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# Revision of the flexible crinoid genus *Ammonicrinus* and a new hypothesis on its life mode

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The lecanocrinid *Ammonicrinus* (Flexibilia) is newly interpreted based on new material from the Middle Devonian of the Rhenish Massif (Eifel and Bergisches Land, Germany). The species have echinoid–like tubercles on the attachment and on the column, which bear articulated spines. The intraspecific variability of the column is discussed for three facies–controlled morphotypes, herein classified as standard "exposed–" or "encased roller–type" and the rare "settler–type". New specimens have floating transitions between different plate sculpturing and between those individuals with none or one to several columnals with herein termed "lateral columnal enclosure extensions" on the proximal–most, barrel–like dististele and the following mesistele, which is solely distinguished by these extensions. Based on this interpretation, *Ammonicrinus kongieli* is evaluated as a subjective junior synonym of Ammonicrinus sulcatus. The latter species was first recognised from the Eifel (Germany). "*Ammonicrinus wachtbergensis*", from the upper Eifelian of the Eifel, is declared a subjective junior synonym of *Ammonicrinus doliiformis* . The first nearly complete specimen of *Ammonicrinus kerdreoletensis* is described from the lower Eifelian of Vireux–Molhain (southern Ardennes, France). Two new species are described: *Ammonicrinus jankei* sp. nov. and *Ammonicrinus leunisseni* sp. nov. A functional morphologic trend in perfecting the crown encasement by continuous modification of the lateral columnal enclosure extensions of the mesistele from the Eifelian to the Givetian, indicates a vagile benthic "predator"–driven evolution of ammonicrinids in the Eifel area. Several ammonicrinid species are herein defined as spined soft–bottom dwellers, feeding in low–intensity current water, possibly through a self–produced water flow. The first known postmortem encrusting epizoans on ammonicrinid endoskeletons are reported.

**Key words:** Crinoidea, Flexibilia, *Ammonicrinus*, Devonian, Eifel, Rhenish Massif, Germany.

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