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**Shiwani Bhatnagar**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India**Ameen Ullah Khan**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India**Lokendra Singh Rathore**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India**Neha Sharma**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India**Prem Singh Tak**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India**Correspondence****Shiwani Bhatnagar**Forest Protection Division, Arid  
Forest Research Institute,  
Jodhpur, Rajasthan, India

## New insect record of *Julodis* spp. on *Acacia senegal*

**Shiwani Bhatnagar, Ameen Ullah Khan, Lokendra Singh Rathore, Neha Sharma and Prem Singh Tak**

### Abstract

The jewel beetle species *Julodis* spp. has been recorded on *Acacia senegal* in Jodhpur for the first time. The beetles were collected on *Acacia senegal* trees at Kalyana Kumathiya enclosure Jodhpur (Rajasthan), feeding on foliage of the tree.

**Keywords:** *Buprestidae*, *Julodis* spp

### Introduction

Beetles (Coleoptera) are believed to be the most taxonomically varied insect group that covers major components of ecosystems in terms of biomass, species richness and ecological roles (Stack, 2015) [8]. About 400,000 species have been described (Hammond, 1992) [9], comprising about 25% of the earth's total animal diversity (Rosenzweig, 1995; Hunt *et al.*, 2007) [10, 11]. Beetles not only play important part in pollination, herbivory, granivory, predator-prey interactions but also in nutrient cycling and soil disturbances (Huffaker and Gutierrez 1999) [12]. The beetle family Buprestidae (jewel beetles) comprises about 15000 species and has a world-wide distribution (Bellamy, 2008) [1]. Cobos (1980) [21] suggested 4 subfamilies, 12 tribes and about 64 subtribes of Buprestidae. Stebbing (1914) [20] described seven subfamilies of Buprestidae from Indian region. Bellamy (2009) [2] gave a checklist of Buprestidae of the entire world.

Jewel beetles, are usually xylophagous and are usually present in the semidesert and humid tropical areas. They develop under the bark or in the sapwood of trees and shrubs (Svatopluk *et al.*, 2011) [24]. They are one of the most easily recognizable families due to their striking colors. They are small to large beetles and have an elongated body shape which tapers towards the abdomen and a short head, which fits closely into the broader thorax (Bolu Halil and Ozgen Inanc, 2011) [5]. The important characteristics of these Jewel beetles are: shape cylindrical to flattened, elongate-ovoid, generally convex above; colour is often bright iridescent or dark coloured with different maculae; head greatly deflexed; antennae serrate, labrum bilobed and setose distally; mandible stout, curved; maxillary palpi with four palpomeres; labial palpi with three palpomeres; eyes are lateral; pronotum slightly broader than head; abdomen with five sternites (Fatima *et al.*, 2014) [22, 23].

The earliest study is that of Holdhous (1919) [19] who identified 16 species of jewel beetles, while Obenberger (1926, 1930, 1934, 1935, 1936 and 1937) within his six volume catalogue (Coleopterorum catalogue) mentioned about 51 species and subspecies distributed in Mesopotamia. Beeson (1941) [3] reported 88 species of jewel beetles from Indian region. Fatima *et al.*, 2014(a) [22], recorded a total of 22 new species of family Buprestidae (subfamily Buprestinae, chalcophorinae, Julodinae) from Pakistan. Fatima *et al.*, 2014(b) [23] studied and recorded a total of 39 species, 6 sub-species belonging 14 genera, 5 Subfamilies and 10 tribes of the family Buprestidae of Pakistan.

Recently a buprestid Jewel beetle *Julodis* spp., belonging to family Buprestidae order Coleoptera has been recorded in an experimental plot of *Acacia senegal* at Kaylana Kumathiya enclosure, Jodhpur, Rajasthan, India. The adult was large torpedo shaped with hard body and serrated antennae. Adult feed on nectar and leaves and its larva are wood borers. A heavy infestation by *Julodis* sp. on *A. tortilis* was earlier reported by Harish Chandra (1987) [13] in Jaisalmer district of Rajasthan, which resulted in 50% defoliation of babool trees in the area.

**Taxonomic details**

Kingdom	:	Animalia
Phylum	:	Arthropoda
Class	:	Insecta
Order	:	Coleoptera
Family	:	Buprestidae
Subfamily	:	Julodinae
Genus	:	<i>Julodis</i>

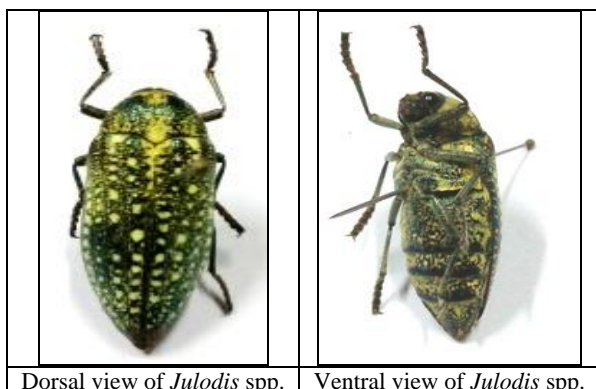
**Characters of family Buprestidae:** They are very variable in size and shape, frequently brilliant metallic in colour and very heavily sclerotized beetles. Body is elongate oval in shape and 1.5 - 100 mm in length. Antennae short and serrate, pectinate or flabellate and 11 segmented. Head more or less hypognathous, deeply sunk in prothorax, frons often excavated or strongly sculptured. Eyes are oval to elongate. Pronotum usually closely fitting to elytra. Scutellum is well developed or completely hidden beneath elytra. Elytra elongate, parallel sided, or tapering strongly in posterior half, to short and subconical, convex or flattened on disc. Upper surface is glabrous or having short pubescence, sometimes forming patterns. Prosternum usually long in front of procoxae, with prosternal process produced and often dilated behind procoxae. Procoxae is globular. Metasternum with distinct transverse suture is present. Metacoxae strongly excavated to receive metafemora. Abdomen is with five visible sternites, abdominal tergites heavily sclerotized and usually brightly coloured. Legs relatively short, tarsal formula 5-5-5, at least segment 4 lobed beneath (Booth *et al.*, 1990) [4].

**Subfamily: Julodinae**

Body is large, robust, convex, more than 20 mm. Front rectangle, does not contract by antennal insertion, prosternal process narrow ; eyes rounded; elytra obtusely tapering in posterior half (Hedaya *et al.*, 2010) [6].

**Genus: Julodis Eschscholtz**

The genus *Julodis* belongs to subfamily Julodinae. Body of the beetle is robust, broad oval, elongate and convex, length vary from 28 to 35 mm. Head plane or slightly concave; epistome sinuate or notched, eyes rounded, little prominent and labrum present. Antennae are short and 11 segmented. Pronotum transverse, convex and retracted backwards, sides rounded and depressed medially at base in front of elytra suture, base bisinuate with a narrow and sharp median lobe; scutellum absent; elytra elongate. Prosternum narrow, carinated with narrow posterior process extend in a groove in anterior part of mesosternum. Tarsi are wide and depressed. Abdomen 5 segmented, pubescent, coarsely punctuate. Last segment narrowed posteriorly (Hedaya *et al.*, 2010) [6].

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