



Description of two species of tribe Hispini (Cassidinae: Chrysomelidae: Coleoptera)
from Sindh, Pakistan

S. A. TALPUR

Department of Entomology, Sindh Agriculture University Tandojam, Pakistan

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Abstract: The study was conducted on leaf beetles, specimens were collected from various localities of Sindh Province and revealed the occurrence of two species belonging to subfamily and tribe hispinae and hispini respectively. Species recognized were; *Platypria echidna* Guérin-Ménéville, 1840 and *Rhadinosa laghua* (Maulik, 1915). Diagnostic characters, measurements with habitus and genitalia studies are provided in detail.

Keywords: Leaf Beetles, Hispini, Hispinae, Sindh,

1. **INTRODUCTION**

The hispinae beetles constitute an economically important subfamily of the leaf-beetles (Chrysomelidae) which present interesting problems from the standpoint of distribution and host relations. In general, the beetles are limited in host range, and feed on particular genera or families of Monocotyledonae. They are tropical, and do not extend high in the mountains (Gressitt, 1959).

The species of Hispinae are an elongate-oblong insect, a large majority of which vary in length between three to seven millimeters. "Within our faunistic limits Botrijonopa, Macrispa, Anisodtra and one or two allied genera, contain the largest species, which sometimes attain to twenty-five millimeters in length. The structure of the upper surface of the beetles to this subfamily is of three kinds, namely, (1) quite smooth and plain, (2) rough or tuberculate, and (3) covered with long, well developed and pointed spines. The spiny character of the prothorax and the elytra, although found occasionally in several families, namely, Tenebrionidae, Endomothidae, Cuckulionidae, and Cerambycidae, belongs par excellence to the Hispinae.

Abdullah and Qureshi (1969) provided the key for the identification of Hispinae and Cassidinae genera from Pakistan East (Now Bangladesh), these are pest of agriculture. He described one new species namely *Hispayunusi* (Abdullah and Qureshi 1969). from Pakistan, new species was similar to *H. armigera* Olivier, 1808. Holotype was collected from Kalash, the material is deposited at University of Agriculture Faisalabad.

(Liu, Peng, 2019) have collected 32 species of Hispini with two species of genus *Platypria* and four

species of genus *Rhadinosa* from Longnan County of China.

2. **MATERIALS AND METHODS**

Specimen collection sites: hispines were collected from various parts of Sindh Province.

Method of collection: specimens were collected through hand net and from light trap installed at various localities of Sindh Province.

Methods of Killing and preserving: Specimens were killed in a jar with amount of potassium cyanide, after killing they were pinned with entomological pins and labelled properly.

Method of imaging: Images were captured with the help of DSLR camera fitted on rail, several images were taken at various depth of fields, further were staked and processed on software control zip.

Methods of identification: Species were identified using pertinent literature of the region.

Method of preparing distributional map: Map was prepared on Google earth online.

Method of preparing genitalia: The process of maceration was attempted and put in 10% KOH for overnight, next day were washed with water and put in glycerin to study under the microscope.

3. **RESULTS AND DISCUSSION**

The specimens collected from various locations of Sindh Province, were sorted and with the help of pertinent literature were diagnosed and are presented.

Genus *Platypria* Guérin-Ménéville, 1840***Platypria echidna* Guérin-Ménéville, 1840**

Description. Body colour brown, abdominal segment black and brown, scutellum brown. Body shape ovate, body hairs course or short, spines on body present. Head brown, vertical area rough. Vertex smooth; or normal. Eyes shape convex, pronotum patches dark brown and narrower than elytron, laterally with spines, sides prominent swelling with 2-3 distinct teeth appearance dull. Mouth directed downwards (hypognathous), clypeus and labrum with fine hairs sparsely covered, hairs on humerus area fine. Antenna brown, filiform, short, first antennal segment enlarged, second segment short, third segment longer than fourth, fourth segment shorter than third, antenna inserted closely, distal segment longer than broad. Scutellum convex, appearance dull, shape weakly triangular. Elytra punctures present and course, colour yellowish brown, projection present; bands on elytra present. Prothorax size slightly broader than long, punctuation course. Aedeagus dorsally straight, gonopore below the apex and laterally curved strongly.

Measurement (mm). *Platypria echidna* Guérin-Ménéville, 1840, Total length 4.33, forewing 3.23,

pronotum width 1.37, pronotum length 0.65, antennal length 2.14, interocular width 0.25, eyes in cross 0.22, eyes width 0.18, inter antennal width 0.04

Material examined. 4♂, 9♀, Pakistan, Sindh Province, Badin District, Golarchi environs, 18.VII.2015, Sohail Talpur leg., 24°39'28.98"N, 68°32'12.36"E, 30ft Pakistan, Sindh Province, Thatta District, Gharo environs, 17.VII.2015, Sohail Talpur leg., 24°47'18.99"N, 67°35'26.06"E, 23ft Pakistan, Sindh Province, Thatta District, Sujawal environs, 17.VII.2016, Sohail Talpur leg., 24°38'22.40"N, 68°45'4.71"E, 23 ft.

Distribution. Bangladesh, China (Yunnan), Cambodia, India (Bihar, Goa, Kerala, Karnataka, Maharashtra, Sikkim, Tamil Nadu), Japan, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam.

Food plants. *Erythrina lithosperma* Blume ex. Miq. (Fabaceae) (Fletcher 1914); *Desmodium gangeticum* (L.) DC, *Erythrina* sp., *Pueraria tuberosa* DC (Fabaceae), *Zizyphus* spp. (Rhamnaceae) (Beeson 1941); *Mallotus* sp. (Euphorbiaceae), *Erythrina variegata orientalis* Murr. (Fabaceae) (Hua 2002); *Erythrina lithosperma* Blume ex. Miq. (Fabaceae) (Zaka-Ur-Rab 1991).

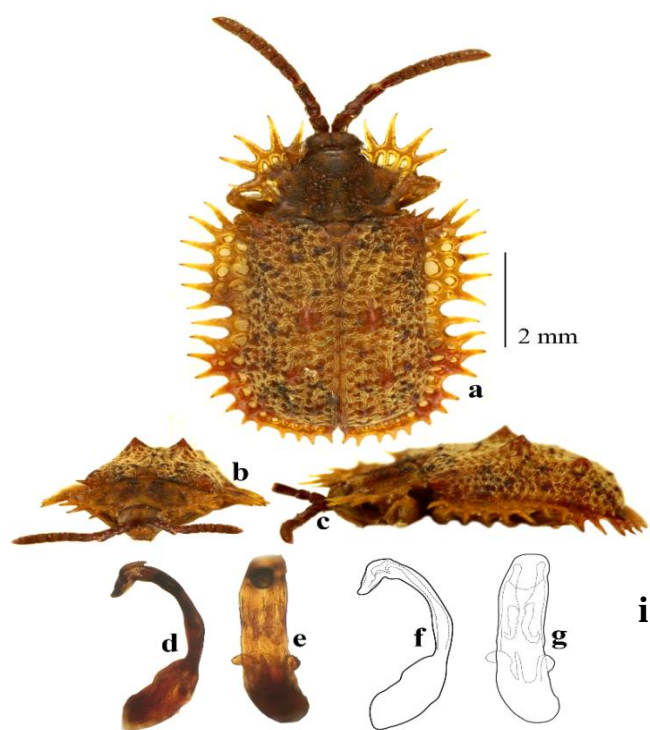


Plate 1. *Platypria echidna* Guérin-Ménéville, 1840: a) habitus, b) frontal view, c) lateral view d,f) aedeagus dorsal view e,g) lateral view h) distributional map i) distributional map closeup

Rhadinosa Weise 1905**Rhadinosa laghua (Maulik, 1915)**

Description. Body colour blackish brown, eyes dark brown, abdominal segment black and brown. Scutellum blackish brown. Body shape ovate, hairs course or short, body spines present. Head blackish brown, vertical area rough, vertex smooth. Eyes shape convex, pronotum narrower, laterally with spines, sides of pronotum margined with 2-3 distinct teeth, appearance dull. Mouth directed downwards (hypognathous). Fine hairs sparsely covered on clypeus and labrum. Antennal first segment club shaped enlarged. Scutellum convex, appearance dull. Scutellum shape weakly triangular. Elytra punctures present and course with blackish brown. Prothorax broader than long. Posterior femur swollen. Tarsal claw

bifid. Third tarsal segment emarginated. *Measurement (mm).* Total length 4.35, forewing 3, pronotum width 1.07, pronotum length 0.53, antennal length 0.62, interocular width 0.27, eyes in cross 0.28, eyes width 0.14, fore tarsal length with claw 0.53, mid tarsal length with claw 0.57, hind tarsal length with claw 0.61, inter antennal width 0.14

Material examined. Rhadinosa laghua (Maulik, 1915), 4♀, PAKISTAN, Sindh Province, Badin District, Golarchi environs, 18.VII.2015, Sohail Talpur leg., 24°39'28.98"N, 68°32'12.36"E, 30 ft *Distribution.* India (Assam, Tripura, West Bengal), Myanmar, Nepal. *Food plant.* Unknown.

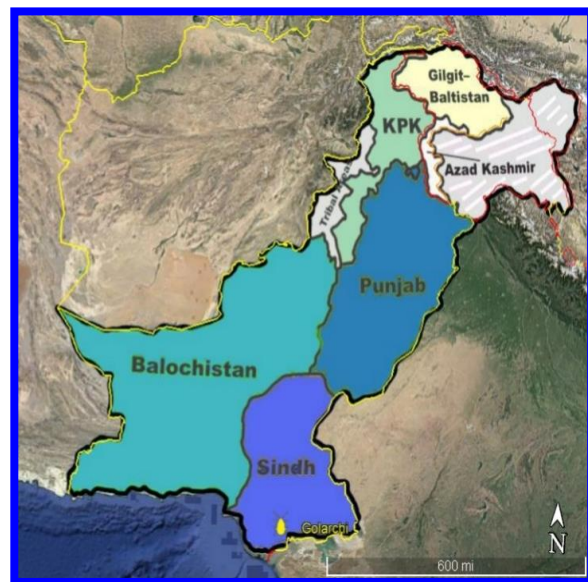
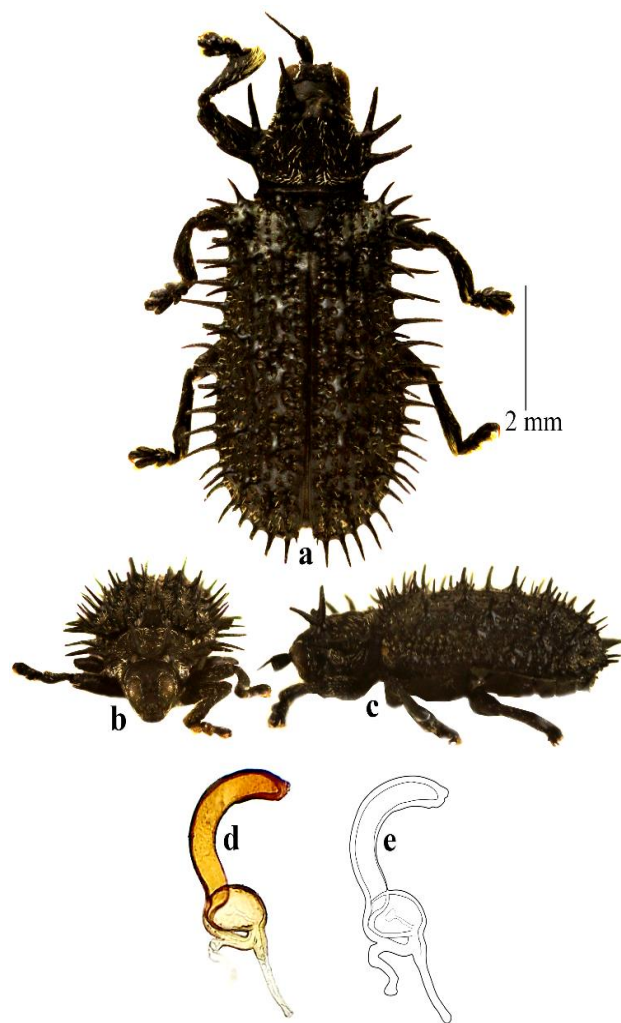


Plate 2. *Rhadinosa laghua* (Maulik, 1915): a) habitus, b) frontal view, c) lateral view d,e) spermetheca f) distributional map, g) distributional map closeup

4. CONCLUSION

During present studies the material collected from various localities revealed under tribe hispinin, these are pests of crops under certain conditions, during the course of identification the tribe disclosed with the availability of two species; *Platypria echidna* Guérin-Ménéville, 1840 and *Rhadinosa laghua* (Maulik, 1915).

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