Table S2: Ultrastructural details of scales exhibiting different colours and (in the case of intact individuals) from different parts of the forewing

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Type of specimen</th>
<th>Location of sample</th>
<th>Scale colour in glycerine</th>
<th>Scale thickness (um)</th>
<th>Ridge spacing (um)</th>
<th>Cross rib spacing (nm)</th>
<th>Microrib spacing (nm)</th>
<th>Ridge lamella length (um)</th>
<th>Ridge lamella overlap</th>
<th>No. of laminae in lumen</th>
</tr>
</thead>
<tbody>
<tr>
<td>14861</td>
<td>intact individual</td>
<td>basal/discal</td>
<td>yellow</td>
<td>1.48</td>
<td>1.9-2.5</td>
<td>600</td>
<td>138-150</td>
<td>1.35</td>
<td>2</td>
<td>4-8</td>
</tr>
<tr>
<td>14861</td>
<td>intact individual</td>
<td>basal/discal</td>
<td>yellow-orange</td>
<td>1.27</td>
<td>1.8-2.6</td>
<td>550-610</td>
<td>175</td>
<td>2.9-3.1</td>
<td>2-3</td>
<td>6</td>
</tr>
<tr>
<td>14861</td>
<td>intact individual</td>
<td>postdiscal</td>
<td>green</td>
<td>-</td>
<td>2.6</td>
<td>-</td>
<td>122</td>
<td>-</td>
<td>-</td>
<td>≤ 5</td>
</tr>
<tr>
<td>14861</td>
<td>intact individual</td>
<td>submarginal</td>
<td>blue</td>
<td>0.16 - 0.87</td>
<td>2.07-2.82</td>
<td>580</td>
<td>176</td>
<td>2.1</td>
<td>2-3</td>
<td>4</td>
</tr>
<tr>
<td>14861</td>
<td>intact individual</td>
<td>wing margin</td>
<td>brown</td>
<td>0.25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11808</td>
<td>coprolite</td>
<td>-</td>
<td>yellow</td>
<td>1.2</td>
<td>2.6</td>
<td>540</td>
<td>133-188</td>
<td>1.18</td>
<td>3-4</td>
<td>≤ 7</td>
</tr>
<tr>
<td>11808</td>
<td>coprolite</td>
<td>-</td>
<td>blue</td>
<td>1.25</td>
<td>1.9-2.2</td>
<td>530</td>
<td>172</td>
<td>2.9-3.2</td>
<td>3-4</td>
<td>≤ 7</td>
</tr>
</tbody>
</table>

Perforation factor: abbreviations refer to position on the scale as follows: d, distal; m, medial; p, proximal.
<table>
<thead>
<tr>
<th>perforation factor</th>
<th>1: microribs+cr ossribs</th>
<th>2: large rod-like spacers</th>
<th>3: bead-like spacers</th>
<th>4: bead-like spacers</th>
<th>5: bead-like spacers</th>
<th>6: bead-like spacers</th>
<th>7: trabecular layer</th>
<th>8: granular base layer</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05(p)-0.32(d)</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>40</td>
<td>124</td>
<td>110</td>
<td>87</td>
<td>72</td>
<td>66</td>
<td>59</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>n</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>-</td>
<td>98</td>
<td>89</td>
<td>81</td>
<td>77</td>
<td>63</td>
<td>55</td>
<td>47</td>
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<tr>
<td>0.15(p)</td>
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<td>y</td>
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<td>n</td>
<td>n</td>
<td>n</td>
<td>y</td>
<td>y</td>
<td>31</td>
<td>111</td>
<td>79</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>63</td>
<td>31</td>
</tr>
<tr>
<td>-</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>y</td>
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<td>-</td>
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<td>42</td>
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<tr>
<td>0.2(m)-0.32(d)</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>111</td>
<td>93</td>
<td>74</td>
<td>67</td>
<td>60</td>
<td>53</td>
<td>-</td>
<td>35</td>
</tr>
<tr>
<td>0.25 (d)</td>
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<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>-</td>
<td>31</td>
<td>111</td>
<td>87</td>
<td>63</td>
<td>55</td>
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</table>