

# A NEW FAMILY OF ASTEROIDEA (ECHINODERMATA), WITH THE DESCRIPTION OF FIVE NEW SPECIES AND ONE NEW SUBSPECIES OF *ASTERODISCIDES*.

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## SUMMARY

The genera *Asterodiscides* A. M. Clark, *Paulia* Gray and *Amphiaster* Verrill are compared and assigned to a new family. The relationship between *Paulia* and *Pauliella* is discussed. Five new species and one new subspecies are described for the genus *Asterodiscides* with the holotype of the type-species, *Asterodiscus elegans* Gray, being fully described for the first time. *Asterodiscus hiroi* Hayashi is considered to be conspecific with *A. helenotus* (Fisher) and two juvenile specimens of the species are described. Examination of many juvenile specimens has allowed an assessment to be made of the relative constancy of form of the various structural elements used in determining specific limits within the family. A key is given to the genera and species of the family.

## INTRODUCTION

Gray (1840) established a monotypic genus, *Paulia*, in the family Pentacerotidae, for the species *P. horrida*, which was collected from Punta Santa Elena, Ecuador. Later (1847) he described another monotypic genus, *Asterodiscus*, for the species *A. elegans*, from an unknown locality (probably the Philippines, see Clark and Rowe, 1971 p. 40). Gray (1866) considered both of his genera related at family level, placing them together in the family Pentacerotidae.

Müller and Troschel (1842) grouped several of Gray's genera, including *Paulia*, in their embracing genus *Goniodiscus*.

Verrill (1868) described the monotypic genus *Amphiaster* with *A. insignis* from La Paz, Lower California, comparing it with the genera *Oreaster* and *Nidorellia* in the family Pentacerotidae.

Perrier (1875) restricted Müller and Troschel's genus *Goniodiscus*. He recognised Gray's *Asterodiscus*, but considered *Paulia* a synonym of *Nidorellia*. Perrier included *Asterodiscus elegans* and *Paulia horrida* (as *Nidorellia horrida*) in the family Goniasteridae. He re-described Gray's type specimen of *P. horrida*.