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Tetriginae (Tetrigidae: Orthoptera) of Rawalpindi Division

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Abstract: Eleven species of the pygmy grasshoppers under four genera, i.e., *Ergatettix*, *Euparatettix*, *Hedotettix* and *Paratettix* have been collected from different localities of Rawalpindi Division. Out of these, *Ergatettix dorsiferus* has been recorded for the first time from the Punjab, while *E. guentheri* is a first record from Pakistan. The measurements of all the species, alongwith their distribution and habitat are also provided.

Key words: Orthoptera, Tetrigidae, Tetriginae

Introduction

Tetrigids are a kind of grasshoppers which are also called grouse locusts. They inhabit moist, humid, wet and shady places (Berman *et al.*, 1989). The main work on the tetrigid fauna was done in the undivided India by Kirby (1914) and Hancock (1912, 1913, 1915). After the creation of Pakistan in 1947, some work has been done by Moeed (1971), Wagan and Kevan (1992) and Suhail *et al.* (1994) in different localities of Pakistan.

In the present work, this family is represented by eleven species in four genera. Out of these *Ergatettix dorsiferus* is a new record from the Punjab whereas *E. guentheri* has been recorded for the first time from Pakistan.

Materials and Methods

The specimens were killed in a cyanide bottle and pinned. Most of the specimens were with wings folded on their bodies and legs improperly placed. In order to make a study of such specimens, they were kept in a relaxing jar for 1-2 days, 8-10 specimens at a time. After relaxation, they were mounted on spreading boards and the left tegmen and wing of each specimen were fully spread so that the maculation could be studied.

Hind legs were placed in an inverted "V" position. All the mounted material was left on spreading boards for 4-6 days, then transferred to boxes after labelling for preservation. Naphthaline balls mounted on pins and BHC powder were used as fumigant to save the preserved specimens from the attack of insects. These collections were supplemented with specimens from the students' collection of the Department of Agri. Entomology, University of Agriculture, Faisalabad.

A revolving stage and a WILD M3B binocular microscope (10X × 1.6X) were used for identifying the specimens up to the specific level. The measurements (maximum length and width) of body, pronotum, tegmen and hind femur were taken with a finely pointed divider and a ruler and their means and standard deviation were worked out. The type specimens have been deposited in the Insect Museum, Department of Agricultural Entomology, University of Agriculture, Faisalabad.

Subfamily Tetriginae Genus *Ergatettix* Kirby

Type: *Ergatettix tarsalis* Kirby

1. *Ergatettix guentheri* Steinmann

1912. *Euparatettix nodulosus* Hancock, Mem. Dept. Agric. India, pp. 155-156.

1915. *Indatettix nodulosus* Hancock, Rec. Ind. Mus., p. 129.

1929. *Ergatettix nodulosus* Hebrad, Rev. Suisse Zool., p. 587.

1970. *Ergatettix guentheri* Steinmann, Acta Zool. Acad. Sci., p. 429.

Measurements (mm): (4♂ 4♀)

	Male	Female	Mean	S.D.
Body (L)	5.50-6.25	5.75-6.75	6.56	0.94
Head (L)	0.75	1.00	0.85	0.14
Pronotum (L)	7.25-8.50	9.00-9.25	8.55	0.78
Pronotum (W)	2.00-2.45	2.18	0.25	
Tegmen (L)	0.80-1.25	1.30-1.50	1.22	0.26
Hind femur (L)	3.75-4.00	4.80	4.22	0.54
Hind femur (W)	1.25-1.50	1.50-1.60	1.47	0.13
Hind tibia (L)	3.00-3.50	3.75-4.00	3.55	0.37

Material examined: Rawalpindi 4♂ 2♀, 10.VI.93; 2♀, 4.IX.94.

Habitat: The specimens were collected from the surface of a water pond where mosses and green algae were growing profusely on the surface.

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

2. *Ergatettix dorsiferus* (Walker)

1871: *Tettix dorsiferus* Walker, Cat. Dermapt. Salt. Brit. Mus., 5, p. 825.

1909: *Euparatettix parvus* Hancock, Spol. Zeyl., ii, p. 149. 1910. *Acrydium dorsiferum* Kirby, Syn. Cat. Orthopt. Brit. Mus., 3, p.45.

1914: *Euparatettix scabripes* Kirby, Faun. Brit. Ind. Orth. Acrid., 1, p.59.

1914: *Paratettix dorsifer* Kirby, Faun. Brit. Ind. Orth. Acrid., 1, p.63.

1914: *Euparatettix tarsalis* Kirby, Faun. Brit. Ind. Orth. Acrid., 1, p.63.

1915: *Inditettix parvus* Hancock, Rec. Ind. Mus., 11(1): 129.

1929: *Ergatettix dorsiferus* Hebard, Rev. Suisse Zool., p. 588.

Measurements (mm): (1♂)

	Male
Length of body	6.25
Length of head	1.00
Length of pronotum	8.75
Width of pronotum	2.00
Length of tegmen	1.30
Length of hind femur	4.00
Width of hind femur	1.50
Length of hind tibia	3.50

Material examined: Rawalpindi 1♂, 10.VI.93.

Habitat: This specimen was collected from the vicinity of a water pond having heavy growth of algae on the surface.

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

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from Punjab while Wagan and Kevan (1992) recorded it from Jamshoro (Sindh).

3. *Ergatettix interruptus* (Brunner von Wattenwyl)

1893. *Paratettix interruptus*, Brunner, Ann. Mus. Genova, xxxiii, p. 109.
 1910. *Euparatettix interruptus* Kirby, Loc. vel. Acrid., Brit. Mus. (N.H.), p.31.
 1915. *Indatettix interruptus* Hancock, Ind. Tet. Rec. Ind. Mus., 11(1): 130.

Measurements (mm): (1♂ 2♀)

	Male	Female	Mean	S.D.
Body (L)	6.25	8.50-8.75	7.5	1.77
Head (L)	0.9	1.00	0.95	0.07
Pronotum (L)	9.50	10.50-10.75	10.13	0.88
Pronotum (W)	2.25	2.25-2.50	2.38	0.18
Tegmen (L)	1.25	1.15-1.50	1.38	0.18
Hind femur (L)	4.50	4.20-5.00	4.75	0.35
Hind femur (W)	1.30	1.50-1.75	1.53	0.32
Hind tibia (L)	3.50	3.60-4.00	3.75	0.35

Material examined: Rawalpindi 1♂ 1♀ 10.VI.93; Salgran 1♀ 3.IX.94.

Habitat: The specimens were collected from the boundary of a water pool and the stones with thick mosses growing on them.

New record: The above mentioned localities. Earlier, Suhail *et al.* (1994) reported this species from Lahore, Loral and Peshawar.

4. *Ergatettix interruptus* var. *A. aff.*

1915. *Ergatettix interruptus* var. *aff.* Hancock, Rec. Ind. Mus., 11: 130.

Measurements (mm): (1♂)

	Female
Length of body	8.50
Length of head	1.00
Length of pronotum	10.75
Width of pronotum	2.00
Length of tegmen	1.50
Length of hind femur	5.00
Width of hind femur	1.75
Length of hind tibia	4.00

Material examined: Salgran 1♂, 3.IX.94.

Habitat: The specimen was collected from mosses growing on a vertical moist wall where water was seeping.

5. *Ergatettix crassipes* (Hancock)

1912. *Euparatettix crassipes* Hancock, Mem. Dept. Agric. Ind., pp. 153,157.
 1915. *Indatettix crassipes* Hancock, Rec. Ind. Mus., 11(1): 130.
 1970. *Euparatettix crassipes* Steinmann, Acta. Zool. Acad. Sci., no. 359.
 1987. *Ergatettix crassipes* Ingrisch, Deutsches entom. Zeit., 34: 130.

Measurements (mm): (2♂ 3♀)

	Male	Female	Mean	S.D.
Body (L)	10.50-11.00	11.50-12.00	11.41	0.56
Head (L)	0.75	1.00	0.85	0.14
Pronotum (L)	8.50-9.00	9.00-9.50	9.08	0.34
Pronotum (W)	2.00-2.25	2.50-3.00	2.51	0.36
Tegmen (L)	1.50	1.75-2.00	1.75	0.22
Hind femur (L)	4.50-5.00	5.00-5.25	5.00	0.27
Hind femur (W)	1.75-2.00	2.00-2.50	2.12	0.26
Hind tibia (L)	3.0-3.50	3.75-4.00	3.55	0.37

Material examined: Rawalpindi 2♂ 1♀, 10.VI.93; Jhelum 1♀, 1.IX.94.

Habitat: The specimens have been collected from the wild plantation of various kinds, growing near the water pond, resulting from seepage of water from a canal.

Genus *Hedotettix* Bolivar.

Type: *Acridium (Tettix) gracile* de Haan.

1. *Hedotettix gracilis* (de Haan)

1843. *Acridium (Tettix) gracile* De Haan, Verh. Natu. Gesch. Nederl., p. 169.
 1871. *Tettix umbrifera* Walker, Cat. Derm. Salt. Brit. Mus. (N.H.), p. 824.
 1871. *Tettix lineifera* Walker, ibid.
 1871. *Tettix vittifera* Walker, ibid.
 1871. *Tettix obliquifera* Walker, ibid., p. 825.
 1871. *Tettix nigricollis* Walker, ibid., p. 826.
 1871. *Tettix discalis* Walker, ibid.
 1871. *Tettix exsultans* Walker, ibid.
 1887. *Hedotettix gracilis* Bolivar, Ann. Soc. Ent. Belg., 31: 188, 283, 284.

Measurements (mm): (2♂ 1♀)

	Male	Female	Mean	S.D.
Body (L)	8.50-8.70	10.50	9.17	1.15
Head (L)	0.80-0.90	1.00	0.87	0.13
Pronotum (L)	9.50-10.00	12.50	10.67	1.61
Pronotum (W)	1.50-1.90	2.10	1.83	0.31
Tegmen (L)	0.80-0.90	0.80	0.83	0.06
Hind femur (L)	5.20-5.80	7.00	6.00	0.92
Hind femur (W)	2.30-2.50	2.90	2.57	0.31
Hind tibia (L)	4.50-5.10	5.50	5.26	0.37

Material examined: Salgran 2♂ 1♀, 11.VI.93.

Habitat: The specimens of this species have been found in wild grasses.

2. *Hedotettix attenuatus* Hancock

1904. *Hedotettix attenuatus* Hancock, Spol. Zeyl., 2: 151.

Measurements (mm): (3♂ 2♀)

	Male	Female	Mean	S.D.
Body (L)	8.50-8.70	10.50-10.75	9.17	1.15
Head (L)	1.00	1.00-1.20	1.06	0.09
Pronotum (L)	9.50-10.00	12.50-13.00	10.67	1.61
Tegmen (L)	1.50-1.90	1.90-2.10	1.83	0.31
Tegmen (W)	0.80-0.90	0.80-1.00	0.83	0.06
Hind femur (L)	5.20-5.80	6.20-6.50	6.00	0.92
Hind femur (W)	2.30-2.50	2.50-2.60	2.57	0.31
Hind tibia (L)	4.50-4.75	5.00-5.20	4.89	0.27

Material examined: Rawalpindi 1♂, 10.VI.93; Salgran 2♂ 2♀, 3.IX.94.

Habitat: The specimens were found on the margins of a water pond and moist grasses.

New record: The above localities. Earlier, this species has been reported by Moeed (1971) from Hyderabad and Jamshoro (Sindh) and by Suhail *et al.* (1994) from Mingora (Swat), Khuzdar, Loral, Sukkur and Karachi.

Genus *Paratettix* Bolivar

Type: *Paratettix (Tettix) meridionalis* (Rambur).

1. *Paratettix nigrescens* Sjostedt

1921. *Paratettix nigrescens* Sjostedt, Kunf. Sevenk. Vet. Handl., 62(3): 15,17.
 1931. *Paratettix histricus* Sjostedt, Ark. Zool., 23A(11): 1.

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Measurements (mm): (2♂ 7♀)

	Male	Female	Mean	S.D.
Body (L)	6.50-7.50	9.50-11.00	9.55	1.68
Head (L)	0.80-0.90	1.00-1.15	1.04	0.13
Pronotum (L)	9.25-9.90	11.75-12.50	11.56	1.27
Pronotum (W)	2.60-2.90	2.80-3.10	2.95	0.10
Tegmen (L)	1.70	1.60-2.00	1.80	0.17
Hind femur (L)	5.00-5.75	6.00-6.70	6.16	0.56
Hind femur (W)	1.70-1.75	1.90-2.10	1.94	0.15
Hind tibia (L)	4.50-5.10	5.00-5.50	5.26	0.37

Material examined: Rawalpindi 1 ♂ 4 ♀, 10.VI.93; Attock 1 ♂ 3 ♀, 4.IX.94.

Habitat: The specimens were collected from the edge of a water pond and from the moist grasses in a garden.

New record: Both the above mentioned localities. Earlier, this species was reported by Moeed (1971) from Hyderabad and Jamshoro (Sindh) and by Suhail *et al.* (1994) from Badin and Sialkot.

2. *Paratettix similis* Bolivar

1887. *Paratettix femoralis* Bolivar, Ann. Soc. Ent. Belg., 31: 271, 277.

1906. *Paratettix fluctuans* Hancock, Gen. Ins. Orth. Acrid., Tetrig., P. 56.

1906. *Paratettix similis* Hancock, Ibid.

Measurements (mm): (1♂)

Male	
Length of body	10.20
Length of head	0.75
Length of pronotum	10.75
Width of pronotum	2.30
Length of tegmen	1.50
Length of hind femur	5.75
Width of hind femur	1.75
Length of hind tibia	5.00

Material examined: Attock 1 ♂, 4.IX.94.

Habitat: The specimen of this species was collected from grasses growing on the boundary of stagnant water.

Genus *Euparatettix* Hancock

Type: *Euparatettix (Paratettix) personatus* (Bolivar).

1. *Euparatettix variabilis* (Bolivar)

1887. *Paratettix variabilis* Bolivar, Ann. Soc. Ent. Belg., 31: 188, 276.

1915. *Euparatettix variabilis* Hancock, Rec. Ind. Mus., 11(1): 126.

Measurements (mm): (2♂ 3♀)

	Male	Female	Mean	S.D.
Body (L)	7.5	9.50-10.10	8.87	1.27
Head (L)	1.00	1.00-1.20	1.06	0.06
Pronotum (L)	10.00-10.25	11.35-12.20	11.16	1.00
Pronotum (W)	2.25-2.40	2.70-2.90	2.61	0.27
Tegmen (L)	1.60-2.40	1.75-2.00	1.79	0.16
Hind femur (L)	5.25-2.40	6.00-6.30	5.81	0.42
Hind femur (W)	1.70-2.40	1.80-2.00	1.84	0.11
Hind tibia (L)	4.50-2.40	5.00-5.20	4.89	0.27

Material examined: Rawalpindi 3 ♀ 10.VI.93; Salgran 1 ♂, 11.VI.93; Attock 1 ♂, 4.IX.94.

Habitat: The specimens were collected from the banks of the sewage water pond and from the wet grass in a garden.

2. *Euparatettix indicus* (Bolivar)

1887. *Paratettix indicus* Bolivar, Ann. Soc. ent. Belgique, 31: 281.

1902. *Paratettix indicum* Bolivar, Ann. Soc. ent. France, 70: 585.

1907. *Euparatettix indicus* Hancock, Trans. Ent. Soc. London, p. 238.

Measurements (mm): (1♂ 1♀)

	Male	Female	Mean
Body (L)	8.50	9.90	9.20
Head (L)	0.80	1.20	1.00
Pronotum (L)	8.25	11.50	9.88
Pronotum (W)	2.95	2.80	2.88
Tegmen (L)	1.40	1.80	1.60
Hind femur (L)	5.00	6.50	5.75
Hind femur (W)	1.50	2.00	1.75
Hind tibia (L)	4.25	5.70	4.98

Material examined:

Rawalpindi 1 ♂, 10.VI.93; 1 ♀, 2.IX.94.

Habitat: The specimens were collected from a water pond where dark green algae was growing.

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