On the occurrence of *Varanus nebulosus* (Gray, 1831) (Squamata: Varanidae) on Riau Archipelago, Indonesia

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The occurrence of *Varanus nebulosus* (Gray, 1831) on Sumatra still remains open for debates, while records are limited, especially those associated with a voucher specimen. The oldest record of *V. nebulosus* that is associated with a specimen, i.e. SMF 11554 is dated back to 1889 and presumably from Bengal ("Bengalen"), which now lies around Bangladesh. The specimen is kept at Senckenberg Museum Frankfurt (SMF) in Germany. We collected specimens from two islands in the Riau Archipelago, just west of Sumatra and provided new distribution data for this protected species of Monitor lizard in Indonesia. The two recent records represent populations of *V. nebulosus* other than those already known in the literature and are among the closest known occurrences to Sumatra. We suggest that islands in the Riau Archipelago might have been the stepping stones for a historical dispersal of this species from mainland Southeast Asia and Singapore.

Four specimens of *V. nebulosus* were collected on August 8th, 2013 from Pulau Kundur (N 00°40‘29.7” E 103°26‘17.6”) and on August 29th, 2013 on Pulau Combol (N 00°49‘32.6” E 103°52‘49.9”) in the Riau Archipelago, Indonesia (Figure 1. Inset). Two of these are accessioned to the reptile collection of MZB in Cibinong, Indonesia. MZB.Lace.10293 was collected by means of noose in Parit Muda, Kecamatan Kundur Kota, Kabupaten Karimun on Pulau Kundur. MZB.Lace.10294 was collected by fish-netting in Dusun Setonggeng, Desa Selat Mie, Kecamatan Moro, Kabupaten Karimun on Pulau Combol. Data from two other individuals from Pulau Kundur, i.e. KDn1 and KDn3 (see Table 1.) were also collected before the animals were released back into the wild.

**TABLE 1.** Selected morphological data of *V. nebulosus* from Riau Archipelago and Java. P= scale counts from rictus to rictus, S= scale counts around midbody, T= ventral scale rows between gular fold and insertion of hind legs, XY= dorsal scale rows between hind margin of tympanum and insertion of hind legs U= enlarged supraocular scales

<table>
<thead>
<tr>
<th>Specimen ID</th>
<th>Island locality</th>
<th>SVL (mm)</th>
<th>Tail (mm)</th>
<th>P</th>
<th>S</th>
<th>T</th>
<th>XY</th>
<th>U</th>
<th>(left/right)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MZB.Lace.10293</td>
<td>Kundur</td>
<td>180</td>
<td>275</td>
<td>60</td>
<td>140</td>
<td>84</td>
<td>132</td>
<td>6/5</td>
<td></td>
</tr>
<tr>
<td>MZB.Lace.10294</td>
<td>Combol</td>
<td>255</td>
<td>405</td>
<td>61</td>
<td>147</td>
<td>80</td>
<td>121</td>
<td>6/6</td>
<td></td>
</tr>
<tr>
<td>KDn1</td>
<td>Kundur</td>
<td>340</td>
<td>288</td>
<td>45</td>
<td>127</td>
<td>86</td>
<td>126</td>
<td>7/6</td>
<td></td>
</tr>
<tr>
<td>KDn3</td>
<td>Kundur</td>
<td>370</td>
<td>582</td>
<td>52</td>
<td>147</td>
<td>88</td>
<td>133</td>
<td>7/7</td>
<td></td>
</tr>
<tr>
<td>MZB.Lace.942</td>
<td>Java</td>
<td>420</td>
<td>450*</td>
<td>59</td>
<td>151</td>
<td>81</td>
<td>113</td>
<td>8/7</td>
<td></td>
</tr>
<tr>
<td>MZB.Lace.947</td>
<td>Java</td>
<td>451</td>
<td>640</td>
<td>56</td>
<td>153</td>
<td>82</td>
<td>125</td>
<td>7/7</td>
<td></td>
</tr>
<tr>
<td>MZB.Lace.952</td>
<td>Java</td>
<td>411</td>
<td>606</td>
<td>61</td>
<td>165</td>
<td>79</td>
<td>131</td>
<td>6/7</td>
<td></td>
</tr>
<tr>
<td>SMF11554</td>
<td>“Bengalen”</td>
<td>221</td>
<td>295</td>
<td>*</td>
<td>149</td>
<td>75</td>
<td>–</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>SMF11555</td>
<td>Java</td>
<td>128</td>
<td>175</td>
<td>*</td>
<td>163</td>
<td>77</td>
<td>–</td>
<td>**</td>
<td></td>
</tr>
</tbody>
</table>

# tail partly missing, * 58–60 (Mertens 1942), 4–7 enlarged supraoculars on each side (Mertens 1942).

It seems imperative that records from Sumatra are to be made to ascertain its distribution on the island, although the occurrence of *V. nebulosus* on Sumatra has been stated in the literature e.g. Böhme and Ziegler (1997), Bennett (1998),
populations, resulting in suboptimal data for identifying possible cryptic speciation within *V. bengalensis* group, especially studies attempting to look at morphological variations among *V. nebulosus*. Furthermore, Clouded monitor is protected in Indonesia under a national law on the conservation of species of fauna and flora, i.e. Peraturan Pemerintah (PP) Republik Indonesia Nomor 7 dan 8 Tahun 1999. The species is also regulated by CITES (Convention on International Trade on Endangered Species of Wild Fauna and Flora). Being included in the Appendix I of CITES means that the Clouded monitor is considered threatened with extinction as a direct or indirect consequence of wildlife trades. Therefore, the trade of this species is only authorised in exceptional circumstances to help reduce the risks that endanger their survival (CITES, 2013). Nevertheless, more data are needed to clarify its presence or absence on Sumatra, as well as to provide information for conservation purposes, particularly ecological and population data.

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References


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