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STUDIES ON THE *SCELIONIDAE* (HYM. PROCTOTRUPOIDEA)
XVII. MATERIAL FOR A REVISION OF THE GENUS *GRYON* HAL.
(ETHIOPIAN REGION) WITH DESCRIPTIONS OF THREE NEW
SPECIES (*G. KENYOTUM*, *G. PARACHARONTIS* AND *G. URUM*).



*Rerum natura nusquam magis
quam in minimis tota.*

PLINIO

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STUDIES ON THE *SCELIONIDAE* (HYM. PROCTOTRUPOIDEA)
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SPECIES (*G. KENYOTUM*, *G. PARACHARONTIS* AND *G. URUM*).

I borrowed the material discussed in this paper from the British Museum (Nat. History) — London (BMNH), the Museum Nationale d'Histoire Naturelle — Paris (MNHN), the Canadian National Collection of Insects, Arachnids, and Nematodes - Ottawa (CNC); another parcel was lent by Prof. F. BIN (Istituto Entomologia Agraria - Perugia). Some of the specimens were recovered from alcohol.

The author is grateful for the loans to: Dr. Lubomir MASNER, Mr. N. D.M. FERGUSON and Miss S. Kelner PILLAULT.

Abbreviations, morphological terms and symbols.

Throughout the paper, in addition to the abbreviations indicated above, I use the following symbols some of which, in italics, are newly proposed:

AOD — minimum distance between median ocellus and frontal depression (fig. V),

AOL — minimum distance between median ocellus and inner orbit of the compound eye (fig. V),

Genal carina (gc) — a fragment reaching from the subgenal smooth process to the lower quarter of the compound eye, about half-way between the subocular sulcus and the occipital carina (cfr. also MINEO, 1982),

Ior — a ridge connecting the inner edges of the lateral ocelli,

Ios — minimum distance between inner orbits,

1 x b — maximum longitudinal axis x maximum transversal axis of a compound eye,

meridiana (me) — consists of the genal carina and the temporal carina with no interruption between them,

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ms — length of malar space,

temporal carina (tc) — a fragment originating at about the lower quarter of the back of the compound eye, reaching to about the occipital margin,

TMÁ — Természettudományi Múzeum Állattára - Budapest,

Urosternal central keel (usck) — a keel running through the middle of S2 (fig. VII).

***Gryon kenyotum* sp. n.**

(Figs. I, 1-2; II)

Female. Black. Legs ochraceous, with exception of brown coxae; radicle, A1→A7 and mandibles same colour as legs; tegulae brownish and honey yellow wing veins. Ratio of AOD to AOL is 4:8; $l \times b = 18.5 \times 15$; $ios = 17$; $ms = 8$. A6 does not fit closely into A7. Radicle about a third of scape length (5:16); length to breadth ratios of A2, A4→A11 are 4:2; 2:1.9; 1.5:2.2; 1.8:2.4; 2.5:3; 3:3.8; 2.8:3.8; 2.5:3.8; 2.3:3.8 (see also fig. I, 1).

The series of basiconic-type sensilla, lying on the middle of the ventral surface of the antennomeres A12→A7 (= plate sensilla *sensu* BIN, 1982) is 2,2,2,2,0. Frontal depression enframed all round, its upper side connected to the median ocellus by a ledge and with a central keel extending over half the longitudinal axis. The *genal carina* slightly surpasses the beginning of the subocular sulcus; the vertex between the lateral ocelli is produced into a ridge as in *Gryon charon* (NIXON): this ridge is called here *interocellar ridge*, and such a character corresponds to the « ridge connecting the posterior ocelli » in *Gryon oophagous* (NIXON) and *G. philippinense* (ASHMEAD) reported by NIXON (1934). The posterior edge of the median ocellus is hidden by a weak horizontal ledge.

The epomia is incomplete and the mesopleural carina is complete. The scutellum is strongly excavated at the apex and does not cover the metanotum medially.

The gaster is about as long as wide (30:32); T1→T3 in relative proportions (length : breadth): 6:32; 10:32; 5:28. The total length of the latter tergites is slightly less than that of T2.

T2 is irregularly wrinkled, apart from the smooth hind margin, the interspaces are punctured and wide: the latter tergites have the same sculpture. The *usck* is absent. Length about 1.5 mm.

Male. Same colouring as the female, with the exception of A2→A7, which are the same colour as the rest of the antennomeres. See fig. I, 2.

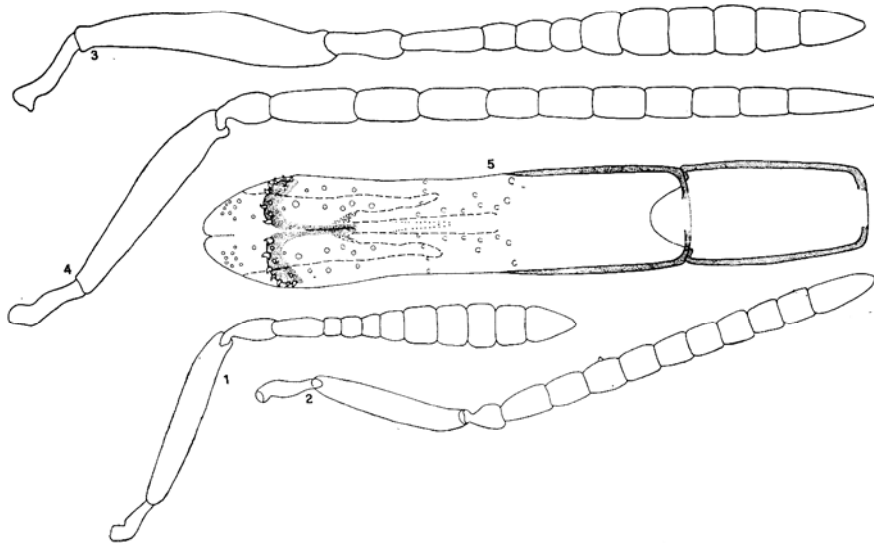


Fig. I

Gryon kenyotum sp. n. - Female (1) and male (2) antenna. - *Gryon letus* (Nixon). - Female (3) and male (4) antenna. - *Gryon paracharontis* sp. n. - 5. Copulatory organ.

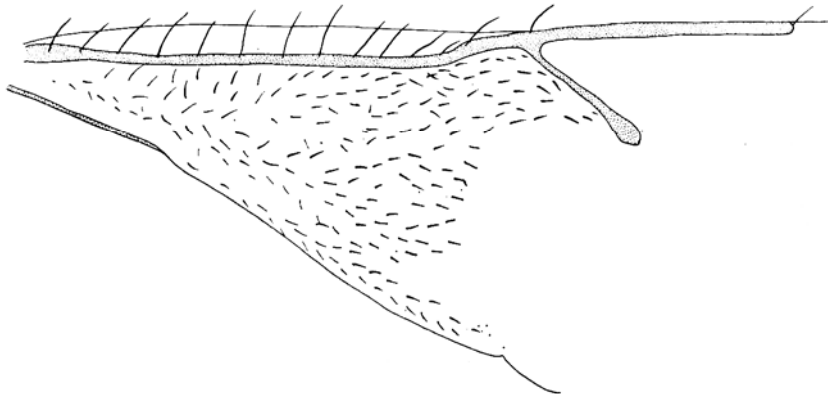


Fig. II

G. kenyotum sp. n. (♀). - Detail of fore wing.

for antenna. Other characters are similar to those of the female. Length 1.5 mm.

Material examined 1 ♀ (*holotype*) (Kenya, Matuga - ex egg of *Pseude-ropterus wayi* - XII/1959 - C.I.E. Coll. No. 17370-2716 - P.E. Weatlay); 1 ♂ (*allotype*) and 4 ♀ ♀ (*paratype*) with same data as holotype.

Type (head, antenna and fore wing dissected for drawing and after mounted along the rest of the body on the same tag), allotype (antenna dissected for drawing and later mounted on the same tag) and two paratypes in BMNH; two paratypes in my collection.

Biology. Not known.

Remarks. *Gryon kenyotum* sp. n. is closely related to *Gryon letus* (NIXON) by both the shape of the thorax and the length of the genal carina. However, *G. kenyotum* is easily distinguishable from *G. letus*, mainly by the proportions of the antennomeres (see also fig. I, 3-4).

***Gryon letus* (Nixon)**

(Figs. I, 3-4; III 1-2)

Hadronotus letus NIXON, 1934. Ann. Mag. Nat. Hist., 14: 293, 309 (♀ ♂).

Gryon letus: MASNER, 1965. Bull. Brit. Mus. (Nat. History) Ent. Suppl. 1:77.

Female. The original description and the additional features given in this paper are fairly sufficient to recognize this species.

Ratio of AOD to AOL 4:9.5; $l \times b = 25 \times 20.5$; $ios = 26$; $ms = 17$. Radicle $1/3$ length of scape; scape 6 times longer than wide (24:4); length to breadth ratios of A2, A4→A11 as 3:1.7; 5:2.2; 3:2.3; 3.5:4; 4.5:4.7; 3.5:4.5; 4.7:4.4; 3.8:4.2; 3.8:4.2 (fig. I, 3).

Length to width ratios of T1→T3 are 8.5:40; 20:40; 6.5:35.

Ior is present but posterior edge of the anterior ocellus not hidden by a ledge as in *G. kenyotum* sp. n.; frontal depression enframed and connected at its upper corner by a ledge to the median ocellus. A6 does not fit closely into A7.

Deep rugosities at hind margin of mesoscutum; scutellum deeply excavated at apex. Epomia incomplete and mesopleural carina complete, the latter running almost parallel to the acetabular carina.

Tergites 2→5 sculptured as in *G. kenyotum* sp. n.; S2 convex with almost complete *usck*. Length about 2.3 mm.

Male. In all respects similar to the female. For antenna see fig. I, 4. Length 2.3 mm.

Material examined. Apart from the type material, the specimens listed

below. 3 ♀♀ (Uganda, Lowere - VIII/1926 - ex eggs of Coreid laid on leaf of *Canthum*. Pres. by Imp. Inst. Ent. - B.M. 1936 - 224 - C.L.R. Hancock); 2 ♀♀ (Rhodesia, Salisbury 1977 - A. Watsham); 1 ♀ (Zimbabwe, Salisbury - V/1980 - A. Watsham); 5 ♀♀/2 ♂♂ (Senegal - ex eggs of Coreid - Coll. Risbec) identified by Risbec himself as *Hadronotus letus* NIXON), held in MNHN, slide No. 100 and tagmounted by me.

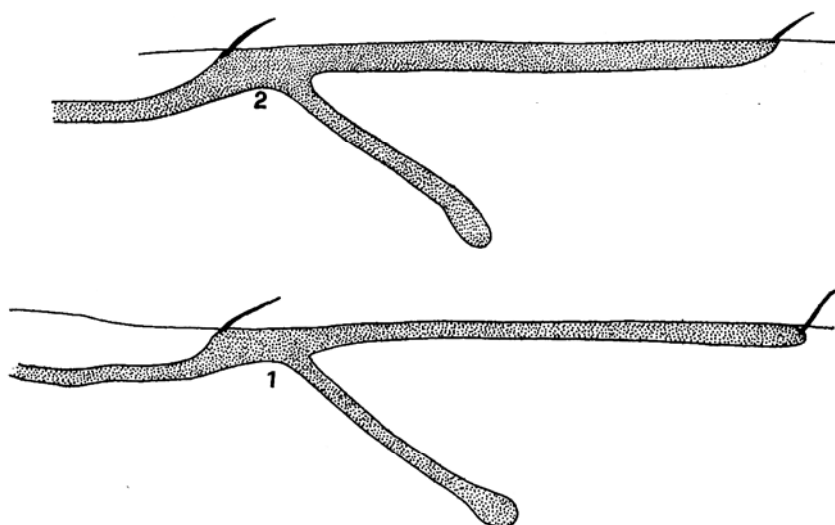


Fig. III

G. letus. - Detail of female (1) and of male (2) fore wing.

Host. Heteropteron probably belonging to the family Coreidae.

Ethology. The adult emerges making a hole on the egg-shell of the host anteriorly.

Distribution. Gold Coast, Senegal, Uganda and Zimbabwe.

Variability. The specimens bred from Senegal share entirely ochraceous A1→A7 and femora, while the scutellum is not deeply excavated at the apex.

***Gryon paracharontis* sp. n.**

(Figs. I, 5; IV, 1-2; V; VI; VII)

Female. Black. Radicle reddish foscous; A1→A6 and distal surface of femora, tibiae and tarsomeres 1-5 bright reddish yellow, remainder of femora and trochanteres chestnut in contrast with reddish; wing veins golden yellow.

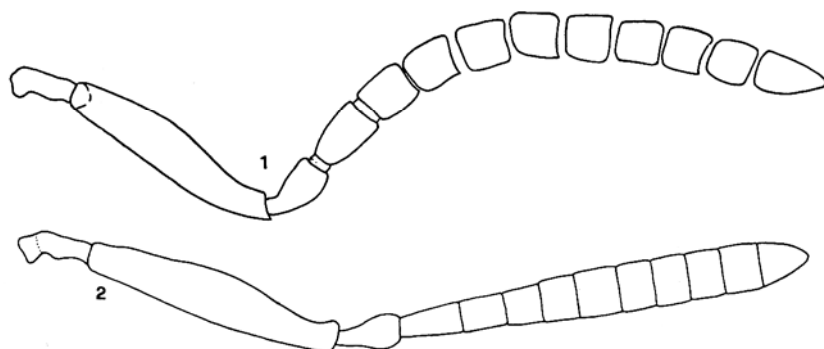


Fig. IV

Gryon paracharontis sp. n. - Male (1) and female (2) antenna.

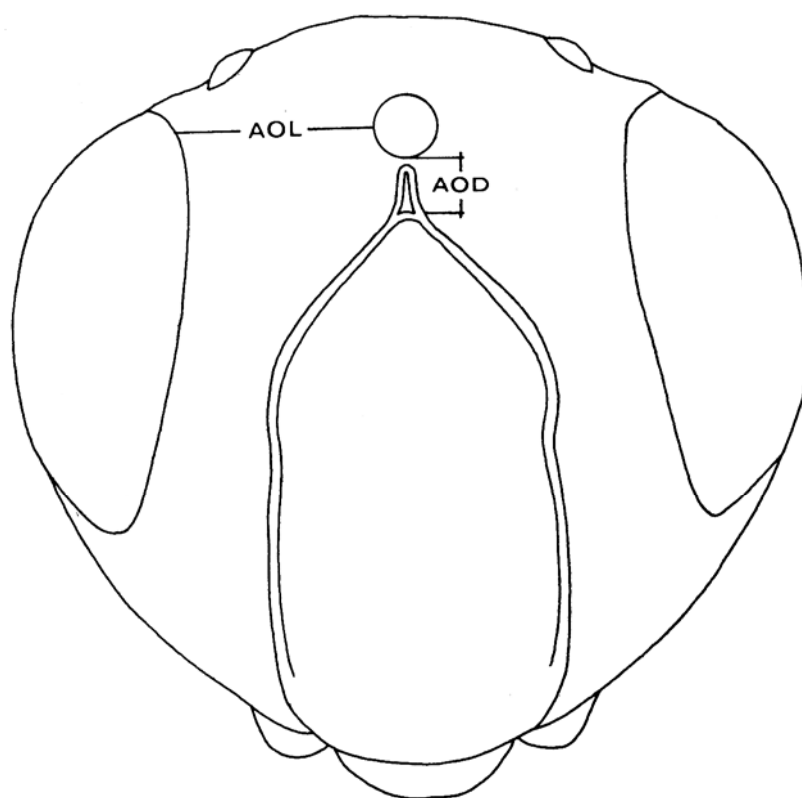


Fig. V

G. paracharontis sp. n. (♀). - Sketch of the head in frontal view.

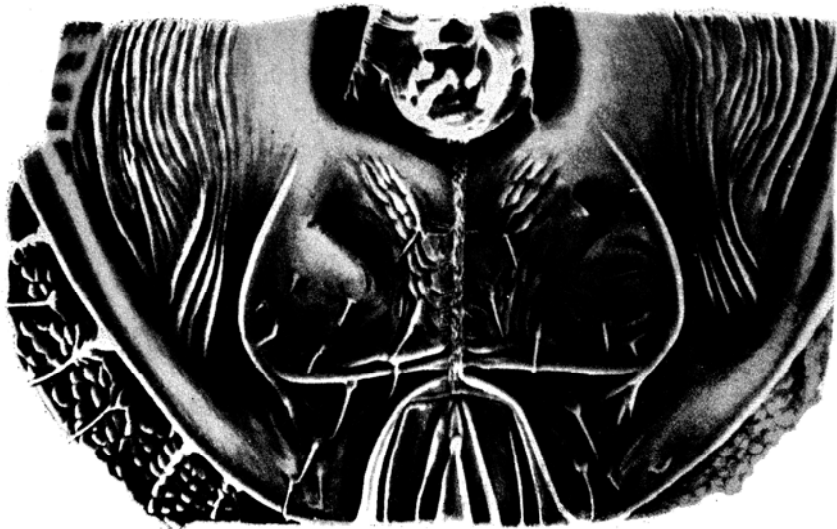


Fig. VI

G. paracharontis sp. n. (♀) - Detail of the back of the head illustrating the sculpture of the hypostomal bridge.

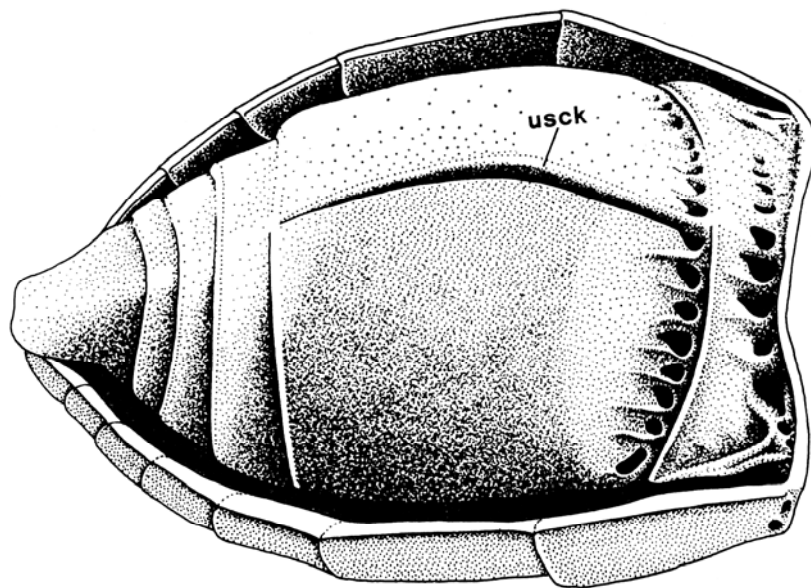


Fig. VII

G. paracharontis sp. n. (♀) - Gaster in latero-ventral aspect illustrating the *usck*.

Head from above about 3.5 times broader than long (39:11); $l \times b = 23.7 \times 17.5$; $ms = 11$; A6 fits so closely into A7 that the clava appears to consist of seven antennomeres (fig. IV, 2); the sequence of the basiconic-type sensilla from A12 to A7 is: 1,2,2,2,2,2,0. The *meridiana* arises from the subgenal smooth process, reaching behind the upper third of the compound eye. The epomia and mesopleural carina are complete, the latter running almost parallel to the acetabular carina. The gaster is slightly wider than long (42:37), and the length to breadth ratios of T1→T3 are: 8:42; 13:42; 5:40.

The frontal depression is enframed, its upper angle connected to the anterior ocellus by a ledge (fig. V). The *ior* is weak, while the rest of the head is sculptured by almost regular polygons; the walls of the meshes are punctured. Eyes with scattered minute hairs.

The centre of the area inside the inner edges of the postoccipital sulci (= hypostomal bridge) is chiselled (fig. VI). The mesoscutum is depressed at the sides, and its hind margin has coarse rugosities. The scutellum is weakly notched at the apex, overlapping the middle of the metanotum, which bulges at the meson.

T2 and the latter tergites are irregularly wrinkled, apart from the hind margin, which is smooth and shiny. S2 is strongly convex with *usck* complete (fig. VII).

The above mentioned figures should be referred too for other characters. Length about 2.1 mm.

Male. Essentially identical to the female. S2 also with almost complete *usck*. For other characters see the above mentioned figures.

Length 2.1 mm.

Material examined. 1 ♀ (*holotype*) (Zimbabwe, Salisbury-y.pan trap - X/1980 - A. Watsham); ♂ (*allotype*) (7/V/1975) other data as holotype; 22 paratypes collected from 1974 to 1979 in the same locality as the holotype by the same collector; 1 ♀ (*paratype*) (Somaliland, Uebi Shebeli: Afgoye-mal. trap - IX/1978 - F. Bin); 1 ♀ (Zaire, Voka - 2/VI/73 - Onore).

Type and other paratypes in my collection; paratypes in the BMNH, CNC, TMA and in Dr. Bin's collection.

Host and biology. Not known.

Gryon urum sp. n.

Female. Black. Coxae dark, proximal and distal surface of femora and tibiae bright reddish yellow; the remainder of the femora and scape are chestnut in contrast to reddish yellow, as are the tarsomeres 2-5. The mandibles are reddish infusate; A2→A12 brown; tegulae chestnut brown, ochraceous wing veins.

Head from above about 6.5 times broader than long (52:8). Ratio of AOD to AOL 3:10.3; ratio of POL to OOL 15:3; *ios* = 28; *ms* = 17.5; *l* x *b* = 23 x 20. A6 fits very closely into A7. Radicle about 1/4 length of scape (4:21). Length to breadth ratios of A2→A12 are 4:2.5; 7:2.4; 4:2.4; 4:2.4; 3.7:3.7; 4.5:4; 5:4; 3.7:4; 3.7:4; 3:4; 5:4; the last tarsomer is conical. The length 4.5:4; 5:4; 3.7:4; 3.7:4; 3:4; 5:4; the last antennomere is conical. The length ratios of *mg*, *st* and *pm* are 2.8:11:25.

The gaster is elongated (50:45), and the length ratio of T1→T3 is 12:20:8. The total length of the remainder of the tergites is twice that of T3.

The frontal depression is enframed but not connected at its upper side by a ledge to the anterior ocellus. Eyes with minute scattered hairs. The *genal carina* and the *temporal carina* are composed of two independent segments. The vertex is not produced (*ior* therefore absent), and passes into the occiput in an almost smooth curve. The sculpture of the head consists of almost regular polygons, and the walls of the meshes are punctured. The thorax is strongly convex. The epomia is complete and the mesoscutum and scutellum are compressed at the sides. The scutellum is faintly notched at the apex. The complete mesopleural carina runs roughly parallel to the acetabular carina. T2 is irregularly wrinkled and reticulate; the remainder of the tergites have about the same sculpture. S2 is faintly convex and the *usck* is absent.

Length 2.6 mm.

Male. Not known.

Material examined. 1 ♀ (*holotype*) (Zaire, Voka - 2/VI/73 - *Onore*) preserved in Dr. Bin's collection: left antenna after 10th antennomere missing.

Remarks. *Gryon paracharontis* sp. n. and *Gryon urum* sp. n. both be-

long to the *charon*-group, whose species file leader is *Gryon charon* (NIXON). They may be selected on the basis of the following characters:

<i>G. charon</i> (♀)	<i>G. paracharontis</i> sp. n. (♀)	<i>G. urum</i> sp. n. (♀)
1) ratio AOD to AOL 2:10.5	ratio AOD to AOL 6:10.5	ratio AOD to AOL 3.5:12
2) presence of a ledge from upper angle of frontal depression, lin- king it to the anterior ocellus.	as in <i>G. charon</i>	Upper angle of the frontal depression not joined by ledge with anterior ocellus.
3) A3 fully twice lon- ger than wide.	A3 about as long as wide.	A3 about 3 times lon- ger than wide.
4) interocellar ridge present.	as in <i>G. charon</i>	interocellar ridge ab- sent.
5) Genal and temporal carinae formed by a single fragment.	as in <i>G. charon</i>	Genal and temporal ca- rinae formed by two distinct fragments.

SUMMARY

Three new species of Scelionidae (*Hym. Proctotrupoidea*) from the Ethiopian Region are described: *Gryon kenyotum*, *Gryon paracharontis* and *Gryon urum*.

Two new morphological features have been found in the genus *Gryon* HAL., i.e. the *temporal carina* and the *urosternal central keel*. The latter could be interpreted as a morphological arrangement belonging to the *Gryon* spp. with extremely convex S2.

New data on *Gryon letus* (NIXON) are reported.

RIASSUNTO

Vengono descritti tre nuovi Scelionidi (*Hym. Proctotrupoidea*) della regione etiopica: *Gryon kenyotum*, *Gryon paracharontis* e *Gryon urum*.

Sono illustrati due caratteri morfologici che risultano nuovi almeno per il genere *Gryon* HAL.: la *carena temporale* e la *carena centrale urosternale*. Quest'ultima potrebbe essere interpretata come un adattamento morfologico interessante la specie di *Gryon* dal 2° sternite apparente estremamente convesso.

Nuovi dati vengono riferiti su *Gryon letus* (NIXON).

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