

Mississippian Lithostrotionidae from Zonguldak and Bartın (NW Turkey)

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The Mississippian of the Istanbul Zone (Northwestern Turkey) is represented by variegated shallow-water limestones and dolostones containing rugose corals, brachiopods and tabulate corals. Several lithostrotionid corals were first described by CHARLES (1933) in his regional study of Zonguldak and Bartın. He figured three *Siphonodendron* species: *Lithostrotion martini*, *Lithostrotion* aff. *irregulare* and *Lophophyllum fraiponti*. Charles's collection and newly collected material from Charles's localities around Bartın and Zonguldak are re-described. Six sections, Süzek, Topluca, Gökgöl, Kokaksu, Ulutam and Kışla, have been sampled in the Bartın and Zonguldak areas. The middle and late Viséan are particularly fossiliferous. The coral associations indicate the Rugose Coral Biozones RC5 to RC8 of POTY et al. (2006), thus a Livian to Warnantian age (middle-late Viséan, Lower Carboniferous). Among the rugose corals, a rich and diversified assemblage of Lithostrotionidae has been collected. The oldest association includes *Siphonodendron ondulosum* (wrongly described as "*Lophophyllum fraiponti*" by CHARLES 1933), *S. martini* and *Lithostrotion araneum* together with *Dorlodotia briarti*, *D. sp.*, cerioid *Dorlodotia*, *Palaeosmilia murchisoni* and *Clisiophyllum* sp. The Late Viséan association is more diversified and composed of *S. martini*, *S. irregulare*, *S. pauciradiale*, *S. asiaticum*, *S. scaleberense*, *S. sp.*, *Lithostrotion araneum*, *L. vorticale* and *L. sp. 1*. The variety described by YABE & HAYASAKA (1915) "*S. irregulare* var. *asiatica*" and old literature equivalent taxa are considered as a fully distinct species and renamed *S. asiaticum*. It corresponds to an intermediate form between *S. irregulare* and *S. junceum*, both in size and characters. A new form, temporarily named *Siphonodendron* sp. 1, is probably another species characterized by its very high number of septa versus diameter ratio. This new *Siphonodendron* is typical of the RC7 β biozone of POTY et al. (2006).

S. ondulosum adapted to high-energy facies purchases a sub-cerioid trend by the packing of their corallites (POTY 1993; JAVAUX 1994). The latter has evolved in cerioid colonies by neoteny and given rise to *Lithostrotion araneum*. However, only "closely packed sub-cerioid colonies" were known from the Livian in Western Europe. Livian colonies of *S. ondulosum* from Zonguldak and Bartın show a clear cerioid trend with edge-to-edge polygonal corallites as the premise features of *Lithostrotion* genus, occurring in the upper part of the Livian.

The major part of the assemblage belongs to classical European taxa but the occurrence of species with Asian affinity, as *S. asiaticum* or with Russian affinity, as *Nemistium* sp., shows that Northwestern Turkey was at the crossing path of several palaeobiogeographic zone during Mississippian times.

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