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A revised suprageneric classification of American orthophragminids

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Paleocene orthophragminids from the American bioprovince were studied from the Nonsuch Formation in Jamaica and the Salt Mountain Limestone in Alabama. Species, traditionally assigned to Athecocyclina Vaughan, Neodiscocyclina Caudri and Hexagonocyclina Caudri, are redescribed and a new systematic classification of American orthophragminids is proposed based on the newly discovered microspheric forms of Paleocene species of Hexagonocyclina and Neodiscocyclina and Eocene Stenocyclina Caudri. Hexagonocyclina, questionably placed in the Orbitoclypeidae Brönnimann in previous works, possesses an orbitoclypeid-type microspheric juvenarium justifying its placement in this family, whereas Stenocyclina and Pseudophragmina are transferred to Discocyclinidae Galloway after identifying the discocyclinid-type microspheric juvenarium. The genus Proporocyclina Vaughan & Cole is considered as invalid and is assigned to Pseudophragmina. The genus Neodiscocyclina Caudri, possessing orbitoclypeid-type juvenarium, is interpreted as a junior synonym of Orbitoclypeus Silvestri, a genus widely occurring in the Tethys. Athecocyclina has a typical discocyclinid-type microspheric juvenarium and is characterized by the development of immature radial subdivisions in the annular chambers, which never form complete septula.