

Paragomphus and *Crenigomphus*

The two genera are closely related. The larvae resemble each other in appearance, and we did not find elegant characters that are exclusive to either of the two genera. Both genera share a distinct character: the fourth segment of the antenna is rather long and sharply bent outwards [Plate 18: 5], whereas in other gomphids this segment is usually very short. *Paragomphus* [1] includes five species in the region, *Crenigomphus* [2] three, of which *C. kavangoensis* may be endemic to the middle section of the Okavango River. The differences between the species are sometimes not very distinct; we recommend using characters given in Table 3 in addition to the key.

Key to the species

- 1 Frontal part of the head with triangular appearance in dorsal view [3]; posterior lobe of the head shorter than the eye [3] *Paragomphus*, 2
 - Head with more oval appearance, frontal part more stout [4]; posterior lobe of the head as long as the eye [4] *Crenigomphus*, 6
- 2(1) Anal pyramid very long with length of paraprocts being more than 2.5 times longer than S10 (ventral view); cerci half as long as paraprocts [5] *P. sabicus*
 - Anal pyramid shorter with paraprocts being less than 2 times longer than S10; cerci about as long as paraprocts [6] 3
- 3(2) Small lateral spine at S10 *P. elpidius*
 - No lateral spine at S10 4
- 4(3) Lateral spines on S2 to S9; dorsal part of abdomen densely covered with long setae *P. cataractae*
 - Lateral spines on S5-9 or S7-9; less setae on abdomen 5
- 5(4) Width of anterior median lobe of prementum about $\frac{1}{3}$ of the maximum prementum width; uniform colouration *P. cognatus*
 - Width of anterior median lobe of prementum more than $\frac{2}{5}$ of the maximum prementum width; colouration on the dorsum of the abdomen as depicted [1] *P. genei*
- 6(1) Anal pyramid and rest of abdomen uniformly coloured *C. hartmanni*
 - Anal pyramid with cream-coloured tip and dark base; S10 also dark 7
- 7(6) Acute dorsal spines on S2-9 *C. cornutus*
 - Acute dorsal spines on S2-3(4), on following segments only knobs *C. kavangoensis*

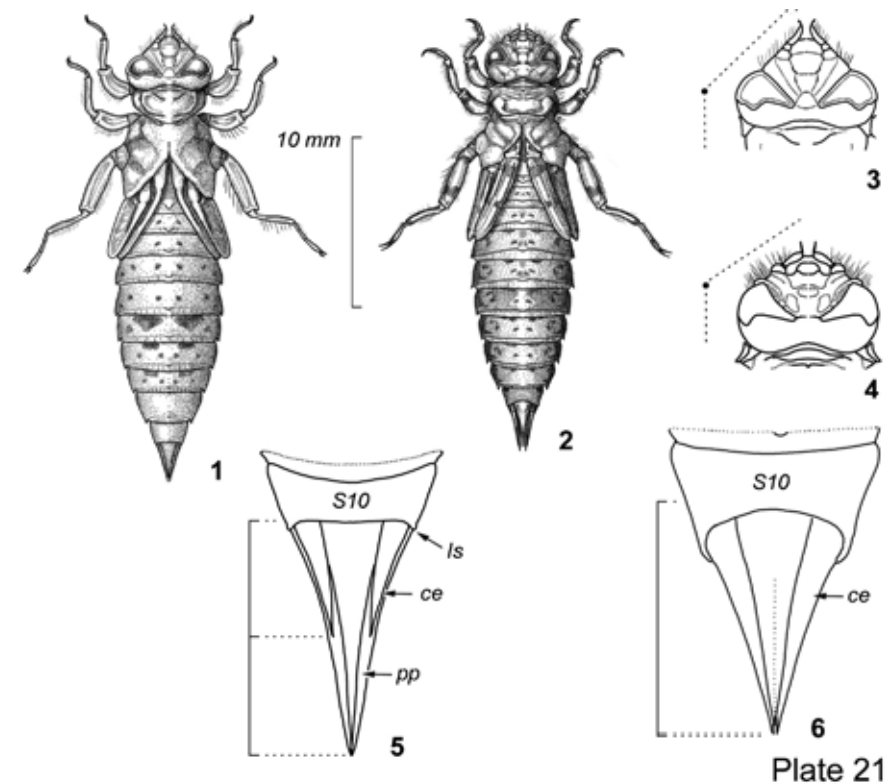


Table 3. Measurements (mm) of larvae of *Paragomphus* and *Crenigomphus*. An4, An3: lengths of segments 4 and 3 of the antenna; 4/3: ratio of An4 to An3; PmL: lengths of prementum; PmW: width of prementum; L/W: ratio PmL/PmW; MI: width of anterior median lobe of prementum; Dors: abdominal segments with clearly visible dorsal spines or hooks; Lat: abdominal segments with clearly visible lateral spines; Pp: length of paraprocts; Cc: length of cerci; Pp/10: length Pp/length S10.

| Species | An4 | An3 | 4/3 | PmL | PmW | L/W | MI | Dors | Lat | Pp | Cc | Pp/10 |
|------------------------|------|------|------|------|------|-----|------|------|------|------|------|-------|
| <i>P. cataractae</i> | 0.28 | 0.90 | 0.30 | 2.73 | 2.29 | 1.2 | 0.73 | 2-3 | 2-9 | 2.04 | 1.96 | 1.6 |
| <i>P. cognatus</i> | 0.25 | 0.88 | 0.30 | 3.10 | 2.20 | 1.4 | 0.73 | 2-3 | 7-9 | 1.88 | 1.71 | 1.4 |
| <i>P. elpidius</i> | 0.25 | 1.05 | 0.20 | 3.10 | 2.22 | 1.4 | 0.69 | 2-3 | 6-10 | 1.96 | 1.89 | 1.5 |
| <i>P. genei</i> | 0.35 | 1.40 | 0.25 | 3.10 | 2.53 | 1.2 | 1.14 | 2-3 | 5-9 | 2.04 | 1.88 | 1.6 |
| <i>P. sabicus</i> | 0.25 | 1.45 | 0.20 | 3.06 | 2.12 | 1.4 | 0.86 | 2-4 | 3-9 | 3.10 | 1.59 | 2.7 |
| <i>C. cornutus</i> | 0.40 | 1.14 | 0.35 | 3.10 | 2.12 | 1.4 | 0.82 | 2-9 | 2-9 | 2.60 | 2.50 | 1.8 |
| <i>C. hartmanni</i> | 0.30 | 1.45 | 0.20 | 3.18 | 2.45 | 1.3 | 0.98 | 2-9 | 6-9 | 1.88 | 1.88 | 1.3 |
| <i>C. kavangoensis</i> | 0.18 | 1.18 | 0.15 | 2.93 | 2.20 | 1.3 | 0.71 | 2-3 | 2-9 | 1.76 | 1.76 | 1.4 |