

**Table S1.** The methodologies for the microscopic study of flower parts and pollen grains.

Phase	Different steps
Flower parts (e.g., sepal, stigma, and ovary) preparation for scanning electron microscope (SEM)	<ol style="list-style-type: none"> <li>1. A small piece of the flower parts (e.g., sepal, stigma, and ovary) were taken in vials.</li> <li>2. Flower parts were fixed in a 3% glutaraldehyde solution.</li> <li>3. After discarding the glutaraldehyde solution, the samples were gradually dehydrated using ethanol at increasing concentrations (50%, 70%, and 100%).</li> <li>4. Then, samples were air-dried.</li> </ol>
SEM study of flower parts	<ol style="list-style-type: none"> <li>1. The flower samples were affixed to metal stubs using sticky carbon tape to enhance conductivity.</li> <li>2. To mitigate charge buildup on the specimen surface, a 10 nm layer of gold nanoparticles was applied as a conductive coating using the Q150R ES sputter coater (Quorum Technologies, UK).</li> <li>3. The samples were examined with a Merlin emission gun scanning electron microscope (FEG-SEM) from Zeiss, Gemini, India. Surface images of the pollen samples were captured under high vacuum conditions at magnifications ranging from 1 KX to 40 KX. Imaging was performed using a secondary electron detector with an acceleration voltage of 5.0 kV.</li> </ol>
Pollen sample preparation for light microscope	<ol style="list-style-type: none"> <li>1. Pollen grains were collected from flower anthers.</li> <li>2. Pollen grains were stored in a vial with 70% ethanol.</li> </ol>
Light microscopic study of pollen grains	<ol style="list-style-type: none"> <li>1. Pollen solution was centrifuged at 4000 rpm for 5 min.</li> <li>2. After decanting the supernatant, the resulting pollen sediment was taken on a glass slide with glycerine jelly.</li> <li>3. The jelly-containing pollen was warmed to melt it and covered with a coverslip.</li> <li>4. We sealed the coverslip by using nail polish.</li> <li>5. Then, we observed the pollens using a light microscope (Primo Star, Zeiss) and took pollen microphotographs.</li> </ol>
Pollen sample preparation for SEM study	<ol style="list-style-type: none"> <li>3. Pollen grains were collected from flower anthers.</li> <li>4. Pollen grains were fixed in a 3% glutaraldehyde solution.</li> <li>5. Then, discarded glutaraldehyde by centrifugation.</li> <li>6. Then, pollen grains were dehydrated gradually using ethanol with increasing ethanol concentrations.</li> <li>7. After centrifugation, pollen grains were air-dried.</li> </ol>
SEM study of pollen grains	<ol style="list-style-type: none"> <li>4. The pollen samples were affixed to metal stubs using sticky carbon tape to enhance conductivity.</li> <li>5. Then, we followed a similar methodology to the SEM study of flower parts.</li> </ol>