Three stratigraphic sections, two of them entirely new, were sampled in the central part of the Moroccan High-Atlas, between the localities of Rich, Errachidia and Boudenib. More than 1200 ammonites were collected bed by bed from Upper Sinemurian strata, which permitted the recognition of the Obtusum, Oxynotum and Raricostatum zones. The classical section of Jbel Bou Hamid (Dubar, 1962; Rakus, 1994; Lachkar et al., 1998; Wimsen et al., 2002) was studied in great detail in order to correlate the different sections published in the literature, spanning the interval between the last *Arnioceras* beds and the base of the Carixian. These data were confirmed by the new sections of Kadoussa (North of Boudenib) and Jbel Tigourine: The latter, located within the Jbel Tagount massif, corresponds to a reefal mass slid in a talus context. Outcrops from the Ziz gorge did not yield Sinemurian ammonites. They represent the meridional platform at that time.

From the paleontological point of view, two new taxa were recognized: *Dudresnayiceras suzannae* and *Gleviceras pandai*. The relationships between the genera *Riparioceras* and *Gleviceras* are clarified. This study provides also numerous qualitative observations and biometrical measurements, which will help the revision of several groups, among which *Dudresnayiceras*, *Paroxynoticeras* (and *Oxynoticeras*) and the *Echioceratidae* family. Several groups display morphological convergences (trend towards oxycon shells).