

maladie des noyaux denses  
— *Experientia*, 21, p. 393.  
The role of ascorbic acid  
et al., 8, p. 287-297.  
in der Zucht der Raupen  
Insectes en vue d'appréciation  
45, p. 1100-1102.

des de lutte biologique  
et de biocoenotique.  
8 - par Versailles.)

## A LEAFHOPPER MATERIAL FROM TUNISIA, WITH REMARKS ON SOME SPECIES OF THE ADJACENT COUNTRIES

BY

R. LINNAVUORI

The Leafhopper fauna of Tunisia has been treated, besides in some minor articles, by PUTON 1886 and LINNAVUORI 1965. An additional list, based on material collected by Mr. M. HANNOTIIAUX in 1967-1968, is published below. The species, not previously recorded from Tunisia, are marked with an asterisk. The material is preserved in the Muséum national d'Histoire naturelle (Paris), a part of duplicates also in my private collection.

I wish to thank Dr. A. VILLIERS for allowing me to study this interesting material.

### FAM. CERCOPIDAE

*Philaenus spumarius* (L.) — Bizerte, some, 27.v.1968.

*Neophilaenus campestris* (F.N.) — Many. Bizerte, 27.v.1968; Raouad, 26.iv.1968; Tabarka, 2.vi.1968; Tebourba, 2.vi.1968; Tunis, 31.v.1967.

*N. longiceps* (Pr.) — Several. Bizerte, 28.vi.1968; Djebel Abiod, 1.vi.1968; Nabeul, 15.vi.1968; Tunis, 29.v.1967.

### FAM. MEMBRACIDAE

*Acanthophyes chloroticus* (F.M.) — Djebel Feidja, 1 ex., 22.vii.1967; Raouad, 1 ex., 1.vi.1967.

### FAM. CICADELLIDAE

*Cicadulina bipunctella* (MATS.) — Tunis, 1 ex., 23.v.1967.

*Phycotettix paryphantus* (LETH.) — Some. Djebel Mansour, 16.v.1968; Nabeul, 15.vi.1968; Raouad, 14.iv.1967; Sidi Rais, 20.iv.1968.

*Exitanus capicola* (St.) — Some. Kairouan, 18.v.1968; Matmata, 16.xi.1967; Oued el Alem, Kairouan, 18.v.1968; Oued Kebir, Dj. Mansour, 14.xi.1967.

\**E. fasciolatus* (MEL.) — Oued Lakdari, Sfax, 1 ex., 10.v.1967. Intertropical.

*Neoaliturus fenestratus* (H.-S.) — Bizerte, 1 ex., 24.vi.1967.

*N. tenellus* (BAK.) — Tunis, 1 ex., 27.v.1967.

*Opsius lethierryi* WGN. — Several. Gafsa, 6.v.1967; Kairouan, 4.v.1967; Oued Aquinet, 17.xi.1967; Tunis, 22.v.1967.

- O. pallasi* (LETH.) — Sebkra, Kelbia, Kairouan, 1 ex., 3.v.1967.  
*O. scutellaris* (LETH.) — Oued Kebir, Massif Djebel Mansour, 1 ex., 14.xi.1967;  
 Oued Mellah, 1 ex., 4.v.1968.  
*Oxytettix viridinervis* (KBM.) — Many. Bizerte, 21.v.1968; Dj. Ischkeul, 27.v.1968;  
 Raouad, 1.v.1967; Sidi Rais, 20.iv.1968; Tunis, 31.v.1967. On *Retama*.  
*Platymetopius perplexus* Lv. — Djeb. Zaghouan, 1 ex., 18.vi.1968. Endemic.  
 \* *Parameesus nervosus* (F.N.) — Dj. Ischkeul, 1 ex., 27.v.1968. Range : Europe,  
 Turkey, Caucasia, Turkestan.  
*Psammotettix strlatus* (L.) — Several. Kairouan, 18.v.1968; Oued el Alem,  
 Kairouan, 18.v.1968; Tunis, 30.v.1967.  
 \* *P. helvolus* (KBM.) — Bizerte, 1 ex., 27.v.1967. Previously known from Central  
 Europe.  
*Grypotes staurus* Iv. — Some. Kasserine, 5.vi.1967. On *Pinus halepensis*.  
*Goniagnathus brevis* (H.-S.) — Bizerte, 1 ex., 5.v.1964.  
*Placotettix flexuosus* Lv. — Ouchtata, 1 ex., 20.vii.1967. Endemic.  
*Hecalus glaucescens* (F.B.) — Tunis, 1 ex., 18.v.1967.  
*Aphrodes bicinctus* (SCHRK.) — Bizerte, 1 ex., 27.v.1968.  
*A. assimilis* SGN. — Bizerte, 1 ex., 28.vi.1967; Kasserine, 1 ex., 4.v.1967; Raouad,  
 1 ex., 10.v.1968.  
*Paradorydium sefrense* Pt. — Oued Zit, 1 ex., 19.vi.1968. Previously known  
 from Algeria.  
*Eupelix cuspidata* (F.) — Bizerte, 2 ex., 27.vi.1968.  
*Idiocerus ocellaris* (M. R.) — Some. Djebel Asiod, 26.x.1967; Tunis, 23.v.1967.  
 \* *Agallia leda*, n. sp. — Oued Lakdari, Sfax, 1 ex., 20.v.1967.  
*Astroagallia avicula* (RIB.) — Bizerte, 1 ex., 27.v.1968. Westmediterranean.  
*Macropsidius punicus* (L.V.) — Feriana, 5 ex., 6.v.1967. On *Ononis natrix*.  
 \* *Batracomorphus villiersi*, n. sp. — Djebel Bou Hedma, 2 ex., 25.xi.1967.  
*Tamaricella tuberosa* (DWOR.) — Gafsa, 1 ex., 6.v.1967.  
*T. biskrensis* (LETH.) — Kebili, 3 ex., 3.v.1968.  
 \* *Eupteryx andalusica* FERR. — Oued Kebir, Massif Dj. Mansour, 1 ex., 14.xi.1967.  
 Westmediterranean.  
 \* *Ligurogia juniperi* (LETH.) — Bou Kornine, 1 ex., 28.x.1967; Tunis, 2 ex., 28.x.  
 1967. Holomediterranean.

## FAM. DICTYOPHARIDAE

- Dictyophara anatina* Pt. — Bizerte, 2 ex., 27.v.1968.

## FAM. CIXIIDAE

- \* *Pseudotiarus fuscofasciatus aegyptiacus* WGN. — Some. Sebkra Kelsia, Kairouan, 3.v.1967. On *Tamarix*. Eremian (Egypt, Libya).  
*Hyalesthes obsoletus* SGN. — Some. Hadjeb el Ayoun, Kairouan, 4.v.1967. On *Limoniastrum guoyonianum*.  
*H. luteipes* FB. — Djeb. Zaghouan, 1 ex., 18.vi.1968.  
*H. productus* LETH. — Sedjenane, 1 ex., 1.vi.1968.  
*Hemitropis seticulosus* (LETH.). — Several. Kairouan, 4.v.1967; Sebkra Kelsia, Kairouan, 3.v.1967.

*H. letourneuxi*  
 Gafsa, 8.v.1967.

\* *Duolopsis balearica*  
 O. Mellah entre Mellah et Gafsa, 4.v.1968.

\* *Delphax inerme*

\* *Bostaera boliviensis*  
 gal, Egypt, Israel, Jordan.

*Delphacinus pulchellus*  
 Mellah, 4.v.1968; Cévennes.

\* *Chloriona unicolor*  
 from Central Europe.

*Calligypona* (unpublished).

*Caliscells dimidiata*

*Issus patruelis*  
 1967.

*Hysteropterurus*

\* *H. stramineus*  
 1968. Eremian (Morocco).

*H. paludum* (unpublished).

\* *H. deserticola*  
*plus lotus*. Eremian.

*H. issifrons* Eremian.

*Sfaxia inermis* (unpublished).

*Tettigometra*  
 Oued Kebir, Djebel Mellah.

\* *T. laeta* H.-S.

*T. brachycephala*  
*Tamarix*.

*T. picta* FB.  
 On *Arthocnemum minus*.

*T. costulata* L.

18.vi.1968.

*T. obliqua* Pt.

\* *Phantia indicana*  
 On *Ononis natrix*. I also a specimen from Libya.

3.v.1967.  
ansour, 1 ex., 14.xi.1967;  
8; Dj. Ischkeul, 27.v.1968;  
On *Retama*.  
x., 18.vi.1968. Endemic.  
7.v.1968. Range : Europe,  
18.v.1968; Oued el Alem,  
iously known from Central  
On *Pinus halepensis*.  
1964.  
1967. Endemic.  
7.  
1968.  
ne, 1 ex., 4.v.1967; Raouad,  
.vi.1968. Previously known  
x.1967; Tunis, 23.v.1967.  
, 20.v.1967.  
v.1968. Westmediterranean.  
67. On *Ononis natrix*.  
Hedma, 2 ex., 25.xi.1967.  
.1967.  
Dj. Mansour, 1 ex., 14.xi.1967.  
28.x.1967; Tunis, 2 ex., 28.x.  
88.  
Some. Sebkra Kelsia, Kai-  
youn, Kairouan, 4.v.1967. On  
1968.  
uan, 4.v.1967; Sebkra Kelsia,

*H. letourneuxi* (LETH.) — Several. Nefta, 7.v.1967; O. Mellah entre Metlaoui, Gafsa, 8.v.1967.

\**Duilopsis balachowskyi* BGV. — Several. Gafsa, 6.v.1967; Nefta, 7.v. 1967; O. Mellah entre Metlaoui, Gafsa, 8.v.1967. On *Tamarix*. Eremian (Morocco, Algeria).

#### FAM. DELPHACIDAE

\**Delphax inermis* RIB. — Kebili, 1 ex., 9.v.1968. Holomediterranean.

\**Bostaera bolivari* (MEL.) — Djebel Zaghouan, 1 ex., 18.vi.1968. Eremian (Portugal, Egypt, Israel, Sudan).

*Delphacinus putoni* (Sc.) — Some. Oued el Alem, Kairouan, 18.v.1968; Oued Mellah, 4.v.1968; Oued el Morra, 3.v.1968. On *Cyperus laevigatus*.

\**Chloriona unicolor* H.-S. — Oued el Alem, Kairouan, 1 ex., 18.v.1968. Known from Central Europe, Spain and Italy.

*Callipypona (Toya) propinqua* (Fr.) — Kairouan, 4 ex., 15.xi.1967.

#### FAM. ISSIDAE

*Caliscelis dimidiata* C. — Tunis, 1 ex., 31.v.1967.

*Issus patruelis* ST. — Ain Draham, 1 ex., 24.v.1967; Djebel Feidja, 2 ex., 21.vii. 1967.

*Hysteropterum algiricum* (LUC.) — Korbous, 2 ex., 1968.

\**H. straminum* BGV. — Bizerte, 1 ex., 28.vi.1967; Djebel Ischkeul, 2 ex., 27.v. 1968. Eremian (Morocco, Algeria).

*H. paludum* BGV. — Feriana, 1 ex., 6.v.1967.

\**H. deserticolum* Lv. ? — Sfax, 1 ♀ probably of this species, 8.v.1967. On *Zizyphus lotus*. Eremian (Israel, Egypt, Libya).

*H. issifrons* BGV. — Tebourra, 1 ex., 2.vi. 1968.

*Sfaxia inermipes* BGV. — Gafsa, 2 ex., 6.v.1967. Endemic.

#### FAM. TETTIGOMETRIDAE

*Tettigometra virescens* (Pz.) — Several. Bizerte, 28.vi.1967; Kasserine, 4.v.1967; Oued Kebir, Djebel Mansour, 14.xii.1967; Taberka, 2.vi.1968; Tunis, 23.v.1967.

\**T. taeta* H.-S. — Bizerte, 1 ex., 27.v.1963. Holomediterranean.

*T. brachycephala* FB. — Bizerte, 1 ex., 27.v.1968; Utique, 1 ex., 2.vi.1967. On *Tamarix*.

*T. picta* FB. — Several. Bizerte, 28.vi.1967; Tunis, 13.vi.1967; Utique, 2.vi.1967. On *Arthocnemum indicum* and *Pistacia lentiscus*.

*T. costulata* FB. — Several. Bizerte, 28.vi.1967; Oued Sit, 18.vi.1968; Utique, 18.vi.1968.

*T. obliqua* Pz. — Djeb. Zaghouan, 1 ex., 18.vi.1968; Nabeul, 2 ex., 15.vi.1968.

#### FAM. FLATIDAE

\**Phantia indicatrix* Wk. — Hachichina, 1 ex., 2.v.1968; Sfax, 1 ex., 8.v.1967. On *Ononis natrix*. Eremian. Previously known from Egypt, Israel and Arabia. I have also a specimen from Ghardaia, Algeria, 24.iv.1964, Eckerlein leg.

\* \*

NOTES ON SOME NEW OR LITTLE KNOWN LEAFHOPPER  
SPECIES AND GENERA

FAM. CICADELLIDAE

*Phycotettix paryphantus* (LETH.)

Male genitalia (fig. 1) : Pygofer short, conical, sclerified, side lobes short and broad, apically truncate, with several macrosetae. Anal tube short and broad, sclerified, only base of dorsal surface membranous. Genital plates elongately triangular, apical part membranous, macrosetae uniserial. Apophysis of stylus short, preapical angle sharp. Connective relatively long. Penis asymmetrical, provided with a basal appendage; dorsal surface of stem with a median ridge, gonopore subapical on the ventral surface.

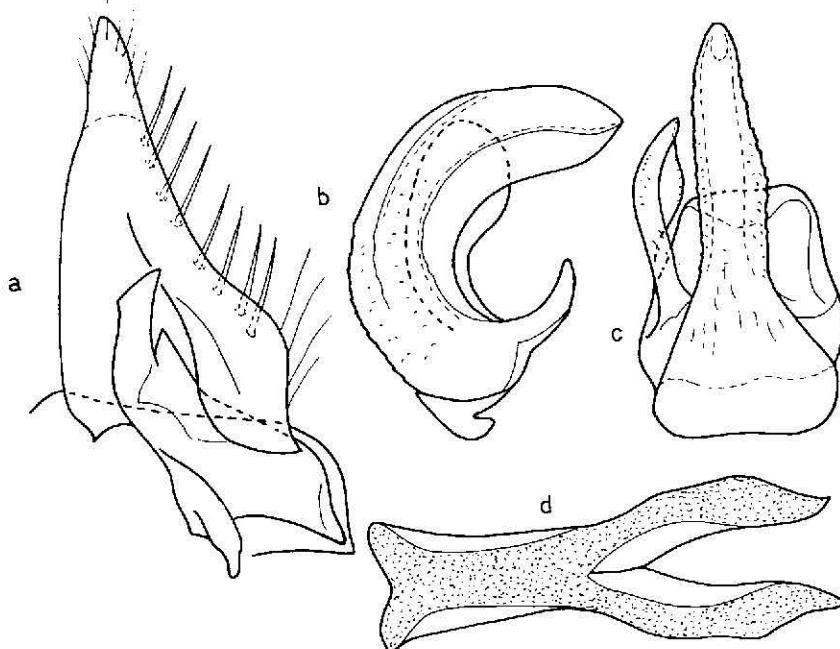


FIG. 1, *Phycotettix paryphantus* (LETH.) : a, stylus and genital plate; b-c, penis; d, connective.

*Melillaia*, n. gen.

Of the tribe *Euscelini*. Small brachypterous leafhoppers. Colouring pale ochraceous, with well developed fuscous pattern.

Body elongate. Head nearly as broad as pronotum. Lower part of face bluntly angular in outline; anteclypeus parallel-sided; frontoclypeus moderately convex, broad, only slightly broadening upwardly; genae shallowly insinuated near eyes; ocellocular area narrowish; anterior margin

of head rounded. C medially than latera regions therefore not Pronotum short and finely transversely wr covering only basal h obscure, only claval s wings scale like, redu 2 + 2 + 1.

Male genitalia ( sclerified, side lobes s macrosetae, without than long, sclerified. lateral margin nearly long and sharp, pre symmetrical, stem dig subapical on the ventr insinuated.

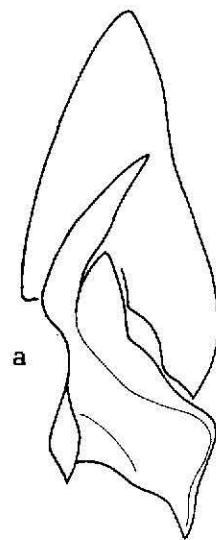


FIG. 2, *Melillaia desbrocher*

Type : *Thamnotettix*

The species was VUORI 1965, p. 30). A from Melilla, revealed *Melillaia* differs from and the structure of *Brachypteronia* LDB. externally rather mu

, sclerified, side lobes  
macrosetae. Anal tube  
surface membranous.  
embranous, macrosetae  
angle sharp. Connective  
with a basal appendage;  
pore subapical on the

of head rounded. Crown flat, triangularly produced, distinctly longer medially than laterally, totally densely shagreened, frontal and discal regions therefore not delimited, coronal suture short; ocelli near eyes. Pronotum short and broad, lateral margins short, disk shagreened and finely transversely wrinkled. Scutellum with a transverse furrow. Elytra covering only basal half of abdomen, obliquely truncate apically, venation obscure, only claval suture and the main longitudinal veins visible. Flying wings scale like, reduced. Spinulation of fore tibiae  $1 + 4$ , of hind knees  $2 + 2 + 1$ .

Male genitalia (fig. 2) : Pygofer small and short, broadly conical, sclerified, side lobes short, broadly rounded apically, provided with several macrosetae, without appendages. Anal tube short, cylindrical, broader than long, sclerified. Genital plates sharply triangular, totally sclerified, lateral margin nearly straight, macrosetae uniserial. Apophysis of stylus long and sharp, preapical angle prominent. Connective short. Penis symmetrical, stem digitate, arising from the ventral part of socle, gonopore subapical on the ventral surface. Hind margin of 7th sternite (♀) shallowly insinuated.

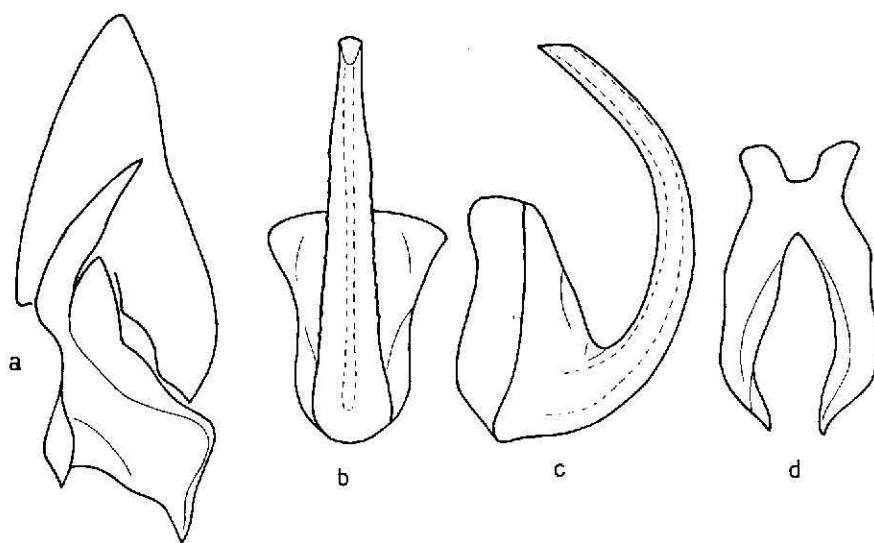


FIG. 2, *Melillaia desbrochersi* (LETH.) : a, stylus and genital plate; b-c, penis; d, connective.

plate; b-c, penis; d, connective.

s leafhoppers. Colouring  
ttern.

pronotum. Lower part  
parallel-sided; frontoclypeus  
dening upwardly; genae  
arrowish; anterior margin

#### Type : *Thamnotettix desbrochersi* LETH.

The species was tentatively regarded as *Phycotettix* by me (LINNAVUORI 1965, p. 30). A study of two males, communicated by Mr. A. PARDO from Melilla, revealed that a new genus has to be established for the species. *Melillaia* differs from *Phycotettix* in the small size, the different colouring and the structure of the male genitalia. The genus is closely related to *Brachypteronia* LDB. from the Canary Islands, *B. grisea* LDB. resembles externally rather much *M. desbrochersi*. *Brachypteronia* differs, however,

in the longer elytra, extending to the apical third of the abdomen. The connective is long, with the stem long and rather gracile and the arms strongly diverging. The pygofer ( $\delta$ ) is also larger and the anal tube longer than broad.

The genus consists also of *Thamnotettix acuminatus* MATS. from Sicilia.

*Bousaada*, n. gen.

Of the tribe *Euscelini*. Narrow, pale greyish ochraceous leafhoppers, possibly tinged with greenish in life.

Body long and narrow. Head (fig. 3 a) broader than pronotum. Face flat, obliquely horizontal in profile. Lower part of face sharply triangular in outline; anteclypeus long and narrow, parallel-sided; frontoclypeus long and narrow, nearly parallel-sided in lower part until antennal pits, then broadening upwardly until ocelli, here also laterally flattened, after that triangularly tapering towards apex of head; ocellocular area broad, tapering upwardly; genae narrow owing to a strong bluntly angular insinuation near eyes, their outer margin sharp, narrowly upturned; lora elongate; anterior margin of head subacute. Crown sharply triangular, flat, apically slightly concave, shagreened, medially also longitudinally striated, frontal and discal regions not clearly separated, coronal suture long, ocelli in anterior margin, distant from eyes about  $3 \times$  their own diameter. Pronotum long, lateral margins long and parallel, only indistinctly carinate, basal margin deeply insinuated medially, disk flattish, shagreened and transversely wrinkled. Scutellum shagreened, with a transverse furrow. Elytra long and narrow, rather coriaceous, appendix narrow, 3 closed subapical cells, no extra cross veins. Spinulation of fore tibiae 1 + 5, of hind knees 2 + 2 + 1.

Male genitalia : Pygofer cylindrical, sclerised, only shallowly insinuated behind the conical and sclerised anal tube, extending slightly beyond pygofer; caudal margin of side lobes sclerised and serrate, macrosetae few. Genital plates long and sharply triangular, macrosetae few, delicate, not regularly arranged. Apophysis of stylus digitate, preapical angle rounded. Connective rather long, arms nearly parallel. Penis symmetrical, provided with basal appendages, stem long, arising from the dorsal part of socle, gonopore subapical on the ventral surface.

Type : *B. psapfa* Lv.

Of the *Platymetopius* group. Apparently related to *Zizyphoides* DIST. (= *Rhombopsana* Mc.) and *Stenomiella* EV., but differing in the parallel-sided anteclypeus, the long and parallel-sided pronotum, the strong shagreening of the crown, etc.

*B. psapfa*, n. sp.

Length 7 mm. Pale greyish ochraceous, possibly tinged with greenish in life. Frontoclypeus dark brownish, medially paler. Also sides of face largely embrowned. Elytra rather coriaceous, slightly smoky apically veins pale. Dorsum of abdomen and under surface partly darkened. Legs pale, hind tibiae with dark spinigerous dots.

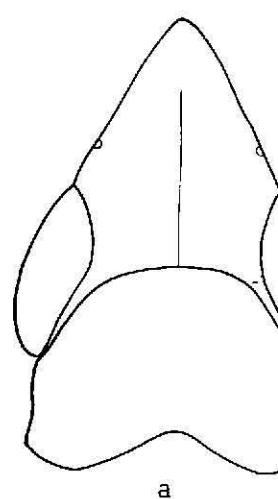


FIG. 3, *Bousaada psapfa*, n. sp.  
a, head, lateral view  
c, penis, ventral aspect

Body long and g...  
median length of pro...  
as long as broad bas...  
Male genitalia in fig. 3

Material studied :  
type, 1.v.1964, Eckerle

Length 3.25 mm.

Of the *ribauti* g...  
(fig. 4 c) apically bide...  
of pygofer (fig. 4 d) ...  
digitate and rather str...

MATERIAL STUDIED:  
*thiaux*, in Mus. Paris.

In *A. ribauti* Oss.  
the stem of the penis  
with minute teeth on t...  
dages of the anal tube  
longer apical teeth. T...  
and provided with a s...  
margin of the appenda...

the abdomen. The  
gracile and the arms  
the anal tube longer  
*us* MATS. from Sicilia.

chaceous leafhoppers,

than pronotum. Face  
ace sharply triangular  
-sided; frontoclypeus  
t until antennal pits,  
erally flattened, after  
cellocular area broad,  
g bluntly angular insi-  
owly upturned; lorae  
vn sharply triangular,  
ly also longitudinally  
arated, coronal suture  
about  $3 \times$  their own  
nd parallel, only indi-  
medially, disk flattish,  
n shagreened, with a  
er coriaceous, appendix  
ns. Spinulation of fore

d, only shallowly insi-  
ube, extending slightly  
and serrate, macrosetae  
macrosetae few, delicate,  
igitate, preapical angle  
parallel. Penis symme-  
arising from the dorsal  
surface.

ted to *Zizyphoides* DIST.  
differing in the parallel-  
onotum, the strong sha-

sibly tinged with greenish  
paler. Also sides of face  
slightly smoky apically  
surface partly darkened.  
ts.

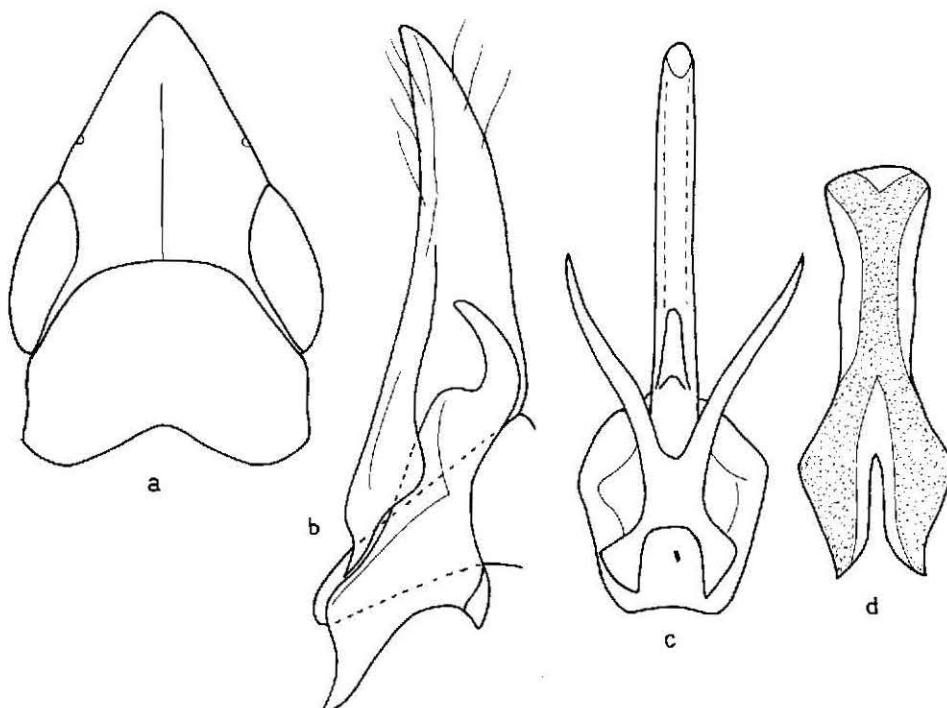


FIG. 3, *Bousaada psapfa*, n. gen. et sp. : a, head and pronotum; b, stylus and genital plate;  
c, penis, ventral aspect; d, connective.

Body long and gracile. Crown sharply triangular,  $1.44 \times$  as long as median length of pronotum,  $2.36 \times$  as long medially as laterally,  $1.24 \times$  as long as broad basally. Pronotum  $1.83 \times$  as broad as long medially. Male genitalia in fig. 3 b-d and fig. 4 a-b.

Material studied : Algeria, near Bou Saâda, 1 ♂, type and 1 ♂ paratype, 1.v.1964, Eckerlein, in my collection.

#### *Agallia leda*, n. sp.

Length 3.25 mm. Externally as *A. venosa* (FN.).

Of the *ribauti* group. Male genitalia : Appendages of anal tube (fig. 4 c) apically bidentate, extending to apex on anal tube. Side lobes of pygofer (fig. 4 d) with a claw like process. Stem of penis (fig. 4 e) digitate and rather straight, smooth, gonopore rather far from apex.

MATERIAL STUDIED : Oued Lakdari, Sfax, 1 ♂, type 10.v.1967, *Hannothiaux*, in Mus. Paris.

In *A. ribauti* Oss. the appendages of the anal tube are much narrower, the stem of the penis is distinctly recurved dorsad apically and provided with minute teeth on the ventral surface. In *A. uncigera* RIB. the appendages of the anal tube are much longer, more gracile and provided with longer apical teeth. The stem of the penis is recurved dorsad apically and provided with a subapical gonopore. In *A. insularis* LDB. the apical margin of the appendages of the anal tube is not insinuated between the

teeth and the stem of the penis is relatively shorter and thicker. In *A. perarmata* DLAB. the apical margin of the anal tube appendages is deeply insinuated, the stem of the penis is narrower and distinctly recurved dorsad and the elytra are provided with only two closed subapical cells. In *A. vorobjevi* DLAB. the appendages of the anal tube are very gracile and the stem of the penis is provided with a subapical tooth on the dorsal surface.

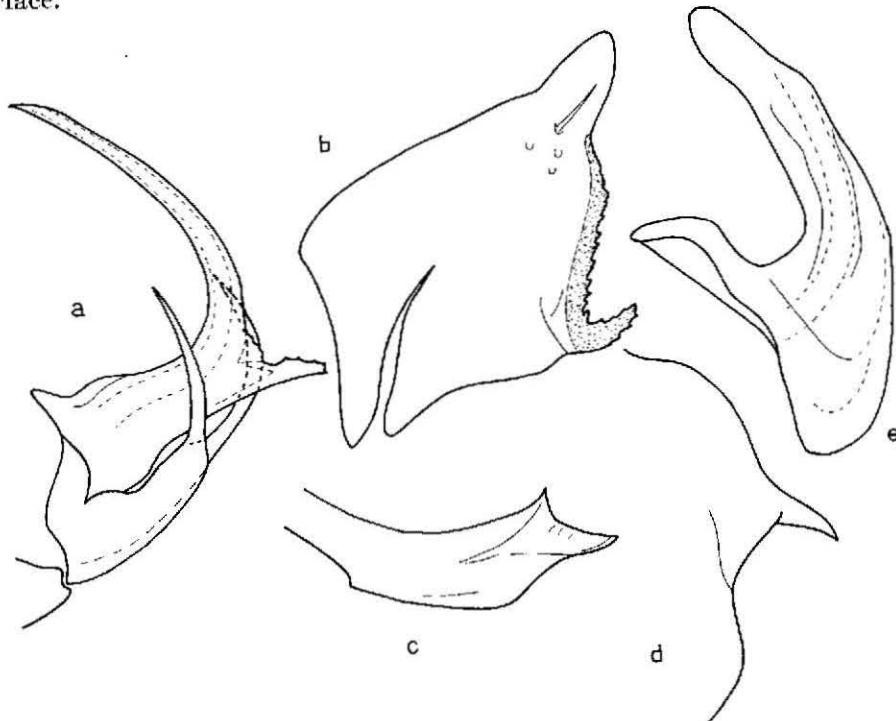


FIG. 4, *Bousaada psapfa*, n. gen. et sp.: a, penis, lateral aspect; b, side lobe of pygofer.—*Agallia ledella*, n.sp.: c, appendage of anal tube; d, side lobe of pygofer; e, penis, lateral aspect.

#### *Macropsidius orestes*, n. sp.

Length ♂ 3.4 mm., ♀ 3.7 mm. Greyish ochraeaceous. Black pattern of head and thorax as in *M. dispar* (FB.). This pattern more intensive in ♂: black bands and spots of face larger, upper part of frontoelypeus medially embrowned; disk of pronotum with two brown longitudinal bands, diverging caudad; basal triangles of scutellum large. Veins of elytra pale, only apical veins embrowned, cells with brown longitudinal bands, distinct in ♂, faint in ♀. Dorsum of abdomen dark. Base of tibiae with a round black spot.

Body as in *M. dispar*. Male genitalia in fig. 5.

MATERIAL STUDIED: Algeria, Chott el Hodna, 1 ♂, type and 1 ♀ paratype, my collection, Eckerlein.

A revision of the genus *Macropsidius* RIB. has been published by DLABOLA (1963). *M. orestes* is easily distinguished from the other species in the male genitalia.

FIG. 5, *Macropsidius orestes*, n. sp.  
d, apex of same, v.

Length 4.5-4.75 mm. Crown, pronotum and elytra apically. Appendices of pygofer rounded, of stylus 0.645 mm. Side lobe of pygofer tooth on outer surface, minute. Dorsal surface minutely granulated. Apex of 7th sternite (♀) strongly produced, subtriangular, laterally slightly insinuated, lateral angles

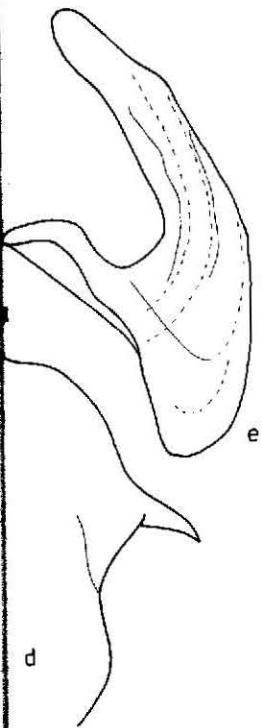
Externally as in *M. dispar*. Body length 4.5-4.75 mm. Side lobe of pygofer rounded, of stylus 0.645 mm. Side lobe of pygofer tooth on outer surface, minute. Dorsal surface minutely granulated. Apex of 7th sternite (♀) strongly produced, subtriangular, laterally slightly insinuated, lateral angles

MATERIAL STUDIED: Algeria, Chott el Hodna, 1 ♂, type and 1 ♀ paratype, my collection, Eckerlein. Additional material: Algeria, Chott el Hodna, 1 ♂, probably belongs to this species.

The new species

- 1 (2) Large species,
- 2 (1) Smaller species
- 3 (4) Side lobes of pygofer

outer and thicker. In basal tube appendages is one distinctly recurved closed subapical cells. tube are very fragile basal tooth on the dorsal



side lobe of pygofer.—*Agallia*  
pygofer; e, penis, lateral aspect.

sp.  
raceous. Black pattern  
s pattern more intensive  
er part of frontoclypeus  
rown longitudinal bands,  
large. Veins of elytra  
rown longitudinal bands,  
ark. Base of tibiae with

g. 5.  
, 1 ♂, type and 1 ♀ para-

has been published by  
ed from the other species

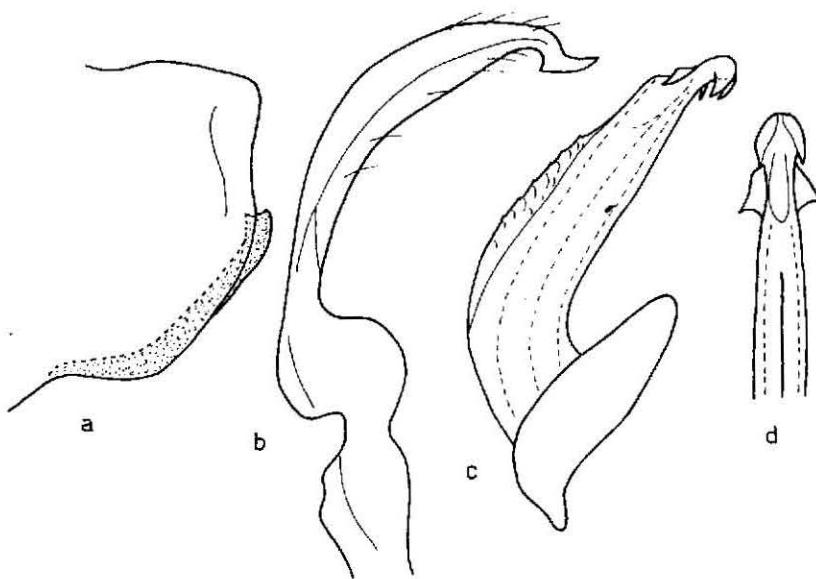


FIG. 5. *Macropsidius orestes*, n. sp.: a, side lobe of pygofer; b, stylus; c, penis, lateral aspect; d, apex of same, ventral aspect.

#### *Batracomorphus villiersi*, n. sp.

Length 4.5-4.75 mm. Pale green. ♀ with a slight reddish tinge on crown, pronotum and scutellum. Claval commissure slightly embrowned apically. Appendix and 1st apical cell of elytra smoky, setigerous punctures nearly concolorous.

Externally as *B. signatus* LDR. Male genitalia (fig. 6) : Side lobes of pygofer rounded, ventral appendages rather straight and thick. Length of stylus 0.645 mm., apophysis unusually gracile, without a subapical tooth on outer surface. Stem of penis strongly recurved dorsad, split, dorsal surface minutely dentate, length of penis 0.375 mm. Hind margin of 7th sternite (♀) deeply insinuated medially, lateral angles therefore strongly produced, sharply triangular (in *signatus* and *glaber* only shallowly insinuated, lateral angles rectangular).

MATERIAL STUDIED : Djebel Bou Hedma, 1 ♂ type (Mus. Paris) and 1 ♀ paratype (my collection), 25.xi.1967, *Hannotheaux*. On *Acacia raddiana*. Additional material : A female from Libya, Homs, 27.viii.1962, *Linnauvori*, probably belongs to the species too.

The new species can be distinguished from its relatives as follows :

- 1 (2) Large species, length 6-8 mm ..... *prasinus* (F.) (Euro-Siberian)
- 2 (1) Smaller species ..... 3
- 3 (4) Side lobes of pygofer (♂) without appendages ..... *irroratus* LEW. (Holomediterranean)

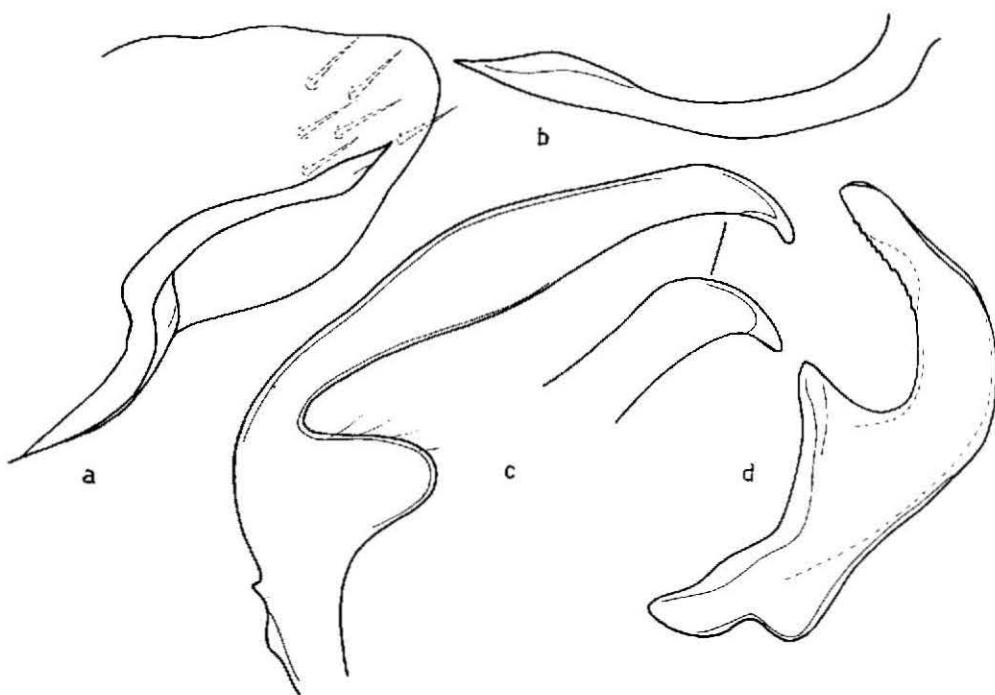


FIG. 6, *Batracomorphus villiersi*, n. sp. : a, side lobe of pygofer; b, appendage of same; c, stylus; d, penis

- 4 (3) Pygofer (♂)
- 5 (12) Appendages
- 6 (7) Penis very s.....
- 7 (6) Penis thicker
- 8 (9) Stylus remain tooth on outer dorsad apical
- 9 (8) Stylus thickened surface. Pen
- 10 (11) Stylus as in .....
- 11 (10) Stylus as in f.....
- 12 (5) Appendages e.....
- 13 (14) Side lobes of following spe.....
- 14 (13) Side lobes of fig. 8 a-b. O.....

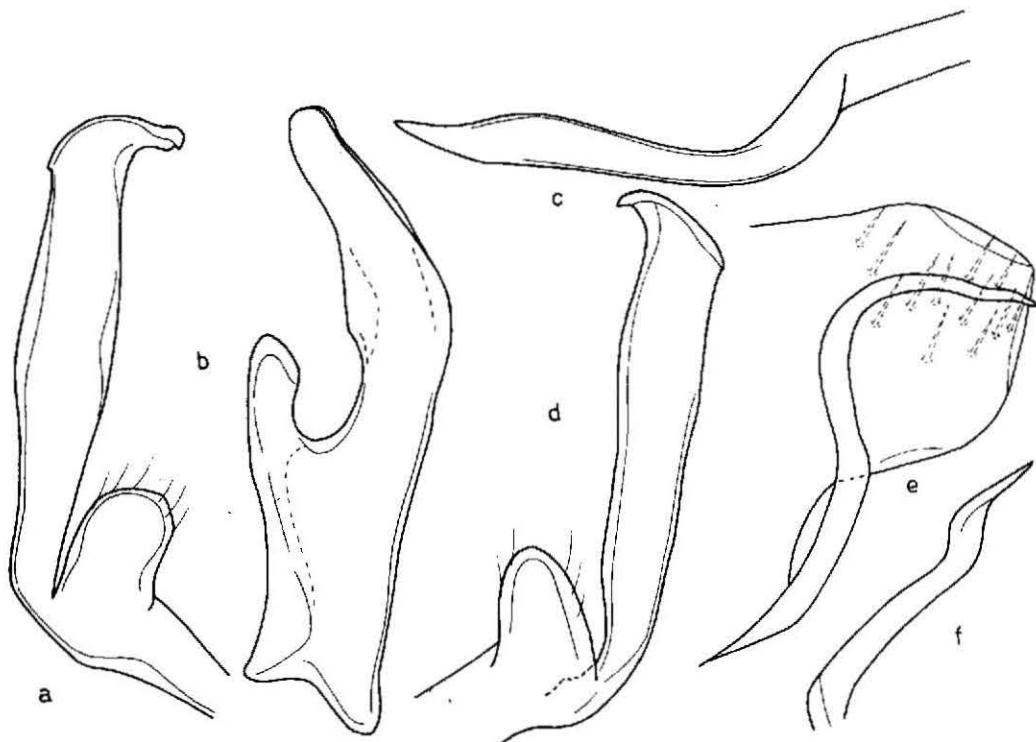


FIG. 7, *Batracomorphus signatus* LDB. (Dakhla, Egypt) : a, stylus; b, penis; c, appendage of pygofer.—  
*B. artemisiae* LDB. : d, stylus. — *B. glaber* ILPT. : e, side lobe of pygofer; f, appendage of same

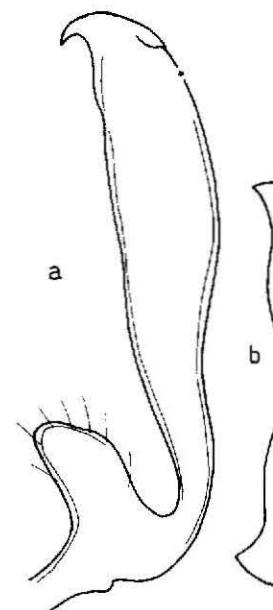
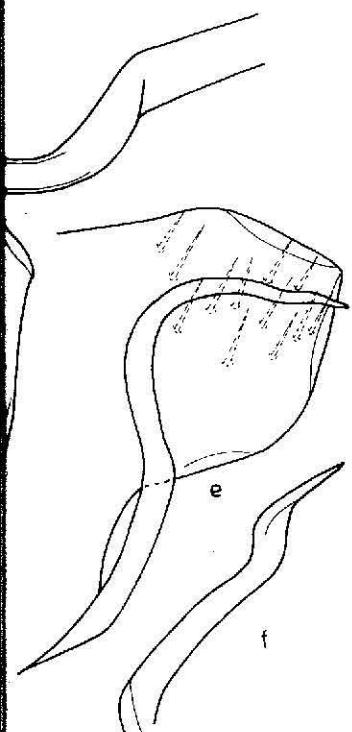


FIG. 8, *Batracomorphus latipes* ILPT. : a, side lobe of pygofer. — *B. latipes* ILPT.

- 4 (3) Pygofer (♂) with appendages ..... 5  
 5 (12) Appendages of pygofer in apical part relatively straight ..... 6  
 6 (7) Penis very slender, stem not split apically .....  
     ..... *consignatus* DLAB. (Afghanistan)  
 7 (6) Penis thicker, stem split apically ..... 8  
 8 (9) Stylus remarkably slender (fig. 6 c), without a distinct subapical tooth on outer surface. Penis (fig. 6 d) short, stem strongly recurved dorsad apically ..... *villiersi*, n. sp.  
 9 (8) Stylus thicker, provided with a distinct subapical tooth on outer surface. Penis longer and straighter ..... 10  
 10 (11) Stylus as in fig. 7 a. Penis (fig. 7 b) thicker. On *Acacia* ..... *signatus* LDB. (Egypt, Israel)  
 11 (10) Stylus as in fig. 7 d. Penis longer and more slender. On *Artemisia* ..... *artemisiae* LDB. (Cape Verde Is.)  
 12 (5) Appendages of side lobes of pygofer strongly recurved (fig. 7 e-f) ..... 13  
 13 (14) Side lobes of pygofer rounded (fig. 8 c). Genitalia otherwise as in the following species. On *Acacia* .....  
     ..... *saraivae* QUARTAU (Cape Verde Is., Chad, Sudan)  
 14 (13) Side lobes of pygofer angulate (fig. 7 e). Stylus and penis as in fig. 8 a-b. On herbaceous plants .....  
     ..... *glaber* HPT. (*flavovirens*) LDT. (Israel, Cyprus)

pendage of same; c, stylus; d, penis



b, penis; c, appendage of pygofer. —  
 lobe of pygofer; f, appendage of same.

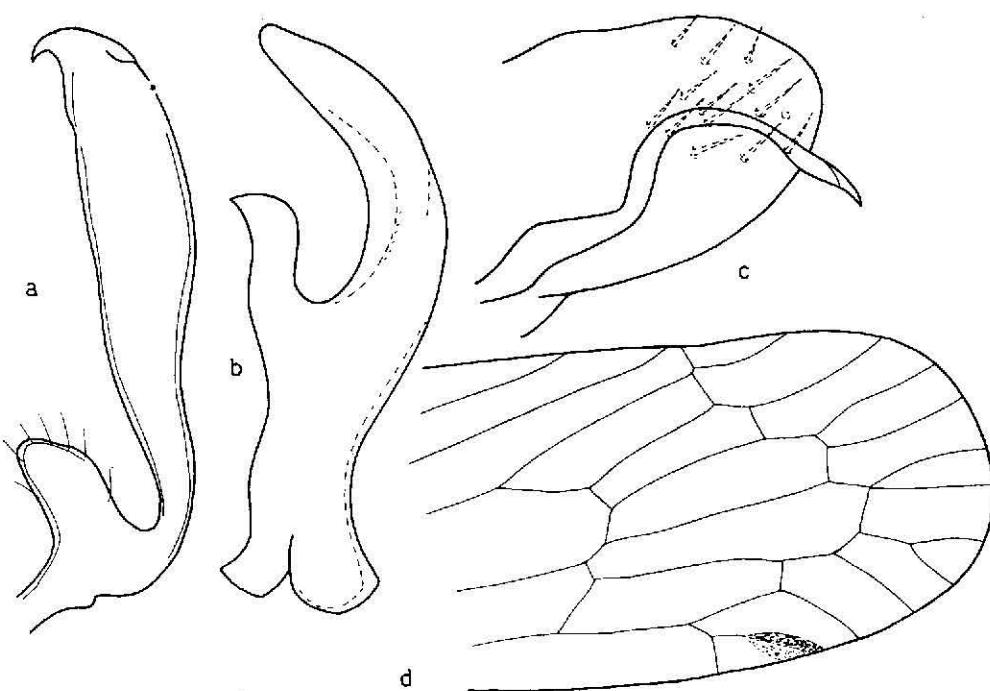


FIG. 8. *Batracomorphus glaber* HPT. : a, stylus; b, penis. — *B. saraivae* QUARTAU : c, side lobe of pygofer. — *Latoliarus aither*, n. sp. ; d, apex of elytron.

## FAM. CIXIIDAE

*Latoliarus aither*, n. sp.

Fig. 9 a-b. Length 6.75 mm. Shiny. Head golden brown, the upcurved sides of frons whitish, lateral margins of vertex narrowly pale, 1st antennal joint blackish, eyes dark brown. Pronotum whitish, antero-lateral compartments tinged with golden brown. Scutellum dark yellow-brown. Tegulae pale, apically broadly dark brown. Elytra strongly shiny, hyaline, with a slight yellowish tinge, veins pale, pterostigma brown. Under surface yellow-brown. Abdomen bright yellow, dorsum partly embrowned. Legs pale ochraceous.

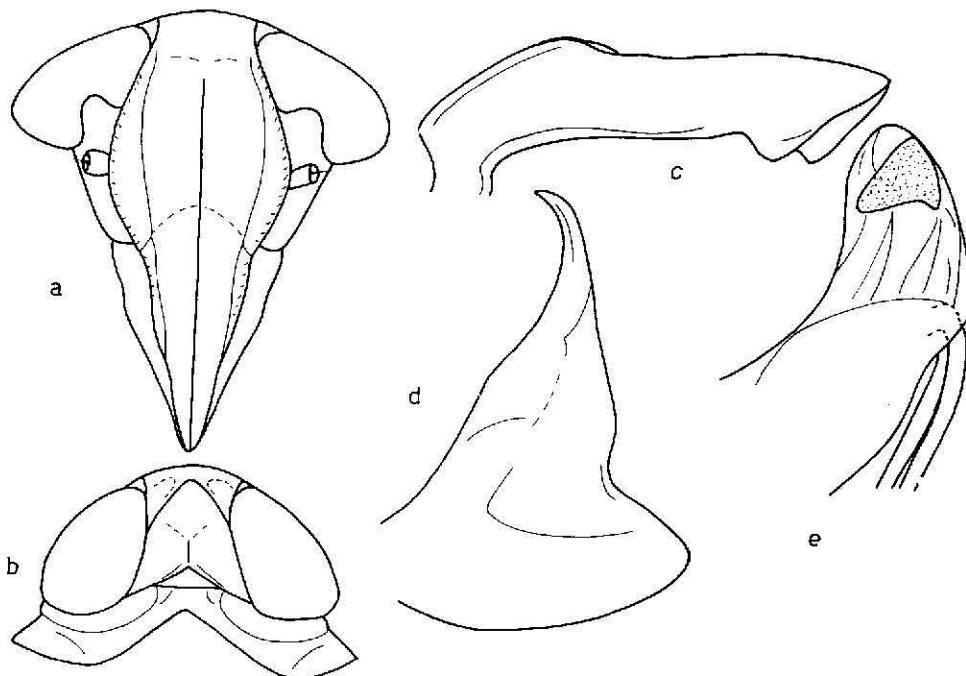


FIG. 9, *Latoliarus aither*, n.sp. : a, face; b, head and pronotum. — *Hysteropterum grylloides* (F.) : c, anal tube (♂) from side; d, stylus; e, apex of penis (paired apical processes stippled).

Clypeus with a median carina, only indistinctly separated from frons medially. Frons broadest at the level of antennae, lateral margins broadly lamellate and upcurved, median parts convex and provided with a central carina, evanescent in anterior margin of head, frontal ocellus reduced. Anterior margin of head rounded, without a transverse carina between vertex and frons. Basal compartment of vertex conical in outline, basal margin angularly insinuated, apical compartments indicated by a shallow depression on either side. Pronotum with a distinct curvate transverse

carina on either side. Scutellum broader than vertex, with 3 longitudinal keels, very indistinct, venation of 1st and 2nd apical veins

MATERIAL STUDIED  
1 ♀ paratype (coll. P.

The genus *Latoliarus* was described from Afghanistan. The type, *L. brunneus* DL., is larger than the present species, the latter is broader and more robust, the elytral lamellae are more prominent, the legs more gracile, etc. The shape of the transverse carina on the vertex and the upper margin of the head, the shape of the

Hysteropterum straminum  
*H. melanostictum* BERG.  
*H. candidum* BERG.

The species is variable in size and the number of the lateral carinae (in *straminum* 2, in *candidum* 3), but of specific value. The anal tube of ♀ (fig. 9c)

MATERIAL STUDIED  
*Bergevin*, Mus. Helsinki  
1 ♂ paratype of *candidum* MEL. by BERGEVIN, description and illustration of *H. pallidum* MEL.

*H. straminum* is a great individual variable, it is difficult to distinguish. The best characters are the shape of the anal tube of ♀ is different from that of the group have been described. *H. bilobum* FB. (fig. 10 a-b, LUC.) (fig. 10 d-e), *H. pallidum* MEL. (fig. 12 e-f, fig. 13 a-b)

golden brown, the vertex narrowly pale, notum whitish, anterocutellum dark yellowish. Elytra strongly pale, pterostigma brown. Dorsum partly

MATERIAL STUDIED : Israel, Deganya, 1 ♀, type (my collection) and 1 ♀ paratype (coll. Palmoni, Deganya), *Palmoni*.

The genus *Latoliarus* (a probable synonym of *Betacixius* MATS.) was described from Afghanistan by DLABOLA (1957, p. 271-272). In the generotype, *L. brunneus* DLAB., the clypeus is distinctly separated from the frons, the latter is broader and concolorous, with the lateral margins only narrowly lamellate. The basal compartment of the vertex is nearly semicircular in outline, much broader than long. The scutellum is more convex, the elytral veins are provided with distinct tubercles, the legs are longer and more gracile, etc. The genus differs from *Cixius* LATR. in the absence of the transverse carina separating the frons and the vertex in the anterior margin of the head. The median keel of the frons is distinct also in the upper margin in *Cixius*.

#### FAM. ISSIDAE

##### *Hysteropterum straminum* Bgv.

*Hysteropterum straminum* BERGEVIN 1915, p. 71-77.

*H. melanostictum* BERGEVIN 1917, p. 107-111, n. syn.

*H. candidum* BERGEVIN 1919, p. 260-264, n. syn.

The species is variable in the size and the shape of the vertex. Also the number of the lateral spines of the hind tibiae seems to be variable (in *straminum* 2, in *melanostictum* and *candidum* 1), being apparently not of specific value. The male genitalia (fig. 11) are similar in all forms. Anal tube of ♀ (fig. 12 a) narrow in dorsal view.

MATERIAL STUDIED : Morocco, Kenitra, 1 ♂ paratype of *straminum*, Bergevin, Mus. Helsinki. Algeria, 1 ♂ paratype of *melanostictum*; Tessala, 1 ♂ paratype of *candidum*; Djebel Ouach, 1 ♂, identified as *H. pallidum* MEL. by BERGEVIN, Bergevin, Mus. Helsinki. If BERGEVIN's identification of *H. pallidum* is correct, the latter name will be valid.

*H. straminum* is a representative of the *gryloides* group. Owing to a great individual variability the species of the group are difficult to distinguish. The best differences are found in the male genitalia, especially in the shape of the anal tube and the aedeagal processes. Also the anal tube of ♀ is different in some species. The genitalia of the following species of the group have been illustrated : *H. gryloides* (F.) (fig. 9 c-e, fig. 10 a), *H. bilobum* FB. (fig. 10 b-c, anal tube of ♀ as in *gryloides*), *H. algiricum* (Luc.) (fig. 10 d-e), *H. fuscovenosum* FB. (fig. 12 b-c) and *H. kallandieri* Bgv. (fig. 12 e-f, fig. 13 a).

golden brown, the vertex narrowly pale, notum whitish, anterocutellum dark yellowish. Elytra strongly pale, pterostigma brown. Dorsum partly



*Hysteropterum gryloides* (F.) : ained apical processes stippled).

ctly separated from frons e, lateral margins broadly d provided with a central frontal ocellus reduced. transverse carina between conical in outline, basal ts indicated by a shallow istinct curvate transverse

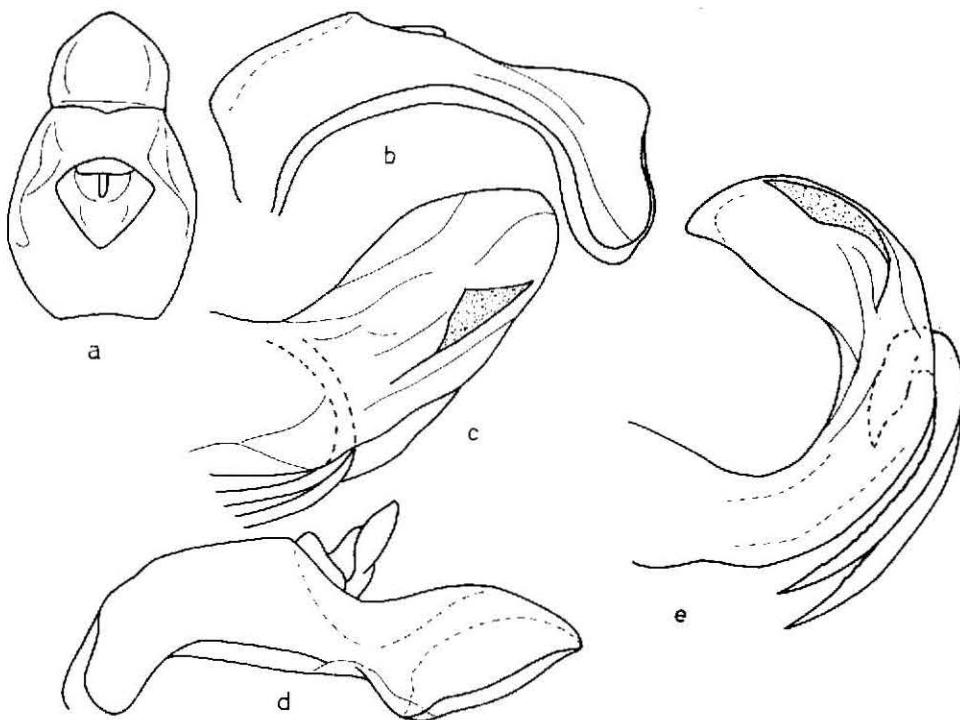


FIG. 10, *Hysteropterum grylloides* (F.) : a, anal tube (♀), caudal view. — *H. bilobum* F.B. : b, anal tube (♂) from side; c, apex of penis. — *H. algiricum* (L.v.C.) : d-e, same.

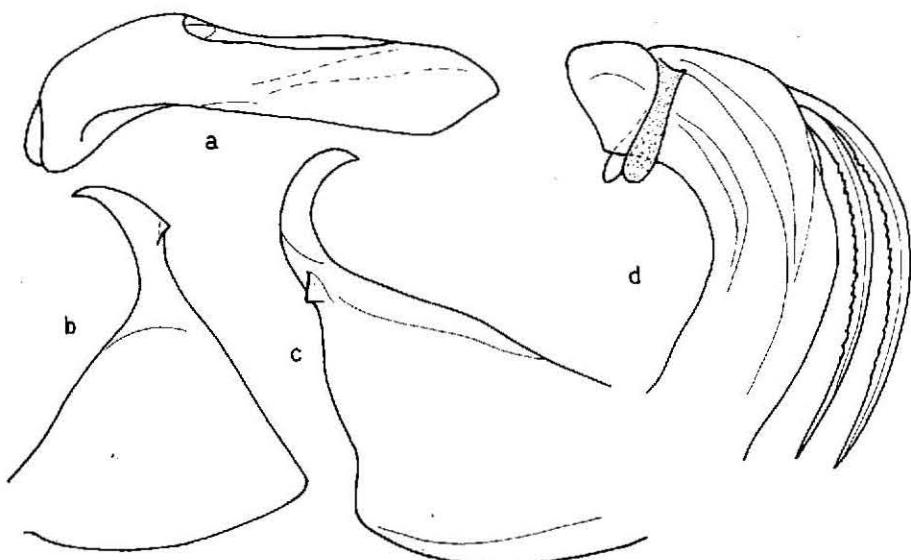


FIG. 11, *Hysteropterum straminum* Bov. : a, anal tube (♂) from side; b-c, stylus; d, penis.

***H. suturale* LINDBERG**

Length 3.25-4  
larger. Frons some-  
keel distinct (obsole-

Male genitalia :  
(fig. 14 a) with two  
with a broad, marg-  
foot shaped median

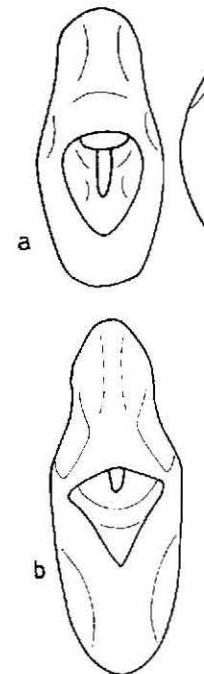


FIG. 12, *Hysteropterum stramineum* Bov. : a, side view of the anal tube (♂); b, same; c, side view of the anal tube (♂).

**MATERIAL STUDIED**  
type, 5.VIII.1963 and  
Cyprus, Stavrovouni,  
All types in my colle-

Male genitalia of  
Penis (fig. 13 b) with  
with a scoop shaped  
either side and with

**MATERIAL STUDIED**

*H. ephialtes* n. sp.*H. suturale* LINDBERG 1948, p. 120-121 nec MELICHAR 1906, p. 141-142.

Length 3.25-4 mm. Externally as *H. suturale* MEL., but slightly larger. Frons somewhat broader and less strongly tapering dorsad, median keel distinct (obsolete in *suturale*).

Male genitalia : Anal tube as in *H. suturale*. Stylus in fig. 14 b. Penis (fig. 14 a) with two falcate basal appendages, recurved ventroapicad; apex with a broad, marginally serrate lamella on either side and with a split foot shaped median process.

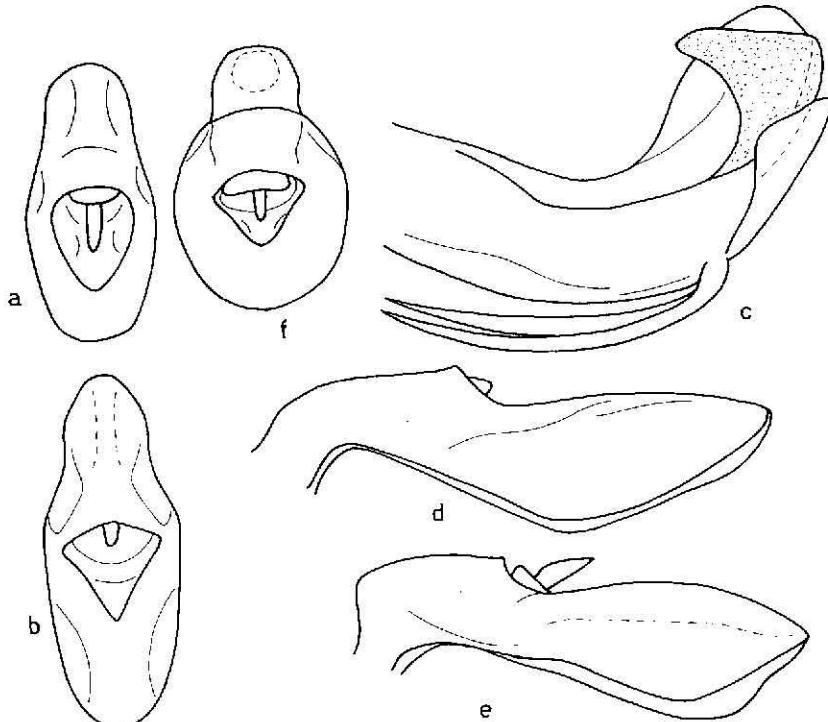


FIG. 12. *Hysteropterum straminum* BGV. : a, anal tube (♀), caudal view. — *H. fuscovenosum* FB. : b, same; d, anal tube (♂) from side; c, penis. — *H. battandieri* BGV. : e, anal tube (♂) from side; f, same (♀), caudal view.

MATERIAL STUDIED : Turkey, Yauladagi-Belen, 1 ♂, type and 1 ♀ paratype, 5.VIII.1963 and Iskenderun, 2 ♂ paratypes, 6.VIII.1963, Linnauori. Cyprus, Stavrovouni, 1 ♂ and 1 ♀ paratype, 30.VI.1939, *H. Lindberg*. All types in my collection.

Male genitalia of *H. suturale* : Anal tube and stylus in fig. 13 c-d. Penis (fig. 13 b) with two bifurcate apical processes; apex provided also with a scoop shaped dorsal process, bearing a claw like appendage on either side and with two club shaped, heavily sclerified appendages.

MATERIAL STUDIED : Greece, Athens, several, VIII.1961, Linnauori.

om side; b-c, stylus; d, penis.

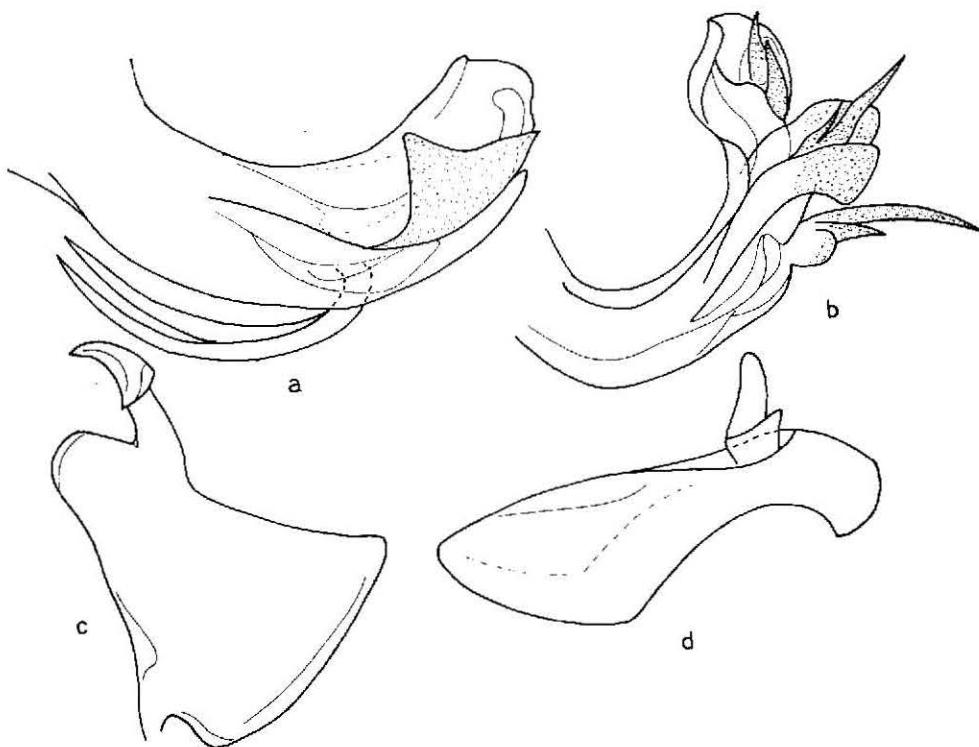


FIG. 13. *Hysteropterum battandieri* BGV. : a, penis. — *H. saturale* MEL. : b, same; c, stylus; d, anal tube ( $\delta$ ) from side.

- R. LINNAVUORI : Une  
sur la  
Liste des espèces de  
Description de 2 nouvea  
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du Nord. — *Bull. Soc. Zool.*  
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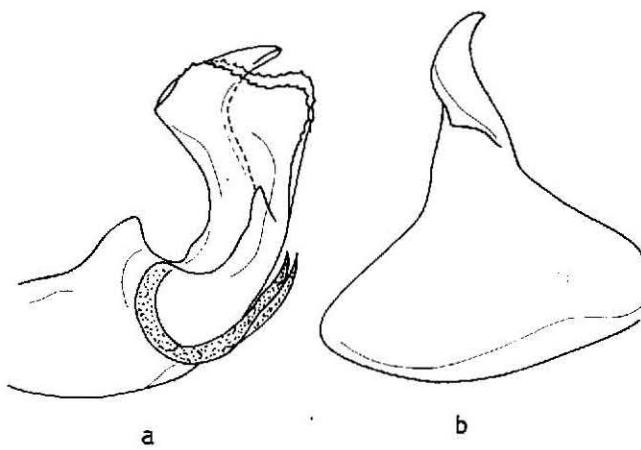


FIG. 14, *Hysteropterus ephialtes*, n. sp. : a, penis; b, stylus.

## RÉSUMÉ

R. LINNAVUORI : Une collection d'Homoptères de Tunisie avec remarques sur quelques espèces des régions voisines

Liste des espèces d'Homoptères récoltés en Tunisie par M. HANNOTHIAUX. Description de 2 nouveaux genres et 6 espèces nouvelles.

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(*Raisio, Somersoja, Finlande.*)

ale Mel.: b, same; c, stylus;

penis; b, stylus.

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