The subfamily Gonyleptinae is composed by 38 genera and 144 species, which occur mainly in the Atlantic Rain Forest domain. No synapomorphy is known to support the group. The phylogenetic relationships of eighteen genera of Gonyleptinae, represented by their type-species, are studied. More species and more characters will be included in future analyses. Seven species were used as outgroups: Caelopygus elegans (Perty, 1833), Hernandaria heliae (H. Soares, 1945), Progonyleptoidellus striatus (Roewer, 1913) and Sodreana sodreana Mello-Leitão, 1922 represent the four subfamilies closest to Gonyleptinae. The parsimony analysis was based in 36 morphological characters. Analysis was performed in NONA and all characters were equally weighted. Six trees of 131 steps (CI = 4, RI = 55) have been found. This analysis showed Gonyleptinae as a polyphyletic group. Hoggellula vallentini (Hogg, 1913), from Falklands Islands, and Oxapampeus weyrauchi Roewer, 1916, from Peru, do not belong to the groundplan of the Gonyleptinae-like branch. Neosadocus Mello-Leitão, 1926 is phylogenetically closest to Sodreaninae species, while Parampheres Roewer, 1913 and Sphaerobunus Roewer, 1917 are closest to Progonyleptoidellinae species. Megapachylus Roewer, 1913, Metagonyleptes Roewer, 1913 and Mischonyx Bertkau, 1880 form a monophyletic group along with Hernandariinae. The species of Gonyleptes Kirby, 1813 represent the typical Gonyleptinae groundplan, besides being one of the most common groups of the Atlantic Rain Forest. The branch Gonyleptellus + Gonyleptes + Collonychium is well supported. The position of Geraecormobius Holmberg, 1897 as its sister group is unclear, but it is probably an artifact of a preliminary analysis. The Gonyleptinoids clade (Caelopyginae, Gonyleptinae, Hernandariinae, Progonyleptoidellinae and Sodreaninae) is confirmed.

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