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Biosystematic Studies of Genus *Formosatettix* Tinkham (Tetrigidae: Orthoptera) of Paddy Tract of the Punjab, Pakistan

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Abstract: The grouse locusts of the genus *Formosatettix* collected from various localities of the paddy area of the Punjab consist of two species. Out of these, *Formosatettix obtusus* is new to science and has been described in detail, while differential characters, measurements, collection data and habitat of *Formosatettix larvatus* have been given.

Key Words: Ortghoptera, tetrigidae, *Formosatettix*, paddy tract, Punjab, Pakistan

Introduction

The tetrigids (grouse locusts) are small-sized grasshoppers which inhabit moist, unshaded locations (Berman, 1989) and feed on fungi, algae, mosses, lichens, grasses and even on vegetable detritus (Mani, 1982). As for the taxonomic work, with reference to Pakistan, the last taxonomic work on the tetrigid fauna of undivided India was done by Kirby (1914) and Hancock (1912, 1913, 1915). After the formation of Paksitan, fragmented work on record, is that of Moeed (1971), Wagan (1992) and Suhail (1994).

The present study of the tetrigids from paddy tract of the Punjab, has showed genus *Formosatettix*, comprising two species, as a first record from Pakistan. The new species, *F. obtusus* has been described in detail, while differential characters, measurements, collection data and habitat of *F. larvatus*, have been provided.

Genus *Formosatettix* Tinkham

1937. *Formosatettix* Tinkham, Trans. nat. Hist. Soc. Formosa, XXVII:237. Type: *Formosatettix arisanensis* Tinkham

Formosatettix larvatus Bei-Bienko

1951. *Formosatettix larvatus* Bei-Bienko, keys Faun. USSR., p. 285.

Measurements (mm): (35♂ 23♀)

	Male	Female	Mean	S.D.
Body (L)	5.00-6.00	6.50-7.00	6.17	1.03
Pronotum (L)	4.00-5.00	6.25-8.00	5.67	1.53
Pronotum (W)	2.0	2.00-2.50	2.13	0.21
Hind femur (L)	3.75-4.00	5.00	4.63	0.86
Hind femur (W)	1.52-2.00	2.00-2.50	1.92	0.38

Material examined: Motra (Daska, Sialkot) 1♂ 10.IX.93; Narowal 4♂ 2 ♀ 11.IX.93; Sukheki 1 ♂ 8.IX.93; 1 ♂ 7 ♀ 26.V.94; Pasrur 9 ♂ 5 ♀ 10.IX.93; Sangla Hill 4 ♂ 2 ♀ 22.X.94; Kotli Mughlan (Gujranwala) 2 ♂ 1 ♀ 9.IX.93; Hafizabad 1 ♂ 9.IX.93; Pindi Bhatian 1 ♂ 2 ♀ 9.IX.93; Zafarwal 2 ♂ 2 ♀ 11.IX.93; Wazirabad 4 ♂ 1 ♀ 9.IX.93; Kala Shah Kaku 4 ♂ 12.IX.93; Head Marala (Sialkot) 1 ♂ 1 ♀ 10.IX.93.

Habitat: The specimens were collected from grasses, growing at damp places and along the bank of stagnant water pond.

New record: This species has been recorded for the first time from Pakistan.

Formosatettix obtusus sp. nov.

Holotype

Male: The antennae not less than twice the length of the anterior femora, the middle segments 4-5 times longer than they are wide. The vertex anteriorly is very slightly elevated between the eyes; the frontal ridge with a very weak notch in front of the lateral ocelli in profile (Fig. 1). The pronotum dorsally roof-shaped with a distinctly elevated carina; provided with four spots arranged in two groups on each side; the lateral carinae obtusely sharp, extending forward over the humeral angle which is easily distinguished. The prozona of the pronotum moderately transverse, the anterior margin projects forward over head in the form of an obtuse angle (Fig. 2). The posterior process short, hardly reaching the genicular lobe of hind femora. Tegmina absent, wings shorter than the pronotum. All the femora carinated. Hind tibiae with 9-11 spines on each margin. Abdomen yellowish-brown; subgenital plate curved upward, cone-shaped, distinctly notched at apex.

Allotype

Female

Exactly resembles the male except the following characters: Pronotum with posterior process reaching slightly beyond the middle of hind femora or hardly to its genicular lobe. Ovipositor valves well developed; with pointed teeth on their external margins, apex pointed and curved.

Measurements (mm): (5♂ 3 ♀)

	Male	Female	Mean	S.D.
Body (L)	6.25-6.50	7.00-7.25	6.7	0.41
Pronotum (L)	5.50-6.00	6.25	5.95	0.33
Pronotum (W)	1.50-2.00	1.5	1.65	0.23
Hind femur (L)	4.25-4.75	5.25-5.75	4.85	0.65
Hind femur (W)	1.52-1.75	2.00-2.25	1.85	0.28

Material examined:

Holotype: Pasrur 1 ♂ 10.IX.93

Allotype: Pasrur 1 ♀ 10.IX.93

Paratypes: Pasrur 2 ♂ 1 ♀ 10.IX.93; Zafarwal 2 ♂, 11.IX.93; Hafizabad 1 ♀ 9.IX.93.

Habitat: The collection was made from damp places, from the "Dib" (*Typha latifolia*) plantation, growing on the bank of

water ponds and from the cultivated fields of rice.

Distinguishing characters: Similar to *Formosatettix larvatus* but deviating in the following characters.
Frontal r idge in profile arcuate with a weak notch in front of

lateral ocelli. Median carina of vertex sharp and prominent. Pronotum dorsally tectiform with sharp, very compressed and arcuate median carina; a short sinuous line between the shoulders on both sides of median carina present. Lateral carinae of the pronotum sharp. Prozona anteriorly extending over the head with lateral carinae converging posteriorly. Legs unicoloured, hind femur with finely serrated and acutely compressed carina.

Derivation of the name: The name of this species has been derived from the character of the prozona of the pronotum which extends over the head and is obtusely angulate there.

Repository: The type material has been deposited in the Insect Museum, Department of Agricultural Entomology, University of Agriculture, Faisalabad.

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