**Manivitella pecten** Black, 1973

**Description:**

Diagnosis: A species of *Manivitella* with a ring of centrally-directed projections lining the central opening.

Description: The sutures between the rays of the distal shield are straight and do not depart much from a radial direction. At about 3/4 of the distance from the external to the internal margin, the surface of the shield plunges steeply towards the centre. The opening is fringed by a ring, often incomplete, of short and slender peg-like projections. The rays of the proximal shield are much like those of other species of the genus, being narrow and strongly inclined in a clockwise direction. Near the central opening the extremities of the rays are bent into an almost radial direction, and often narrow near the point of inflexion; the effect is to produce a narrow inner zone that lines the opening.

Measurements (in microns):

<table>
<thead>
<tr>
<th>Holotype: H.927 25822 distal view</th>
<th>d</th>
<th>d'</th>
<th>p</th>
<th>p'</th>
<th>c</th>
<th>c'</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.924 25954 proximal</td>
<td>15.8</td>
<td>14.2</td>
<td>13.8</td>
<td>12.2</td>
<td>9.0</td>
<td>7.4</td>
<td>56</td>
</tr>
<tr>
<td>» 25988 distal</td>
<td>16.0</td>
<td>12.1</td>
<td>12.6</td>
<td>10.2</td>
<td>9.0</td>
<td>7.0</td>
<td>50</td>
</tr>
<tr>
<td>» 25991</td>
<td>12.3</td>
<td>10.1</td>
<td>—</td>
<td>—</td>
<td>7.6</td>
<td>5.7</td>
<td>45</td>
</tr>
<tr>
<td>» 25845 proximal</td>
<td>12.4</td>
<td>10.2</td>
<td>10.3</td>
<td>9.0</td>
<td>6.2</td>
<td>4.2</td>
<td>44</td>
</tr>
<tr>
<td>H.945 26090</td>
<td>13.5</td>
<td>10.8</td>
<td>12.0</td>
<td>9.3</td>
<td>8.1</td>
<td>5.7</td>
<td>48</td>
</tr>
<tr>
<td>» 26104 distal</td>
<td>13.0</td>
<td>10.2</td>
<td>—</td>
<td>—</td>
<td>8.5</td>
<td>6.0</td>
<td>44</td>
</tr>
<tr>
<td>» 26195</td>
<td>11.7</td>
<td>10.5</td>
<td>—</td>
<td>—</td>
<td>7.1</td>
<td>5.0</td>
<td>46</td>
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Figs. 6-8 — *Manivitella pecten* sp. nov., x 3,400. 6) Distal view. Lower Gault, Mildenhall (H.924). SM 25988. 7) Holotype, distal view, with the outline of the proximal shield visible through a transparent carbon replica, Lower Gault, Mildenhall (H.927). SM 25822. 8) Proximal view, Lower Gault, Mildenhall (H.924). SM 25954.
<p>| | | | | | | | | |</p>
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<tbody>
<tr>
<td>H.949</td>
<td>26824</td>
<td>»</td>
<td>»</td>
<td>16·0</td>
<td>13·7</td>
<td>14·2</td>
<td>12·3</td>
<td>9·0</td>
</tr>
<tr>
<td>H.959</td>
<td>27471</td>
<td>»</td>
<td>»</td>
<td>11·1</td>
<td>10·0</td>
<td>10·1</td>
<td>8·7</td>
<td>6·3</td>
</tr>
<tr>
<td>H.962</td>
<td>26257</td>
<td>proximal</td>
<td>»</td>
<td>10·8</td>
<td>9·0</td>
<td>9·2</td>
<td>7·8</td>
<td>7·0</td>
</tr>
<tr>
<td>H.1026</td>
<td>28488</td>
<td>»</td>
<td>»</td>
<td>12·5</td>
<td>10·7</td>
<td>10·3</td>
<td>8·7</td>
<td>6·3</td>
</tr>
</tbody>
</table>

**d, d'** = major and minor diameters respectively of the distal shield or distal surface.

**p, p'** = major and minor diameters of the proximal shield or proximal surface.

**c, c'** = major and minor diameters of the central area.

**n** = number of component elements in the distal shield, loxolith-ring or other marginal structure.

**Type level:**

Lower Gault.

Occurrence: Middle and Upper Albian. In the Lower Gault at Mildenhall (H.924, H.927) and Hockwold (H.945); in the Upper Gault (Bed XII) at Folkestone (H.1026) and in the Upper Gault at Mildenhall (H.962) and Hockwold (H.949, H.959).

**Type locality:**

Mildenhall (Southeastern England).

**Depository:**

Collection of electron micrographs at the Sedgwick Museum, Cambridge.

Holotype: SM 25822, fig. 7; from the Lower Gault at Mildenhall (H.927).

**Author:**

Black M., 1973, p. 79; pl. 23, figs. 6-8.

**Reference:**