pISSN: 0259-9996 – eISSN: 2783-3968

Journal of Entomological Society of Iran

2025, 45 (2), 227–246

Research Article

Some records of grasshoppers (Pyrgomorphidae, Tetrigidae, Dericorythidae, Acrididae) of Baluchistan housed at National Insect Museum, Pakistan

Waheed Ali Panhwar[1], Ahmed Zia[2], Anjum Shehzad[2], Shah Rukh Soomro[3], Muhammad Inam[4] & Noor Ahmed Noonari[3]

1- Department of Zoology , University of Sindh Jamshoro, Pakistan

2- National Insect Museum, National Agriculture Research Centre, Islamabad, Pakistan

3- Department of Zoology, Shah Abdul Latif University Khairpur, Pakistan

4- Department of Zoology, Abdul Wali Khan University, Mardan, Pakistan

Abstract. Grasshoppers recorded before and after partition of Pakistan that are housed at National Insect Museum, Islamabad were examined during the present study. The examined material has never been published, especially grasshoppers group from this museum. A record of 24 species and subspecies, 21 genera falling in the 04 families' i-e: Pyrgomorphidae, Tetrigidae, Dericorythidae, and Acrididae from only Baluchistan province has been presented in this paper. Some of the specimens were unidentified and some found with old names are identified with their valid species or subspecies names. The species *Tenuitarsus angustus* (Blanchard, 1836), *Dericorys annulata* (Fieber, 1853), *Gonista rotundata* Uvarov, 1933, *Pyrgodera armata* (Fischer von Waldheim, 1820) and *Tropidopola longicornis syrica* (Walker, 1871) are first time recorded from Baluchistan Pakistan. *Pyrgodera armata* (Fischer von Waldheim, 1820) is first time recorded from Pakistan making an addition to the list of grasshoppers of Pakistan. Many species distribution has been extended to new localities of Baluchistan Province of Pakistan.

Keywords: Baluchistan, Diversity, Checklist, Orthoptera, Distribution, Record

Article history
Received: 04 December 2024
Accepted: 11 February 2025
Published: 17 April 2025

Subject Editor: Shahab Manzari

Corresponding author: Waheed Ali Panhwar

E-mail: waheed.panhwar@usindh.edu.pk

DOI: https://doi.org/10.61186/jesi.45.2.4

Introduction

Pakistan is situated between latitudes 23° 35' and 37° 05' North and longitudes 60° 50' and 77° 50' East. It has an overall area of 796,096 km²(More than 1600 km north to south and 885 km east to west.) Its climate is both semi-arid and subtropical where average rainfall varies from 500–900 mm in the mountainous and northern plains to 125 mm in the extreme southern plains. About 70% of the precipitation occurs as summer monsoon rains in the form of heavy downpours between July and September and 30% in winter. The winters are chilly, although they rarely drop more than a few degrees below freezing, but have extremely hot summers (40 °C average high) except in mountain regions (Atlas of Pakistan, 1997).

The world database showed 30,105 valid species of Orthoptera with around 29,196 valid existing species (Cigliano *et al.,* 2024). Order Orthoptera is divided into two suborders Ensifera and Caelifera. Ensifera includes Katydids, Crickets, Dune crickets, etc. Meanwhile, Caelifera includes grasshoppers and Locusts (Panhwar, 2018; Baloch *et al.,* 2023). The family rank of katydids was presented by (Braun, 2015). The diversity and distributional data for grasshoppers of Quetta Division of Baluchistan Province of Pakistan revealed the presence of 14 species (Mukhtar *et al.,* 2010). More recently, an annotated catalogue of Pakistani grasshoppers enlisted 169 species, 14 subfamilies, 29 tribes, and 66 genera (Sultana & Song, 2024). Along with the results of the present study, about 170 species of Acrididae belonging to 67 genera have been reported from Pakistan. The Acrididae grasshoppers seem to be dominant herbivorous insects and possess diverse habitats such as deserts, grasslands, semi-aquatic, tropical forests, and alpine, exhibiting diversity in ecological, behavioral, and morphological aspects (Song *et al.,* 2018; Panhwar *et al.,* 2024a). The grasshoppers have been diversified into different lineages that likely occupy terrestrial habitats except the Polar Regions and by playing their significant role in the ecosystem (Kevan, 1982; Uvarov, 1966). Due to their diversity, these creatures have attracted researchers to use them for studying

morphology, physiology, bioacoustics, evolutionary relationships, speciation, neurobiology, chemical ecology, biology, and laboratory rearing (Pener & Simpson, 2009; Gangwere *et al.,* 1997; Chapman & Joern, 1990; Baccetti, 1987; Uvarov, 1966, 1977).

Borders of Pakistan are connected with diverse regions of the world. The biogeographically main part of Pakistan is the Palearctic (Western Indus Valley, North Pakistan, Sandy desert, Sulaiman range, Western Himalayas, Karakorum and Hindu Kush), remaining area is Oriental (Eastern Himalayas, Rann of Kutch in Southern Punjab, Thar desert, Eastern Indus Valley desert and Indus River Delta) with traces of Afrotropical or Ethiopian regions (Southern Iran to extreme Southwestern of Baluchistan) (Rafi *et al.,* 2010; Zia *et al.,* 2011; Panhwar *et al.,* 2024b). Thus, Pakistan's insect diversity shows the richness of Ethiopian (Afrotropical), Palearctic, and Oriental fauna. The present study aims to provide a record of grasshoppers of Baluchistan province housed at National Insect Museum, Islamabad, Pakistan.

Materials and methods

The material used in this manuscript is collected by different collectors from the different ecological zones of Baluchistan, Pakistan. The distribution of species is presented in (Fig. 1). The material is housed in the National Insect Museum, National Agriculture Research Centre, Islamabad, Pakistan. First, the samples were carefully taken into the Lab in the National Insect Museum. Some of the samples were collected before the partition of Pakistan from British India. Dust from the samples was slightly removed using a camel hair brush to observe the distinguished characters to confirm the current status of the species or subspecies. For confirmation of samples, relevant literature was used and https://orthoptera.speciesfile.org/ was used to confirm the present status of species or subspecies. The samples were examined under a stereoscopic binocular microscope (OLYMPUS SZX7). For photography, the specimens were set down on 2X3 thermopile sheets to prevent the breaking of the specimens. The images were taken with the help of a Canon PowerShot A2500 16 Mega Pixel Camera. For presenting the geographical distribution of species, ArcGIS enterprise (Version 10.7) was used. The samples are deposited in NIM (National Insect Museum) at NARC (National Agriculture Research Centre) in Islamabad, Pakistan.

Results and discussion

Family Pyrgomorphidae Brunner von Wattenwyl, 1874

Subfamily Pyrgomorphinae Brunner von Wattenwyl, 1874

Tribe Chrotogonini Bolívar, 1884

Genus *Chrotogonus* Serville, 1838

Subgenus *Chrotogonus* Serville, 1838

***Chrotogonus* (*Chrotogonus*) *trachypterus robertsi* Kirby, 1914. Fig. 2 a-f**

Material examined. Chaman, 05.xii.1951, 1♂, Ali Jan leg., D.K.M. Kevan det., ; Panjgur, 26.xii.1957, 1♀, Bhuiyan leg., D.K.M. Kevan, det., ; Usta Muhammad, 02.vi.1950, 1♀, Qadar leg.,V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Intact, complete specimens present.

Comments. Kirby (1914) reported as species *Chrotogonus robertsi* Kirby, 1914 from Quetta Baluchistan. Panhwar *et al.,* (2023) reviewed its status as subspecies *Chrotogonus* (*Chrotogonus*) *trachypterus robertsi* Kirby, 1914. The present paper extends the distribution of this species in Chaman, Panjgur and Usta Muhammad localities of Baluchistan province of Pakistan.

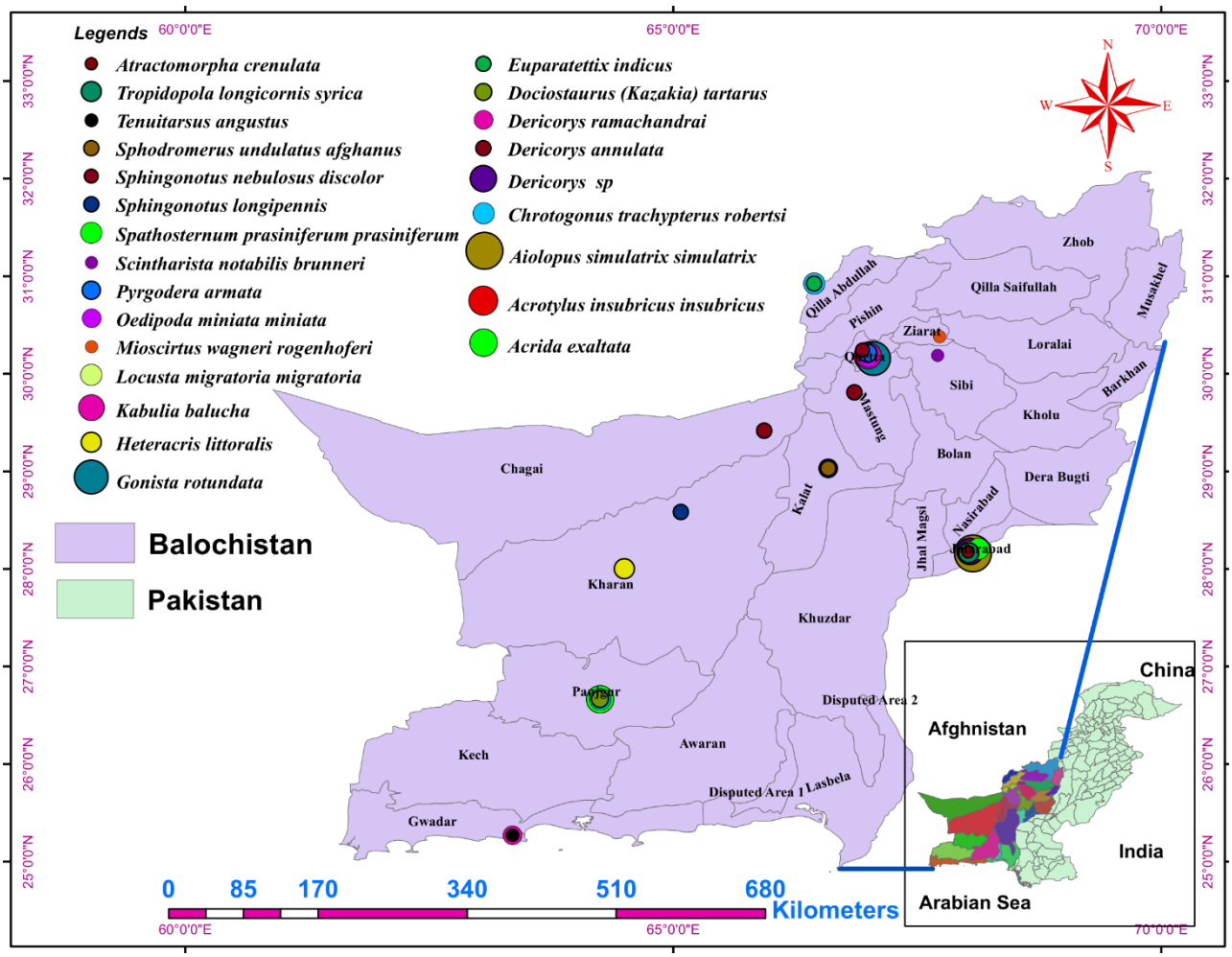

Fig. 1. Distribution of grasshoppers species (Pyrgomorphidae, Tetrigidae , Dericorythidae, Acrididae) in localities of Baluchistan, Pakistan

Genus *Tenuitarsus* Bolívar, 1904

***Tenuitarsus angustus* (Blanchard, 1836).** Fig. 2 g-i

Material examined. Pasni, 13.xii.1956, 1♀, S.M Din leg.,V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Intact specimen but one leg damaged.

Comments. According to Cigliano *et al.* (2024) this species occurs in Africa, Egypt, Cairo, Northern Africa. At present, this species is first time reported from the Pasni, Baluchistan Pakistan and extended its distribution to Baluchistan province of Pakistan.

Tribe Atractomorphini Bolívar, 1905

Genus *Atractomorpha* Saussure, 1862

***Atractomorpha crenulata* (Fabricius, 1793).** Fig. 3 a-c

Material examined. Usta Muhammad, 1950, 1♀,??? leg.,V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Intact specimen with damaged legs.

Comments. This species has wide distribution in Indian Subcontinent (Cigliano *et al.,* 2024). Presently, this species is reported from Usta Muhammad locality of Baluchistan province of Pakistan.

Family Tetrigidae Rambur, 1838

Subfamily Tetriginae Rambur, 1838

Tribe Tetrigini Rambur, 1838

Genus *Euparatettix* Hancock, 1904

Euparatettix indicus (Bolívar, 1887). Fig. 3 d-f

Material examined. Chaman, 23.v.1952, 1♀, Ali Jan leg.,V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Intact specimen with damaged legs.

Comments. Saeed *et al.* (2000) reported 1♀ and 1♂ of this species from Rawalpindi, Pakistan. Zheng (2005) studied Tetrigoidea of Western China and reported this species. Deng (2016) reported this species from China. Presently, single ♀ of this species has been reported from Chaman, Baluchistan. Chaman is situated near the Pakistan-Afghanistan border neighboring the Kandahar province of Afghanistan. The Chaman has hot semi-arid climate with influence from local steppe climate. Note the specimen labeled as *Paratettix indicus* species which is now in OSF as *Euparatettix indicus*.

Family Dericorythidae Jacobson & Bianchi, 1905

Subfamily Dericorythinae Jacobson & Bianchi, 1905

Genus *Dericorys* Serville, 1838

Dericorys ramachandrai Uvarov, 1933. Fig. 3 h-j

Material examined. Pasni, 14.v.1933, 1♂, K.R.K leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Intact, complete specimens present.

Comments. Uvarov (1933) reported this species from Dasht Baluchistan, Pakistan. Shishodia *et al.* (2010) enlisted this species in annotated list of Orthoptera of India. Presently, this species has been reported from Pasni Baluchistan province of Pakistan. Pasni is in Gwadar district of Baluchistan and situated on the Makran coast on Arabian Sea nearly 450 kilometers away from Karachi district of Sindh Province of Pakistan.

Dericorys sp. Fig. 4 a-c

Material examined. Usta Muhammad, 14.v.1933, 1♂, F. Sher leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Intact, complete specimens present. Antennae broken.

Comments. Single 1♂ of this has been collected from the Usta Muhammad locality of Baluchistan province of Pakistan.

Dericorys annulata (Fieber, 1853). Fig. 4 d-i

Material examined. Sarawan , 02.vi.1957, 1♂, S.M. Din leg., W.A. Panhwar det., Ahmad Wal, 1♀, 16.v.1931, Y.R. Rao leg., Uvarov det., W.A. Panhwar det

Preservation status. Intact, complete specimens present.

Comments. Single ♂ and single ♀ of this species have been collected from the Sarawan and Ahmad Wal locality of Baluchistan province of Pakistan. The specimen housed at NIM is named as *Dericorys roseipennis lazurescens* Uvarov, 1914 which is currently with valid species name i-e: *Dericorys annulata* (Fieber, 1853). Gankhuyag *et al.* (2023) enlisted this species in annotated catalogue of Mangolia and provided its distribution in China, Kazakhstan, Mongolia, and Afghanistan. Presently we have recorded this species for the first time from Pakistan and extended its distribution to Baluchistan province of Pakistan.

Family Acrididae MacLeay, 1821

Subfamily Gomphocerinae Fieber, 1853

Tribe Dociostaurini Mistshenko, 1974

Genus *Dociostaurus* Fieber, 1853

Subgenus *Kazakia* Bey-Bienko, 1933

Dociostaurus (*Kazakia*) *tartarus* Stshelkanovtzev, 1921. Fig. 5 a-c; Fig.9 j-l

Material examined. Panjgur, ???, 1♀, ??? leg., Uvarov det., W.A. Panhwar det., .Quetta, 1♂, 15.viii. Hafeez leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. One specimen damaged . Another Intact.

Comments. Single ♀ and single ♂of this species have been reported from Panjgur and Quetta desert locality of Baluchistan. According to Cigliano *et al.* (2024), this species has distribution in Indian Subcontinent-Pakistan, Iran, Afghanistan, Europe, Russia.

Subfamily Gomphocerinae Fieber, 1853

Tribe Ochrilidiini Brunner von Wattenwyl, 1893

Genus *Gonista* Bolívar, 1898

***Gonista rotundata* Uvarov, 1933. Fig. 5 d-f**

Material examined. Quetta . 15.viii.1959, 1♀, Hafiz leg., W.A. Panhwar det.,

Preservation status. Intact, complete specimens present.

Comments. Single ♀ of this species has been reported from Quetta locality of Baluchistan. According to Cigliano *et al.* (2024), this species has distribution in Iran, Western Asia, Eastern Kirman, Asia Temperate and Tazman to Tagab. Occurrence of this species in Quetta Baluchistan constructed first report of this species from this province of Pakistan.

Subfamily Acridinae MacLeay, 1821

Tribe Acridini MacLeay, 1821

Genus *Acrida* Linnaeus, 1758

***Acrida exaltata* (Walker, 1859).** Fig. 5 g-i

Material examined. Panjgur, 31.i.1957, 1♂, S.M. Din leg., H.Ahmed det., W.A. Panhwar det.,

Preservation status. Complete specimens with broken legs.

Comments. The specimen of this species is identified up to genus level in NIM collection. Presently, it is confirmed as *Acrida exaltata* (Walker, 1859) species. Memon & Panhwar (2021) reported this species from Dadu district of Sindh Pakistan. Subedi & Bhaskar (2023) observed two color patterns of this species in Nepal, one with complete green coloration and another green having longitudinal white stripes on body. In the present study 1♂ of this species has been recorded from Panjgur locality of Baluchistan province of Pakistan.

Subfamily Calliptaminae Jacobson, 1905

Genus *Sphodromerus* Stål, 1873

***Sphodromerus undulatus afghanus* Bey-Bienko, 1949. Fig. 6 a-c**

Material examined. Quetta, 10.viii.1957, 1♂, ??? leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Complete specimens without antennae.

Comments. Specimen of this species is identified as *Kripa* species which is now *Sphodromerus undulatus afghanus*. Soomro and Wagan (2005) reported Single ♀ of this species from Urrak Valley, Quetta, Baluchistan, Pakistan. Tokhai (1996) described this species from Loralai. Presently, we report here single ♂ of this species from Quetta Baluchistan. Our study presents first record of male of this species from Baluchistan, Pakistan.

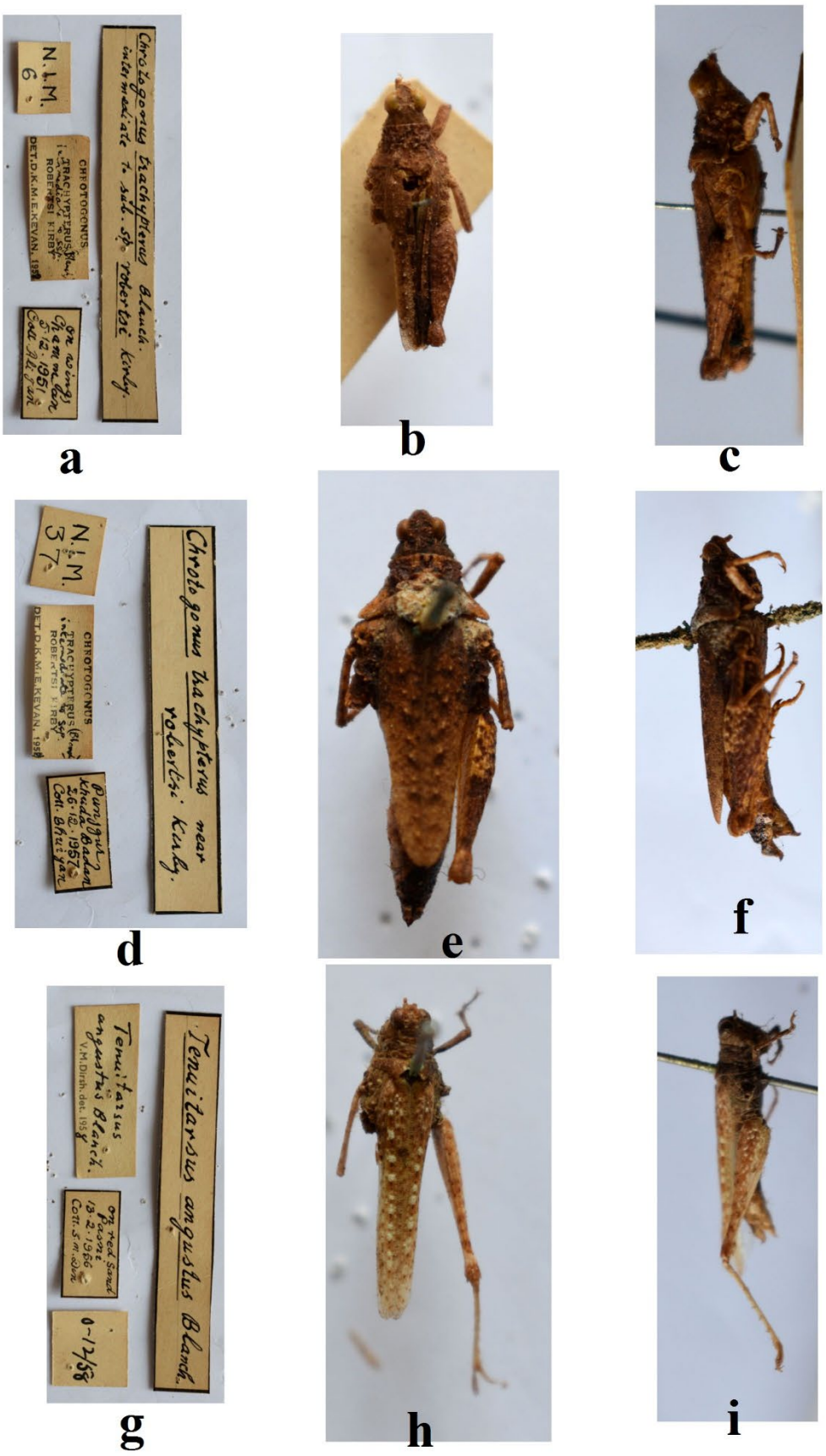

Fig. 2 a-f: *Chrotogonus* (*Chrotogonus*) *trachypterus robertsi* Kirby, 1914; **g-i:** *Tenuitarsus angustus* (Blanchard, 1836)

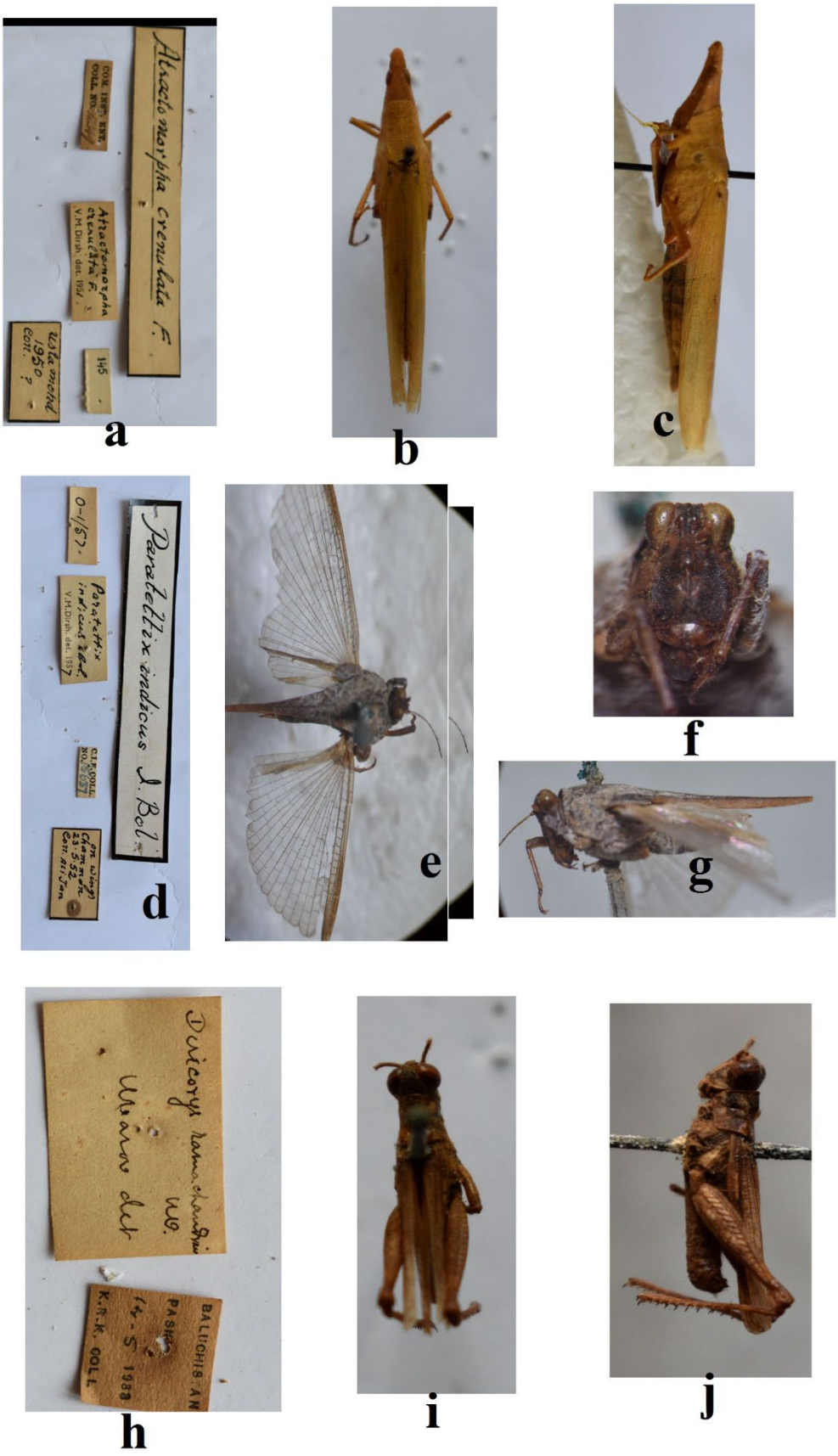

Fig. 3. a-c: *Atractomorpha crenulata* (Fabricius, 1793); **d-f:** *Euparatettix indicus* (Bolívar, 1887); **h-j:** *Dericorys ramachandrai* Uvarov, 1933

Fig. 4. a-c: *Dericorys* sp.; **d-i:** *Dericorys annulata* (Fieber, 1853).

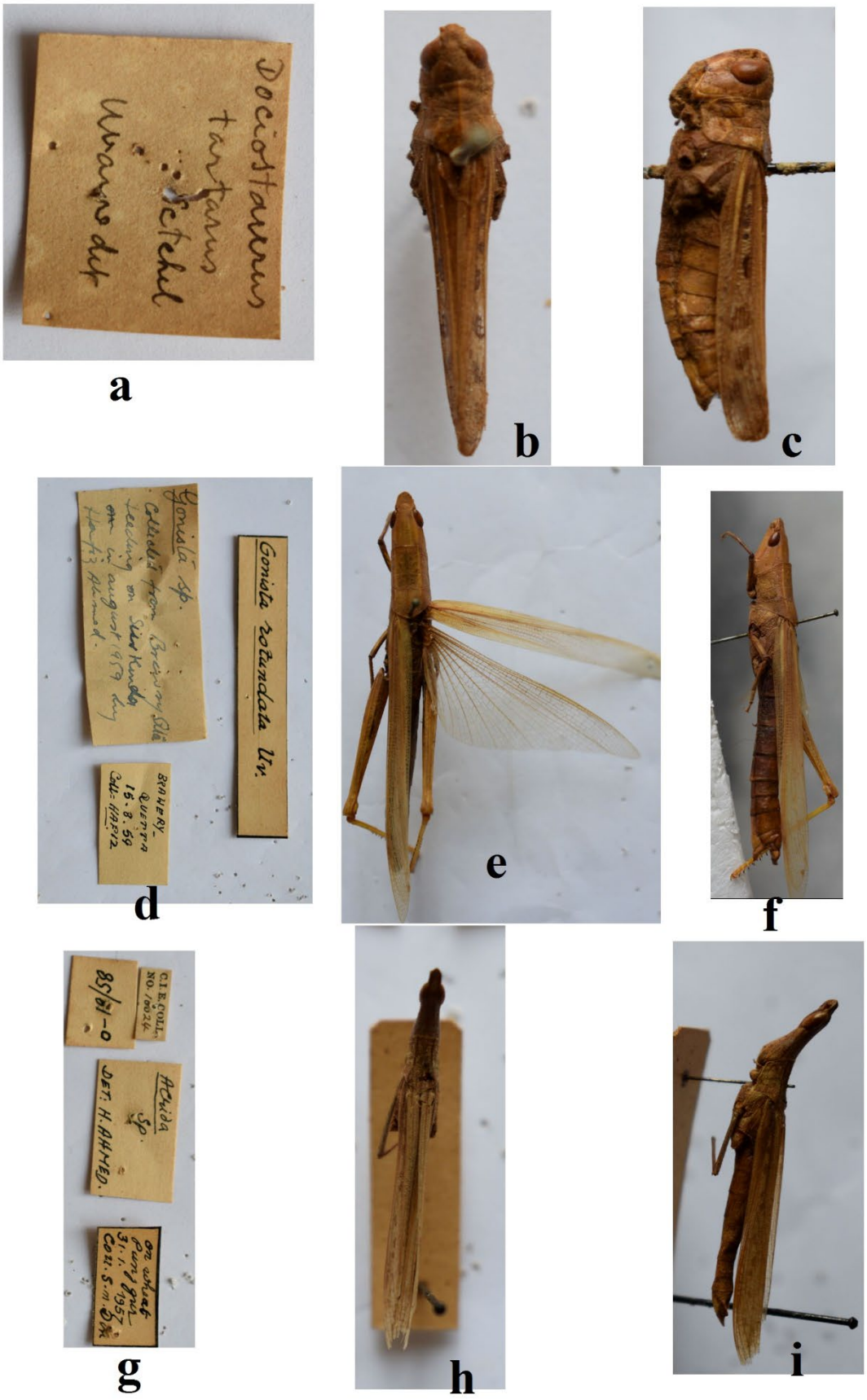

Fig. 5. a-c: *Dociostaurus* (*Kazakia*) *tartarus* Stshelkanovtzev, 1921; **d-f:***Gonista rotundata* Uvarov, 1933; **g-i***: Acrida exaltata* (Walker, 1859)

Subfamily Teratodinae Brunner von Wattenwyl, 1893

Genus *Kabulia* Ramme, 1928

***Kabulia balucha* Uvarov, 1931 Fig. 6 d-f**

Material examined. Quetta, ????, 1♀, ??? leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Complete specimens without antennae.

Comments. Uvarov (1931) reported this species from Indian Subcontinent. Wagan & Sultana (2013) reported this species from Baluchistan Province of Pakistan. Presently we report here the single ♀ of this species from Quetta Baluchistan Pakistan. The specimen housed at NIM has no record of date of collection and collector.

Subfamily Eyprepocnemidinae Brunner von Wattenwyl, 1893

Tribe Eyprepocnemidini Brunner von Wattenwyl, 1893

Genus *Heteracris* Walker, 1870

***Heteracris littoralis* (Rambur, 1838). Fig. 6 g-i**

Material examined. Kharan, 16.v.1949, 1♂, Oman delegation leg., W.A. Panhwar det.,

Preservation status. Complete specimens. Legs broken.

Comments. Moizuddin (1998) reported this species from Lasbela, Baluchistan Pakistan. Presently, we report 1♂ of this species from Kharan Baluchistan Pakistan. The specimen housed at NIM is labelled as *Thisoicetrus littoralis* which is now synonymized as *Heteracris littoralis* (Rambur, 1838).

Subfamily Tropidopolinae Jacobson, 1905

Tribe Tropidopolini Jacobson, 1905

Genus *Tropidopola* Stål, 1873

***Tropidopola longicornis syrica* (Walker, 1871).** Fig. 7 a-c

Material examined. Usta Muhammad, 16.xi.1957, 1♂, S.A. Sidiqi leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Complete specimens.

Comments. We report here the 1♂ of this species from Usta Muhammad locality of Baluchistan Pakistan. The status of this species yet needs clarification.

Subfamily Spathosterninae Rehn, 1957

Tribe Spathosternini Rehn, 1957

Genus *Spathosternum* Krauss, 1877

***Spathosternum prasiniferum prasiniferum* (Walker, 1871). Fig. 7 d-f**

Material examined. Usta Muhammad, 1950, ???, P.P Karachi leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Broken specimens.

Comments. Suhail *et al.* (1999) reported this species from the Punjab Province of Pakistan. Nazir *et al.* (2014) while studying morphological and molecular characterization reported this species from Poonch division Azad Jammu & Kashmir-Pakistan. Recently, single specimens of this species have been reported from Usta Muhammad locality of Baluchistan Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Oedipodini Walker, 1871

Genus *Mioscirtus* Saussure, 1888

***Mioscirtus wagneri rogenhoferi* (Saussure, 1888).** Fig. 7 g-i

Fig. 6 a-c: *Sphodromerus undulatus afghanus* Bey-Bienko, 1949; **d-f:** *Kabulia balucha* Uvarov, 1931; **g-i:** *Heteracris littoralis* (Rambur, 1838).

Material examined. Ziarat, ???, 1♀, ??? leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Broken specimen.

Comments. According to Cigliano *et al.* (2024), this species has distribution in Iran, Iraq, Thar desert Pakistan. During the present investigation, single ♀ of this species has been reported from Ziarat Baluchistan, Pakistan. It is bounded by the lush green Juniper Forest, famous for Sanober. Report of this species constructs new record for Ziarat Baluchistan, Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Oedipodini Walker, 1871

Genus *Oedipoda* Latreille, 1829

***Oedipoda miniata miniata* (Pallas, 1771).** Fig. 7 j-l

Material examined. Quetta , 13.vi.1962, 1♂1♀, F.Sher leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Complete specimens.

Comments. Nayeem & Usmani (2012) reported this species from India. In this species the wings are generally rugose and with dark band often pale brown, reaching up to 9th or 10th portion of anal fan and not reaching up to hind margin. During the current study 1♂1♀ have been reported from Quetta Baluchistan, Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Acrotylini Johnston, 1956

Genus *Acrotylus* Fieber, 1853

***Acrotylus insubricus insubricus* (Scopoli, 1786). Fig. 8 a-c**

Material examined. Quetta, 1931, 1♀, R. Rao leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Complete specimens but some parts broken.

Comments. Bughio *et al.* (2013) reviewed the tribe Acrotylini from Pakistan and provided genitalia description of *Acrotylus insubricus insubricus* (Scopoli, 1786). Presently, single ♀ has been described from Quetta, Baluchistan Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Sphingonotini Johnston, 1956

Genus *Sphingonotus* Fieber, 1852

Subgenus *Sphingonotus* Fieber, 1852

***Sphingonotus* (*Sphingonotus*) *nebulosus discolor* Uvarov, 1933. Fig. 8 d-f**

Material examined. Samungli , 30.vii.1932, 1♂, DLRE leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Complete specimen but some parts broken.

Comments. According to Cigliano *et al.* (2024) this species has distribution in Afghanistan, Kazakhstan, Iran, Ziarat Baluchistan, Pakistan. Presently, single ♂ of this species is reported from Samungli, Baluchistan Pakistan.

***Sphingonotus* (*Sphingonotus*) *longipennis* Saussure, 1884.** Fig. 8 g-i

Material examined. Kohak, 20.iv.1962, 1♂, F.Sher leg., W.A. Panhwar det.,

Preservation status. Complete specimen.

Fig. 7. a-c: *Tropidopola longicornis syrica* (Walker, 1871);**d-f:** *Spathosternum prasiniferum prasiniferum* (Walker, 1871); **g-i:** *Mioscirtus wagneri rogenhoferi* (Saussure, 1888); **j-l:** *Oedipoda miniata miniata* (Pallas, 1771)

Comments. Nazir *et al.* (2014) while studying morphological and molecular characterization reported this species from Poonch division Azad Jammu & Kashmir-Pakistan. Tamkeen *et al.* (2015) while studying Oedipodinae from Azad Jammu & Kashmir-Pakistan reported this species. We have reported single ♂ from Kohak, Baluchistan Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Locustini Kirby, 1825

Genus *Scintharista* Saussure, 1884

***Scintharista notabilis brunneri* Saussure, 1884. Fig. 8 j-l**

Material examined. Shahrigh, 30.vii.1931, 1♀, M.Sharif leg., Uvarov det., W.A. Panhwar det.,

Preservation status. Complete specimen but some parts broken.

Comments. According to Cigliano *et al.* (2024), this species has been reported from Indian Subcontinent, Pakistan, Iran, Western Asia, Caucasus, Azerbaijan and Transcaucasus. We have reported single ♀ of this species from Shahrigh, Baluchistan Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Locustini Kirby, 1825

Genus *Pyrgodera* Fischer von Waldheim, 1846

***Pyrgodera armata* (Fischer von Waldheim, 1820).** Fig. 9 a-c

Material examined. Quetta, 30.vi.1962, 2♀, F.Sher leg., W.A. Panhwar det., Kalat , 04.vi.1963, 1♂, Hafiz & Popov leg., W.A. Panhwar det.,

Preservation status. Complete specimens.

Comments. Mol *et al.* (2014) reported 2♂ this species from Turkey. Previously this species has been recorded from Russia, Afghanistan, Iran, Azerbaijan, and Kazakhstan (Cigliano *et al.,* 2024). Abusarhan *et al.* (2017) while studying the housed samples of Palestine Museum of Natural History reported this species from territories of Palestine. Hodjat *et al.* (2018) reported this species from Iran. Body of this species large, slimmer, longitudinal median protuberance strongly developed, wings well developed longer than the body length with brown stripes and lower wings have wide stripes. Presence of this species in localities of Baluchistan Pakistan constructed new record for this region.

Subfamily Oedipodinae Walker, 1871

Tribe Locustini Kirby, 1825

Subtribe Locustina Kirby, 1825

Genus *Locusta* Linnaeus, 1758

***Locusta migratoria migratoria* (Linnaeus, 1758). Fig. 9 d-f**

Material examined. Usta Muhammad, 1950, 1♀, P.P Staff leg., V.M. Dirsh det., W.A. Panhwar det.,

Preservation status. Complete specimen.

Comments. This species has wide distribution around the globe including Pakistan (Cigliano *et al.,* 2024). Song (2004) provided developmental patterns in the male genitalia of *Schistocerca gregaria* and *Locusta migratoria.* We have reported 1♀ from Usta Muhammad locality of Baluchistan province of Pakistan.

Subfamily Oedipodinae Walker, 1871

Tribe Epacromiini Brunner von Wattenwyl, 1893

Genus *Aiolopus* Fieber, 1853

***Aiolopus simulatrix simulatrix* (Walker, 1870).** Fig. 9 g-i

Material examined. Usta Muhammad, 06.ix.1948, 1♀, F.Sher leg., W.A. Panhwar det.,

Preservation status. Complete specimen but some parts broken.

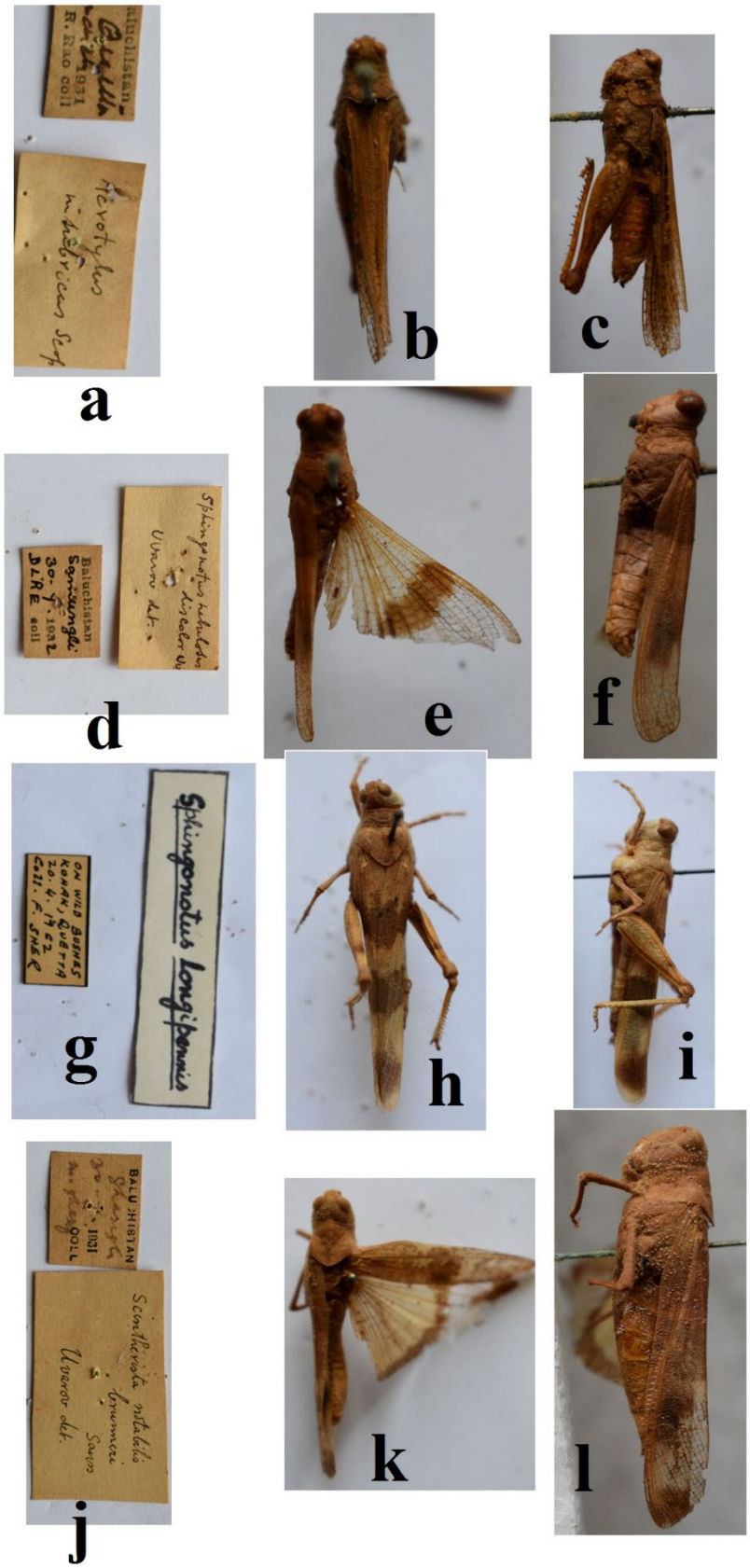

Fig.8 a-c: *Acrotylus insubricus insubricus* (Scopoli, 1786);**d-f:** *Sphingonotus* (*Sphingonotus*) *nebulosus discolor* Uvarov, 1933; **g-i:** *Sphingonotus* (*Sphingonotus*) *longipennis* Saussure, 1884;**j-l:** *Scintharista notabilis brunneri* Saussure, 1884

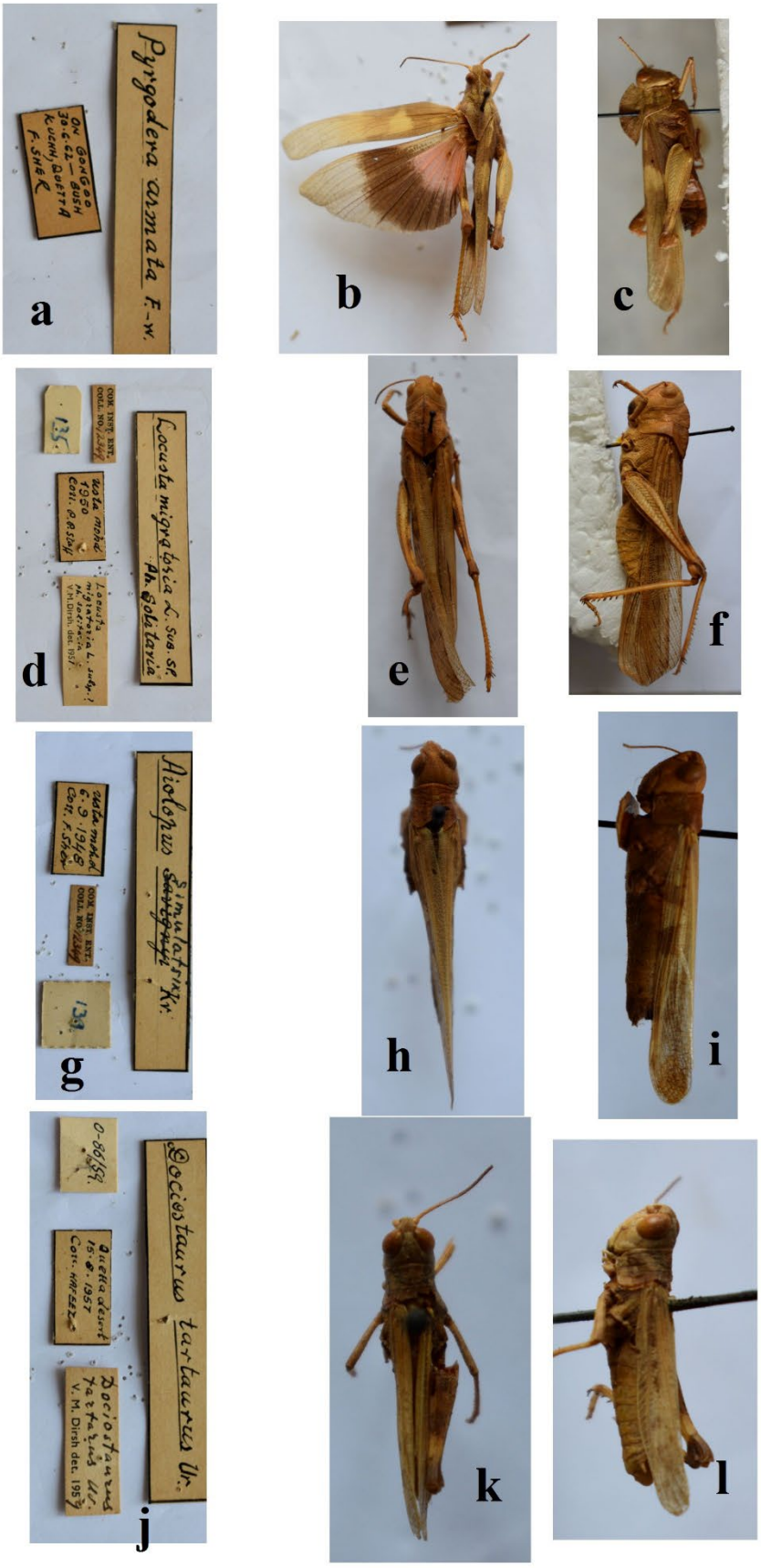

Fig. 9. a-c: *Pyrgodera armata* (Fischer von Waldheim, 1820); **d-f:** *Locusta migratoria migratoria* (Linnaeus, 1758); **g-i:** *Aiolopus simulatrix simulatrix* (Walker, 1870);**j-l:** *Dociostaurus* (*Kazakia*) *tartarus* Stshelkanovtzev, 1921

Comments. Ali & Panhwar (2017) reported *Aiolopus simulatrix simulatrix* from Khyber Pakhtunkhwa Province of Pakistan. In Lecoq & Zhang (2019) Kooyman reported this species in Encyclopedia of Pest Orthoptera of the World. We have reported 1♀ from Usta Muhammad, Baluchistan Pakistan.

Conclusion

A record of 24 taxa of grasshoppers are reported from different ecological zones of Baluchistan province of Pakistan. Some of the improperly identified species are identified here by using nomenclature available in the Orthoptera Species File (OSF) (Cigliano *et al.,* 2024). In addition to this, many species distribution has been extended to new localities of the Baluchistan province of Pakistan.

Author's Contributions

Waheed Ali Panhwar: Investigation, methodology, draft preparation, review and edit; **Ahmed Zia**: Visualization, conceptualization, review and edit; **Anjum Shehzad**: project administration, supervision; **Shah Rukh Soomro:** Photography of Specimens; **Muhammad Inam:** Mapping of Species; **Noor Ahmed Noonari:** formal analysis.

Author's Information

Waheed Ali Panhwar	✉ waheed.panhwar@usindh.edu.pk	*https://orcid.org/0000-0002-4877-8511*
Ahmed Zia	✉ saiyyedahmed@gmail.com	*https://orcid.org/ 0000-0001-6907-3070*
Anjum Shehzad	✉ nim.anjum@gmail.com	*https://orcid.org/0000-0002-0531-7352*
Shah Rukh Soomro	✉ srksoom65@gmail.com	*https://orcid.org/0009-0004-5256-6732*
Muhammad Inam	✉ inam8294@gmail.com	*https://orcid.org/0009-0004-1740-6717*
Noor Ahmed Noonari	✉ na971054@gmail.com	*https://orcid.org/0009-0008-2170-1160*

Funding

No funding was received for the present study.

Data Availability Statement

All data supporting the findings of this study are available within the paper.

Acknowledgments

The authors are highly thankful to National Insect Museum Staff especially Mr. Majid Bilal and Mr. Tahir Javed for their support and help during the study period.

Ethics Approval

Insects were used in this study. All applicable international, national, and institutional guidelines for the care and use of animals were followed. This article does not contain any studies with human participants performed by the authors.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Citation: Panhwar, W. A., Zia, A., Shehzad, A., Soomro, S., Inam, M. & Noonari, N. A. (2025) Some records of grasshoppers (Pyrgomorphidae, Tetrigidae, Dericorythidae, Acrididae) of Baluchistan housed at National Insect Museum, Pakistan . *J. Entomol. Soc. Iran* 25 (2), 227–246.

DOI: https://doi.org/10.61186/jesi.45.2.4

URL: https://jesi.areeo.ac.ir/article_131275.html

pISSN: 0259-9996 – eISSN: 2783-3968

Journal of Entomological Society of Iran

2025, 45 (2), 227–246

برخی سوابق ملخ های (Pyrgomorphidae، Tetrigidae، Dericorythidae، Acrididae) بلوچستان، موجود در موزه ملی حشرات پاکستان

وحید علی پنهوار[۱]، احمد ضیاء[۲]، انجم شهزاد[۲]، شاهرخ سومرو[۳]، محمد اینام[۴] و نور احمد نوری[۳]

۱- گروه جانورشناسی، دانشگاه سند جامشورو، پاکستان

۲- موزه ملی حشرات، مرکز ملی تحقیقات کشاورزی، اسلام آباد، پاکستان

۳- گروه جانورشناسی، دانشگاه شاه‌عبداللطیف خیرپور، پاکستان

۴- گروه جانورشناسی، دانشگاه عبدالولی خان، مردان، پاکستان

چکیده: در این مطالعه، ملخ های ثبت شده قبل و بعد از تجزیه پاکستان که در موزه ملی حشرات اسلام آباد نگهداری می‌شوند مورد بررسی قرار گرفتند. اطلاعات نمونه های این موزه به ویژه راسته راست‌بالان هرگز منتشر نشده است. تعداد ۲۴ گونه و زیرگونه، شامل۲۱ جنس در چهار خانواده Pyrgomorphidae، Tetrigidae، Dericorythidae و Acrididae از استان بلوچستان در این مقاله ارائه شده است. برخی از نمونه‌ها ناشناس بودند و برخی با نام‌های قدیمی با گونه‌ها یا زیرگونه‌های معتبر خود شناسایی شدند. گونه های *Tenuitarsus angustus* (Blanchard, 1836)، *Dericorys annulata* (Fieber, 1853) ، *Gonista rotundata* Uvarov, 1933، *Pyrgodera armata* (Fischer von Waldheim, 1820) و *Tropidopola longicornis syrica* (Walker, 1871)، برای اولین بار از بلوچستان پاکستان گزارش می‌شوند. *Pyrgodera armata* (Fischer von Waldheim, 1820) برای اولین بار از پاکستان ثبت شده است و به فهرست ملخ های پاکستان اضافه می شود. اطلاعات پراکنش بسیاری از گونه ها نیز در این تحقیق ارایه شده است. است.

کلمات کلیدی: بلوچستان، تنوع، چک لیست، راست‌بالان، پراکنش، ثبت

تاریخچه مقاله

دریافت: ۱۴۰۳/۰۹/۱۴

پذیرش: ۱۴۰۳/۱۱/۲۳

انتشار: ۱۴۰۴/۰۱/۲۸

دبیر تخصصی: شهاب منظری

نویسنده مسئول: وحید علی پنهوار

ایمیل: waheed.panhwar@usindh.edu.pk

DOI: https://doi.org/10.61186/jesi.45.2.4