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A new genus and species of the *Gomphocerinae*, with some new records from Zimbabwe of the *Acridoidea*  
(*Acridomorpha*: *Orthoptera*)

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ABSTRACT: A new genus *Inynagana* gen. n., and new species *Inyangana johnseni* sp. n. are described. A list of species recorded from Zimbabwe for the first time, is given, with some remarks on the morphology of *Lobosceliana cinerascens* (STÅL).

INTRODUCTION

Compared with other southern African countries, the fauna of *Acridoidea* of Zimbabwe is rather poorly studied. JOHNSEN & FORCHHAMMER (1978) published a check-list of *Acridomorpha* based on literature, and including 183 species of the *Acridoidea*. Additional data can be found in later papers by JOHNSEN (1982, 1983, 1984, 1986, 1987, 1990) on the *Acridoidea* of Zambia and Botswana. During my short visit to Zimbabwe in 1989 I collected the *Acridoidea*, among which I found several species not previously recorded from this country, and one species new for the science, representing a new genus. I could also accumulate some new data on the morphology of *Lobosceliana cinerascens* (STÅL).

LIST OF SPECIES

PAMPHAGIDAE

*Lobosceliana cinerascens* (STÅL, 1873) (Figs. 1-13) - Harare (Waterfalls), 3.09-15.10.1989; Inyanga, 4.10.1989.

Since I bred these insects for over 2 years, I had an opportunity to study numerous specimens of 5 generations, and observe great variability of their morphological

characters in the group of insects originating from one locality (Harare) and comparatively few (c. 20) parent specimens. Species of the genus *Lobosceliana* show a great range of intraspecific variability. DIRSH (1958) suggested that "...possibly some species of the genus are only local populations of the same species". The insects I kept seemed to be *L. cinerascens* though certain characters suggested their affinity with *L. loboscelis* (expanded lower lobe of hind femur in some specimens). The fastigium of vertex varied from flat to moderately concave, its profile from obtusangulate to acutangulate. The insects varied slightly in length and shape of pronotum (figs 1-6) as well as in the structure of integument: from almost smooth to very rugose. The penis apices did not resemble those structures in any of the species redescribed by DIRSH (1958), nevertheless the shape of epiphalli, although slightly variable, resembled *L. cinerascens* most (figs 7-9).

I present also all (5) nymphal stages of male, which can be helpful in distinguishing nymphs of *L. cinerascens* from other species of *Lobosceliana* (figs. 9-13). The nymphs are uniformly brown, the characteristic lighter stripes on sides of pronotum can be observed from the fifth instar, and are more distinct in females. The fact of stridulation in nymphs is interesting. When handled, they rub their hind femora against sides of abdomen producing a clearly audible rustle.

#### ACRIDIDAE

##### *Coptacridinae*

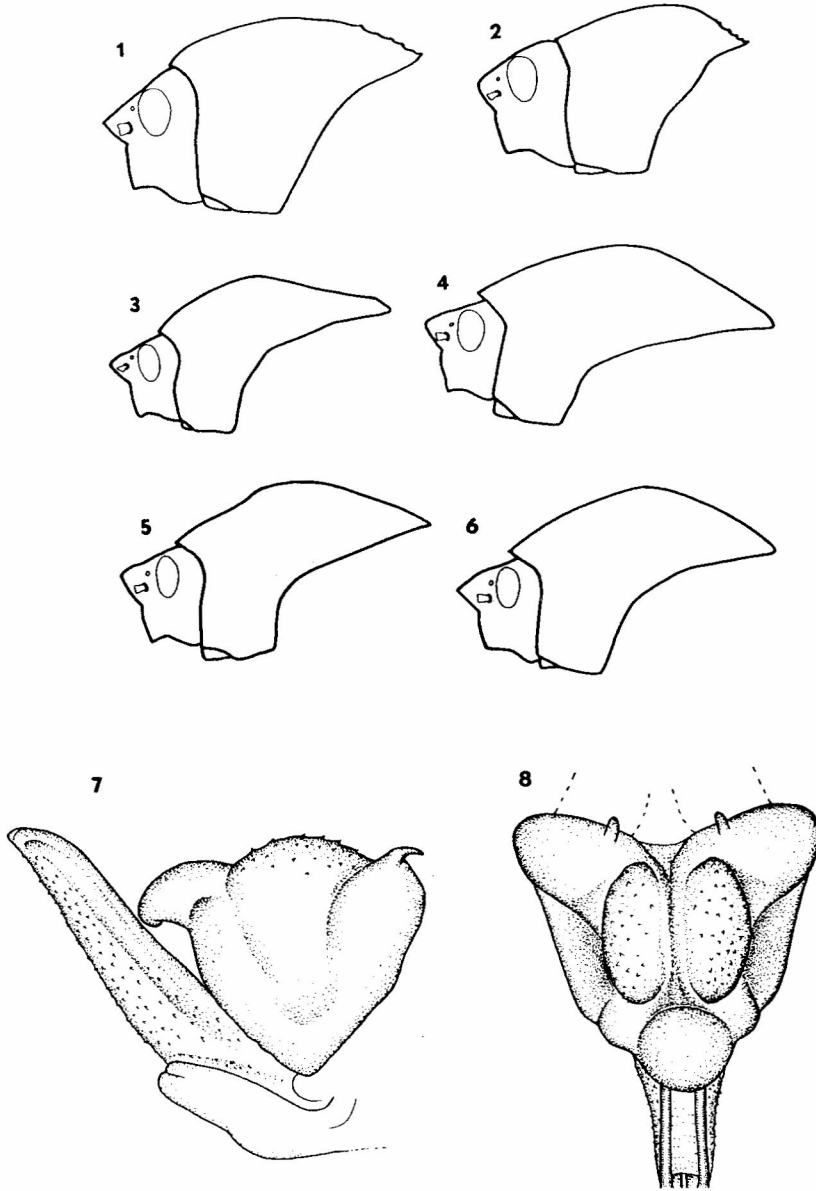
*Eucoptacra exigua* I. BOLIVAR, 1912 - Harare (Waterfalls), 9.09.1989. New to Zimbabwe, recorded from Botswana, Zaire, Ethiopia, Tanzania, Malawi, Congo Rep. and Zambia (JOHNSEN 1990).

##### *Tropidopolinae*

*Petamella prosternalis* (KARNY, 1907) - Victoria Falls, 16.10.1989; Harare (Waterfalls), 4.10.1989. PINHEY (1965) recorded *Petamella* sp. (as *Anoxyrheppes* sp.) from Rhodesia (Turk Mine District); this is the first certain record of this species from Zimbabwe. Known also from Zambia, Sudan, Rep. S. Afr., Zaire, Guinea, Ghana, Cameroun, Angola, Namibia, Ivory Coast, Malawi, Nigeria, Mali, Togo, Sierra Leone, Tchad, Upper Volta, Senegal (JOHNSEN 1982).

##### *Catantopinae*

*Abisares viridipennis* (BURMEISTER, 1838) - Victoria Falls, 15-17.09.1989. Records from Zimbabwe have never been published; the species was collected in this country by Dr. P. JOHNSEN (personal communication); known from Zambia, Guinea, Liberia, Sierra Leone, Ghana, Togo, Cameroun, Zaire, Tanzania, Malawi, Zanzibar, Mocambique, Rep. S. Afr., Angola, Ethiopia, Sudan, Kenya, Nigeria, Congo Rep., Ruanda (JOHNSEN 1982).



1-8. *Lobosceliana cinerascens* (STAL): 1-2 - shape of pronotum - females; 3-6 - same - males; 7 - epiphallus and apical valves of penis, lateral view; 8 - same, dorsal view

*Acridinae*

*Cannula gracilis* (BURMEISTER, 1838) - Harare (Waterfalls), 14.10.1989; Victoria Falls, 15-17.10.1989, never before recorded from Zimbabwe, its distribution covers whole Ethiopian Region south of Sahara (DIRSH 1966).

*Paraparga brevipennis* UVAROV, 1922 - Inyanga National Park, 3-7.10.1989, new to Zimbabwe, known from Zambia, Malawi and Rep. S. Afr. (JOHNSEN 1984).

*Paraparga brunnea* MILLER, 1932 - Inyanga National Park, 3-7.10.1989, new to Zimbabwe, previously recorded only from Mocambique (DIRSH 1965).

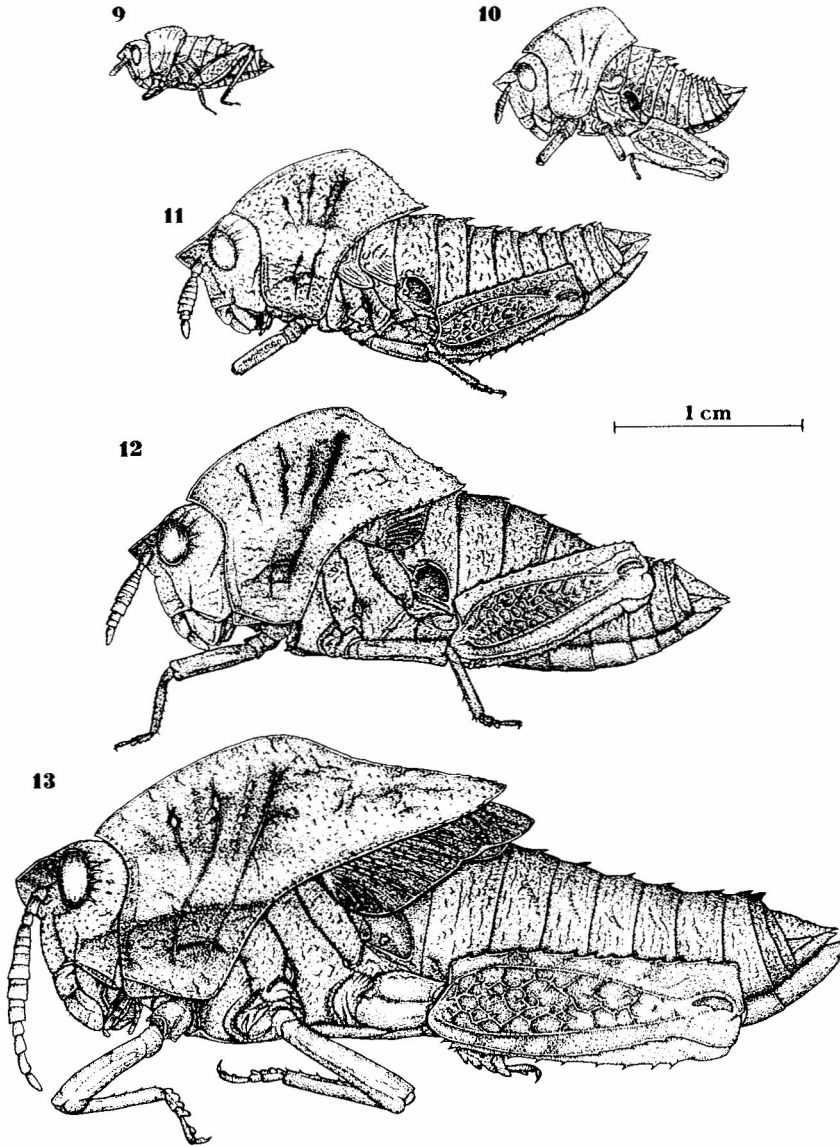
*Gymnbothrus cruciatus* I. BOLIVAR, 1889 - Victoria Falls, 17.10.1989, new to Zimbabwe, known from Zambia, Sudan, Uganda, Kenya, Tanzania, Congo Rep., Angola, Zaire and Zambia (JOHNSEN 1984).

*Gomphocerinae**Inyangana* gen. n.

Small and robust. Integument moderately rugose. Antenna filiform, shorter than head and pronotum together. Head subglobular; fastigium of vertex angular, about as wide as long, with obtuse apex; above slightly convex, with median and lateral carinulae, which merge with median and lateral carinulae of vertex; fastigial foveolae rather shallow, with strongly dotted surface; frons oblique, convex; frontal ridge moderately wide, narrowing towards fastigium of vertex, its widest point 1,5 times narrower than interocular distance, low and flat, with hardly visible traces of lateral carinulae; median ocellus smaller than lateral ones, in females almost vestigial. Pronotum subcylindrical, with flattened dorsum, median carina sharp, linear; lateral carinae visible only in prozona, divergent; in metazona marked only by colour; dorsum crossed by three sulci, posterior one crossing median carina; metazona shorter than prozona, its posterior margin widely obtusangular. Mesosternal interspace open, shorter than wide. Tergites of abdomen with low but conspicuous keel. Elytra and wings shortened, in male surpassing, in female reaching middle of abdomen, opaque, densely reticulated. Hind femur robust, its outer surface clearly convex; lobes of hind knee rounded; internal pair of spurs of hind tibia slightly elongated. Arolium moderately large, as long as 2/3 claw. Male supra-anal plate angular, cercus wide at base, narrowing towards apex, straight. Subgenital plate short, conical, with obtuse apex. Epiphallus with moderately wide bridge, ancorae slightly incurved, lophi bilobate. Ovipositor moderately robust, with curved valves.

Type species: *Inyangana johnseni* sp. n.

The new genus superficially resembles the genus *Cophohippus* UVAROV, but differs in having shortened elytra and wings, straight cerci, and clearly bilobate lophi of epiphallus. It differs from the genus *Eleutherotheca* KARNY in robust, externally convex hind femur, lateral carinae present only in prozona, and in more pronounced fastigium of vertex. The generic name is derived from the Rhodes Inyanga National Park in Zimbabwe, where the insects were collected.



9-13. *Lobosceliana cinerascens* (STÅL) - male: 9 - first instar; 10 - second instar; 11 - third instar; 12 - fourth instar; 13 - fifth instar nymph

*Inyangana johnseni* sp. n.

(Figs. 14-20)

Male (holotype). Small, robust. Integument rugose, mat. Body with sparse short hairs. Antennae slightly shorter than head and pronotum together, 20 segmented, filiform, very slightly compressed towards apex; segments of flagellum short, less than twice as long as wide. Frons oblique, moderately convex in profile. Eyes rather large. Fastigial foveolae visible from above, shallow, punctate, rectangular in shape, twice as long as wide. Lateral lobes of pronotum with deeply incised second (median) sulcus; disc very rugose, with small concavities and a pair of deeper concavities just behind first sulcus. Lateral carinae present only in prozona, divergent; in metazona marked only by light stripes. Tegmen shortened, reaching 1/3 fifth tergite; precostal area expanded from base up to 2/5 length of tegmen, apex of tegmen rounded; wings vestigial, reaching half of tegmen. Tympanal opening broad, oval. Hind femur surpassing end of abdomen, very robust, the ratio length/maximum depth 3.1; convex externally, smooth, shining. Hind tibia with 9 external and 10 internal spines; a pair of external, short, and a pair of internal, elongate spurs. Cercus conical, straight, reaching end of supra-anal plate. Epiphallus with moderately wide, arcuate bridge; anchorae slightly incurved, lophi bilobate. Apical valves of penis long, strongly narrowing towards apex, covered with tiny teeth; valves of cingulum long and narrow, smooth; zygoma of cingulum rather broad; apodemes moderately long; rami of cingulum broad; basal valves of penis broad. Subgenital plate conical, blunt.

Measurements: length of body 11.0, pronotum 3.0, elytra 4.4, hind femur 7.9 mm.

General colouration rusty brown, hind femur lightly brown, with one distinct, black, and two less distinct, blackish spots on upper margin. Inner side of femur yellowish, tinged with orange, with irregular black spot in distal part; inner side of hind knee black. Hind tibia in proximal part black, from 2/5 up to distal end reddish. Ventral side of body and hind femur yellowish. Precostal area of elytron black.

Female (allotype). Like male but larger and more robust. Elytra reaching half of fourth tergite. Subgenital plate about twice as long as wide, its hind margin with angular projection. Ovipositor moderately robust, with curved apices, slightly pubescent.

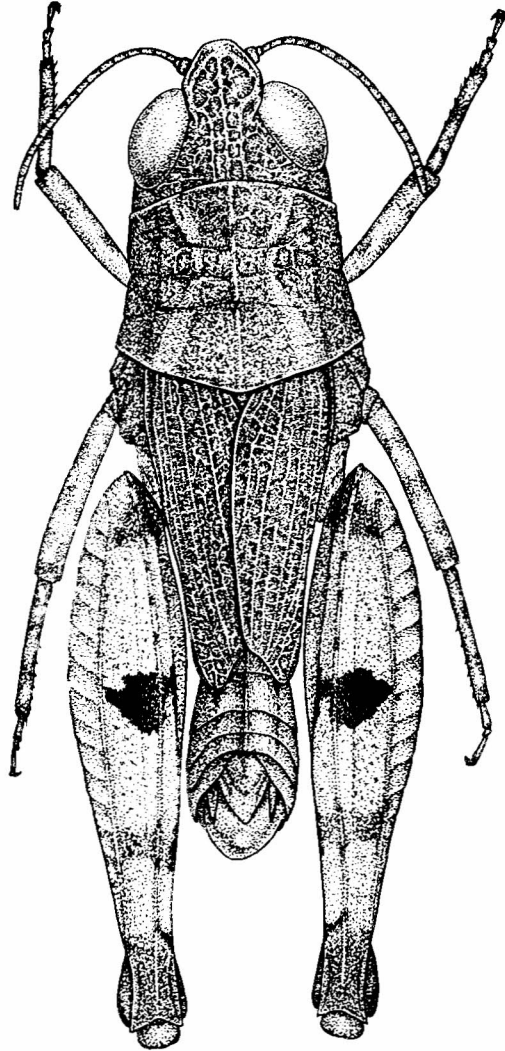
Colouration as in male, except hind femora which are rather greyish; hind tibiae more reddish.

Measurements: length of body 18.3 - 18.9, pronotum 4.0 - 4.2, tegmen 5.9 - 6.0, hind femur 11.0 - 11.5 mm.

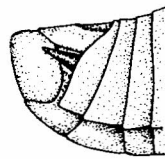
Material studied: Zimbabwe, Rhodes Inyanga National Park, near trout breeding farm, on the ground, among sparse vegetation, 4.10.1989, 1 male (holotype), 2 females (including allotype), leg. P. NASKRECKI.

The species is named in honour of Dr. Palle JOHNSEN, a prominent Danish acridologist.

Holotype and allotype deposited in Department of Animal Taxonomy and Ecology, UAM Poznań; paratype female sent to Aarhus University, Denmark.

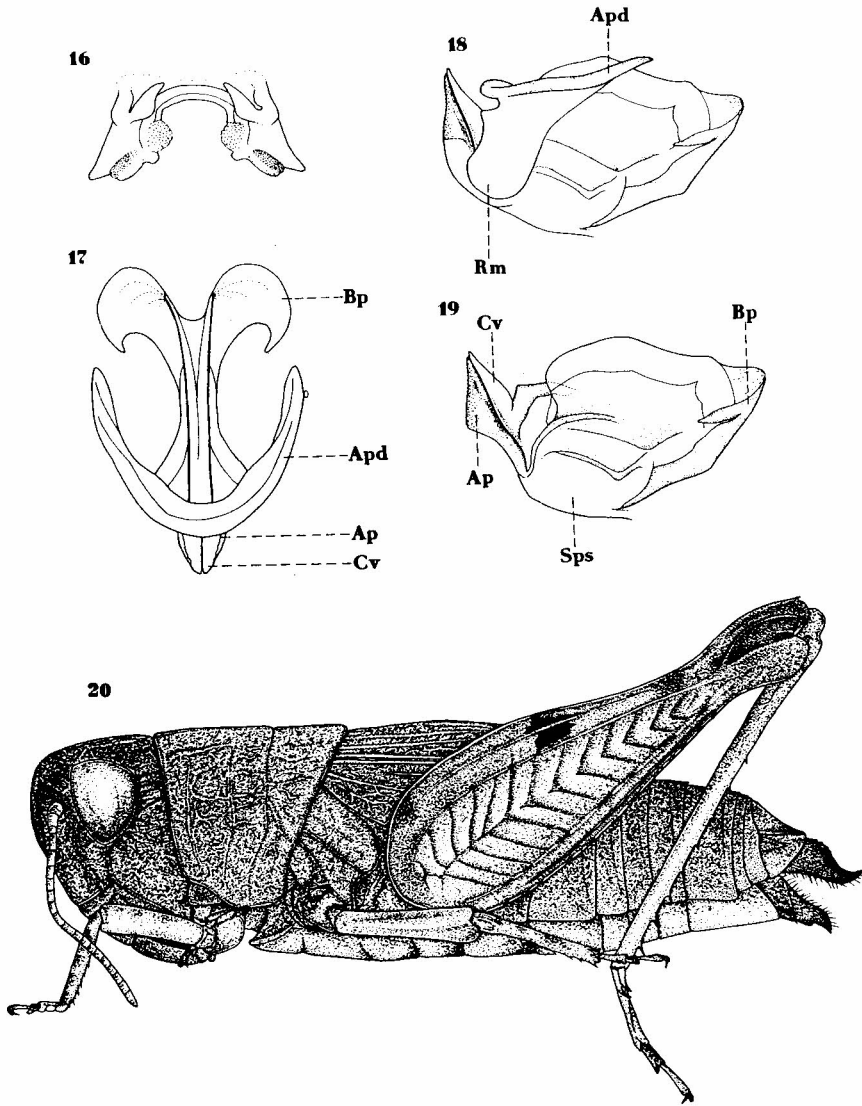


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**15**

14-15. *Inyangana johnseni* gen. et sp. n.: 14 - male, dorsal view; 15 - end of male abdomen, lateral view



16-20. *Inyangana johnseni* gen. et sp. n.: 16 - epiphallus; 17 - phallic complex (epiphallus removed), dorsal view; 18 - same, lateral view; 19 - endophallus, lateral view; 20 - female, lateral view. Ap - apical valves of penis, Apd - apodemes, Bp - basal valves of penis, Cv - valves of cingulum, Rm - rami of cingulum, Sps - spermatophore sac



*Rhaphotiitha levis* KARSCH, 1896 - Harare (Waterfalls), 28.09.1989, not recorded from Zimbabwe before, known from Rep. S. Afr. and Botswana (JOHNSTON 1968).

*Rhaphotiitha platypternoides* (KARNY, 1910) - Harare (Waterfalls 9.09.1989, not recorded from Zimbabwe before, known from Rep. S. Afr., Namibia (JOHNSTON 1956) and Botswana (JOHNSEN 1990).

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