

## REDESCRIPTION OF TWO SPECIES OF *LANELATER* ARNETT (COLEOPTERA, ELATERIDAE) FROM PAKISTAN WITH THEIR MALE AND FEMALE GENITALIA

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### ABSTRACT

The species of genus *Lanelater* (Arnett) are well known in warm regions of the world. In Pakistan, two species of the genus *Lanelater* from Dader, (NWFP) and Dhabeji, Thatta, Tandojam, Karachi, Sindh. This taxa is redescribed and its male and female genitalia described extensively.

**Key words:** Coleoptera, Elateridae, redescription, *L. bartoni*, *L. bipunctatus*, male and female genitalia.

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### INTRODUCTION

Arnett designated the genus *Lanelater* of those species which were formerly placed in the genus *Agrypnus* (Eschscholtz, 1829), he listed out 80 species of this genus from all continental regions of the world except South America. It is one and only genus of Agrypninae in which, scales entirely absent and tibial spurs present. The species of this genus worldwide distributed except South America (Hayek, 1973). The present two taxa redescribed from Pakistan; Karachi, Dhabeji, Tando Jam Thatta (Sindh) and Dadar (NWFP).

### MATERIALS AND METHODS

The material studied belongs to the collection of Natural History Museum, University of Karachi (NHMUK) and collected by different persons by insect net and hand picking method from Karachi, Dhabeji Thatta (Sindh) and Dadar (NWFP). The measurements and illustrations were made by using ocular grid microscope. For the preparation of male and female genitalia it was followed Calder (1996).

Body length is measured along the midline from the anterior margin of frons to apex of the elytra; the width is measured across the broadest part. The pronotal length is measured along the midline; the width at the broadest part, usually at hind angles.

### RESULTS

#### *Lanelater bartoni* (Fleutiaux) (Figs. 1-4)

*Agrypnus bartoni* Fleutiaux, 1902a : 163.

*Lanelater bartoni* (Fleutiaux) Arnett, 1952 : 105.

#### **Body Shape: (Fig. 1)**

#### **Coloration:**

Entirely ferruginous with brownish shadings around the margins of body, very less recumbent yellowish pubescence on near of apex of elytra.

#### **Head:**

Frons depressed medially from vertex to anterior margin sides in the form of ridge, coarsely punctate with very less recumbent pubescence; labrum slightly prolonged, eyes convex, large, antennae with scape longer and thicker than others, 2<sup>nd</sup> segment globous, 3<sup>rd</sup> and 4<sup>th</sup> segment subequal.

#### **Thorax:**

Pronotum longer than wide, conspicuously convex on disk, gently slope at sides and abruptly turn at base, depressed posteriorly, trace of long and median longitudinal carinae, prescuteller tubercle moderate, quadrate, with punctured and shiny surface, diverging with tips subrounded, carina running subparallel to lateral margins prolonged

upto middle, punctures coarse, very close on disk with short recumbent pubescence; scutellum rectangular with base triangular, flat, punctured with recumbent pubescence; Elytra 2.5 times longer than pronotum, widest at middle, gradually narrowing toward apex, striae shallowly punctured on all the surface, interstriae flat with very fine punctures, full of recumbent pubescence, subcoxal furrow straight behind mesocoxae, prosternal sutures deeply furrowed as long as prosternum.

#### Male Genitalia: (Fig. 2)

Aedeagus with median lobe broad at middle, form anteriorly narrow tube like structure with apex rounded, parameres broad, flat, apex truncate with slightly deflected laterally, externally longitudinal sinuate, basally separated; two median struts hanging in half of basal plate, angulate; basal plate broad, margins chitinated, a long chitinated rod on ventrally, lie between median struts, base flap like, from which it bifurcate.

#### Female Genitalia: (Fig. 3)

Ovipositor stout, sclerotised, genital coxites divided into two parts, without styli, paraprocts elongate, closely to bases of coxites, apex spatulate with margin oblique, genital tract with anterior most section of bursa copulatrix elongate, tubular, with sclerotised armature consisting of rows of spinules extending along both sides of bursa, extension of bursa copulatrix consist two sclerotised structure in internal sac, two spermatheca, distantly arise, long, tubular (3 times), attached apically to anterior most section of bursa copulatrix, sternite (Fig. 4) consist elongated shaft and dilated basal plate, shaft jointly bifurcate, great distance at base, apex rounded, basal plat sheath like, long bristles on base of sheath.

#### Material examined:

PAKISTAN: Sindh, **Dhabeji**; 4 ♂, 2 ♀; 15.iv.2003, Affan leg., on light. **Karachi**; 2 ♂, 1 ♀; 23.ii.1992, Bushra leg., on light. 3 ♂; 17.x.1979, leg. Irshad (NHMUK), 1 ♂; 1981, leg. Almas (NHMUK), 1 ♂; 1980, leg. Rahila (NHMUK), 1 ♀; 8.x.1982, leg. Rafique (NHMUK). **Thatta**; 3 ♂, 1 ♀; 29.ix.1972, leg. Maqsood (NHMUK). 4 ♂, 1 ♀; 12.viii.1967, leg. Ehsan (NHMUK). **Tando Jam**; 8 ♂, 3 ♀; 15.viii.1967, leg. Mehar (NHMUK).

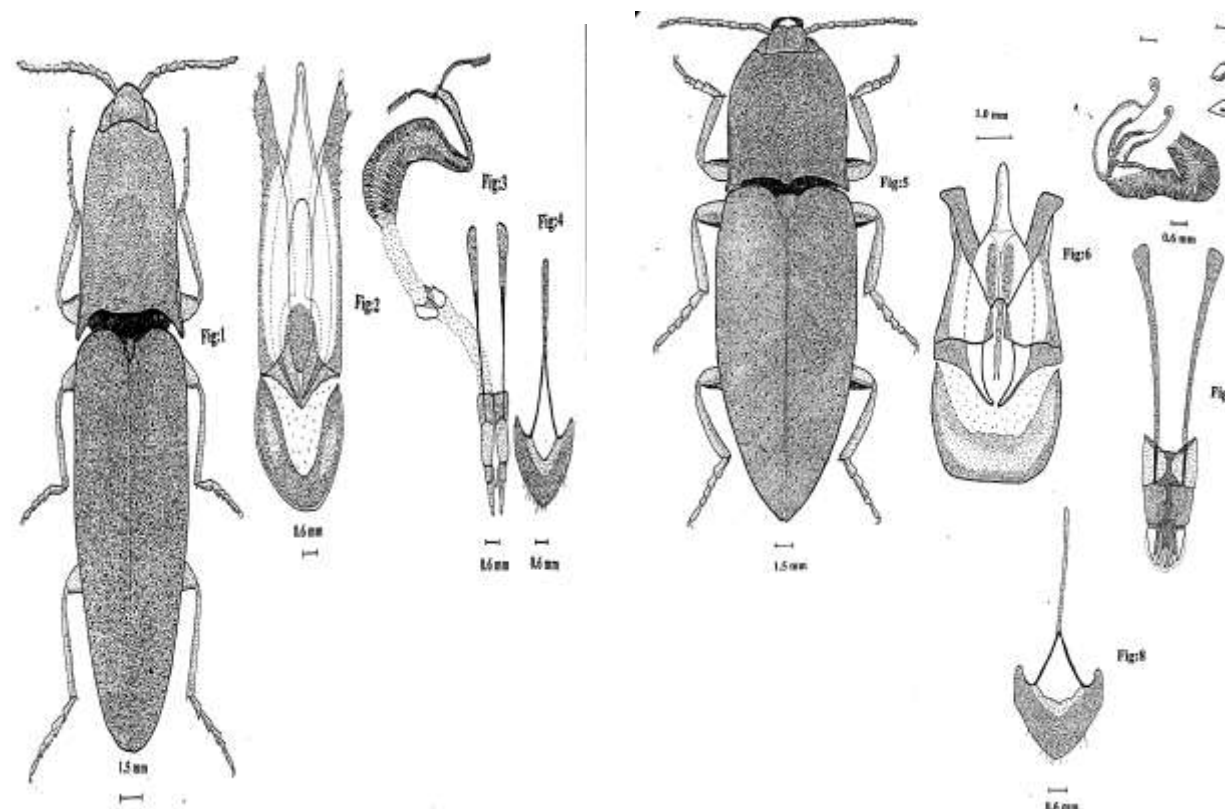


Fig.1-4. *Laenelater bartoni*; Male: 1. adult, 2. aedeagus, Female: 3. genitalia, 4. sternite.

Fig.5-8. *Laenelater bipunctatus*; Male: 5. adult, 6. aedeagus, Female: 7. genitalia, 8. sternite.

***Lanelater bipunctatus* (Candèze)****(Figs. 5-8)***Agrypnus bipunctatus* Candèze, 1857 : 29.*Lanelater bipunctatus* (Candèze) Arnett, 1957 : 105.**Body shape: (Fig. 5)****Coloration:**

Body ferruginous with blackish shadings around the margins and scutellum, covered with dense, short, recumbent, grey pubescence.

**Head:**

Frons deeply impressed, from vertex to anterior margin, clypeus anteriorly subrounded, coarsely punctate with recumbent pubescence, lateral carinae diminish before base of head, raised; labrum bent down, exerted anteriorly, prominent punctation with long erect pubescence; eyes subdorsal, slightly convex, rounded; antennae exerted anterior margins of eyes, laterally, reaching the hind angle of pronotum, scape gradually thickened, longer than others, 2<sup>nd</sup> segment globous, small, 3<sup>rd</sup> longer than 4<sup>th</sup>, fourth and following to tenth subquadrangular, last segment longer than penultimate, ellipsoidal and abruptly constricted at apical third.

**Thorax:**

Pronotum just longer than wide, conspicuously convex on disk, smoothly sloping at sides, abruptly at base, with a trace of short and median longitudinal carinae, prescuteller tubercle moderate, subquadrate with smooth and shiny surface, sides moderately distinctly sinuate before posterior angles, feebly diverging with tips rounded to truncate, carina running subparallel to lateral margins prolonged near middle; scutellum subrectangular, flat, punctured; Elytra 2.5 times longer than pronotum, widest at middle, gradually narrowing toward apex, striae shallowly punctured on all the surface, interstriae flat with very fine punctures, subcoxal furrow regularly curved behind mesocoxae, prosternal sutures deeply furrowed as long as prosternum.

**Male Genitalia: (Fig. 6)**

Aedeagus with median lobe broad at middle, fastly turned up and form cylindrical, narrow tube, parameres evidently shorter than median lobe, basally separated at middle, apex truncate, two median struts just across base of parameres, apically broad, flat, apex truncate, a long chitinated rod along with median struts, basal piece well developed, broad, half part chitinated.

**Female Genitalia: (Fig. 7)**

Ovipositor stout, heavily sclerotised, genital coxites divided into two parts, without styli, two very long paraprocts, very close to bases of coxites, apical spatulate, flattened, genital tract consist anterior most section of bursa copulatrix elongate, tubular, with sclerotised armature consisting of rows of spinules extending along both sides of bursa, extension of anterior most section of bursa copulatrix elongate, with two sclerotised structures; Two spermatheca present, short, tubular, attached apically to anterior most section of bursa copulatrix, sternite **(Figs. 8)** consist elongated shaft and dilated basal plate, shaft more elongate, jointly bifid, gradually away upto base, apex truncate, basal prong sheath broad with long bristles on lower surface.

**Material examined:**

PAKISTAN: Sarhad, **Dadar**; 2 ♂; 10.vii.2004, Zubair Ahmed leg., on light. Sindh, **Karachi**; 2 ♂; M. Atique Akhter leg., on light. 3 ♂, 1 ♀; Masood Ahmed leg., on light. 3 ♂; 10.iv.2005, leg. Zubair Ahmed. 1 ♂; 06.iv.2004, leg. Rukhsana. 4 ♂, 1 ♀; 06.iv.2004, leg. Rauf Jan. 3 ♂, 1 ♀; 7.vii.2004, leg. Ijaz Ahmed. 4 ♂; 21.ii.1972, leg. Rizvi, **Thatta**; 7 ♂; 12.viii.1967, leg. Ehsan (NHMUK). **Tando Jam**; 3 ♂, 1 ♀; 15.viii.1967, leg. Mehar (NHMUK).

**Comparative remarks:**

These species were closely with other like shape, setae, antennae but can be easily separated by their frons depress medially from vertex in *L. bartoni* not depressed in *L. bipunctatus*, aedeagus evidently tubular in *L. bipunctatus* but moderately tubular in *L. bartoni*, spermatheca coiling in three rows in *L. bipunctatus* but more than three coiling in *L. bartoni*, median paramers apically turned at end in *L. bipunctatus* not turn in *L. bartoni*.

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