

# Ascalaphid Studies I. New Genera and Species of Ascalaphid from Palaeartic Region (Neuroptera: Ascalaphidae)

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In this study the *Ptyngidricerus* Van der Weele, 1908 genus has been revised and in the course of this 2 new genera and 4 new species are described. The description of the new genus was made possible apart from the male samples, the females (*P. albardanus*) which were recorded and supplement of the description based on damaged specimens (*P. iranensis*) earlier enabling the evaluation of their taxonomic status.

The following species belonging to *Ptyngidricerus* genus: *Ptyngidricerus albardanus albardanus* (McLachlan, 1891), *Ptyngidricerus albardanus pterostigmatus* Alexandrov Martynov, 1926, *Ptyngidricerus pseudoalbardanus* sp. n. *Ptyngidricerus persepolisensis* sp. n. and *Ptyngidricerus sendanensis* sp. n. from Iran and *Ptyngidricerus pakistanensis* sp. n. from Pakistan. Apart from describing the new species the authors present a description of the female *Ptyngidricerus albardanus albardanus* (McLachlan, 1891) which has so far not been known according to the literature on this species. The earlier described species were combined on the basis of their genitalia and external morphological characteristics in new genus: *Iranoidricerus iranensis* (Kimmins, 1938) and *Omanoidricerus venustus* (Tjeder and Waterston, 1977). The illustration of the female and male genitalia of *Iranoidricerus iranensis* Kimmins, 1938 is also presented. On account of sexual dimorphism a key is given for identification of the female and male specimens with 25 figures.

Keywords: *Ascalaphid* species, *Ptyngidricerus* species.

A remarkable amount of Ascalaphidae species could be collected by Hungarian entomologists over the past twenty years from the Palaeartic region. This collection has considerably advanced our knowledge (Sziráki, 1998; Aspöck et al., 2001) related to the species of Ascalaphidae. The main aim of this present study was the revision of *Ptyngidricerus* Van der Weele, 1908.

The type species of *Ptyngidricerus* was *Idricerus albardanus* McLachlan, 1891 kept in the Albarda's collection (Leiden, NL). In Weele's (1908) Ascalaphidae monograph a specimen originating from the eastern part of Turkey (Mardin) without flagellum were used for describing the genus. Later based on two male specimens different morphologically and geographically from the type specimen *Ptyngidricerus albardanus albardanus* (McLachlan, 1891) was described as *Ptyngidricerus albardanus* var. *pterostigmatus* Alexandrov-Martynov, 1926 from Iran as a new taxon. The taxa earlier described as "varietas" are now known as subspecies (Aspöck et al., 2001). However, another specimen was not found on the type locality and so the taxonomic status of subspecies is uncertain as to whether it is a

valid species or a subspecies (Aspöck et al., 2001). To clarify this issue needs further investigation. The next species of the genus which has been described is *Ptyngidricerus iranensis* Kimmins, 1938 which originated from Iran which was described on the basis of the only damaged specimen ("Sex indeterminate tip of abdomen lost"). The inscription on the good quality photo depicting the holotype: *Ptyngidricerus iranensis* sp. n. x2 ("apex of abdomen missing").

The last described species was *Ptyngidricerus venustus* Tjeder et Waterston, 1977. This species was described on the basis of a holotype female and three paratypes female and a male from the Gulf of Oman region. These above-mentioned species occur also in the annotated checklist of the Palaearctic (Sziráki, 1998).

#### *Taxonomical part*

#### ***Ptyngidricerus* Van der Weele, 1908**

*Ptyngidricerus* Weele, 1908; Navás, 1913; Tjeder and Watertson, 1977

Type species: *Idricerus*(?) *albardanus* McLachlan, 1891 (by monotypy)

#### DESCRIPTION

Sexual dimorphism present. Species of medium size: length of body 28–40 mm; length of forewing 31–40 mm.

Head about as wide as thorax. Vertex broad, eyes widely separate dorsally. Vertex, frons, genae and postorbital sclerite hairless. Clypeus and labrum with hairs. Antennae as long as two-thirds of forewing length. Flagellar segments unicoloured. Club bicoloured, subglobular or elongated subglobular-shaped.

Pronotum narrow, with deep median furrow. Thorax long-haired. Mesoscutum with a pair of black velvety spots. Tarsi: segments 1–4 short (as long as wide), subequal; segment 5 long, as long as segments 1–4 together or in the foreleg even a little longer. Tibial spurs about as long as tarsal segments 1–4 together. Wings moderately elongated oval, with rounded apices and dense venation, subequal. The hindwings only a little shorter than the forewings. Membrane heavily darkened with brown and greyish brown or hyaline with dark spots. Pterostigma opaque, semi-translucent, faintly pigmented. Hairs on veins and marginal fringes short, only a few longer hairs on the veins in the anal area of the forewing, and longer fringes on the proximal part of the hindmargin of both wings. Apical area rather large, only with many cells or with forked longitudinal veins proximally and with many cells distally together. Anal area of forewing projects posteriorly as short but distinct triangular lobe. 4–5 radial cross-veins before origin of Rs. Veins M and Cu<sub>1</sub> close, strongly curved to hindmargin apically. Veins Cu<sub>2</sub> and 1 A fuse well beyond the anal area.

Abdomen a bit shorter than the hindwings. Tergites 1 and 9 in both sexes split dorsally into a pair of lateral plates. Male: tergite 3 with dorsal process distally; ectoprocts a pair of convex plates without distal prolongation; gonarcus hood-like; parameres fused with gonarcus; pelta present; pulvini large with long gonosetae; hypandrium internum minute. Female: ventrovalvae long, rather slim not separated from the 7th sternite by interjacent area; interdens absent; linguella moderately large.

## BIONOMICS AND DISTRIBUTION

The habitat and life-history of the species is largely unknown, however, it is certain that like other species they had a predatory lifestyle. The imagines flew at night in the summer months and showed positive phototaxis towards artificial light sources. Most of the specimens were recorded by using light sources living in dry open rock grasslands.

The centre of distribution of the genus is in Asia Minor and Central Asia. Their known area of distribution ranges from Turkey to Pakistan.

***Ptyngidricerus albardanus albardanus* (McLachlan, 1891)**

*Holotype*: ♂ Mesopotamien, Mardin (SE Turkey) (Weele, 1907). Deposited: Leiden (NL).

*Material examined*: 3♂ Turkey, Prov. Van, 10 km N of Catak, 43°05'E., 38°05'N., 20–21. VII. 1989, leg. P. Gyulai, M. Hreblay (gen. prep. No. 510), – 2♀ Turkey, Prov. Van, 10 km N of Catak, 43°05'E., 38°05'N., 20–21. VII. 1989, leg. P. Gyulai, M. Hreblay (gen. prep. No. 511) – 1♂ Turkey, Prov. Bitlis, Kusunkiran, Gecidi, 2300 m, 43°46'E, 38°17'N, 22–23. VII. 1989, leg. P. Gyulai, M. Hreblay – 2♂ Turkey, Prov. Malatya, Valley Göksa from Erlenek, 3–4. VII. 1994., leg. L. Ábrahám – 1♂ Iran, Prov. Hamadan, Mts Zagros 25 km Khakadan 48°20' E, 34°02' N, 2200 m, 21. VI. 2000, leg. Gy. Fábrián, L. Szécsényi, K. Székely.

## REMARKS

It was described by McLachlan (1891) based on a male. Male *Fig. 1*; genitalia *Fig. 14*. Description of female was absent in the literature, so apart from reporting the photo and the genitalia it is also necessary to give a description.

## DESCRIPTION

## Female

*Head*: Vertex yellow with two small brownish irregular-shaped spots on posterior lateral portion and longer stripe on both sides of epicranial suture, hairless. Frons and genae yellow, hairless. Clypeus and labrum yellow with mostly long dense drably coloured hairs, but some brownish hairs curve towards labrum. Mandibula brown. Maxillary and labial palpi yellow. Antennae 19–21 mm long. Scape and pedicel rather short with a dense tuft of long white hairs. Long dense drab hairs on scape towards the frons. Flagellum segments also pale yellowish, covered with black setae, but without verticils. Distal part of the club dark brownish-black, subglobular-shaped.

*Thorax*: Pronotum yellow with brown band transversally and centrally, brown spots laterally. Hairs on pronotum rather drably coloured. Mesonotum also yellow with irregular-shaped brownish pattern. Scutellum with brown square-like spot. Scutum yellow with brown velvety spots. Metanotum: postnotum and metascutellum yellow. Metascutum brown. Hairs on dorsum long dense white. Sides brown with long dense white hairs. Coxa brown; femur yellowish with mostly long soft white hairs; tibiae and tarsi yellowish with stiff black hairs. Tibial spurs as long as tarsal segments 1–3 together. Forewings 38–40 mm long, 10 mm wide, hindwings 36–37 mm long, 9–10 mm wide. Membrane hyaline, longitudinal veins yellowish, cross-veins mostly yellowish and shadeless, but some brownish veins in basal area of the wings and cross veins in costal area. Veins with narrow faintly brownish shade between Sc+R and M in apical area. At the beginning of M and Cu<sub>1</sub>



Fig. 2. *Pnygidricerus albardanus* albardanus imagine, female

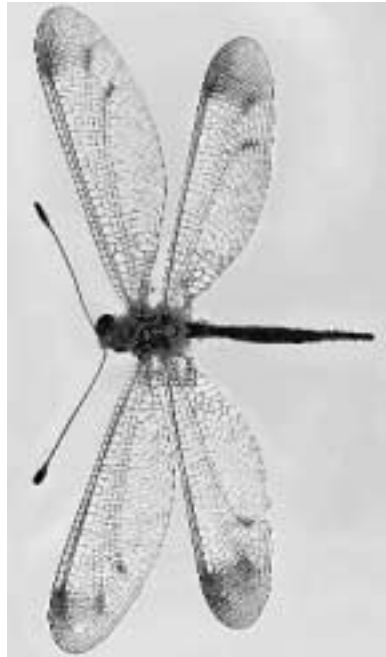


Fig. 4. *Pnygidricerus pseudoalbardanus* imagine, female

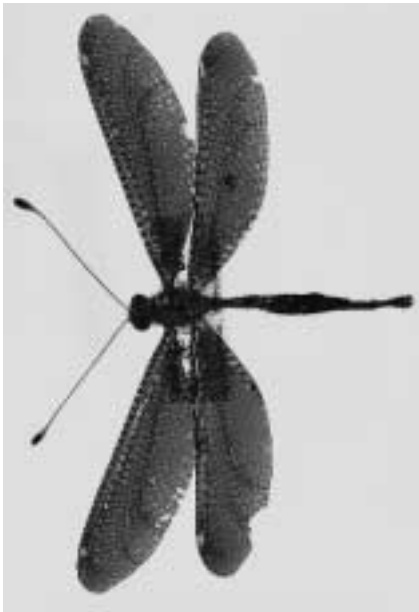


Fig. 1. *Pnygidricerus albardanus* albardanus imagine, male

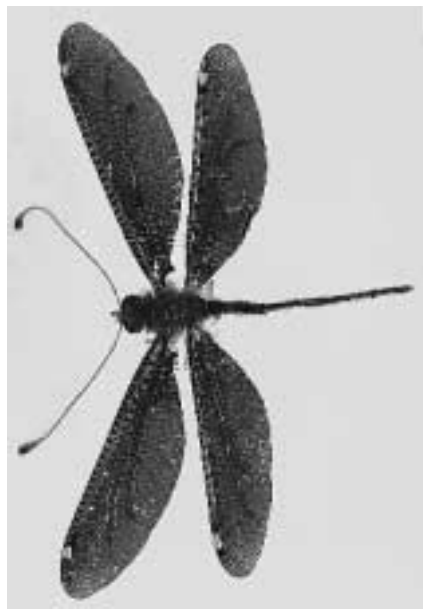


Fig. 3. *Pnygidricerus pseudoalbardanus* imagine, male

curvature towards the hindmargin with small brownish spots on both wings. Pterostigma semi-translucent, rhombic-shaped with 4–5 slanting cross-veins. Apical area beyond vein Sc+R with many cells. Hairs on wings smoothing short black (*Fig. 2*).

*Abdomen:* 22–24 mm long, dark brown with yellow and brownish stripes. Tergite 1 with long white hairs; tergite 2 with medium long dense brownish hairs. Sternite 1 with long soft white hairs. The following segments with short sparse black hairs. Female genitalia: *Fig. 15*.

#### DISTRIBUTION

Irak, Iran, Turkey. Iranoeremial faunal element (Aspöck et al., 2001).

#### *Ptyngidricerus albardanus pterostigmatus* Alexandrov-Martynov, 1926

*Lectotype:* ♂ Kalaposht Starbaz, Belutschistan, Persien, 25. II. 1901, Zarudny, – *Paralectotype:* 1♂ Kalaposht Starbaz, Belutschistan, Persien, 25. II. 1901, Zarudny

*Deposited:* Collection of the Zoological Institute Russian Academy of Sciences, St. Petersburg (Krivokhatsky, 1995). No material examined.

#### REMARKS

*P. albardanus* var. *pterostigmatus* was described by Alexandrov-Martynov (1926) based on two males from Baluchistan (SE Iran). We agree with Aspöck et al. (2001) that the taxonomic status of the described subspecies needs further investigations due to their geographical distribution.

#### DISTRIBUTION

Iran.

#### *Ptyngidricerus pseudoalbardanus* sp. n.

*Material examined:* Holotype: ♂ Iran, Prov. Esfahan, Daran, 2300 m, 4. VII. 2000, leg. T. Hác, G. Kószegi (gen. prep. No. 512), - Paratypes: 2♂ 2♀ Iran, Prov. Esfahan, Daran, 2300 m, 4. VII. 2000, leg. T. Hác, G. Kószegi – 1♂ Iran Prov. Lorestan, Mts. Ostoran, 17 km E from Dorud, 2300–2700 m, 22. VI. 2000, leg: Gy. Fábián, L. Szécsényi, K. Székely (gen. prep. No. 513).

*Deposited:* Entomological Collection of Somogy County Museum, Kaposvár

#### DESCRIPTION

##### Male.

*Head:* Vertex unicoloured light yellow, hairless. Frons and genae greyish yellow hairless. Clypeus and labrum also greyish yellow with brown hairs. Mandibula brown. Maxillary and labial palpi yellow. Antennae 22–24 mm long, scape and pedicel rather short with a dense tuft of long pale hairs, curved upward towards the vertex. Flagellum segments and proximal part of the club pale brown without verticils. Distal part of the club yellowish, subglobular-shaped.

*Thorax:* Pronotum yellow with brown stripe along median furrow. Hairs on pronotum long pale brownish. Metanotum: prescutum yellowish, but brown on the posterior margin. Scutum yellow with rhombic-shaped brown spots posterior and brown velvety spot.

In the middle of scutellum yellow with brown spot and brown band laterally. Postnotum and metascutum brownish; metascutellum yellow. Sides brown. Hairs on dorsum and sides long dense pale. Coxa brownish; femur, tibiae and tarsi yellowish on fore legs.

Coxa and about proximal half of the femur brownish, the distal half of the femur, tibiae and tarsi yellowish on middle and hind leg. Hairs on coxa long dense pale. Femur with white hairs dorsally, and black ventrally. Tibiae and tarsi with stiff black hairs. Tibial spurs as long as tarsal segments 1–4 together. Forewings 33–35 mm long, 8–9 mm wide, hindwings 30–32 mm long, 8–9 mm wide. Membrane shining dark brown, longitudinal veins: C, Sc and A mostly light, but R and M dark; cross-veins black without any shade. Pterostigma pale yellowish-white; rhombic-shaped with 4–5 slanting cross-veins, elongated along the Sc+R vein towards the apex of the wing. Apical area beyond vein Sc+R with many cells. Hairs on wings smoothing short black (*Fig. 3*).

*Abdomen:* 28–32 mm long with brownish and yellowish spots. Tergite 1 yellowish, distal margin brownish with long pale hairs. Hairs on tergite 2 long dark brown. Tergite 3 with brownish-yellow dorsal process distally, as long as the half of the tergite 3. Hairs on following segments short black. Male genitalia: *Fig. 16*.

#### DESCRIPTION

##### Female.

*Head:* Vertex dark yellow, hairless. Frons and genae greyish yellow, hairless. Clypeus and labrum greyish yellow with long dense brownish hairs. Mandibula brownish. Maxillary and labial palpi yellow. Antennae 18 mm long; scape and pedicel rather short with a dense tuft of long pale hairs curved upward towards the vertex and some brownish hairs towards the frons. Flagellum segments yellowish without verticils; distal part of the club dark brownish-black, subglobular-shaped.

*Thorax:* Pronotum yellow with brown stripe along the median furrow. Only anterior and posterior margins covered with long dense pale brownish hairs. Metanotum: prescutum yellow with brown margin posteriorly. Small brown square-shaped spot in the middle of scutellum and brown margin posteriorly. Larger rhombic-shaped spots on scutum under the velvety spots. Metascutellum yellow, metascutum and sides brown. Hairs on dorsum and sides pale in the middle and posteriorly, but on sides long dense brownish anteriorly. Coxa brown proximally, yellow distally. Femur, tibiae and tarsi yellow. Femur with white hairs dorsally and black ventrally. Tibiae and tarsi with stiff black hairs. Tibial spurs as long as tarsal segments 1–4 together. Forewings 37–40 mm long, 10 mm wide, hindwings 35–37 mm long, 10 mm wide. Membrane hyaline, longitudinal and cross-veins yellowish. At the beginning of M and Cu<sub>1</sub> curvature towards the hindmargin with small brownish spots on both wings. Veins with faintly brownish shade between Sc+R and M in the apical area. Pterostigma light ochreous, rhombic-shaped with 4–5 slanting cross-veins, along the Sc+R vein elongated towards the apex of the wing. Slightly dark shaded area around the pterostigma, especially close to the fusing point of Sc+R. Apical area beyond vein Sc+R with many cells. Hairs on wings smoothing short black (*Fig. 4*).

*Abdomen:* 25–28 mm long, dark brown with yellowish stripes. Tergite 1 brown, tergite 2 brown with long dense brownish hairs posteriorly. Sternite 1 and sternite 2 long

pale hairs, but hairs on distal margin of sternite 2 black. The following segments with short sparse black hairs. Female genitalia: *Fig. 17.*

***Ptyngidricerus persepolisensis* sp. n.**

*Material examined:* Holotype: ♂ Iran, Prov. Fars, Persepolis, 1200 m, Mts. Zagros, 25–26. V. 1999., leg T. Hác, G. Kószegi (gen. prep. No. 514) – Paratypes: 1♂ 3♀ Iran, Prov. Fars, Persepolis, 1200 m, Mts. Zagros, 25–26. V. 1999. leg T. Hác, G. Kószegi – 3♀ Iran, Prov. Fars, Persepolis, Mts. Kum, 1200 m, 26. V. 2000, leg. K. Gaskó (gen. prep. No. 515) – 4♀ Iran, Fars Prov., Mts Zagros, Dasht Arzhan, 2500 m, 8–10. VI. 1999, leg. L. Bieber (Gen. prep. No. 521)

*Deposited:* Entomological Collection of Somogy County Museum, Kaposvár

DESCRIPTION

Male.

*Head:* Vertex, frons and genae unicoloured greyish yellow, hairless. Clypeus and labrum greyish yellow with long dense brown hairs. Mandibula brown. Maxillary and labial palpi greyish yellow. Antennae 17–18 mm long, scape and pedicel rather short with a dense tuft of long hairs. Hairs on scape greyish brown curved upward towards the vertex but rather brownish towards the frons. Flagellum segments almost yellowish with verticils. Distal part of the club brownish, subglobular-shaped.

*Thorax:* Pronotum yellow with wide brown stripe transversally. Lateral projection of pronotum rather greyish yellow. Hairs on pronotum long dense light brownish. Mesonotum: scutellum greyish yellow with rounded spot in the middle which fused with triangle-shaped brown spots laterally. Posterior margin brown. Scutum greyish yellow with brown stripes transversally and velvety spots. Metanotum: postnotum brown but greyish yellow on both sides of medial furrow. Metascutellum greyish yellow. Metascutum brown, but greyish yellow distally. Sides brown. Hairs on dorsum and sides long dense light brownish. Coxa brown on all legs. Femur on fore leg yellow proximally, brown distally. Femur on middle leg already yellow as tibiae and tarsi, with pale hairs dorsally and stiff black hairs ventrally. On hind leg femur, tibiae and tarsi yellow with hairs as on middle leg. Tibial spurs as long as tarsal segments 1–4 together. Forewings 34–36 mm long, 10–11 mm wide, hindwings 29–32 mm long, 8–9 mm wide. Membrane semi-transparent, faintly brown, longitudinal veins yellow, cross-veins yellow with narrow shade, therefore the middle of cells light. Some cross-veins brown in the basal area. Pterostigma light brown, semi-translucent, rhombic-shaped with 3–4 slanting cross-veins. Apical area beyond vein Sc+R with many cells. Hairs on wings smoothing short black (*Fig. 5*).

*Abdomen:* 25–27 mm long, dark brown. Tergite 1 brownish, tergite 2 brown and yellow with long dense brown hairs. Tergite 3 yellow proximally, brown distally with rather yellowish dorsal process distally, as long as tergite 3. Hairs on the following segments short black. Male genitalia: *Fig. 18.*

DESCRIPTION

Female.

*Head:* Vertex, frons and genae greyish yellow, hairless. Clypeus and labrum also greyish yellow. Clypeus long yellowish hairs; labrum with long brown hairs and with

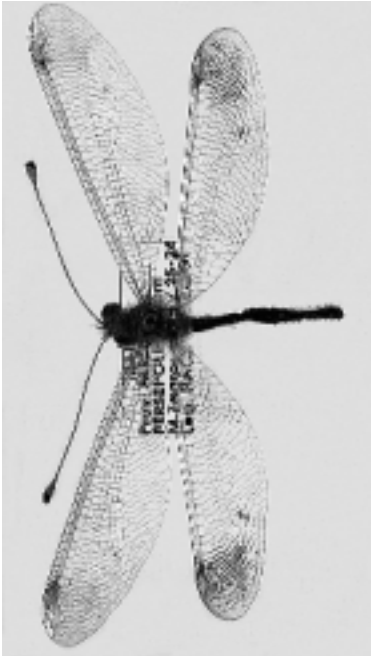


Fig. 6. *Pyngidricerus persepolisensis* imago, female

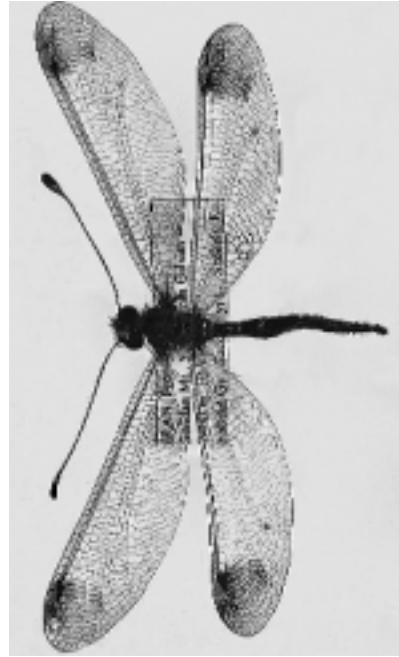


Fig. 7. *Pyngidricerus sendanensis* imago, female

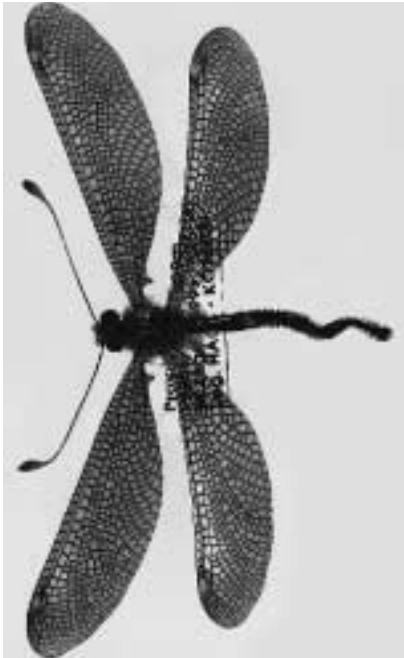


Fig. 5. *Pyngidricerus persepolisensis* imago, male

The male of  
*Pyngidricerus sendanensis*  
is unknown



some white hairs on proximal margin. Mandibula brownish. Maxillary and labial palpi yellow. Antennae 19–21 mm long, scape and pedicel rather short with a dense tuft of long white hairs upwards towards the vertex, brownish towards the frons and eyes. Flagellum segments rather brownish with verticils. Distal part of the club dark brown, yellowish proximally, subglobular-shaped.

*Thorax:* Pronotum yellow with brown stripe in the middle transversally. Hairs on proximal margin of pronotum long dense white and on distal margin long dense brownish. Mesonotum: prescutum yellow with brown stripes on proximal and distal margins. In the middle of scutellum with pentagonal-shaped brown spot and narrow brown stripes. Scutum yellow with irregular-shaped brown spot distally and laterally; above it with velvety spots. Postnotum brown. Metascutellum yellow. Metascutum brown, but yellowish laterally. Sides brown. Hairs on dorsum and mostly on the whole sides long dense white. Coxa brown on all legs. Femur on fore leg yellow proximally, brown distally. On the middle leg femur already yellow as tibiae and tarsi, with pale dorsally and stiff black hairs ventrally. On hind leg femur tibiae and tarsi yellow with hairs as on the middle leg. Tibial spurs as long as tarsal segments 1–4 together. Forewings 33–39 mm long, 10–13 mm wide, hindwings 29–37 mm long, 8–10 mm wide. Membrane hyaline, C vein light, but Sc, R, M and cross-veins yellowish. At the beginning of M and Cu<sub>1</sub> curvature towards the hind-margin with a small brownish spots and with 3–5 brown cross-veins on both wings. Tinged preapical band, most distinct on hindwings. Cross-veins in the area with brownish shade between Sc+R and M. Cross-veins under the M brown, shadeless. Cua 1 vein dark brown on the hindwing. Apical area beyond vein Sc+R with many cells. Pterostigma opaque, rhombic-shaped with darker shade, especially close to the fusing point of Sc+R, 4–5 slanting cross-veins. Hairs on wings smoothing short black (*Fig. 6*).

*Abdomen:* 16–21 mm long, yellow with large brownish spots. Tergite 1 yellow with as long and coloured hairs as dorsum. Tergite 2 brown with long brown hairs. Tergite 3 with some stronger sclerotized black setae distally. The following segments mostly brown with short sparse black hairs. Female genitalia: *Fig. 19*.

### ***Ptyngidricerus sendanensis* sp. n.**

*Material examined:* Holotype ♀ Iran, Prov. Zangan, Mts. Sendan 50 km from Gilvan, 2400 m, 10. VI. 2000, leg. Gy. Fábán, L. Szécsényi, K. Székely (gen. prep. No. 520), Paratype: 1♀. Iran, Prov. Zangan, Mts. Sendan 50 km from Gilvan, 2400 m, 10. VI. 2000, leg. Gy. Fábán, L. Szécsényi, K. Székely,

*Deposited:* Entomological Collection of Somogy County Museum, Kaposvár

#### DESCRIPTION

##### Female.

*Head:* Vertex, frons and genae yellow, hairless. Clypeus and labrum yellow with long dark brown hairs. Mandibula brownish. Maxillary and labial palpi yellow. Antennae 19–21 mm long. Scape and pedicel rather short with a dense tuft of long yellow and brownish hairs. Hairs on scape darker towards the frons and eyes and lighter curved upwards towards the vertex. Flagellum segments brownish; proximal part of club yellowish, distal dark brownish-black, subglobular-shaped.

**Thorax:** Pronotum yellow with brown stripe transversally, apex of lateral projection with long dense pale hairs. Mesonotum: prescutum yellow with brown stripe along anterior and posterior margins. Scutellum yellow with brown spot in the middle and brown stripe on distal margin. Scutum yellow with brown triangle-shaped spot turned upside down and velvety spot. Postscutum brown with yellow posterior margin. Metascutellum yellow. Metascutum and sides brown. Hairs on dorsum drably coloured; sides long dense darker proximally, same colour as dorsum distally. Coxa on all legs brown. Femur, tibiae and tarsi yellow. Hairs on femur white ventrally, black dorsally. Tibiae and tarsi with stiff black hairs. Tibial spurs as long as tarsal segments 1–4 together. Forewings 35–37 mm long, 10–11 mm wide, hindwings 32–33 mm long, 10–11 mm wide. Membrane hyaline, longitudinal and mostly also cross-veins yellowish. At the beginning of M and Cu<sub>1</sub> curvature towards the hindmargin with small brownish spots on both wings. Cross-veins mostly brown with narrow brownish shade between Sc+R and M in the apical area, most distinct on hindwings. Several cross-veins dark brown, shadeless in M and Cu area. Pterostigma opaque, rhombic-shaped with 5–6 slanting cross-veins and darker shade; along vein Sc+R elongated towards the apex of the wing. Apical area beyond vein Sc+R with many cells. Preapical crossband light brown, cross-vein with brown shade in this area. Hairs on wings smoothing short black (*Fig. 7*).

**Abdomen:** 20–21 mm long, tergite 1 and tergite 2 brown and yellow with long dense brownish hairs distally. The following segments mostly brown with short sparse black hairs. Female genitalia: *Fig. 20*.

#### REMARKS

Only two females are known which are close to the female of *P. persepolisensis*. Their collection site falls essentially closer to that of *P. pseudoalbardanus*.

#### *Ptyngidricerus pakistanensis* sp. n.

**Material examined:** Holotype: ♂ Pakistan, Prov. Jammu and Kashmir, Naltar Valley, Nomal Village, 1650 m, 24. VII. 1998., leg. T. Csővári, L. Mikus (gen. prep. No. 516) – Paratypes: 1♂ 1♀ Pakistan, Prov. Jammu and Kashmir, Naltar Valley, Nomal Village, 1650 m, 24. VII. 1998., leg. T. Csővári, L. Mikus – 1♂ 2♀ Pakistan, Mts. Karakorum Huru, Hispar Valley 74°42' E, 36° 15' N, 23. VII. 1994., leg. B. Herczig, Gy. M. László, G. Ronkay – 1♀ Pakistan, Mts. Himalaya, Valley of Indus, between Chilas and Dassu, Motel Barseen, 1100 m, 22. V. 1998., leg. Gy. Fábián, B. Herczig – 1♀ Pakistan, Mts. Karakorum, Valley of Indus, Chalt Nagar 1900 m, 74°19'E., 36° 15'N., 21. VIII. 1998, leg. G. Ronkay, Z. Varga (gen. prep. No. 517).

**Deposited:** Entomological Collection of Somogy County Museum, Kaposvár

#### DESCRIPTION

##### Male.

**Head:** Vertex, frons and genae unicoloured greyish brown, hairless. Clypeus and labrum also greyish brown with long dense black hairs. Mandibula brown. Maxillary and labial palpi greyish brown. Antennae 17–18 mm long, scape and pedicel rather short with a dense tuft of long greyish hairs towards the frons and white curved towards the vertex.

Flagellum segments brownish with verticils. Distal part of the club brownish, same colour as flagellum proximally, elongated pear-shaped.

*Thorax:* Pronotum yellow with rather wide brown stripe transversally, lateral projection yellow. Mesonotum: prescutum brown anteriorly and greyish yellow posteriorly. Scutellum greyish yellow with irregular-shaped brown pattern. Scutum upside down turned triangle-shaped spot and velvety spot fused with a brown cross band. Metanotum: metascutellum greyish yellow, metascutum brown. Hairs on dorsum long dense greyish. Sides dark brown with long dense brownish hairs anteriorly and whitish posteriorly. Coxa on all legs brown. Femur, tibiae and tarsi faintly brown. Femur on fore leg with white hairs and on middle and hind legs mostly black. Tibial spurs as long as tarsal segments 1–4 together. Forewings 31–33 mm long, 9 mm wide; hindwings 28–31 mm long, 7 mm wide, therefore seems to be slim. Membrane semi-hyaline, brownish. Apical area darker coloured by not only of shaded cross-veins, but also pigmented membrane. Cross-veins with dark brown shade. At the beginning of M and Cu<sub>1</sub> curvature towards the hindmargin with small dark brown rounded spots on both wings. C, Sc and R veins light, the other longitudinal and cross-veins darker even in costal area. Pterostigma yellowish brown, opaque, rhombic-shaped with 4–5 slanting cross-veins; along vein Sc+R elongated towards the apex of the wing. Darker brown spot under the pterostigma especially spread proximally. Apical area beyond vein Sc+R with some forked longitudinal veins towards costal area, but with some cells towards hindmargin. Hairs on wings smoothing short black and long white and brown on hind margins in anal area (*Fig. 8*).

*Abdomen:* 26–28 mm long, Tergite 1 greyish yellow with greyish brown and white hairs; Tergite 2 greyish yellow with long black hairs distally; tergite 3 with slim, brownish dorsal process distally, as long as tergite 3. Hairs on abdomen short sparse black. Female genitalia: *Fig. 21*.

#### DESCRIPTION

##### Female.

*Head:* Vertex, frons and genae unicoloured yellowish, hairless. Clypeus and labrum also yellowish with long dense black hairs. Mandibula brown. Maxillary and labial palpi yellow. Antennae 18–19 mm long, scape and pedicel rather short with a dense tuft of long brown whitish hairs. Hairs on scape darker towards the frons and lighter toward the vertex. Flagellum segments dark brown with verticils. Only the distal part of the club light, elongated pear-shaped.

*Thorax:* Pronotum yellowish with rather wide brown stripe in the middle transversally. Hairs on pronotum long dense whitish proximally and dark distally. Mesonotum: prescutum yellow with dark brown spot distally. Scutellum brown anteriorly and yellow posteriorly, but hind margin brown again. Scutum yellow with square-shaped brown spot posteriorly and large velvety spot anteriorly. Metanotum: postnotum, metascutum and sides brown; metascutellum yellow. Hairs on dorsum and sides long dense greyish. Coxa brown; femur, tibiae and tarsi yellow with stiff black hairs. Tibial spurs as long as tarsal segments 1–4 together.

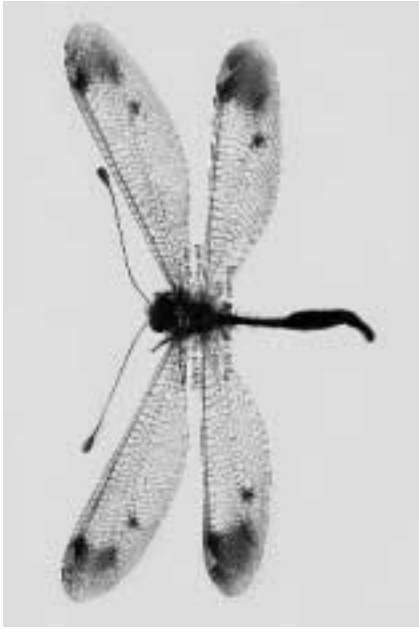


Fig. 9. *Ptyngidricerus pakistanensis* imagine, female

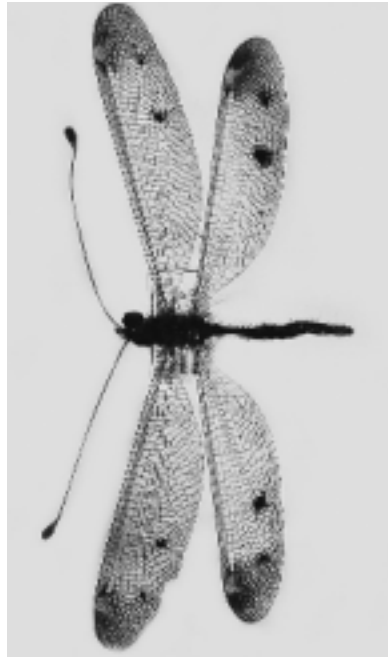


Fig. 11. *Iranoidricerus iranensis* imagine, female



Fig. 8. *Ptyngidricerus pakistanensis* imagine, male

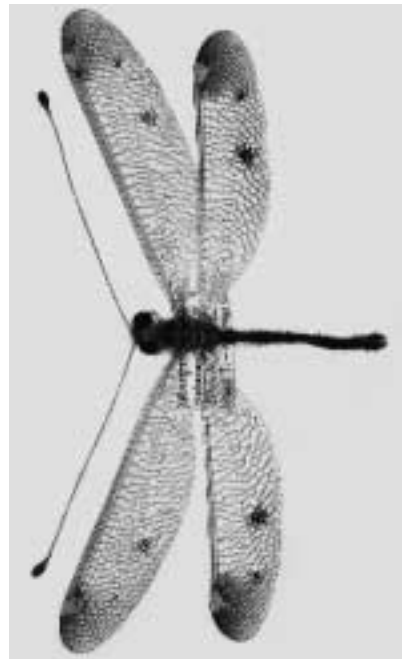


Fig. 10. *Iranoidricerus iranensis* imagine, male

Forewings 33–35 mm long, 9 mm wide; hindwings 32–33 mm long, 8 mm wide, seems to be slim. Membrane hyaline, brownish pattern. At the beginning of M and Cu<sub>1</sub> curvature towards the hindmargin with small dark brown spots on both wings. In apical area cross-veins dark brown and membrane also pigmented. Preapical band on forewing lighter towards margin. C, Sc and R veins yellowish; M light proximally and dark distally. Cross-veins dark with more or less narrow shade. Pterostigma faintly yellow, rhombic-shaped with 4–5 slanting cross-veins, along vein Sc+R elongated towards the apex of the wing. Dark brown spots proximally under the pterostigma. Apical area beyond vein Sc+R with some forked longitudinal veins towards the costal area, but with some cells towards the hindmargin. Hairs on wings smoothing short black (*Fig. 9*).

*Abdomen*: 26–28 mm long, brown and yellow annulated. Tergite 1 yellow; tergite 2 mostly brown with long black hairs distally. The following segments brown with short sparse black hairs. Female genitalia: *Fig. 22*.

***Omanoidricerus* gen. n.**

Type species: *Ptyngdricerus venustus* Tjeder and Waterston, 1977

DESCRIPTION

Sexual dimorphism absent. Species of medium size: length of body 25–29 mm; length of forewing 28–35 mm.

Head narrower than thorax. Vertex broad, eyes widely separate dorsally. Vertex, frons and genae hairless. Clypeus and labrum with hairs. Antennae little shorter than distance between base of forewing and pterostigma. Flagellar segments annulated. Club unicoloured subglobular-shaped.

Pronotum narrow, with deep median furrow. Thorax long-haired. Mesoscutum with a pair of black velvety spots. Tarsi: segments 1–4 short (as long as wide), subequal; segment 5 long, as long as segments 1–4 together or in the foreleg even a little longer. Tibial spurs about as long as tarsal segments 1–4 together. Wings rather squat oval, with rounded apices and dense venation, subequal. The hindwings only a little shorter than the forewings. Membrane hyaline with wide preapical crossbrand and spots. Pterostigma translucent, faintly pigmented. Hairs on veins and marginal fringes short, only a few longer hairs on the veins in the anal area of the forewing, and longer fringes on the proximal part of the hindmargin of both wings. Apical area with forked longitudinal veins. Anal area of forewing projects posteriorly as short but distinct triangular lobe. Few radial crossveins before origin of Rs. Veins M and Cu<sub>1</sub> close, strongly curved to hindmargin apically. Veins Cu<sub>2</sub> and 1 A fuse well beyond the anal area.

Abdomen mostly shorter than the hindwings. Tergite 1 and tergite 9 in both sexes split dorsally into a pair of lateral plates. Male: tergite 3 with dorsal process distally; ectoprocts a pair of convex plates without distal prolongation; gonarcus hood-like; parameres fused with gonarcus; pelta present; pulvini large with long and strong gonosetae; hypandrium internum minute and unpigmented. Female: ventrovalvae long, not separated from the 7th sternite by interjacent area; interdens absent; linguella moderately large.

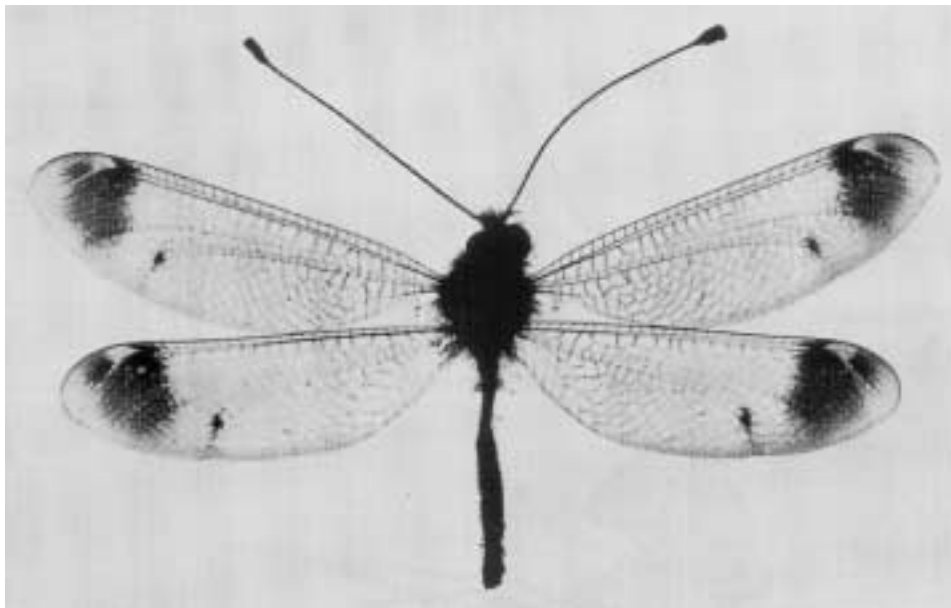


Fig. 12. *Omanoidricerus venustus* imago, male  
(Tjeder and Waterston, 1977)

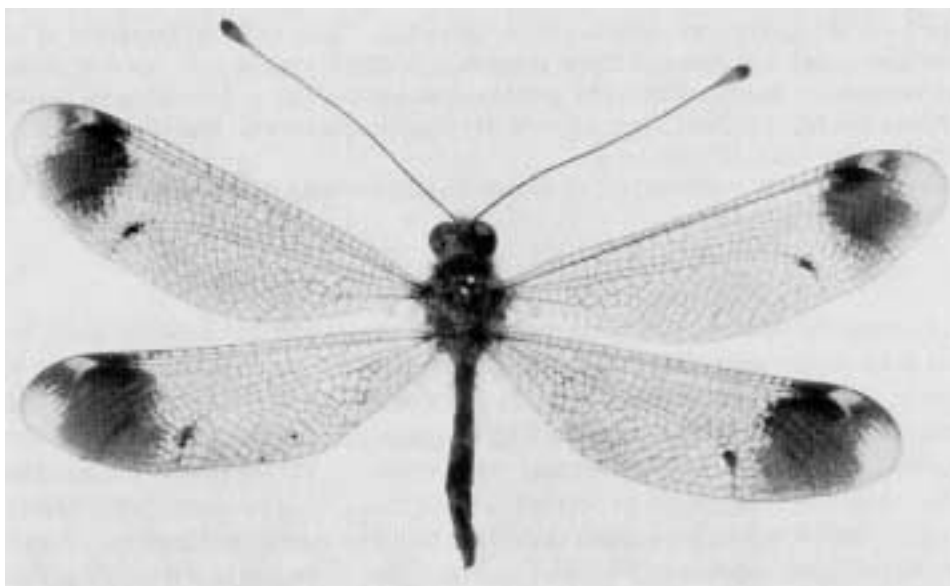


Fig. 13. *Omanoidricerus venustus* imago, female  
(Tjeder and Waterston, 1977)

***Omanoidricerus venustus*** (Tjeder and Waterston, 1977) nov. comb.

Type: Holotype: ♀ United Arab Emirates Manama, Ajman, 25° 42' N., 56° 01' E., 7. 5. 1972, leg. Lt. A. G. MacDonald. Deposited: Royal Scottish Museum – Paratypes: 1♀, as holotype; Deposited: Entomological Museum, Lund; – 2♀ Oman, Ghawr and Wadi Sahtan, 1975, P. Granville White; Deposited: Royal Scottish Museum – 1♂ Iran, Bandar, Chah Bahar, Gulf of Oman, Baluchistan, 15. II. 1937., leg. F. Brandt. Deposited: Zoological Museum Helsingfors (Tjeder and Waterston, 1977).

## DISTRIBUTION

Iran, United Arab Emirates, Oman. Syroeremial faunal element (Aspöck et al., 2001).

***Iranoidricerus*** gen. n.

Type species: *Ptyngidricerus iranensis* Kimmins, 1938

## DESCRIPTION

Sexual dimorphism absent. Species of medium size: length of body 26–32 mm; length of forewing 32 mm.

Head wider than thorax. Vertex broad, eyes widely separate dorsally. Vertex, frons, genae and postorbital sclerite hairless. Clypeus and labrum with hairs. Antennae little shorter than distance between base of forewing and pterostigma. Flagellar segments unicoloured without long verticils. Club bicoloured subglobular-shaped.

Pronotum narrow, with deep median furrow. Thorax long-haired. Mesoscutum with a pair of black velvety spots. Tarsi: segments 1–4 short (as long as wide), subequal; segment 5 long, as long as segments 1–4 together or in the foreleg even a little longer. Tibial spurs about as long as tarsal segments 1–4 together. Wings long elongated oval, with rounded apices and dense venation, subequal. The hindwings only a little shorter than the forewings. Membrane hyaline with faintly crossbrand and larger spots. Pterostigma not opaque, faintly pigmented. Hairs on veins and marginal fringes short, only a few longer hairs on the veins in the anal area of the forewing, and longer fringes on the proximal part of the hindmargin of both wings. Apical area rather large, only with many cells. Anal area of forewing projects posteriorly as short but distinct triangular lobe. 4–6 radial cross-veins before origin of Rs. Veins M and Cu<sub>1</sub> close, strongly curved to hindmargin apically. Veins Cu<sub>2</sub> and 1 A fuse well beyond the anal area.

Abdomen shorter than the hindwings. Tergite 1 and 9 in both sexes split dorsally into a pair of lateral plates. Male: tergite 3 without dorsal process distally; ectoprocts a pair of convex plates without distal prolongation; gonarcus moderately elongated; parameres fused with gonarcus; projecting part of parameres elongated, the tip rather rounded; pelta present; pulvini large elongated with medium sized strong gonosetae; hypandrium internum minute. Female: ventrovalvae long, not separated from the 7th sternite by interjacent area; linguella moderately large.



Fig. 15. *Pyngidricerus albarbanus albarbanus* female  
(Gen. prep. No. 511)

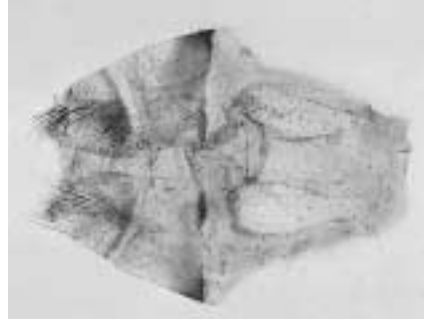


Fig. 17. *Pyngidricerus pseudoalbarbanus* female  
(Gen. prep. No. 513)

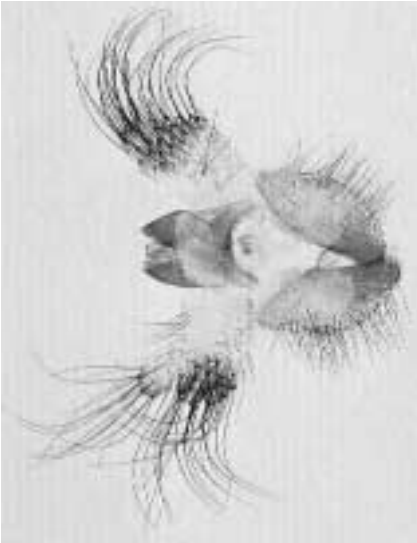


Fig. 14. *Pyngidricerus albarbanus albarbanus* male  
(Gen. prep. No. 510)



Fig. 16. *Pyngidricerus pseudoalbarbanus* male  
(Gen. prep. No. 512)



***Iranoidricerus iranensis* (Kimmins, 1938) nov. comb.**

*Type:* Holotype: 1, sex doubtful, Persia, Luristan, Tala Zendj, 1936 leg: A. Jumez. Deposited: Paris Museum (Kimmins, 1938).

*Material examined:* 5♂ 17♀ Iran, Prov. Hamedan, Nehavand, 2400 m, 9. VII. 2000, leg. T. Hác, G. Kőszegi, (gen. prep. No. 518, 519).

DISTRIBUTION

Iran, Palestina (?) (Tjeder and Waterston, 1977).

**Keys to the genera and species**

1. Sexual dimorphism considerable; Membrane on males heavily pigmented; antennae as long as two-thirds of forewing length *Ptyngidricerus*
- Sexual dimorphism not considerable; Membrane on males hyaline with conspicuous preapical crossband; antennae little shorter than distance between base of forewing and pterostigma 2
2. Wings wider, preapical cross band on forewing dark and distinct. The flagellum uniform yellowish, club bicoloured proximal half yellow, distal half blackish *Omanoidricerus*
- Wings narrower, preapical cross band on forewing rather faintly. The flagellum of antennae annulated and the club of an unicoloured brown *Iranoidricerus*

***Ptyngidricerus***

Males

1. Membrane unicoloured dark, venation even darker than the pigmented membrane; anterior side of parameres with tooth 2
- Membrane faintly pigmented, cross-veins with narrow darker shade; anterior side of parameres with tooth 3
2. Membrane not conspicuous shining, pterostigma not elongated along vein Sc+R towards the apex (*Fig. 1*). Genitalia: *Fig. 14* *P. albardanus*
- Membrane conspicuous shining, pterostigma elongated along vein Sc+R towards the apex (*Fig. 3*) Genitalia: *Fig. 16* *P. pseudoalbardanus*
3. Dark spots on wings hardly noticeable, pterostigma not elongated along the Sc+R vein towards the apex. Apical area beyond vein Sc+R with many cells (*Fig. 5*) Genitalia: *Fig. 18* *P. persepolisensis*
- Dark spots on wings are within sight, pterostigma elongated along the Sc+R vein towards the apex. Apical area beyond vein Sc+R with some forked longitudinal veins. (*Fig. 8*) Genitalia: *Fig. 21* *P. pakistanensis*

REMARKS

The male belonging to *Ptyngidricerus sendanensis* is unknown.

Females

1. Apical area beyond vein Sc+R with many cells 2

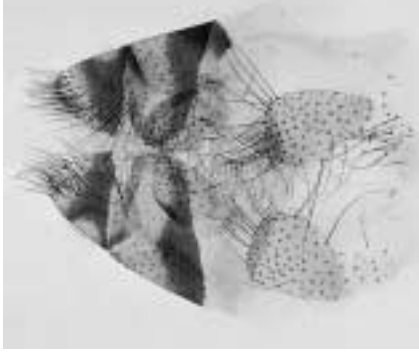


Fig. 19. *Pyngidricerus persepolisensis* female  
(Gen. prep. No. 515)

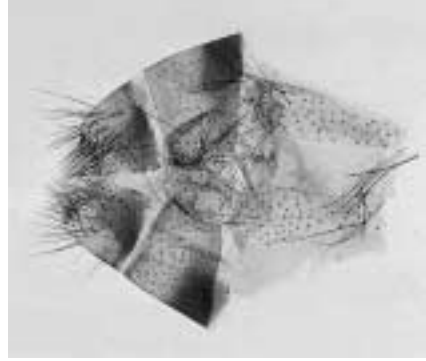


Fig. 20. *Pyngidricerus sendanensis* female  
(Gen. prep. No. 520)



Fig. 18. *Pyngidricerus persepolisensis* male  
(Gen. prep. No. 514)

The male of  
*Pyngidricerus sendanensis*  
is unknown

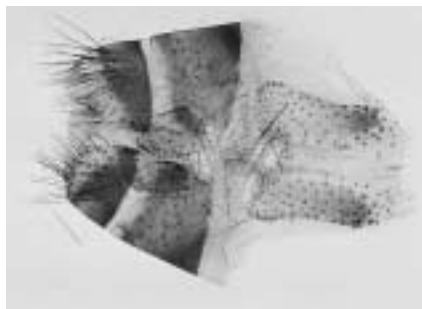


Fig. 22. *Pyngidricerus pakistanensis* female  
(Gen. prep. No. 517)



Fig. 24. *Iranoidricerus iranensis* female  
(Gen. prep. No. 519)



Fig. 21. *Pyngidricerus pakistanensis* male  
(Gen. prep. No. 516)



Fig. 23. *Iranoidricerus iranensis* male  
(Gen. prep. No. 518)

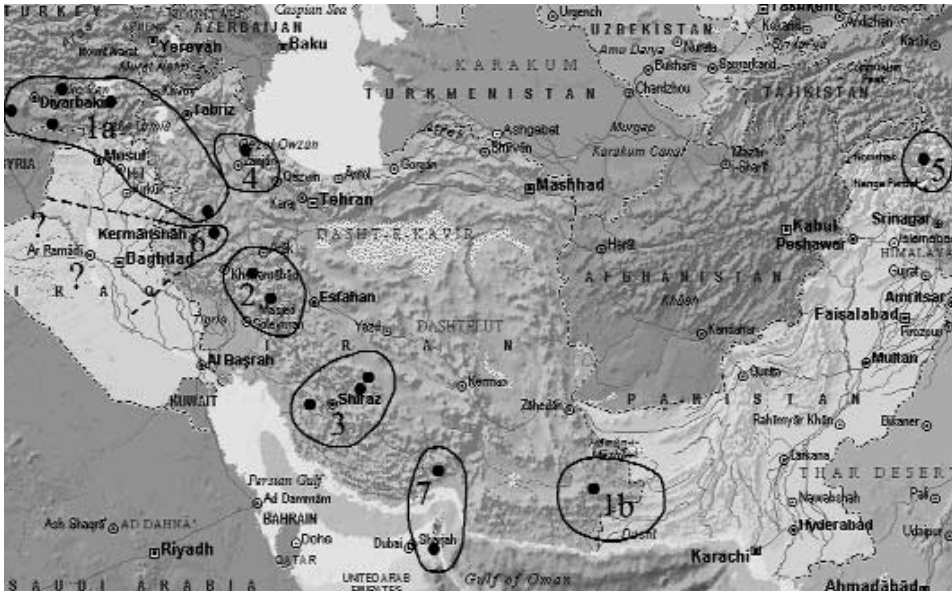


Fig. 25. Distribution of *Pryngidricerus*, *Iranoidricerus* and *Omanoidricerus* species in Asia  
 1.a *P. albardanus albardanus*; 1.b *P. albardanus pterostigmatus*; 2. *P. pseudoalbardus*;  
 3. *P. persepolisensis*; 4. *P. sendanensis*; 5. *P. pakistanensis*; 6. *I. iranensis*; 7. *O. venustus*

- Apical area beyond vein Sc+R with some forked longitudinal veins. Preapical band on forewing, but especially on hindwing can be seen well (Fig. 9) Genitalia: Fig. 22  
*P. pakistanensis*
- 2. Spots on wings more or less darker and contrast, pterostigma elongated along the Sc+R vein towards the apex  
3
- Spots on wings more or less pale, pterostigma not elongated along the Sc+R vein towards the apex. Membrane hyaline, longitudinal and cross-veins light brown heavily contrasted, mostly cross-veins shadeless, (Fig. 2) Genitalia: Fig. 15  
*P. albardanus*
- Membrane hyaline, C vein light, but Sc, R, M and cross-veins brownish (Fig. 19) Genitalia: Fig. 6  
*P. persepolisensis*
- 3. Membrane hyaline, longitudinal and cross-veins yellowish. Pterostigma light ochreous (Fig. 4) Genitalia: Fig. 17  
*P. pseudoalbardanus*
- Membrane hyaline, longitudinal and also cross-veins brownish mostly. Pterostigma light yellowish white (Fig: 7) Genitalia: Fig. 20  
*P. sendanensis*

### ***Omanoidricerus***

- 1. Only a described species known near Oman Bay (Figs 12, 13) *O. venustus*

### ***Iranoidricerus***

- 1. Only a known species from W-Iran (Figs 10, 11) Genitalia: Figs 23, 24 *I. iranensis*

## Acknowledgements

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