

SOME NEW ALPINE GRASSHOPPERS OF THE GENUS  
*CONOPHYMA* ZUB. FROM CENTRAL ASIA.\*

By

B. P. UVAROV, F.E.S.

Sub-family—CATANTOPINÆ.

*Conophyma zubovskyi*, sp. n.

Closely allied to *C. semenovi*, Zub.

♂. Larger than any known species of the genus. *Antennæ* longer than the head and pronotum together. *Head* moderately reclinate. Frontal ridge slightly convex in profile, narrowed at the fastigium, practically parallel-sided elsewhere, obliterate about half-way between the ocellum and clypeus, sulcate in the middle, punctured between antennæ. Face with coarse, but sparse, punctures and rugulose. Cheeks coarsely punctured and rugose. Vertex moderately sloping, longer than broad, scarcely convex and coarsely punctured in front, smooth and practically flat behind; median carinula irregular and low, but well distinct; lateral margins punctured, very obtuse, carinated only behind. *Pronotum* cylindrical, thick; its disc very coarsely, though not deeply, punctured and rugulose; distinctly convex; first transverse sulcus irregular, nearly obliterated, not cutting the keels; second sulcus well developed, broadly bi-sinuate, cutting all three keels; third sulcus straight, cutting deeply all three keels; median keel low, thick, irregular, partly obliterated by the rugosities of the disc, more especially so at the front margin and in metazona; lateral keels distinct only in front of the second sulcus, practically obliterate behind it, slightly convergent backwards and feebly concave between the front margin and the second sulcus, slightly divergent behind it; prozona  $2\frac{1}{2}$  times as long as metazona; hind margin slightly roundly excised. Lateral lobes gibbose between the sulci, concave in the lower hind portion, coarsely rugose. *Mesonotum* somewhat longer than one half of metazona, coarsely punctured and rugose except at small irregular spaces on its sides at the anterior margin; median keel very low, subobliterate. *Metanotum*, not quite twice as long as metazona of pronotum, coarsely punctured and rugose, except at fairly large semi-oval spaces at the sides; hind margin straight; median keel low, thick. *Abdomen* with the first tergite slightly longer than metazona, coarsely punctured and rugose; the following tergites also punctured, but the coarseness and depth of punctures decrease gradually; median keel developed throughout the abdomen, although low. Last tergite with two large lobes, shaped as equilateral triangles, their distance from each other being less than the basal width of one lobe. *Supraanal plate* transverse, trapezoidal, slightly widened behind, with two triangular, rounded apically teeth, placed close to the lateral margins near their middle and connected by a fine transverse suture; the surface impressed, more deeply so near the hind angles which are rounded, incrassate and very finely punctured and rugulose; median sulcus distinct in the basal half, with its margins convex distally obliterate; hind margin scarcely bi-sinuate, with a short, broadly triangular median lobe. *Cerci* strongly compressed, slightly incurved, projecting well beyond the supra-anal plate, rounded apically.

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The types of new species described in this paper are in the Zoological Museum of the Russian Academy of Sciences, Petrograd; some para-types are in the British Museum (Natural History) and in the collection of the Turkestan Entomological Station, Tash-Kent.

\*The present paper is a supplement to Mr. Uvarov's previous paper on the *Acrididae* of C. Asia published on page 260 of this volume.



*Coloration* blackish-olivaceous, shining. Lateral lobes of pronotum testaceous-yellow below, blackened above. Abdomen with testaceous submedian spots at the anterior margins of the tergites 3-6. Supra-anal plate nearly black. Hind femora brownish, without any pattern; the knees blackish. Hind tibiae pale olivaceous-yellow.

♀ (paratype). Only the third sulcus cutting the median keel of pronotum. Median keel sharp and distinct throughout pronotum and abdomen. Lower valvae of ovipositor minutely serrulate, without teeth. Coloration olivaceous-green; no submedian spots on the abdominal tergites.

					♂ (type.)	♀ (paratype).
Length of body	..	..	..	..	21 mm.	27 mm.
„ pronotum	..	..	..	..	5	6
„ hind femur	..	..	..	..	12	13

Described after 4 ♂♂ and 2 ♀♀ from Ladyar-Tau, distr. Osh, province Ferghana, 20, vi, 1913; and 1 ♂ from the Alai mountains, Ferghana, in Prof. R. Ebner's collection.

The female of this species is extremely alike a female of *C. semenovi*, differing from it only in the somewhat larger size and in more roughly punctured and rugose body, but the structure of the male genitalia, and particularly of the supra-anal plate is very peculiar in the new species. It is obvious, however, that the plate of *C. zubovskyi* represents no entirely new features not observed in *C. semenovi*, but may be regarded as a further stage of specialization. Indeed, the remarkable sublateral teeth on the plate of *C. zubovskyi* may have developed out of low gibbosities observable in *C. semenovi* and connected in that species also by a transverse suture (not mentioned in the original description, because it is not always distinct). The new species is also well separated from *C. semenovi* geographically.

It gives me a great pleasure to be able to dedicate this remarkable species to the author of the genus, the well-known Russian orthopterist Mr. N. N. Zubovsky whose unfortunately not numerous papers on *Acrididae* of Siberia and Central Asia represent a standard of clearness and fulness in systematic work.

*Conophyma mitchelli*, Uv.

This species has been described by me (Ent. Mon. Mag., 3rd Ser. vii, p. 269) after a single female from Srinagar, Kashmir, about 12,000 feet, and a fresh lot of insects collected by Mr. F. J. Mitchell in the Kashmir between 11-13,000 feet and sent by the Bombay Natural History Society to the Imperial Bureau of Entomology includes another female and the undescribed male, which gives me an opportunity of describing it here, as follows:

♂. Smaller than the female and much more slender. Antennæ a little shorter than the head and pronotum together. Face strongly reclinate. Frontal ridge sulcate throughout. Fastigium of vertex narrow and long, with the lateral carinæ well developed, but without the median carinula; temporal foveolæ as in the female. Eyes about as high as the subocular distance (in the female distinctly less than that). Pronotum more elongated than in the female, and more rugose; transverse sulci well developed; metazona equal to one half of the prozona; the median keel developed throughout; lateral keels in the first section of the prozona distinct, though somewhat irregular, almost straight, somewhat convergent backwards; between the sulci and in the metazona they are very irregular, gradually divergent. The two oval impressions on the upper part of the lateral lobes are margined from below by thick folds (which are present in the female also, but no so well developed and regular). Hind margin of the pronotum obtusely excised, with the margins convex. Mesonotum,



metanotum and abdomen as in female. Last tergite with two rounded triangular teeth, about as broad as they are long and separated from each other by an interspace distinctly broader than one of the teeth. Supra-anal plate scarcely longer than it is broad, slightly narrowed behind, with the hind angles broadly rounded; hind margin with a triangular median projection, which is shorter than it is wide at the base. Cerci conical, slightly incurved, projecting beyond the anal plate, but their actual length is not more than that of the plate. Subgenital plate obtusely conical recurved.

Coloration of the male (as well as that of the female in the collection studied) is somewhat different from the type. Male is blackish-brown from above, and in both sexes the angulated black fascia on the lateral pronotal lobes is well in contrast with the brick-red (brighter in the female) of their front margin and of the hind lower portion. In both sexes the sides of the abdomen are black, but all these differences from the type cannot be regarded as important.

Measurements of the male are, as follows: length of body 15 mm.; pronotum 3.25 mm.; metanotum 1.5 mm.; hind femur 8.5 mm.

The discovery of the male of *C. mitchelli* enables me to state definitely that my doubts as to the species belonging really to the genus *Conophyma* are not justified. This is a true member of the genus, although very distinct from other known ones by the strongly rugose body. The zoo-geographical value of this conclusion is in the fact that all other species of *Conophyma* are known from the high mountains of the Russian Turkestan, and *C. mitchelli* appears to be the most southern representative of the genus which gives an evidence of a close relationship between the alpine faunas of all the great mountain ranges of Central Asia. It makes it also highly probable that other species of *Conophyma* will be discovered in Himalayas.

*Conophyma miramæ*, sp. n.

Similar to *C. sokolowi*, Zub., but belonging to the group of *C. semenovi*, Zub. in the structure of male genitalia. ♂. Size under medium for the genus. *Antennæ* in the type broken. *Head* moderately reclinate. Frontal ridge somewhat convex in profile, gradually widened downwards, more strongly so below the ocellum, obliterate near clypeus, shallowly sulcate throughout except in the dilated lower portion. Vertex sloping, nearly twice as long as broad, narrowed anteriorly, slightly impressed behind, without the median carinula and with the lateral carinulae well distinct between the eyes but obliterated in front. *Pronotum* short; its disc practically flat, feebly bi-concave and with faintly indicated large punctures near the lateral keels in front of the first sulcus, indistinctly rugulose in metazona, bearing four pairs of very low, scarcely perceptible, smooth tubercles arranged as follows: the first pair close to the front margin of disc, equidistant from the median and the lateral keels, second pair in front of the first sulcus and the third pair between that and the second sulcus, nearer to the median keel than to lateral ones; the fourth pair of elongate tubercles between the second and third sulcus, nearer to the lateral keels than to the median one and each of the tubercles enclosed between two shallow impressions. Transverse sulci all cutting lateral keels; first one shallow, nearly obsolete, straight; second sulcus well developed except near the median keel where it is obsolete and does not cut the keel; third sulcus well developed throughout, cutting all keels, broadly rounded-angulate in the middle. Median keel obliterate close to the front margin, well raised and convex in profile in the rest of prozona, quite distinct in metazona. Lateral keels well developed, callous throughout except between the first and the second sulci where they are obliterate, straight and slightly convergent backwards in front of the first sulcus, very slightly concave and divergent behind the second sulcus. Prozona two and a half times as long as metazona; the latter very obtusely excised behind. Lateral lobes deeper than long, not strongly gibbose between the



sulci, smooth, with large, nearly obliterate punctures in the lower third, more distinctly rugulose in metazona. *Mesonotum* subequal in length to metazona, with the median keel replaced by an indistinct smooth line and without the lateral keels. *Metanotum* not twice as long as metazona; its disc distinctly bi-concave, with practically obliterate punctures near the lateral keels; median keel obtuse, tectiform; lateral keels obliterate near the front margin thick and callous in the rest, convergent backwards, incurved at both ends. First tergite of the *abdomen* slightly longer than metazona of pronotum; its disc tectiform, strongly bi-concave laterally and with large punctures especially near the lateral keels; median keel well raised; lateral keels very thick, callous, scarcely convergent, but distinctly incurved apically, behind; sides of the tergite rugulose. The following tergites with some scattered punctures and a lateral line of foveolæ, adjoining the lateral keels, which are low, but perceptible on the second and third tergites and obliterate in the rest; median keel is also lowered and obliterate from the third tergite backwards. *Last tergite* with two small triangular submedian lobes, separated by the width of one lobe. *Supra-anal plate* trapezoidal, distinctly narrowed apically, shorter than broad at the base surface concave at the sides of the median ridge which is moderately raised, thick, sulcate in the distal half; close to the each lateral margin there is an acute, rounded apically, flattened tooth, directed backwards, but slightly projecting sideways; hind margin sinuate on each side of the median lobe which is broadly triangular, short, with the apical angle about 90° and pointed; hind angles of the plate slightly projecting, rounded. *Cerci* strongly compressed laterally, somewhat incurved, with the apex rounded. *Subgenital plate* obtuse.

*Coloration* above brownish and black, with yellowish and testaceous pattern. Pronotum dull blackish-brown along the middle, with broad and indefinite testaceous fasciæ; lateral lobes ivory-white below, shining black, turning brownish above, in the rest. Mesonotum, metanotum and abdomen black, dull on the meso and metanotum and the first tergite, shining in the rest, with broad testaceous fasciæ along the lateral keels; an indefinite pale testaceous median fascia begins from the third tergite, becoming broader, paler and more distinct backwards. Pleuræ shining black with an oblique, callous, ivory-white stripe. Hind femora testaceous, without definite fasciæ. Hind tibiæ pale sanguineous.

							♂ (type).
Length of body	..	..	..	..	..	..	12 mm.
„ pronotum	..	..	..	..	..	..	3
„ hind femur	..	..	..	..	..	..	7

Described after a single male from the range Alexandrovsky, distr. Aulie-Ata, 23, vi, 1920.

This is an extremely well-marked species, easily recognisable by the peculiar sculpture of pronotum, metanotum and of the first tergite, but especially by its genitalia, reminding those of *C. zubovskyi*, m.

The species is named after Miss Emilia Miram, assistant in the Orthoptera room of the Petrograd Zoological Museum and author of several valuable papers on Russian Orthoptera.

*Conophyma jacobsoni*, sp.n.

Related to *C. sokolowi*, Zub., but larger.

♂. *Antennæ* distinctly longer than head and pronotum together. *Head* reclinate. Frontal ridge slightly convex in profile, shallowly sulcate throughout, gradually and feebly widened below the ocellum, obliterate near clypeus. Vertex strongly sloping, about half again as long as broad, slightly narrowed anteriorly, scarcely concave, punctured in the fastigium, with a feeble median carinula and low, disappearing in front, lateral carinulæ. *Pronotum* elongate,



slightly widened behind; disc obtusely tectiform, shallowly and indistinctly punctured and callously rugulose, more distinctly so in metazona; first sulcus completely obsolete; second distinct, but not deep; third fairly broad, but not deep, cutting the median keel; median keel sharp, in profile convex, in the metazona low, but distinct; lateral keels well distinct throughout the prozona, slightly convergent from the anterior margin towards the second sulcus, but distinctly bent outwards just before it, feebly divergent behind it; metazona shorter than one-half of prozona; lateral lobes, slightly longer than deep, feebly gibbulate between the sulci, smooth, with but few minute punctures, more distinctly punctured in metazona. Mesonotum scarcely longer than the metazona of pronotum; median keel very feeble; lateral keels distinct only at the very hind margin, low, slightly more approached to each other than the keels of pronotum. Metanotum not twice as long as metazona, obtusely tectiform, its disc slightly concave laterally, with shallow and broad punctures and indistinct callous rugosities; median keel quite distinct, tectiform, not sharp; lateral keels callous, obtuse, obliterate at the anterior margin; lateral lobes with a large, shallow, oblique impression, punctured behind it. *First tergite* obtusely tectiform, its disc somewhat concave laterally, punctured and rugulose as the metanotum; median keel tectiform, low; lateral keels callous, thick, distinctly displaced outwards from the keels of metanotum, convergent backwards. *Second tergite* with very feeble median and lateral keels, the following tergites without keels. *Last tergite* with two triangular lobes, which are about as long as broad and separated by an interspace half again as broad as one of the lobes. *Supra-anal plate* trapezoidal, slightly broader than it is long; hind angles obtuse and rounded, hind margin slightly convex, with the median lobe short, rounded, occupying about one-third of the width of hind margin; median ridge broad, convex, scarcely narrowed posteriorly, slightly sulcate at the base. *Cerci* compressed, elongate-triangular in profile, rugulose, extending a little beyond the plate.

*Coloration* above shining-black with ivory-white pattern, below and on the legs pale yellowish-testaceous. Head dull-black above, with faint, narrow testaceous postocular fasciæ. Pronotum with the lateral ivory-white fasciæ moderately wide; lateral lobes shining black above, ivory-white below. Mesonotum brownish black, with the fasciæ developed in its hind half only, slightly more approached to each other than those of the pronotum, emitting forwards very faint, not callous, pale stripes converging to the metazona. Metanotum with the fasciæ as broad as on pronotum. Pleuræ black, with an oblique ivory-white fascia. Abdomen with the median line (except on the first tergite) and two continuous fasciæ ivory-white. Hind femora without any trace of fasciæ. Hind tibiae red throughout.

♀ (paratype). Pronotum, metanotum and first tergite distinctly rugosely punctured, with the keels low, not callous, but distinct. Head above and discs of pronotum, mesonotum, metanotum and of first tergite pale greenish-grey, with brown, grey and blackish punctures. The rest of abdomen above castaneous, with the fasciæ testaceous. Bands on the lateral lobes of pronotum, pleuræ and on the side of abdomen, black. Lower valvæ of ovipositor with strong, but short teeth.

					♂ (type)	♀ (paratype)
Length of body	..	..	..	..	16 mm.	23 mm.
„ pronotum	..	..	..	..	3.75	4.25
„ hind femur	..	..	..	..	8	9

Described from 5 ♂♂ (including the type) and 4 ♀♀ from Tchimgan, distr. Tashkent, 21, vi—2, vii, 1920; 1 ♂ and 3 ♀♀ from Ak-Tash, distr. Tashkent, 23, vii, 1920; 1 ♂ and 1 ♀ from Tchervak, distr. Andizhan, 16, vi, 1913.



The series before me shows very little variation in the coloration of males in which the fasciæ are sometimes pale sulphur-yellow, sometimes testaceous; females vary more widely, the black fasciæ on the sides of body tending to disappear. Some females are practically unicolorous brownish, without distinct fasciæ. The shape of the male supra-anal plate is also not quite constant, sometimes being nearly quadrate, but with the hind angles always rounded, hind margin convex and the apical lobe broad, which separates the species from *C. sokolovi*, apart from the different sculpture of pronotum, differently shaped lateral keels of the latter and coloration. Especially noticeable are the unbanded hind femora.

According to Mr. Plotnikov's communication, the species is quite common and numerous in the mountains at Tchimgan, near Tashkent.

I dedicate this species to Mr. G. G. Jacobson, of the Zoological Museum of the Academy of Sciences, Petrograd, the compiler of the best existing work on Palæarctic Orthoptera ‡ which stimulated greatly the interest of Russian entomologists in this group of insects and educated several orthopterists, myself included.

*Conophyma plotnikovi*, sp. n.

Apparently near to *C. simile*, Zub.

♂. Small. *Antennæ* slightly longer than head and pronotum together. *Head* reclinate. Frontal ridge slightly convex in profile, distinctly sulcate, narrowed at the ocellum, widened and obliterate near clypeus. Vertex sloping, concave, without median carinula, with feeble, convergent forwards lateral carinulae. *Pronotum* short and broad, cylindrical, scarcely widened behind, its disc slightly convex, but very distinctly gibbulate with shallow round impressions and callous tubercles between the sulci, punctured at the anterior margin, and very coarsely punctured and rugulose in metazona; sulci deep, but only the third one cutting the median keel; median keel thick, smooth, slightly convex in profile, distinctly lowered near the anterior end, distinct in metazona; lateral keels thick and low, but distinct in front of the first sulcus, subparallel for a short space at the front margin, then strongly convergent towards the first sulcus, behind which they are practically obliterate, very irregular and very strongly divergent towards the second sulcus, displaced sideways and quite irregular behind the latter, obliterate in metazona; metazona shorter than one half of prozona, rotundate-truncate behind; lateral lobes about as long as deep, strongly gibbulate in the upper half of prozona, densely punctured and rugulose in metazona. *Mesonotum* slightly longer than metazona of pronotum, with fine median keel behind, without lateral keels, with elongate shallow impressions on the sides. *Metanotum* not twice as long as metazona of pronotum, very obtusely tectiform, with the disc slightly concave on each side of the median keel, which is well distinct, but not sharp; lateral keels distinct in its hind two-thirds only, low, callous, irregular; two shallow oval impressions near the lower hind angles (just above the pleural suture). *Pleuræ* with shallow, broad impressions. *Abdomen* with the three keels on the first tergite only; this tergite shallowly concave on the disc, on each side from the median keel. Last tergite with two widely distant triangular lobes, which are longer than at the base broad. *Supra-anal plate* quadrangular, slightly broader than long, with lateral margins feebly concave; apical margin feebly convex, with a small emargination in the middle, where a short, narrow lobe is projecting; hind angles

‡ Orthoptera and Pseudoneuroptera of the Russian Empire (In Russian), Petersburg, 1916.—The Oothoptera part of the book has been done by G. G. Jacobson, that on Pseudoneuroptera by V. L. Bianchi. The work has been based on Tumpel's book, but only modesty of the authors caused them to undertake that, as the contents and scope of their book required an enormous amount of original work.



practically straight, somewhat attenuate (owing to concavity of lateral margins); surface raised along the middle in shape of a low ridge, narrowed posteriorly (where it forms the median lobe), sulcate in the basal half, distinctly separated by oblique sulci from the slightly incrassate lateral margins and from the oval convexities placed at the hind angles. *Cerci* short, compressed, elongate triangular in profile.

*Coloration* pale buff below, shining black and blackish-castaneous with buff pattern, above. Head above testaceous-brown, marmorated indistinctly with brown. Pronotum with the disc black along the middle, turning castaneous on the median keel and in metazona, with two buff fasciæ, moderately broad and strongly convergent backwards in front of the first sulcus, suddenly dilated and displaced outwardly behind it, gradually narrowed and divergent backwards; lateral lobes with the upper half shining black. Mesonotum testaceous brown, with four large round blackish spots across its anterior half, separated with testaceous-buff color. Metanotum with the disc blackish-brown, fading into testaceous behind; a little more than anterior half of the median keel, triangular spots narrowed backwards on the lateral keels, and short streaks above the pleural sutures, buff. Pleuræ black in a little more than upper half only. First abdominal tergite blackish-testaceous on the disc, fading into testaceous behind, with the median keel buff in more than anterior half, with broad, narrowed posteriorly irregular buff spots on the lateral keels; the rest of abdomen with a broad pale-buff median fascia, and a lateral row of elongate irregular buff spots. Hind femora with the faintest traces of testaceous fasciæ above. Hind tibiae very pale sanguineous in the apical half.

♀ (paratype). Reddish-ochraceous, dull, with some black, or blackish marks distributed, as follows: a small indefinite spot in the middle of prozona, four spots across the mesonotum, middle parts of discs of metanotum and first tergite, large lateral spots on the second tergite with pale centres, a double submedian row of small spots on the other tergites, hind femora with a small basal spot, a black dot on the upper carina before the knee and two fasciæ in the upper areas extended also half-way down the inner and outer surface. Front and middle legs in small blackish spots; lower valvæ of ovipositor with strong teeth.

					♂ (type)	♀ (paratype)
Length of body	..	..	..	..	14 mm.	18mm.
„ pronotum	..	..	..	..	2.5	3
„ hind femur	..	..	..	..	7.5	8

2 ♂♂ and 3 ♀♀ from the summit of the Malyi Tchimgan, distr. Tashkent, 10, vii, 1920; 1 ♀ and 1 ♀ from the pass Pessotchny, Tchimgan, distr. Tashkent, 16, vii, 1920.

This species is represented by two very distinct color forms, one marked strikingly in black and buff, as described for the male type, another is protectively colored in reddish-ochraceous with obsolete brown and blackish marks (see description of the female paratype); to the latter belong 1 ♂ and 2 ♀♀ from the Lesser Tchimgan. As there are no structural differences between the two forms, I have no doubt that they are con-specific and represent only either individual variations, or, more likely, are connected with different kinds of environment; in the latter case they may be distinguished as two *morphæ* of the species, but direct observations on the spot are necessary to verify this conclusion.

*C. plotnikov* differs from *C. simile*, Zub., in the structure of pronotum, in coloration and in the shape of the male supra-anal plate.

The species is named after my friend Mr. V. I. Plotnikov, Director of the Turkestan Entomological Station, who has done much to advance our knowledge of the insect fauna of Turkestan.



*Conophyma pylnovi*, sp. n.

Resembling *C. plotnikovi* m. in the structure of pronotum, but differing from it strongly by the male genitalia.

♂. *Antennæ* longer than head and pronotum together. *Head* not strongly reclinate. Frontal ridge slightly convex in profile, distinctly widened between the antennæ, feebly sulcate, not reaching the clypeus. Vertex strongly sloping, about half again as long as broad, flat, median carinula slightly perceptible at the very apex, no lateral carinulæ. *Pronotum* very short and thick; its disc practically flat, even slightly concave before the first sulcus and between the second and third sulci, dull, but not rugulose or punctured in prozona, distinctly rugulose in metazona; all sulci deep; the first sulcus straight, cutting the lateral keels deeply, but not the median keel; second slightly sinuate, cutting the lateral keels, and very nearly cutting the median keel; third deep, obtusely angulate, cutting all three keels; median keel in profile slightly convex, distinctly lowered at the second sulcus and interrupted by the third, low, thick, in metazona quite low and irregular; lateral keels before the first sulcus quite distinct, slightly convex, strongly convergent backwards, low, thick and irregular farther backwards, distinctly divergent between the first and second sulcus, less so between the second and third sulcus, hardly perceptible in metazona; lateral lobes slightly deeper than long, strongly gibbose in their upper parts, with the broad foveolæ adjoining the lateral keels margined below by distinctly raised ridges, the surface obsoletely punctured, and rugulose except in metazona which is coarsely punctured. *Mesonotum* somewhat longer than metazona of pronotum, smooth, with faintly indicated median keel, but without the lateral keels. *Metanotum* not quite twice as long as metazona, very obtusely tectiform, bi-impressed; median keel very low; lateral keels thick and low, not developed in the anterior third. *First tergite* as long as mesonotum, tectiform, bi-impressed, with the median keel thick, but well raised; lateral keels thick, slightly convergent backwards. The following tergites with only a smooth median line instead of the keel, without lateral keels. *Last tergite* with two small, rounded lobes, slightly longer than they are broad, separated from each by an interspace half again as broad as one of the lobes. *Supraanal plate* trapezoidal, slightly longer than broad, with the hind angles rounded; hind margin slightly convex on each side of the median lobe which is short, triangular, not broader than one-fourth of the hind margin; surface practically flat impressed at the hind angles, with the median ridge scarcely raised, feebly sulcate basally and more distinctly so at the apex. *Cerci* compressed, reaching to the apex of the median lobe, strongly narrowed apically.

*Coloration* dull blackish-brown, variegated with brown and brownish-festaceous above, testaceous below. Pronotum without fasciæ on the disc; lateral lobes blackish-brown above, shining black in the rest, except the hind angles which are reddish-brown. Mesonotum, metanotum and first tergite dull blackish-brown above. Pleuræ shining black. Abdomen shining blackish-brown, with an indefinite median fascia and very irregular, interrupted lateral testaceous fasciæ with blackish dots. Hind femora with scarcely distinct dark fasciæ; sanguineous below. Hind tibiæ sanguineous.

♀ (paratype). Sulci of pronotum not deep, but distinct and all of them cutting the lateral keels. Coloration dark reddish-brown, dull, densely dotted with black, without definite fasciæ. Hind femora more distinctly fasciated than in the male. Lower valvæ of ovipositor with strong, sharp teeth.

					♂ (type)	♀ (paratype)
Length of body	..	..	..	..	15 mm.	18.5 mm.
.. pronotum	..	..	..	..	2.75	3.5
.. hind femur	..	..	..	..	7.5	9.5



Described from one male and one female, taken at Ak-Tash, distr. Tashkent, 23, vii, 1920.

A very distinct species, showing a peculiar structure of pronotum and resembling somewhat in this respect *C. mitchelli*, m., from Kashmir.

The species is named after my much regretted friend, young and very promising Russian orthopterist E. V. Pyl'nov, who died prematurely from typhus as one of numberless victims of the recent disastrous events in our country.

*Conophyma ikonnikovi*, sp. n.

Allied to *C. fedtschenkoi*, Zub.

♂. *Antennæ* about as long as head and pronotum together. Head strongly reclinate. Frontal ridge shallowly sulcate, slightly widened between the antennæ, obsolescent near the clypeus. Vertex moderately sloping, nearly twice as long as broad, somewhat narrowed anteriorly, scarcely impressed without median carinula, with lateral carinulae feeble. *Pronotum* cylindrical, very slightly widened posteriorly; its disc somewhat convex, gibbulate between the sulci, which are all three well developed; median keel well developed throughout, cut by the third sulcus and distinctly lowered at the second sulcus; lateral keels practically obliterate throughout, slightly perceptible only anteriorly where they are distinctly converging backwards, and between the sulci where they are very irregular and diverging backwards; metazona shorter than one-half of prozona, very feebly sinuate-emarginate behind; lateral lobes distinctly longer than deep, gibbose. *Mesonotum* somewhat longer than metazona of pronotum, with the median keel very feeble. *Metanotum* twice as long as metazona of pronotum, obtusely tectiform, with the median keel distinct and the lateral ones very obtuse and irregular, nearly obliterate. *Abdomen* with the median keel well developed on the first tergite only and subobliterate in the rest; lateral keels scarcely perceptible: irregular on the first tergite only. *Last tergite* with a broad, straight emargination behind, bearing in its middle two elongate obtusely conical, thick, slightly incurved lobes separated from each other by the space as broad as one of the lobes at its base. *Supra-anal plate* about as long as it is broad, trapezoidal, broadest behind; lateral margins strongly sinuate at the very base, straight in the rest; hind margin straight with a short rectangular lobe; hind angles a little less than 90°, rounded; surface impressed like a trough, with the sloping sides under the angle of 45°, and the median part (bottom of the trough) somewhat convex, sulcate along the middle in the basal third and, less distinctly, at the apex. *Cerci* quite twice as long as the plate, projecting beyond it by two-thirds of their length, practically straight, slightly compressed laterally at the base, inflated inwardly at the base of the apical third, with the apices pointed and very slightly bent outwards and downwards. *Subgenital plate* short, obtuse conical.

*Coloration* pale greenish-testaceous below, on the legs, apex of abdomen and face, above shining black, with yellowish-buff pattern. Head blackish above, with the postocular fasciæ scarcely perceptible, brown. Disc of pronotum dull black, in the metazona brownish, with shining yellowish-buff lateral fasciæ, which are obtuse-angulate inflexed at the first sulcus, diverging both forwards and backwards; surface of fasciæ irregularly punctured; lateral lobes shining black in more than upper half, greenish testaceous below, finely transversely rugulose, more densely so in metazona, and with fine scattered punctures. *Mesonotum* blackish-brown, dull, with the lateral fasciæ obsolete in front, much more approximated to each other than the pronotal fasciæ. *Metanotum* and the first tergite dull-black, with the lateral fasciæ distinct, still nearer to each other than in mesonotum. *Pleuræ* shining black, with an oblique yellowish fasciæ on metapleuræ. *Abdomen* shining black above and on the sides, with the



median line and moderately broad, irregular lateral fasciæ, yellowish-buff. Hind femora with two very faint brownish fasciæ above. Hind tibiæ pale greenish-testaceous.

♀ (paratype). Blackish-brown, variegated and dotted with black, with the typical pattern in pale sulphur-yellow and broader than in the male. Lower valvæ of ovipositor acutely dentate.

	♂ (type.)				♀ (paratype)	
Length of body (without cerci)	..	..	..	15.5 mm.	19	
„ pronotum	..	..	..	3.5	4	
„ hind femur	..	..	..	8.5	10	
„ cerci	..	..	..	3	1.5	

Two males and two females from Southern Bokhara, 1914.

Differs from *C. fedtschenkoi*, Zub., which has been only briefly diagnosed, in the very remarkable development of male cerci, as well as in other details of the male genitalia and in coloration.

The species is named after my friend Mr. N. F. Ikonnikov, who has done some excellent work on systematics of the *Acrididae* of various parts of Russia.

A list of species of the genus *Comophyma*.

1. *C. semenovi*, Zubovsky, 1898; Ann. Mus. Zool. Acad. St. Petersburg, iii, p. 106 (Semiretchye).  
Synonym: *Podisma Almasyi*, Kuthy, 1905; Ann. Mus. Nat. Hungar., iii, p. 218 (Semiretchye).
2. *C. zubovskyi*, Uvarov, 1924: see above (Ferghana).
3. *C. miramæ*, Uvarov, 1924; see above (Alexandravosky range).
4. *C. mitchelli*, Uvarov, 1921; Ent. Mon. Mag., 3rd ser., vii, p. 268; also above (Kashmir).
5. *C. sokolowi*, Zubovsky, 1899; Horæ Soc. Entom. Ross., xxxii, p. 588 (Tashkent).
6. *C. uvarovi*, Semenov, 1915; Revue Russe d'Entom., xv., p. 453 (Kopet Dagh.).
7. *C. jacobsoni*, Uvarov, 1924; see above (Tchimgan, near Tashkent.).
8. *C. simile*, Zubovsky, 1899; Horæ Soc. Entom. Ross., xxxii, p. 591 (Samarkand district).
9. *C. plotnikovi*, Uvarov, 1924; see above (Malyi Tchimgan, near Tashkent.).
10. *C. pylnovi*, Uvarov, 1924; see above (Ak-Tash, distr. Tashkent.).
11. *C. weberi*, Zubovsky, 1899; Horæ Soc. Entom. Ross., xxxii, p. 584 (Samarkand distr.).
12. *C. fedtschenkoi*, Zubovsky, 1900; Horæ Soc. Entom. Ross., xxxiv, p. 23 (valley of the upper Zeravshan).
13. *C. ikonnikovi*, Uvarov, 1924; see above (S. Bokhara).





Uvarov, B. P. 1925. "Some new Alpine Grasshoppers of the Genus *Conophyma* Zub. from Central Asia." *The journal of the Bombay Natural History Society* 30, 551–560.

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