

Genitalia.—Anterior hamules long, narrow, sloping steeply back; posterior hamules short and broad; lobe broad, prominent, spout-shaped (anal appendages missing).

Distribution.—Africa.

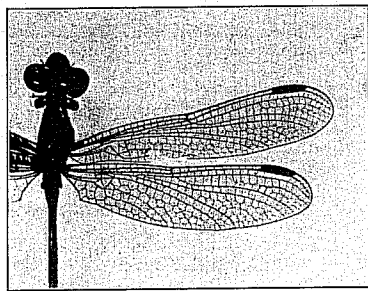


FIG. 1.—*Echinoptero gomphus africanus*, sp. nov. ♂ ($\times 3.8$).



FIG. 2.—Base of hind-wing of *Echinoptero gomphus africanus*, showing marginal and tornal spines.

Echinoptero gomphus africanus, sp. nov.

Male.—Abdomen 22 mm. (three distal segments 6 mm.). Hind-wing 19 mm. Head: labium dirty brown; labrum dark olivaceous bordered with brown; face dark brown with a transverse bluish-green stripe across clypeus and a second better-defined stripe on crest of frons; vertex and occiput dark brown, a pale bluish-green spot in centre of latter, its hinder border divided by a small notch into two

small lobes. Prothorax pale brown. Thorax olivaceous on dorsum in front enclosing a broad fusiform spot on either side, converging above, divergent below so as to enclose a triangle of the ground-colouring. Laterally greenish marked with a broad posthumeral dark brown stripe and a second narrower stripe on the second lateral suture. Wings hyaline; pterostigma warm brown between darker nervures. Legs yellowish, tibiae and distal ends of femora dark brown. Abdomen dark brown, the second segment with a broad transverse stripe of paler colour (probably yellow) on its basal third. Apical suture of 2nd segment black, 3rd segment with pale basal and subapical indistinct markings.

The single specimen is teneral, the adult ground-colour being probably black, and the markings greenish-yellow.

Distribution.—Port Lokko, Africa, 1.v.1912. Type in B.M.

Genus *LIBYOGOMPHUS*, gen. nov.

Large species of Gomphines coloured black, marked with bright citron yellow. Head large, frons pronounced, angulate; occiput flattened, slightly concave along the hinder border and fringed with long black hairs. Thorax robust. Legs moderately long, hind femora extending to base of 2nd abdominal segment and densely clothed with short robust spines beneath. Abdomen tumid at base and anal end, narrow and cylindrical from segment 3 to 7, segments 8 and 9 with lateral borders markedly produced, but not winged, segment 10 of even greater depth than 8 and 9. Segments 8 and 10 equal to about two-thirds the length of 7, segment 9 considerably shorter than 10. Dorsum of segment 10 raised into a prominent rounded hump. Anal appendages strongly curved, enormously elongate and forming a pincer-like group by apposition of their apices, the inferior appendage split completely to base into two closely apposed parallel laterally compressed branches. Wings rather long and broad, reticulation close; all trigones, hypertrigones and subtrigones entire; trigone of fore-wing with costal and proximal sides subequal and longer than basal, proximal side slightly angulate; trigone of hind-wing longer, its costal and basal sides meeting at a right angle, costal side longer than basal but shorter than proximal; basal subcostal nervure absent in all wings; two rows of discoidal cells in fore-wing to beyond level of node; four nervures between *M i-iii* and *M iv* in fore-wing, only two in the hind; sectors of arc separate at origin and divergent thereafter; *Cu ii* in fore-wing markedly pectinate, *Cu i* and *Cu ii* in hind-wing divaricate at termen; two rows of cells between *M i* and *M ia*; forking of *M i-ii* and *M iii* symmetrical in all wings; pterostigma small, equal to about one-fourth the distance from node to distal end of pterostigma, unbraced; membrane obsolete; base of hind-wing deeply excavate, tornus pointed. Fore-wing with one to two rows of postanal cells, hind-wing with four rows, the first postanal cell in the latter entire, extending only about halfway along subtrigone, as in genus *Gomphus*.

Genitalia.—Anterior hamules long, slender, strongly curved analward; posterior hamules robust, projecting perpendicularly from ventrum, broad at base, tapering gradually to apex, which is curved slightly forward; lobe broad, short, spout-like.

The relative length of segments 8, 9 and 10 suggests affinity to the genus *Crenigomphus*, this affinity being accentuated by the fact that both genera are restricted to the African continent. The venation, especially that of the base of hind-wing, resembles that of genus *Gomphus*, the anal appendages resemble closely those of the genera *Onychogomphus* and *Lanellogomphus*. These comparisons show how difficult or impossible it is to fix any definite relationship with any of the genera mentioned.

Distribution.—Africa.

Libyogomphus tenaculatus, sp. nov.

Male.—*Abdomen* (with appendages) 40 mm. *Hind-wing* 34 mm. *Head*: labium bright yellow clouded with brown along its free border, labrum warm reddish-brown marked with two large triangular greenish-yellow spots; bases of mandibles and clypeus citron yellow. Face brown, frons greenish-yellow above and along crest; occiput and vertex brown, free border of former thickened, dark brown.

Prothorax reddish-brown, the anterior border yellow. *Thorax* dark reddish-brown, almost black, marked with bright citron yellow as follows:—a mesothoracic collar slightly interrupted at the middle, oblique narrow ante-humeral stripes barely confluent with the mesothoracic collar. Laterally a narrow complete post-humeral stripe, a median stripe interrupted above and below so as to form three spots, and finally a narrow stripe on the middle of the metepimeron, its upper end curving forward as far as the 2nd lateral suture. *Legs* dark reddish-brown, tibiae and tarsi black. *Wings* hyaline; pterostigma dark reddish-brown between black nervures,

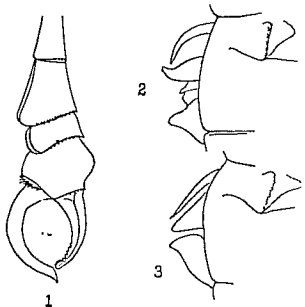


FIG. 3.—1. Last four abdominal segments of *Libyogomphus tenaculatus*, sp. nov., showing relative lengths of segments and anal appendages. 2. Genitalia of same seen in profile. 3. Genitalia of *Echinoptergomphus africanus*.

a little dilated, over about seven cells, unbraced; nodal index $\frac{11-15}{13-12} | \frac{17-12}{11-12}$

Abdomen black marked with yellow as follows:—segment 1 with the sides greenish-yellow, 2 entirely yellow save for a narrow diffuse brownish annule bordering the hinder part of the jugal suture. Oreillets robust, yellow, with about seven closely-set spines along the free border. Segments 3 to 6 unmarked save for a ventro-basal streak of yellow on 3 and an apical ventral spot on 6; segment 7 bright citron yellow for its basal half; segments 8 to 10 dark reddish-yellow laterally, dark brownish-black above.

Anal appendages. Superiors with the basal half yellow, apical half dark brown, equal to nearly twice the length of segment 10, widely separated at base, converging as far as the apices, where they meet, bases broadened from above down, tapering rapidly to an obtuse point, laterally compressed, keeled along the dorsum and again on the outer side. Below the latter keel, along the apical half of appendage, a row of five closely-set spines, and beneath apex, another row of five minute, closely-set spines. Inferior appendage directed downward for rather less than its basal fourth, then rather squarely back and finally in a regular curve upward to meet

the downwardly curved apices of superiors. Thick at base, of even width thereafter and narrower, laterally compressed, the apex strongly bevelled above and ending in a fine point. The two branches closely apposed and separated right up to their origin from segment 10.

Genitalia as for genus.

Distribution.—Cameroons, Africa, October 1918. A single male in my own collection. (Female unknown.)