The middle Silurian Osgood Formation occurs throughout southeastern Indiana as a relatively thin mixed carbonate-siliciclastic unit typically comprising a tripartite sequence of lithofacies: a lower unit of calcareous mudstone with argillaceous limestone interbeds; a middle unit of echinoderm-brachiopod grainstone; and an upper unit of fossiliferous olive-gray shale with thin argillaceous limestone stringers. The contact between the middle carbonate unit and the upper shale unit is well exposed at the New Point Stone Company quarry near Napoleon, Indiana, a site famous for its diverse and well preserved blastozoan echinoderm fauna. Here, a bedding plane exposure reveals a locally “microbiohermal” hardground upon which numerous pelmatozoan attachment structures are encrusted. Six morphologies are recognized in association with this horizon: (1) myelodactylid-columnal coils; (2) stoloniferous “runners” with radicular cirri, likely belonging to camerate crinoids; (3) branching radix systems similar to those described for *Eucalyptocrinites* and *Caryocrinites*; (4) secondarily thickened, steep-sided discoidal structures of unknown (crinoidal?) affinity; (5) low profile, thick-walled discoidal structures with prominent canaliculi and diplopores; and (6) discoidal structures similar in size and shape to those described previously but composed of 5-7 plates, each with diplopores, surrounding a somewhat elongate central lumen. The distribution of these attachment structure morphologies appears to be nonrandom with respect to minor variations in grain size and hardground topography, with cemented discoidal structures concentrated in fine-grained crests of the undulatory surface and more complex root-like structures in coarser, more poorly sorted flanks and troughs. Microbioherms, composed primarily of fistuliporid bryozoans, are relatively devoid of holdfasts, although myelodactylids are often in proximity. The results of this study highlight the significance of hardgrounds and related surfaces in paleoecologic, paleobiologic, and stratigraphic investigations and provide a faunal census for future studies of Osgood echinoderms.