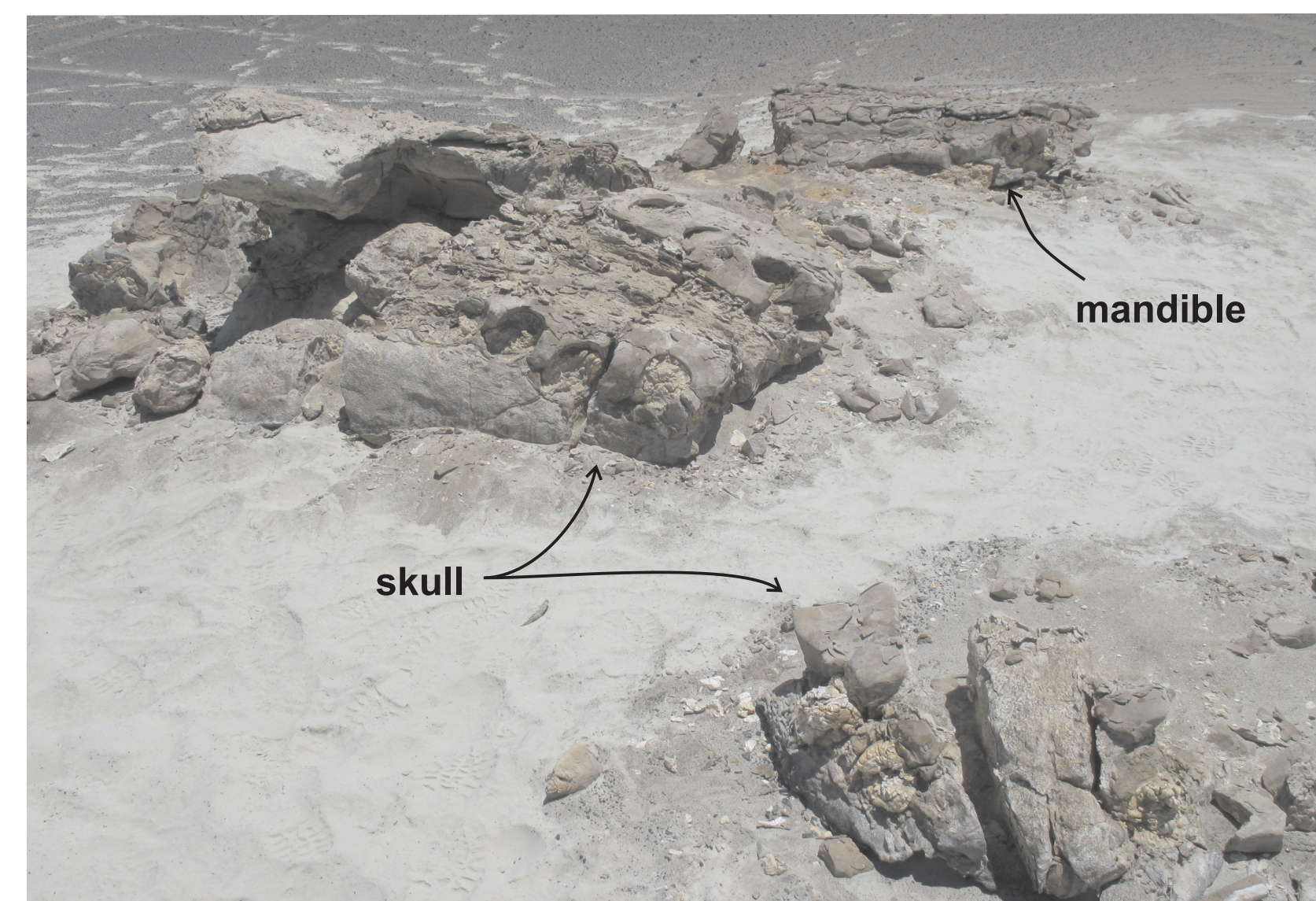
----- Unconformity



Complete and articulated skeletons of a cetotheriid mysticete



Complete and articulated skeleton of a kentriodontid-like delphinoid



Skull and mandible of the holotype of the physeteroid *Livyatan melvillei*



Skull and partial skeleton of the sea turtle *Pacificchelys urbinae*



Associated shark teeth belonging to the same individual of *Cosmopolitodus hastalis*