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| --- | --- | --- | --- |
| **Taxon** | **Name or description** | **Age and locality** | **Reference and remarks** |
| *Plocamione* cf. *dirrhopalina*  | Curved dumb-bell-like spicules with sculptured heads | Eocene of Ukraine | Łukowiak et al., 2019 |
| Straight dump-bell-like spicules with well-developed ornamented heads and central spinose ring | Cretaceous of Sardinia | Łukowiak et al., 2022a |
| Stubby cricorhabds | Jurassic  | Reif, 1967; Trammer, 1982; Pisera, 1997 |
| Cretaceous  | Moczydłowska & Paruch-Kulczycka, 1978 |
| *Rhabderemia* sp. | Rhabdostyles (in general)  |  | Wiedenmayer, 1994 |
| Ornamented rhabdostyles | Miocene of Blake-Bahama Basin | Bukry, 1978 |
| Eocene of New Zealand | Hinde & Holmes, 1892 |
| *Bubaris subtyla*  | Flexuous anisoxeas | Mesozoic  | Reif, 1967; Mostler, 1986 |
| Cenozoic  | Łukowiak, 2015; Łukowiak & Pisera, 2017; Łukowiak et al., 2019, 2022b |
| *Monocrepidium vermiculatum*  | Vermicular diactines | Cretaceous of N Germany | Schrammen, 1924 |
| Australia | Łukowiak, 2015; Łukowiak & Pisera, 2017 |
| Miocene of Slovakia | Łukowiak et al., 2014 |
| *Spiroxya* sp. | Spiral strongyles | Miocene of Blake-Bahama Basin  | Bukry, 1978 |
| Microspined strongyles (shorter) | Cretaceous of Sardinia  | Łukowiak et al., 2022b |
| *Diplastrella* sp. |  | Eocene of New Zealand and Australia  | Hinde & Holmes, 1892; Łukowiak, 2015 (but without exact assignments) |
| *Placospongia decorticans*  | Selenasters | Mesozoic from all over the world | Hinde, 1893; Schrammen, 1936; Hartman, 1980; Trammer, 1982; Pisera 1997, and Carter, 1871; Gruber & Reitner, 1991; Łukowiak et al., 2022b |
| Cenozoic from all over the world | Hinde, 1910; Rich, 1958; Bukry, 1978; Rigby & Smith, 1992; Pisera & Hladilová, 2003; Pisera et al., 2006; Frisone et al., 2014; Łukowiak, 2015; Łukowiak et al., 2019, 2022b;  |
|  | For more details see Cárdenas 2020 |
| ?*Hamacantha* (*Hamacantha*) *lundbecki* | Diancistras | Jurassic of Austria  | Mostler, 1990 |
| Cretaceous of N Germany  | Schrammen, 1924 |
| Eocene of New Zealand  | Hinde & Holmes, 1892 |
| ?*Hamacantha* (*Vomerula*) *papillata* | See above |  |  |
| *Hamacantha* (*Hamacantha*) *johnsoni* | See above |  |  |
| *Histodermella* cf. *ingolfi* | Similar spicules | Eocene of Australia  | Łukowiak, 2015 |
| *Crambe* cf. *tuberosa* | Sphaeroclones | Eocene of New Zealand | Hinde & Holmes,1892 |
| *Discorhabdella tuberosocapitata* | Tylostyles with ornamented heads | Eocene of New Zealand and Ukraine | Hinde & Holmes, 1892 Łukowiak et al., 2019 |
| Acanthotylostyles | Miocene, waters between New Zealand and Australia  | Locker & Martini, 1986 |
| *Discorhabdella* sp. | Acanthostyles (slenderer)  | Eocene of Ukraine | Łukowiak et al., 2019 |
| Korynasters | Cretaceous of N Germany | Scharammen, 1924 (assigned as belonging to Monaxonida) |
| Latrunculiidae indet. 1 | Aciculospinorhabds |  | Wiedenmayer, 1994 |
| Similar, but not identical rhabds | Eocene of New Zealand | Hinde & Holmes, 1892 |
| Latrunculiidae indet. 2 | Discorhabds (“compressed” in the vertical axis) | Eocene of New Zealand  | Hinde & Holmes, 1892 |
| Poecilosclerida indet.  | Poecilosclerida spicules |  | Wiedenmayer et al., 1994; Pisera, 2006;  |
| *Sceptrella* cf. *biannulata* | Strongyles (greater number of coils with spines) | Eocene of Australia  | Łukowiak, 2015 (assigned to *Sceptrintus richardi*) |
| *Mycale* (*Mycale*)cf. *grandis* | Anisochelae | Eocene of New Zealand and Ukraine  | Hinde & Holmes, 1892; Łukowiak et al., 2019 |
| *Mycale* (*Rhaphidotheca*) *marshallhalli*  | Exotyles | Miocene of N Atlantic  | Bukry, 1979 |
|  | Club shaped spicules | Eocene  | Łukowiak, 2015; Łukowiak et al., 2019 (but no taxonomic assignment) |
| *Euchelipluma pristina* | Placochelae | Eocene of New Zealand  | Hinde & Holmes, 1892 |
| Miocene of Iceland  | Bukry, 1979 |
| *Acarnus* sp. | Cladotylotes | Eocene of New Zealand and Australia | Hinde & Holmes, 1892; Łukowiak, 2015 |
| Miocene of Blake-Bahama Basin  | Bukry, 1978 |
| *Antho* sp. | Acanthostrongyles | Jurassic of Austria | Mostler, 1990 |
| Miocene of Slovakia | Łukowiak et al., 2014 |
| *Clathria* sp.  | Long styles with well pronounced (sometimes ornamented) heads | Eocene of Australia and Ukraine | Łukowiak, 2015; Łukowiak et al., 2019 |
| Cretaceous of N Germany | Schrammen, 1924 (assigned to Monaxonida) |
| *Tethya* sp. | Oxyasters | Miocene of Slovakia | Łukowiak et al., 2014; Costa et al., 2021 |
| Eocene of Ukraine | Łukowiak et al., 2019 |
| *Annulastrella* cf. *ornata*  | Annulated triods | Miocene of Blake-Bahama Basin  | Bukry, 1978 |
| Mesozoic of Europe | Schrammen, 1924; Reif, 1967; Moczydło-wska & Paruch-Kul-czycka, 1978; Mostler, 1990; Pisera, 1997 |
| Similar annulated spicules | Triassic and Cretaceous  | Maldonado, 2002(assigned to *Monilites*) |
| *Alectona* cf. *millari* | Alectona acanthoxeas | Eocene of Australia | Łukowiak, 2015 |
| Miocene of Slovakia | Łukowiak et al., 2014 |
| Alectonid-like spicules | Miocene of Bahamas | Burky, 1978 |
| *Thrombus abyssi*  | Trichotriaenes | Cretaceous of N Germany | Schrammen, 1924 |
| Acanthotrichotriaenes | Eocene of New Zealand | Hinde & Holmes, 1892 |
| Miocene of Slovakia  | Łukowiak et al., 2014 |
| Tetillidae indet. | Anatriaenes |  | See Wiedenmayer, 1994 |
| Astrophorina indet. | Spicules assigned as Astrophorina |  | See Wiedenmayer, 1994 and Cárdenas, 2020 |
| “Lithistida” indet. | “Lithistid” spicules | At least since Cambrian  | For more details see Pisera, 2006 |
| Lychniscosida indet. | Lychniscosan skeletons | At least since Jurassic  | For more details see Pisera, 2006 |
| *Nodastrella* cf. *nodastrella* | stauractines | Eocene of Australia and Ukraine  | Łukowiak, 2015; Łukowiak et al., 2019 |
| spicules similar to discasters | Eocene of New Zealand | Hinde & Holmes, 1892 |
| Rossellidae indet. | pentactine | Eocene of Australia  | Łukowiak, 2015 (assigned to *Rossella*) |
| Sceptrulophora indet.  | dictyonal skeletons | At least since Devonian  | Rigby et al., 2001 |
| *Tretopleura* sp. | very similar skeleton fragments with a claw-like projections | Oligoene and Miocene of Bahamas | Palmer, 1988 (but assigned to radio-larians; pl. 3, figs 2, 3)  |
| Hexactinellida indet. | Pinules | Cretaceous of N Germany  | Schrammen, 1924 |

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