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Two new species of the genus Primnoa Fisher-Waldheim , 1846, from the Soviet Union

(Orthoptera, Acrididae)

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Abstract

Primnoa montana **sp. nov.** and *P. mistshenkoi* **sp. nov.** are described from the Soviet Far East.

Zusammenfassung

Primnoa montana **sp. nov.** und *P. mistshenkoi* **sp. nov.** aus Ostsibirien werden beschrieben.

Twenty species of the genus *Primnoa* FISHER-WALDHEIM, 1846, are known from East Palearctic (MISTSHENKO 1974, INOUE 1979, HUANG 1982). Two new species of this genus are described below from Primorye Region of the Soviet Union. Holotypes of the new species are preserved in the collections of Zoological Institute of Academy of Sciences of USSR (Leningrad), and the remaining paratypes are put in the collections of Institute of Biology and Pedology of Far-East Branch of Academy of Sciences of USSR (Vladivostok).

Primnoa montana **sp. nov.** (Figs.1-16)

Male: Body medium sized, relatively slender. Width of vertex between eyes equal or 1.1 times more than the width of frontal ridge between antennae. Eyes large, oval. Antennae thin, reaching well beyond the posterior margin of pronotum. Pronotum subcylindrical; prozona about 2.25 - 2.50 times as long as metazona; the posterior margin of metazona straight or slightly emarginate at middle. Tegmina narrow, almost parallel sided, not reaching the anterior margin of the tympanal organ, about 2-3 times as long as width. Mesosternal interspace transverse, its maximum width 1.3 - 1.4 times more than its length. Width of the metasternum is equal to combined length of mesosternum and metasternum. Hint femora stout, about 3.7 - 4.1 times as long as wide. Last abdominal tergite with little furculae, which is united near the base and broadly separated at the apex. Supraanal plate trapezoidal, with a wide median groove and with two pairs of tubercles on the lateral margins near the middle and in apical third; length of plate equal or 1.1 times more than its maximum width. Cerci straight, in profil strongly concave near the middle, with broadly rounded apex; about 2.2 - 2.6 times as long as its greatest width near the base. Subgenital plate swollen at apex, weakly truncate. Epiphallus with relatively short ancorae. Apical valves of penis elongate. Body olive-black. Tegmen brown, with light stripe along posterior margin. Hind tibia yellowish brown.

Female: Similar to male, but larger. Width of vertex between eyes 1.25 - 1.40 times more than the width of frontal ridge between antennae. Eyes large, oval. Frontal ridge parallel sided or slightly constricted beneath the median ocellus. Length of prozona 2.1 - 2.3 times more than length of metazona; the posterior margin of metazona emarginate at middle. Tegmina as in male, about 2.9 - 3.1 times as long as wide. Mesosternal interspace transverse, its width 2.25 - 2.50 times more than its length. Hind femora about 4.0 - 4.4 times as long as wide. Supraanal plate triangular, with a weak longitudinal median groove and with rounded apex. Cerci straight, conical, 1.6 - 1.9 times as long as its greatest width. Subgenital plate elongate; posterior margin distinctly triangular in the middle. Body olive-brown or olive-black. Tegmina and hind tibia colored as in male.

Measurements: Length of body of male 18.5 - 22.3 mm, female 20.2 - 25.0 mm; length of pronotum of male 3.7 - 4.2 mm, female 4.2 - 4.9 mm; length of tegmina of male 1.4 - 2.1 mm, female 2.1 - 2.3 mm; hind femora of male 9.9 - 10.4 mm, female 10.3 - 12.5 mm.

Material: Holotype male, USSR, Primorye, Armu River, Mt. Vysokaja, 1700 m, 30.VIII.1990 (V. SIDORENKO). - Paratypes: 4 males and 4 females from same locality as holotype.

Diagnosis: This new species resembles *P. polaris* (MIRAM, 1928), but differes from it by the shape of cerci of male, relatively long apical valves of penis and by

broader mesosternal interspace of female. Although *P. montana* **sp. nov.** is closely related to *P. kurentzovi* MISTSHENKO, 1974, it may be identified by clearly short tegmina in both sexes and by the shape of cerci of male.

***Primnoa mistshenkoi* sp. nov.** (Figs.17-26)

Male: Body large, robust. Width of vertex between eyes 1.15 times more than the width of frontal ridge between antennae. Eyes large, oval. Antennae thin, reaching the posterior margin of pronotum. Pronotum subcylindrical; prozona comparatively short, about 2.05 times as long as metazona; the posterior margin of metazona is slightly emarginate at middle. Tegmina narrow, parallel sided, about 3.0 times as long as wide, reaching the anterior margin of the tympanal organ. Mesosternal interspace weakly transverse, its maximum width 1.15 times more than its length. Width of the metasternum is equal to combined length of mesosternum and metasternum. Hind femora slender, about 4.9 times as long as wide. Last abdominal tergite with the distinctly separated little furculae; top of furculae acutely rounded. Supraanal plate trapezoidal, 1.2 times as wide as long, with two small tubercles near apex. Cerci straight, conical, with rounded top, 1.9 times as long as wide. Subgenital plate swollen at the apex, truncate. Epiphallus with very small ancorae. Apical valves of penis long, curved. Body olive-brown, with indistinct black spots. Tegmen unicolor brown. Hind tibia yellow.

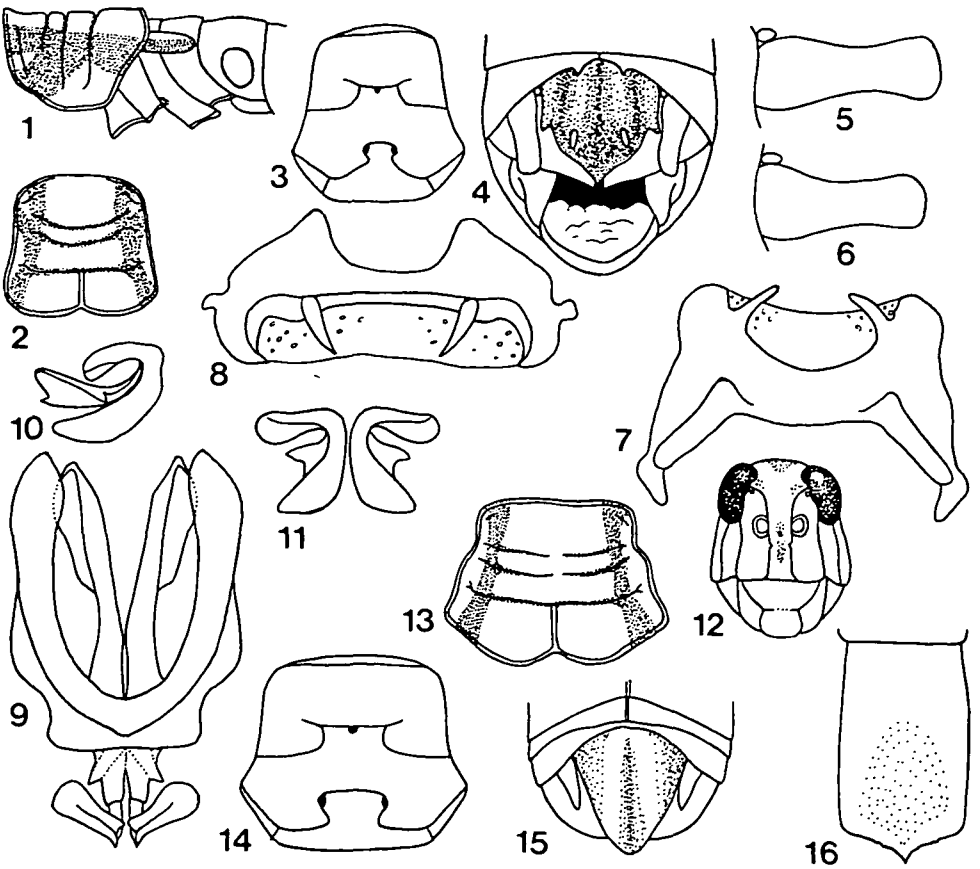
Measurements male: Length of body 32.5 mm; length of pronotum 6.2 mm; length of tegmina 3.9 mm; length of hind femora 15.2 mm.

Female unknown.

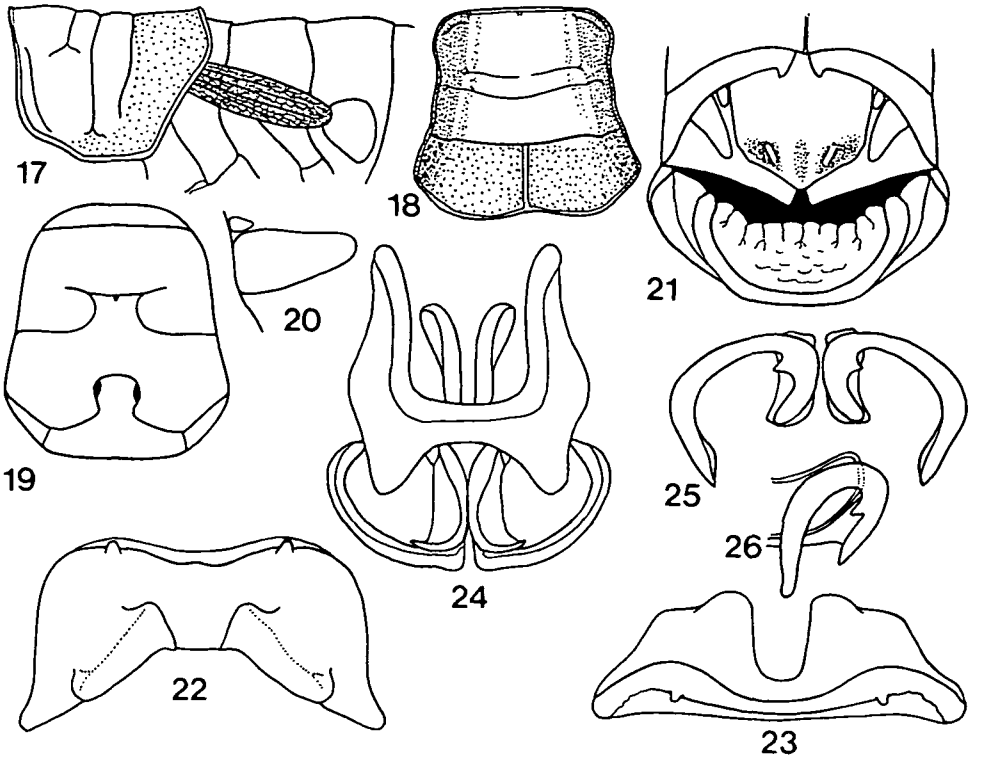
Material: Holotype male, "44133'N, 133lE; 10.VI.1910 (N. IKONNIKOV)" (= USSR, Primorye, Evseevka near Spassk-Dalny).

Diagnosis: Closely related to *P. tristis* MISTSHENKO, 1951, but differs by the form of supraanal plate of male and by very short ancorae of epiphallus.

Derivation of name: The new species is named in honour of Dr. L.L. MISTSHENKO (Leningrad).



Figs.1-16: *Primnoa montana* **sp. nov.**; 1-11 = male, 12-16 = female.
1) pronotum and base of abdomen, lateral view; 2, 13) pronotum, dorsal view; 3, 14) sternum, ventral view; 4, 15) apex of abdomen, dorsal view; 5, 6) left cercus, lateral view; 7) epiphallus, dorsal view; 8) epiphallus, frontal view; 9) phallic complex, dorsal view, epiphallus and ectophallic membrane removed; 10, 11) apical valves of penis, lateral and frontal views; 12) head, frontal view; 16) subgenital plate, ventral view.



Figs.17-26: *Primnoa mistshenkoi* **sp. nov.**; male.
17) pronotum and base of abdomen, lateral view; 18) pronotum, dorsal view; 19) sternum, ventral view; 20) left cercus, lateral view; 21) apex of abdomen, dorsal view; 22, 23) epiphallus, dorsal and frontal views; 24) phallic complex, dorsal view, epiphallus and ectophallic membrane removed; 25, 26) apical valves of penis, frontal and lateral views.

Literature

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Literaturbesprechung

HÖLLDOBLER, B. & WILSON, E.O.: The Ants.- 1990. Springer-Verlag Berlin Heidelberg. ISBN 3-540-52092-9. 732 pp., ca. 1000 Illustrationen, 24 Farbtafeln, Quart-Format.

Ameisen gehören zu den interessantesten und wichtigsten Lebewesen dieser Erde. Die weltweite Verbreitung der Arten und der gewaltige Individuenbestand einzelner Kolonien mit teilweise Millionen Arbeiterinnen trägt dazu bei, daß die Ameisen etwa 15% der gesamten terrestrischen Biomasse erreichen. Bei einer Superkolonie von *Formica yessensis* auf Hokkaido wurden 306 Millionen Arbeiterinnen und 1 080 000 Königinnen in 45 000 miteinander verbundenen Nestern auf 2,7 qkm nachgewiesen.

Das angeführte Beispiel ist nur eines ausgewählt aus einer Fülle von beeindruckenden Informationen aus der von den Professoren Bert HÖLLDOBLER und Eduard O. WILSON in jahrelanger Arbeit geschriebenen Monographie. Es ist ein großbändiges Buch der Superlative geworden, in hervorragender Ausstattung, mit etwa 1000 schönen, teils farbigen Abbildungen. Im Kapitel "Classification and origins" werden neben dem Bestimmungsschlüssel für alle 292 gültigen Formicidae-Gattungen jeweils typische Arten abgebildet. Diese Zeichnungen stellen eine große Hilfe für die Determination der taxonomisch schwer unterscheidbaren Formicidae dar. Der Systematische Bereich umfaßt jedoch nur einen Bruchteil der Informationen, die in dem Werk enthalten sind. Ausführliche Kapitel werden natürlich den Sozialstrukturen der Ameisenstaaten gewidmet. In den 20 behandelten Abschnitten sind alle aktuellen Erkenntnisse der modernen Ameisen-Forschung verarbeitet. Dadurch erhält man einen Einblick in die wichtige biologische Funktion der Fomiciden beim Erhalt des ökologischen Gleichgewichtes der Natur. Diese Funktion erreicht durch das altruistische Verhalten im Verband der Kasten eine Effektivität, die im Tierreich einmalig ist.

Zu den detailliert behandelten Großthemenbereichen zählen u.a.: Bedeutung der Ameisen, Systematik und Evolution, Aufbau, Lebensweise und Verhalten in der Kolonie, Kastenwesen und Arbeitsteilung, Strukturierung von Lebensgemeinschaften, Symbiose zwischen verschiedenen Ameisenarten und mit anderen Tieren und Interaktionen mit Pflanzen. Einigen Spezialisten wie Wanderameisen, pilzzüchtenden Arten, Ernte- und Weberameisen u.a. sind eigene Kapitel gewidmet.

Zusammenfassend ist zu bemerken, daß es über Ameisen derzeit kein gleichwertiges und aktuelleres als dieses preiswerte Werk gibt. Auch Naturbegei-

sterte, die keine Formicidae-Spezialisten sind, werden wichtige Erkenntnisse beim Lesen und Betrachten dieses reichbebilderten Buches erhalten.

E. DILLER

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