

## CHECKLIST OF JEWEL BEETLES (ORDER COLEOPTERA: FAMILY BUPRESTIDAE) COLLECTED FROM PAKISTAN DURING 2005 TO 2013

Nadia Fatima<sup>1</sup>, S. Ansar Rizvi<sup>1</sup>, Abid Raza<sup>2</sup> and S. Shahid Shaukat<sup>3</sup>

<sup>1</sup>Department of Zoology, University of Karachi, Karachi -75270, Pakistan

<sup>2</sup>Department of Environmental Science, Federal Urdu University of Arts, Science & Technology, Gulshan – e – Iqbal Campus, Karachi- 75300- Pakistan.

<sup>3</sup>Institute of Environmental Studies, University of Karachi, Karachi- 75270, Pakistan

Corresponding author: Dr. Abid Raza; [zoicone@gmail.com](mailto:zoicone@gmail.com)

---

### ABSTRACT

Members of the family Buprestidae were collected in the survey conducted during 2005 to 2013 in various provinces of Pakistan including Sindh, Punjab, Khyber Pakhtunkhwa as well as Azad Kashmir and Tribal areas (Kurram Agency). The specimens were collected by beating branches of trees and bushes, by using sweep net and hand picking methods. Thirty nine species and 6 sub species, 14 genera, 10 tribes and 5 sub families are reported based.

**Key Words:** Jewel Beetles, Coleoptera, Buprestidae, Zoological Museum.

---

### INTRODUCTION

Buprestidae (jewel beetles) are the most abundant in the terrestrial ecosystem. They are usually present in the semi desert and humid tropical areas. They are found in the leaf parenchyma of various plants including grasses and ferns. Buprestidae contains over 15,000 described species distributed throughout the world in almost every continent (Bellamy, 2008). The important characteristics of Jewel beetles vary in size, 2mm-80mm; shape cylindrical to flattened, elongate-ovoid, generally convex above; colour various, often bright iridescent or dark coloured with different maculae; head greatly deflexed; antennae serrate, some with flabellate or pectinate; labrum bilobed and setose distally; mandible stout, curved; maxillary palpi with four palpomeres; labial palpi with three palpomeres; eyes lateral, elongate-oval to reniform; pronotum slightly broader than head; legs simple, sometimes tibiae dentate or spinose; elytra with different vestiture, rugose or carinate; abdomen with five sternites; male genitalia trilobed type.

Some of the quantitative data on the Buprestidae has been provided by earlier workers Holdhous (1919), Obenberger (1926, 1930, 1934, 1935, 1936, 1937), Beeson (1941), Stebbing (1914), Cobos (1980), Holynski (1993), Akiyama and Ohmomo (2000) and Bellamy (1985, 2003, 2009).

The aim of the present study is to identify Buprestidae fauna collected from Pakistan during the surveys conducted in 2005-2013. The checklist aims to include all species that have been reliably recorded from the Pakistan as possible residents. The checklist aims to be comprehensive in its listing of subfamilies, genera and species. Tribes are only listed when supported by a recent, authentic review.

### MATERIALS AND METHODS

Specimens were collected from different parts of Pakistan during the surveys carried out from 2005 to the end of November 2013. The specimens were collected by beating branches of trees and shrubs and using sweep nets or directly with hand-picking methods. Specimens were killed by pinning, labeled and prepared for identification, dried specimens were placed in warm water for about 30 minutes, then dissected into several large parts, which were further softened and cleared of non-chitinous material in a 10% solution of warm KOH. The sample were identified on the basis of their identified taxonomic characters and confirmed and compared with the catalogue, literature, keys such as Holdhous (1919), Obenberger (1926, 1930, 1934, 1935, 1936, 1937), Beeson (1941), Stebbing (1914), Cobos (1980), Holynski (1993), Akiyama and Ohmomo (2000) and Bellamy (1985, 2003, 2009). The identified specimens were deposited in Zoology Museum, Department of Zoology, University of Karachi, Karachi.

### RESULTS AND DISCUSSION

In the present studies on the family Buprestidae of Pakistan, a total of 39 species, 6 sub-species belonging 14 genera, 5 Subfamilies and 10 tribes were recorded. The identification and the classification followed the relevant literature. The earliest study is that of Holdhous (1919) who identified 16 species of jewel beetles, while Obenberger

(1926,1930,1934,1935,1936,1937) within his six volume catalogue (Coleopterorum catalogue) mentioned about 51 species and subspecies distributed in Mesopotamia. Beeson (1941) reported 88 species of jewel beetles from Indian region, Stebbing (1914) described seven subfamilies of Buprestidae from Indian region relatively recently, Holynski (1993) suggested 4 subfamilies, 12 tribes and about 64 subtribes of Buprestidae. Bellamy (2009) gave a checklist of Buprestidae the entire world. The check list is as follows:

Family Buprestidae Leach, 1815

Subfamily Agrilinae Lacordaire, 1857

Tribe Agrilini Laporte, 1835

Genus *Agrilus* Curtis, 1825

Species *Agrilus zigzag* Mars

Subfamily Buprestinae, Lacordaire, 1857

Tribe Anthaxiini Gory Et Laporte, 1839

Genus *Anthaxia* Eschscholtz, 1829

Species *Anthaxia setipennis* Obb

*Anthaxia* (*Anthaxia* s.str.) *anatolica* Chevrolat, 1838

*Anthaxia* (*Anthaxia* s. str.) *baconis* Thomson, 1879

*Anthaxia* (*Anthaxia* s.str.) *hemichrysis* Abeille de Perrin, 1893

*Anthaxia* (*Anthaxia*) *qalandarabadiensis* sp.nov.

*Anthaxia* (*Haplanthaxia*) *gedrosiana* Bílý, 1983

*Anthaxia* (*Haplanthaxia*) *iveta* Svoboda, 2003

*Anthaxia* (*Haplanthaxia*) *roxana* Bílý, 1983

*Anthaxia* (*Melanthaxia*) *conradti* Semenov, 1891

*Anthaxia* (*Melanthaxia*) *tianshanica* Bílý, 1984

Tribe Buprestini, Leach, 1815

Genus *Buprestis* Linnaeus, 1858

Species *Buprestis costipennis* (Fairmaire, 1891)

*Buprestis decemspilota* Hope, 1831

*Buprestis denzleri* Pochon

Tribe Melanophilini Bedel, 1921

Genus *Trachypteriskiby*, 1837

Species *Trachypteris picta* (Pallas, 1773)

Tribe Actenodini Kerremans, 1890

Genus *Belionota* Eschscholtz, 1829

Species *Belionota prasina* (Thunberg, 1789)

Subfamily Chalcophorinae Lacordaire, 1857

Tribe Chalcophorini Laporte, 1835

Genus *Chrysochroa* Dejean, 1833

Species *Chrysochroa ocellata* (Fabricius, 1775)

*Chrysochroa rajah* Gory, 1840

Genus *Chalcophorella* Kerremans, 1903

Species *Chalcophorella orientalis* (Obenberger, 1924)

Tribe Psilopterini Lacordaire, 1857

Genus *Capnodis* Eschscholtz, 1829

Species *Capnodis exsica* Ménétériés, 1849

*Capnodis indica* Thomson, 1879

*Capnodis miliaris* (Klug, 1829)

*Capnodis miliaris metallica* Ballion, 1870

*Capnodis sexmaculata* Ballion, 1870

Genus *Lampetis* dejean, 1833

Species *Lampetis fastuosa* (Fabricius, 1775)

*Lampetis* (*Spinthoptera*) *mimosae mimosae* (Klug, 1829)

Tribe Sphenopterini Lacordaire, 1857

Genus *Sphenoptera* Dejean, 1833

Species *Sphenoptera backeri* Dohrn, 1866

*Sphenoptera dadkhani* Obenberger, 1955

- Sphenoptera edden pakistana* Volkovitsh & Kalashian, 2001  
*Sphenoptera heroica* Jokovlev, 1903  
*Sphenoptera ignita* Reitter, 1895  
*Sphenoptera lapidaria* (Brullé, 1832)  
*Sphenoptera mesopotanica* Marseul, 1866  
*Sphenoptera scovitzii* Falder, 1835  
*Sphenoptera striatipennis* Jakovlev, 1889  
*Sphenoptera (Chrysoblemma) tamaricis* (Klug, 1829)  
 Subfamily Julodinae Lacordaire, 1857  
 Tribe Julodini Lacordaire, 1857  
 Genus *Sternocera* Eschscholtz, 1829  
     Species *Sternocera chrysis* (Fabricius, 1775)  
     *Sternocera orientalis* (Herbst, 1801)  
 Genus *Aaata* Semenov, 1906  
     Species *Aaata finchii* (Waterhouse, 1884)  
 Genus *Julodis* Eschscholtz, 1829  
     Species *Julodis euphratica beludjistanica* Obenberger, 1924  
     *Julodis faldermanni* Mannerheim, 1837  
     *Julodis kabakovi* Alexeev, 1990  
     *Julodis variolaris* (Pallas, 1773)  
 Subfamily Polycestinae Lacordaire, 1857  
 Tribe Acmaeoderini Kerreman, 1893  
 Genus *Acmaeodera* (Eschscholtz, 1829)  
     Species *Acmaeodera* sp.

## REFERENCE

- Akiyama, K. and S. Ohmomo (2000). *The buprestid beetles of the world*. Iconographic Series of Insects. Gekkan-Mushi Co., Ltd. 341 pp.  
 Bellamy, C. L. (2008). A world catalogue and bibliography of the jewel beetles (Coleoptera: Buprestoidea). Pensoft, Sofia-Moscow 606 pp.  
 Bellamy, C. L. (1985). A catalogue of the higher taxa of the family Buprestidae (Coleoptera). *Navorsinge van die Nasionale Museum, Bloemfontein*, 4 (15): 405-472.  
 Bellamy, C. L. (2003). An Illustrated Summary of the Higher Classification of the Superfamily Buprestoidea (Coleoptera) - *Folia Heyrovskyana*, Supplementum 10:1-197.  
 Bellamy, C. L. (2009). *A World Catalogue and Bibliography of the Jewel Beetles (Coleoptera: Buprestoidea)*. Volume 5. Appendices, Bibliography, Indices. Pensoft Series Faunistica No. 80. pp. 2685-3264, Pensoft Publishers, Sofia-Moscow.  
 Beeson, C.F.C. (1941). *The ecology and control of the forest insects of India and the neighbouring countries*. Publ. by the author, Vasant Press, Dehra Dun, India, 1007 pp.  
 Cobos, A. (1980). Ensayo sobre 10s generos de la subfamilia Polycestinae (Coleoptera, Buprestidae) (Parte I). *EOS, Revista Espanola de Entomologia*, 54 (1979):15-94.  
 Holynski (1993). A reassessment of the internal classification of the Buprestidae Leach (Coleoptera). Crystal publication of the (*Natural Science Foundation Series Zoologica*). 1: 1-36.  
 Holdhaus, K. (1919). Koeopteren aus Mesopotamien. *Ann. Nat. Mus. Wien.*, 38: 40-49.  
 Obenberger, J. (1926). Buprestidae I. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 84:1-212. Eds. W. Junk Berlin W. 15.  
 Obenberger, J. (1930). Buprestidae II. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 111: 215-568. Eds. W. Junk Berlin W. 15.26. IV.  
 Obenberger, J. (1934). Buprestidae III. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 132: 571-781. Eds. W. Junk Berlin W.15.3-I.  
 Obenberger, J. (1935). Buprestidae IV. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 143: 785-934. Eds. W. Junk S-Gravenhage 15. VI.  
 Obenberger, J. (1936). Buprestidae V. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 152:935-1246. Eds. W. Junk S-Gravenhage 14. XII.  
 Obenberger, J. (1937). Buprestidae VI. In: Junk, W. & Schenkling, S., *Coleopterorum Catalogus*, 157:1247-1714. Eds. W. Junk S-Gravenhage 31. XII.  
 Stebbing, E. (1914) - *Indian Forest Insects, Buprestidae*. Chapter 11, pp. 190-222. Eyre et Spottiswoode, London, 648 pp.

(Accepted for publication August 2014)