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## Annotations to the Palaearctic sawfly genus *Pseudarge* GUSSAKOVSKIJ, 1935 gen. rev. with a contribution to the genus *Arge* SCHRANK, 1802 in the Afrotropical region

(Hymenoptera: Symphyta: Argidae: Arginae) <sup>1</sup>

Frank KOCH & Georg GOERGEN

<sup>1</sup> Dedicated to Dr. Ursula GÖLLNER-SCHIEDING for her 85<sup>th</sup> birthday

### Abstract

The genus *Pseudarge* GUSSAKOVSKIJ, 1935 **gen. rev.** is removed from synonymy with *Alloscenia* ENDERLEIN, 1919, and *Alloscenia* **syn. n.** is synonymised with *Arge* SCHRANK, 1802. *Alloscenia maculitarsis* ENDERLEIN, 1919 **syn. n.** is synonymised with the Afrotropical *Arge massajae* (GRIBODO, 1879) and *Arge goellnerae* **sp. n.** is described as a new species from the Afrotropical region. This paper provides a key for the six known Palaearctic species of *Pseudarge* including re-descriptions of one East European and two Central Asian species of the genus. A lectotype for *Pseudarge rubicunda* GUSSAKOVSKIJ, 1935 is designated. The following new combinations are proposed: *Pseudarge sinica* (WEI & NIE) **comb. n.**, *P. wui* (WEI & NIE) **comb. n.** and *P. tricineta* (WEN & WEI) **comb. n.** Drawings of all species are presented together with a current distribution map of all *Pseudarge* and Afrotropical *Arge* species. The taxonomic relationships of the species are discussed.

### Introduction

In a systematic and biogeographic analysis of the Afrotropical Symphyta, in particular the Argidae, PASTEELS (1953) recorded the genus *Alloscenia* ENDERLEIN, 1919 from Eritrea. As this genus was originally only known from the Palaearctic region it was necessary to examine the validity of its taxonomic status.

ENDERLEIN (1919) erected the monotypic genus *Alloscenia* with *A. maculitarsis* as type species, and compared it with the Neotropical genus *Stelidarge* KONOW (1901). He separated *Alloscenia* from *Stelidarge* only by a single character. In *Arge* the cubitoanal cross-vein of the hind wing is attached to the first medial cell apically (Fig. 1a), whereas in *Stelidarge* this cross vein is attached basally.

Furthermore, in the drawing of the fore wing the anal cell is petiolate and the basal anal cell is missing (ENDERLEIN 1919). FORSIUS (1927) referred to this fact, and suggested that this character is variable. In all other characters *Alloscenia* agrees with *Arge* and is therefore considered a synonym of *Arge*. Additionally, FORSIUS (1927) wrote: "I have not seen ENDERLEIN's type, but I possess in my collection two males from the type locality and collected by the same collector who has found the typical specimen. *Alloscenia maculitarsis* ENDERLEIN is otherwise in all probability the same species as *Arge massajae* GRIBODO". Nevertheless, in his key for the Afrotropical Argidae, FORSIUS (1927) considered *Alloscenia* to be a provisionally valid genus. PASTEELS (1953) also still considered *Alloscenia* with its single Afrotropical species to belong to a genus different from *Arge*, although he had some doubts and mentioned the possible synonymy with *Arge* as already indicated by FORSIUS (1927).

Another problem related to that outlined above is the synonymy of the Palaearctic genus *Pseudarge* GUSSAKOVSKIJ, 1935 with *Alloscenia*. GUSSAKOVSKIJ (1935) described the genus *Pseudarge* including one East European and two Central Asian species and distinguished this genus from *Arge* as follows: in *Pseudarge* the basal anal cell is distally open and the costal cross-vein is missing or obliterated (Fig. 4a), whereas in *Arge* the basal anal cell is mostly closed and the costal cross-vein of the fore wing is

conspicuously present. In reports by MALAISE (1941) *Pseudarge* is synonymous with *Alloscenia* and in all species of these genera, including the Ethiopian species, the costal cross-vein is missing or obliterated, and the lateral furrows of the postocellar area are deep. Furthermore, MALAISE (1941), who supposedly examined the type species, mentions a roundly protruding supraclypeal area for *Alloscenia maculitarsis*. Based on these characters he substantiated *Alloscenia* as a valid genus.

However, PASTEELS (1953) maintains justified doubts, namely whether MALAISE (1941) actually found the same characteristics as in the species of Turkestan, when he wrote: "S'il en est bien ainsi, on trouverait en Erythrée une espèce d'un genre caractéristique du Turkestan !". Later, ERMOLENKO (1975) accepted the synonymy proposed by MALAISE (1941) and published the following new combinations for the three known Palaearctic species: *Alloscenia eversmanni*, *A. rubicunda*, and *A. ushinskii*. ZHELOCHOVTSEV (1988) also regarded *Alloscenia* as a valid genus with *Pseudarge* as a synonym. Moreover, he added a new character, namely that the costal field is narrower than the veins limiting it. In contrast to ZHELOCHOVTSEV (1988), ABE & SMITH (1991) considered both *Alloscenia* and *Pseudarge* as valid genera.

Nevertheless, in the key for the Palaearctic and Oriental genera of Argidae by WEI (1997) *Alloscenia* is characterized as a valid genus because the anal cell of the fore wing is petiolate, the basal anal cell is open, and the costal cross-vein faint, and because of its distribution. Since the Afrotropical Region is not dealt with, *Pseudarge* is disregarded in that key. Meanwhile, three new *Alloscenia* species were described from China by WEI & NIE (1998) and WEN & WEI (2001). Unfortunately it was not possible to obtain type material of these species on loan so to include them in a comprehensive taxonomic revision.

## Material and Methods

### Abbreviations used in the text

The following collections were examined:

DEI:	Deutsches Entomologisches Institut im ZALF, Müncheberg, Germany.
MNHU:	Museum für Naturkunde, Humboldt-Universität, Berlin, Germany.
MCSN:	Museo Civico di Storia Naturale "Giacomo Doria", Genoa, Italy.
UZMT:	Zoological Museum, University of Turku, Finland.
ZMAS:	St. Petersburg, Russian Academy of Sciences, Zoological Institute, Russia.
ZMPA:	Museum of the Institute of Zoology, Polish Academy of Science, Warszawa, Poland.
ZSM:	Zoologische Staatssammlung, München, Germany.

### Morphological abbreviations:

3A:	3 <sup>rd</sup> anal vein
Bac:	basal anal cell
cu-a:	cubitoanal cross-vein
M:	media
1M:	1 <sup>st</sup> medial cell
2r-m:	radial cross-vein
Rs+M:	combined radial sector and medial
Sc:	costal cross-vein
POL:	postocellar line
OOL:	ocellar ocular line
MS:	malar space
IA:	interantennal area

The following ratios are used: POL : OOL; MS : IA

### Further abbreviations:

HT:	holotype
LT:	lectotype
PT:	paratype

Female lancets and the male penis valves were examined with a Leitz transmitted-light microscope Laborlux S. Drawings are based on images captured with a Leica Wild MPS32 camera mounted on this microscope. The British standard is used for the transliteration of Cyrillic letters.

### *Arge* SCHRANK

*Arge* SCHRANK, 1802: 209.

Type species: *Tenthredo enodis* LINNAEUS, 1767: 922 (designated by ROHWER, 1911a).

**Synonym:** *Alloscenia* ENDERLEIN, 1919: 115. **syn. n.** Type species: *Alloscenia maculitarsis* ENDERLEIN, 1919: 115 (by original designation).

### *Arge massajae* (GRIBODO)

*Hylotoma massajae* GRIBODO, 1879: 347. Type locality: Ethiopia, Scioa, Mahal-Uonz.

**Synonym:** *Alloscenia maculitarsis* ENDERLEIN, 1919: 115. **syn. n.** Type locality: Eritrea, Asmara.

**Female.** – Head and antenna black; mandible dark reddish with basal half black. Thorax black; metepimeron yellow. Legs yellow; coxae and trochanters black, tibiae with apices black, tarsomeres black ringed apically. Wings throughout flavescent-hyaline; intercostal area fuscous, stigma and costa dark brown, subcosta and rest of venation yellow. Abdomen yellow; cerci black.

Head slightly enlarged behind eyes. Antenna 1.4x as long as maximum head width; flagellomere<sub>1</sub> slightly enlarged toward apex (Fig. 1b), ventral surface with shallow, compressed longitudinal carina. POL : OOL = 1.0 : 0.9 (1.0 LT). MS : IA = 1.0 : 3.1 (5.0 LT). Eyes scarcely or very slightly converging downwards, lower interocular distance 1.3 (LT)-1.4x eye length; clypeus shallowly, broadly, circularly emarginated (Fig. 1c); supraclypeal area very flatly rounded to interantennal carinae (Fig. 1d); interantennal carinae slightly converging downward, and ending about ¼ distance to clypeus. Vertex, gena, para-antennal area and clypeus moderately densely punctate with smooth interspaces; supraclypeal area more densely punctate, shining; postocellar area indistinctly limited, about 2.2x broader than long, lateral furrows conspicuously converging toward posterior margin; vertex moderately, densely whitish pubescent, pubescence as long as diameter of lateral ocellus. Mesonotum irregularly, very shallowly sculptured, shining; pubescence yellowish. Terga smooth, shining.

Sawsheath in dorsal view circularly forcipated (Fig. 1e), in lateral view distinctly pointed at apex (Fig. 1f). Lancet as in Fig. 1g, with about 11 serrulae; serrulae at centre flat, and sharp hook-like with about 9-11 irregular posterior subbasal teeth (Fig. 1h).

Length: 7.2-8.2 mm.

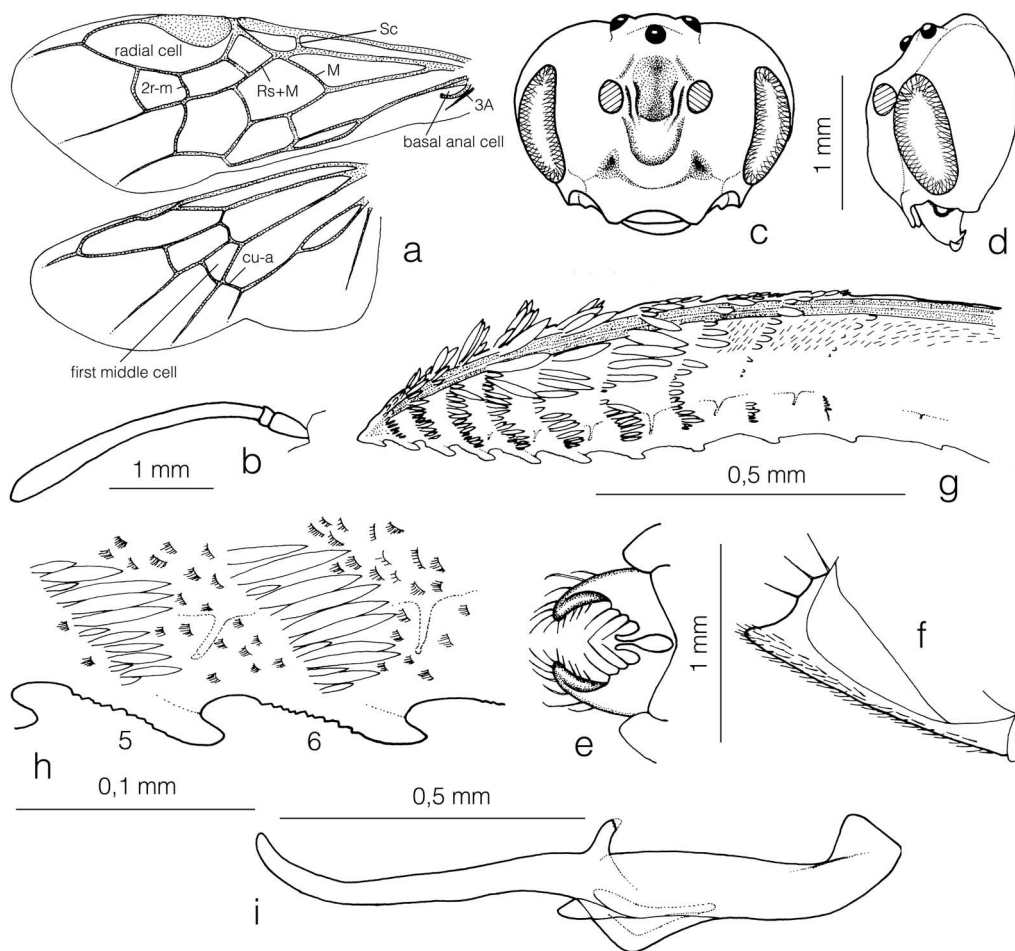
**Male.** – Colouration, sculpture and pubescence similar to that of female. Head behind eyes parallel. Antenna 2.2x as long as maximum head width, flagellomere<sub>1</sub> not enlarged toward apex, ventral carina distinctly compressed. POL : OOL = 1.0 : 0.8-1.0. MS : IA = 1.0 : 3.5-4.7. Lower interocular distance 1.3-1.4x eye length. Other features as for female. Penis valve as in Fig. 1i.

Length: 7.0-8.7 mm.

### **Type material.**

*Hylotoma massajae*.

Lectotype: ♀: “Scioa, Mahal-Uonz, III.1877, Antinori”; “Typus” (red edged); “*massajae* GRIB. ♀”; “Lectotypus, *Hylotoma massajae* GRIBODO ♀, des.: F. KOCH, 2007” (red); “*Arge massajae* (GRIBODO) ♀, det.: F. KOCH ‘07” (MCSN).



**Figure 1a-h:** *Arge massajae* (GRIBODO): (a) fore and hind wing; (b) female, antenna; (c) head (frontal aspect); (d) head (lateral aspect); (e) sawsheath (dorsal aspect); (f) sawsheath (lateral aspect); (g) lancet (lateral aspect); (h) serrulae 5-6; (i) penis valve (left, lateral aspect).

Paralectotypes: ♂: same data as lectotype, except: IX; *Hylotoma massajae*, Typo, GRIB. ♂♀ (MCSN).

#### *Alloscenia maculitarsis*.

Holotype: ♂: "Eritrea, Asmara, VII.1908, KRISTENSEN S."; "Alloscenia maculitarsis ENDERL. ♀, Type, DR. ENDERLEIN det. 1918"; "Holotype, *Alloscenia maculitarsis* ENDERLEIN ♂, det. T. HUFLEJT, 1988" (red); "Holotypus, *Alloscenia maculitarsis* ENDERLEIN ♂, teste: F. KOCH, 2007" (red); "Mus. Zool. Polonicum, 12/45"; "Arge massajae (GRIBODO) ♂, det.: F. KOCH '07" (ZMPA).

Annotation: The right fore and hind wings are missing, probably as a result of preparation of the presented drawing these by ENDERLEIN (1919).

#### Other material examined.

**Eritrea:** Ghinda (1 ♀) LEVANDER (UZMT). **Ethiopia:** Wagira, (1 ♀) (ZSM); Hadda Galla, Daini, IV.-V.1879 (1 ♂) ANTINORI; Scioa, Giagague, IV.-VI.1881 (1 ♀) ANTINORI; Scioa, Let. Marfia, IV.-VII.1881 (2 ♀♀) ANTINORI; VIII.1987 (1 ♂) RAGAZZI (MCSN).

**Host plant:** Unknown.

**Distribution:** Eritrea, Ethiopia (Fig. 7).

**Remarks.**

The synonymy of *Alloscenia* with *Arge* is justified. In contrast to ENDERLEIN (1919), in the type species of *Alloscenia* the basal anal cell is clearly present, but not completely closed (Fig. 1a), and therefore not distinguished from *Arge*. A completely closed or narrowly open basal cell remains an inter- and intra-specific variable character of the genus *Arge*. Additionally, in *Alloscenia maculitarsis* the costal cross-vein is clearly distinct (Fig. 1a), the postocellar area with its shallow lateral furrows is indistinctly limited, and the supraclypeal area is flatly rounded. Therefore, it is doubtful whether MALAISE (1941) examined the type species.

In summary, the misinterpretation of *Alloscenia* is most likely attributable to the fact, that nobody after ENDERLEIN (1919) has investigated the type species, and therefore all subsequent authors accepted *Pseudarge* as synonym of *Alloscenia* according to MALAISE (1941).

The intraspecific variability of *Arge massajae* is obvious especially in the colour pattern. The colour of the metapleuron varies from blackish to entirely yellow, although the metepimeron is most often yellow. The mesoscutellar appendage is sometimes yellow spotted laterally (HT of *Alloscenia maculitarsis*), the tergum<sub>1</sub> at times entirely black (1 ♂, Wagira), and in females, the apex and the posterior margin of the sawsheath is sometimes blackish (1 ♀, Scioa, Giagague).

According to PASTEELS (1953), *A. massajae* is clearly distinguished from all other known Afrotropical *Arge* species by the shape of the penis valve (p. 41, fig. 101). Only the penis valve (PASTEELS 1953: 41, fig. 100) of *Arge bicolorata* (KLUG, 1814) seems to be similar, but for the moment the male of *A. bicolorata* is not known with full certitude since KLUG (1814) described this species based on a single female.

Also, the figures of the lancet shape presently drawn from type material of *A. massajae* (Figs 1g, h) are not matching the illustration in PASTEELS (1953: 50, fig. 145) for the same species. Most likely, PASTEELS (1953) illustrated the lancet of the below newly described species *A. goellnerae* sp. n., assuming that it was *A. massajae*. This error is attributed to the fact that the existing type material of *A. massajae* was not examined by PASTEELS (1953).

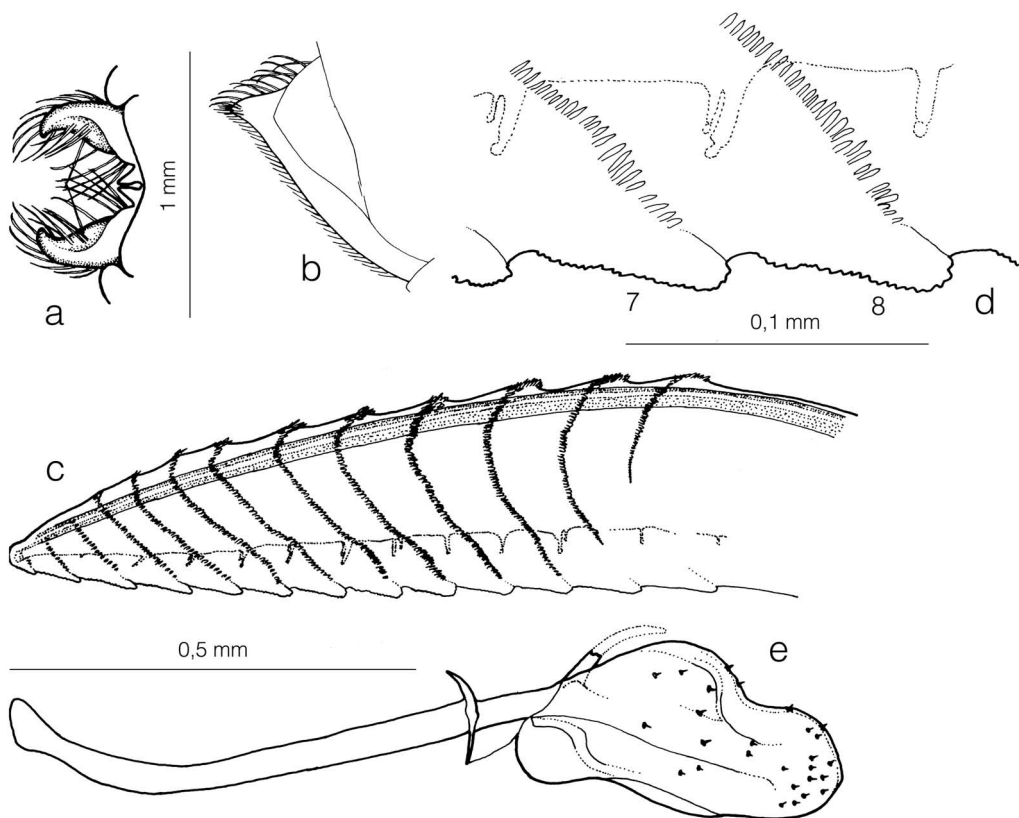
Similarly, ENSLIN (1912) recorded a single male and female from Lake Albert Edward (Democratic Republic of the Congo) as possibly belonging to *Hylotoma (Arge) massajae*. He was not absolutely sure because in the description of *Arge massajae* (GRIBODO, 1879) the wing colour is missing (vide FORSIUS, 1933). These specimens with conspicuous infusate wings and different genitalia were presently examined and recognized as an undescribed species close to *Arge bicolorata* (KLUG, 1814), but without doubt not conspecific with *Arge massajae*.

Inadvertently, ENDERLEIN (1919) described *Alloscenia maculitarsis* from a single female specimen. Upon examination, the holotype of *A. maculitarsis* was recognized as a male. Since differences outside the variability range of *Arge massajae* could not be found; therefore, *A. maculitarsis* must be synonymized with *A. massajae*.

***Arge goellnerae* sp. n.**

**Female.** – Head and antenna black; mandible black with apical third reddish. Thorax black; mesoscutellar appendage, metascutum, metascutellum, metapleuron and posterior margin of katepimeron yellow. Legs yellow; coxae<sub>1/2</sub> and trochanters<sub>1/2</sub> blackish, coxa<sub>2</sub> with lateral surface yellowish, tibiae with apices black, tarsomeres black ringed apically. Wings throughout flavescent-hyaline; fore wing with small, slightly infusate substigmatal spot, intercostal area fuscous, stigma and costa dark brown, subcosta and rest of venation yellow, subcosta blackish at apex. Abdomen yellow.

Head subparallel behind eyes, scarcely enlarged. Antenna 1.7x as long as maximum head width; flagellomere<sub>1</sub> slightly enlarged toward apex, with three longitudinal carinae in cross section, lateral carinae broad-angled, ventral carina distinctly compressed. POL : OOL = 1.0 : 1.5 (1.2 HT). MS : IA = 1.0 : 3.5 (2.3 HT). Eyes slightly converging downward, lower interocular distance 1.3x eye length; clypeus circularly excised medially; supraclypeal area nearly flatly rising to point of interantennal carinae; interantennal carinae



**Figure 2a-e:** *Arge goellnerae* sp. n.: (a) sawsheath (dorsal aspect); (b) sawsheath (lateral aspect); (c) lancet (lateral aspect); (d) serrulae 7-8; (e) penis valve (left, lateral aspect).

converging downward, and ending about 1/3 distance to clypeus. Vertex, frons, gena and clypeus moderately densely punctate with smooth interspaces; supraclypeal area and clypeus additionally irregularly longitudinally wrinkled; postocellar area indistinctly limited, about 2.6x broader than long, lateral furrows conspicuously converging toward posterior margin; vertex densely brownish pubescent, pubescence as long as diameter of lateral ocellus. Sculpture on mesonotum somewhat degraded than to head, pubescence similar to head.

Terga smooth, shining, posterior margin micropunctate.

Sawsheath in dorsal view circularly forcipated (Fig. 2a), in lateral view distinctly pointed at apex (Fig. 2b). Lancet as in Fig. 1c, with about 13 serrulae; serrulae at centre flat, with about 13-15 irregular posterior subbasal teeth (Fig. 2d).

Length: 8.1-8.3 mm.

**Male.** – Colouration, sculpture and pubescence similar to that of female. Head parallel behind eyes. Antenna 2.3x as long as maximum head width, flagellomere<sub>1</sub> flattened, not enlarged toward apex, laterally without distinct carinae, ventral carina distinctly compressed. POL : OOL = 1.0 : 1.4. MS : IA = 1.0 : 2.5. Lower interocular distance 1.3-1.4x eye length. Other features as for female. Penis valve as in Fig. 2e.

Length: 8.3 mm.

**Type material.**

Holotype: ♀: “Abissinia, 1909, DA ROSENBERG”; “Holotypus, *Arge goellnerae* sp. n. ♀, det.: F. KOCH, 2007” (red) (MCSN).

Paratypes: 1 ♂, 1 ♀: **Ethiopia**: same data as holotype (1 ♂) (MCSN); Alio-Amba, VIII.1887 (1 ♀) Ragazzi (MNHU).

**Host plant:** Unknown.

**Distribution:** Ethiopia (Fig. 7).

**Remarks:**

The female from Alio-Amba varies in the more or less blackish metapleuron, katapimeron and coxae<sub>3</sub>.

The visible external characters of *A. massajae* and *A. goellnerae* are very similar. Hence, FORSIUS (1933), who investigated the available material of *A. massajae* of the MCSN, attributed all three specimens to the new species. However, he did not discover two different species. Thus it appears that, for a correct identification of *Arge goellnerae* and *A. massajae*, it is essential to prepare and examine the genitalia.

**Etymology:**

Named in honour of my colleague Dr. Ursula GÖLLNER-SCHIEDING.

**Genus *Pseudarge* GUSSAKOVSKIJ, gen. rev.**

*Pseudarge* GUSSAKOVSKIJ, 1935: 223, 394.

Type species: *Pseudarge rubicunda* GUSSAKOVSKIJ, 1935: 431 (by original designation).

**Synonym:**

*Alloscenia* ENDERLEIN sensu MALAISE 1941: 132 (misdet.).

**Description**

Head more or less microsculptured, shining, and quite enlarged behind eyes, slightly narrower than thorax (about 0.8x). Interantennal carinae not very distinctly developed. Supraclypeal area conspicuously, roundly protruding in lateral view (Fig. 4c). Clypeus more or less roundly excised medially.

Tibia<sub>2/3</sub> with preapical spine. Claws simple. Wings hyaline; fore wing with closed radial cell, with appendix closed to the margin of wing, four cubital cells, costal cross-vein is obliterated, costal field is narrower than the veins limiting it, the distance between the origin of M and Rs+M is longer than Sc, anal cell long petiolated, a more or less distinctly visible rudiment of the 3<sup>rd</sup> anal vein (3A), and therefore the basal anal cell is more or less narrowly open apically; hind wing with closed, appendiculated radial cell and with two middle cells (Fig. 4a).

Sawsheath in dorsal view more or less bluntly rounded.

**Remarks:**

The re-established genus *Pseudarge* is separated from *Arge* by its obliterated costal cross-vein (Sc), by a costal field that is narrower than the veins limiting it (seems to be typical at least for the Palearctic *Pseudarge* species), the deep lateral furrows of the distinctly limited postocellar area and the conspicuously, roundly protruding supraclypeal area, which resembles *Kokujewia* KONOW, 1902 (vide BLANK & TAEGER, 1998).

*Kokujewia* is distinguished from *Pseudarge* by the following characters: tibia<sub>2/3</sub> without preapical spine; cross-vein 2r-m of the fore wing missing; thus there are three cubital cells; anal cell long petiolated, basal cell missing.

Males of *Pseudarge* are unknown.

### Key of the *Pseudarge* species

- |   |   |                                   |
|---|---|-----------------------------------|
| 1 | Head and thorax yellow or yellow with blackish markings .....                                       | 2                                 |
| – | Head and thorax black or black with blue metallic lustre .....                                      | 4                                 |
| 2 | Head and mesonotum entirely yellow .....  | <i>P. rubicunda</i> GUSSAKOVSKIJ  |
| – | Head and thorax with more or less blackish markings .....   | 3                                 |
| 3 | Legs yellow, only coxae <sub>1/2</sub> partly blackish .....  | <i>P. eversmanni</i> GUSSAKOVSKIJ |
| – | Legs black, tibiae <sub>1/2</sub> and basal half of tibia <sub>3</sub> yellow, tarsi blackish brown | <i>P. ushinskii</i> GUSSAKOVSKIJ  |
| 4 | Body entirely black with blue metallic lustre .....   | <i>P. wui</i> (WEI & NIE)         |
| – | Head and thorax black, abdomen yellow or black with terga <sub>2,4</sub> yellow .....               | 5                                 |
| 5 | Abdomen entirely yellow .....   | <i>P. sinica</i> (WEI & NIE)      |
| – | Abdomen black with terga <sub>2,4</sub> yellow .....  | <i>P. tricineta</i> (WEN & WEI)   |

### *Pseudarge eversmanni* GUSSAKOVSKIJ

*Pseudarge eversmanni* GUSSAKOVSKIJ, 1935: 294, 432. Type locality: Russia, Sergiyevsk [Russian Federation].

*Alloscenia eversmanni*, ERMOLENKO, 1975: 87.

**Female.** – Antenna yellowish; dorsal surface of scape and pedicel entirely brown. Head brown; interantennal area, paraantennal area downward to clypeus, supraclypeal area medially, clypeus, labrum yellowish, postocellar area dark brown. Thorax yellow; mesonotal median lobe brown, median part of mesonotal lateral lobe blackish, mesoscutellum dark brown mesepisternum blackish with slight blue metallic lustre and with a yellowish band beginning in the middle running toward posterior margin, fore half of katapimeron dark brown. Legs yellow; lateral surface of coxae<sub>1/2</sub>, brown. Wings hyaline; stigma brown, costa and subcosta brown with yellow basal half, rest of venation yellow. Abdomen yellow.

Head quite enlarged behind eyes. Antenna 1.1x as long as maximum head width; flagellomere, slightly enlarged toward apex, ventral surface without compressed longitudinal carina. POL : OOL = 1.0 : 0.7. MS : IA ratio = 1.0 : 3.4. Eyes scarcely converging downward, lower interocular distance 1.5x eye length; clypeus shallowly, roundly excised medially; supraclypeal area flatly, roundly protruding (Fig. 3a); interantennal carinae shallowly, obtuse angled, scarcely converging downward to clypeus, very short, ending at the anterior margin of toruli. Vertex and gena sparsely punctate, shining; paraantennal area densely, shallowly punctate, subshining; interantennal area and clypeus with shallow, rugose sculpture, subshining; postocellar area 1.6x broader than long, lateral furrows moderately convex and very slightly converging toward posterior margin; pubescence on vertex very scattered, whitish, about as long as diameter of lateral ocellus. Mesonotal median lobes of thorax moderately densely punctate, lateral lobes with scattered punctures, shining; pubescence similar to head, however more densely haired. Terga obscurely microsculptured, shining.

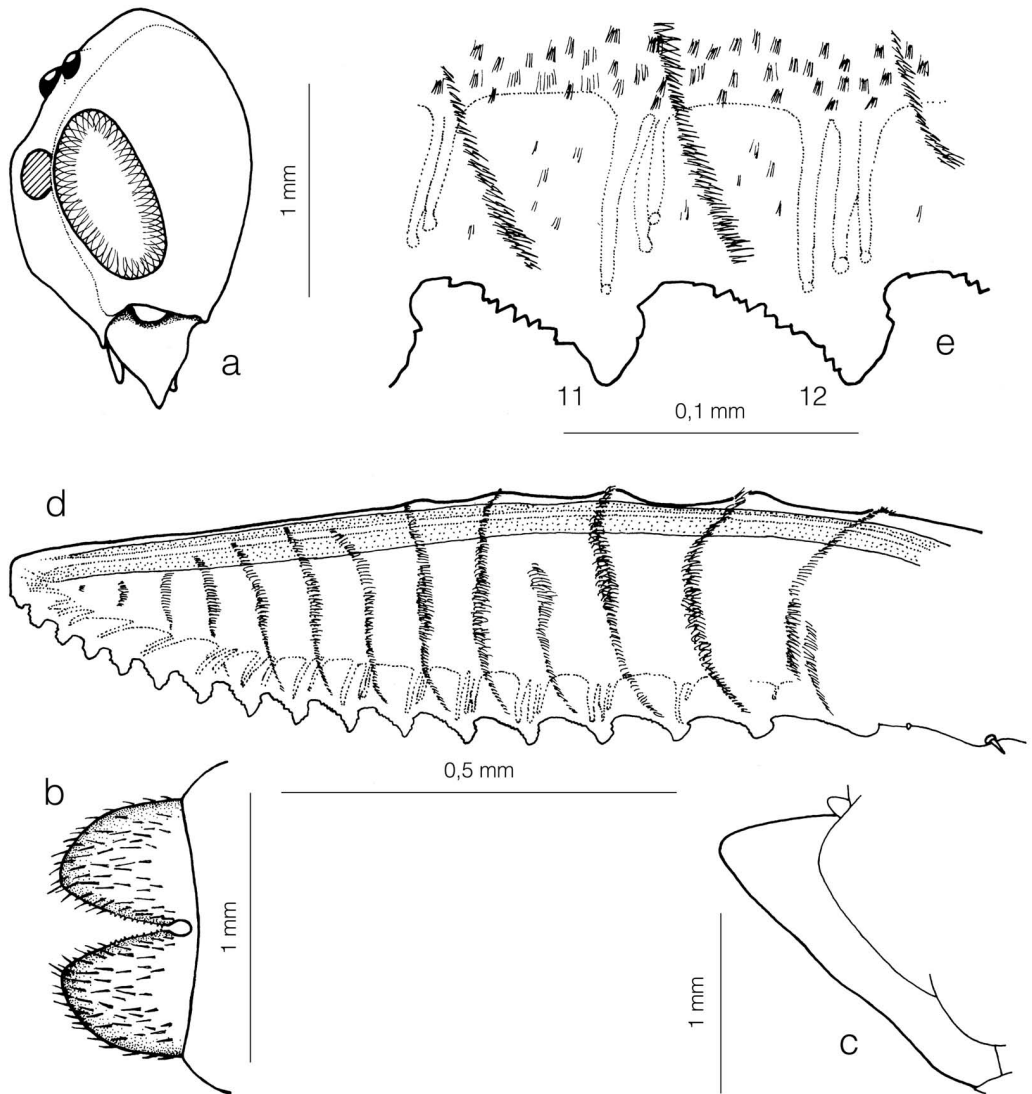
Sawsheath in dorsal view obtusely rounded, interior surface slightly convex (Fig. 3b) in lateral view obtusely pointed at apex (Fig. 3c). Lancet as in Fig. 3d, with about 17 serrulae and a distinct thorn at base; serrulae at centre strongly prominent, nearly hook-like, with two flattened irregular subbasal teeth and about 6-7 irregular posterior subbasal teeth (Fig. 3e).

Length: 9.7 mm.

### Type material.

Holotype: 1 ♀: (golden circle); “Serg.”; “coll. EVERSMANN”; “Var. ? pedibus totis flavis”; “*Pseudarge eversmannii* sp. n. ♀, V. GUSSAKOVSKIJ det.”; “Holotypus *Pseudarge eversmanni* GUSSAKOVSKIJ ♀, teste: F. KOCH 2007” (red) (ZMAS).





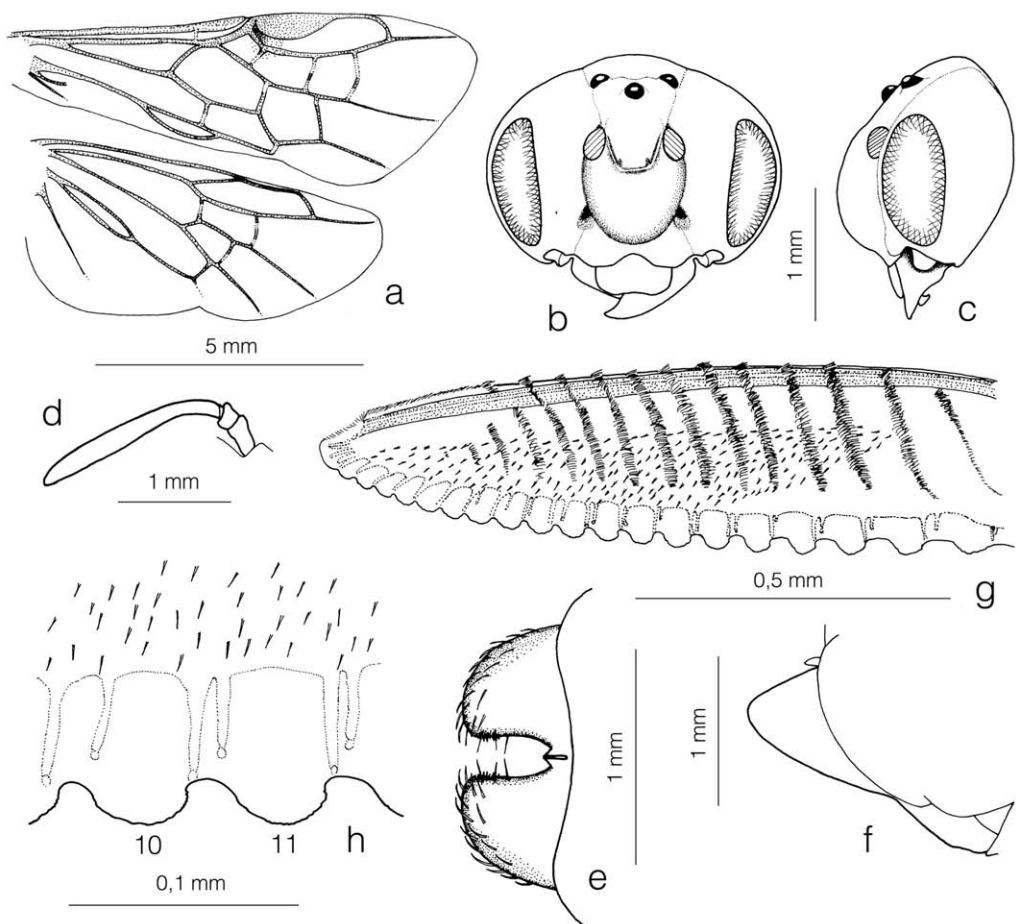
**Figure 3a-e:** *Pseudarge eversmanni* GUSSAKOVSKIJ: (a) head (lateral aspect); (b) sawsheath (dorsal aspect); (c) sawsheath (lateral aspect); (d) lancet (lateral aspect); (e) serrulae 11-12.

**Host plant:** Unknown.

**Distribution:** South Russia (Fig. 7).

**Remarks.**

With the more flattened supraclypeal area (Fig 3a), the shape of the sawsheath in dorsal view and especially the shape of the serrulae (Figs 3d, e) *P. eversmanni* is conspicuously different from the other two Middle Eastern species.



**Figure 4a-g:** *Pseudarge rubicunda* GUSSAKOVSKIJ: (a) fore and hind wing; (b) head (frontal aspect); (c) head (lateral aspect); (d) antenna; (e) sawsheath (dorsal aspect); (f) sawsheath (lateral aspect); (g) lancet (lateral aspect); (h) serrulae 10-11.

***Pseudarge rubicunda* GUSSAKOVSKIJ**

*Pseudarge rubicunda* GUSSAKOVSKIJ, 1935: 294, 431.

Type locality: Turkestan, Igiza [Kazakhstan].

*Alloscenia rubicunda*, ERMOLENKO, 1975: 87.

**Female.** – Antenna, head and mouthparts amber; apex of mandible black. Thorax amber; metascutum, and a small ventral spot on anepimeron black. Legs amber; coxae<sub>2/3</sub> laterally black striped, apex of femur<sub>3</sub> blackish, tibiae whitish, apical third of tibia<sub>3</sub> blackish; tarsi<sub>3</sub> light brown. Wings hyaline; costa whitish, subcosta whitish with blackish longitudinal strip, stigma and rest of venation blackish. Abdomen amber; tergum<sub>1</sub> black.

Head quite enlarged behind eyes. Antenna as long as maximum head width; flagellomere<sub>1</sub> slightly enlarged toward apex (Fig. 4d), ventral surface with shallowly, compressed longitudinal carina. POL : OOL = 1.0 : 0.9-1.1 (1.1 LT). MS : IA = 1.0 : 4.4-5.8 (5.0 LT). Eyes slightly converging downward, lower

interocular distance 1.4x eye length; clypeus shallowly, roundly excised medially (Fig. 4b); supraclypeal area roundly protruding (Fig. 4c), interantennal carinae shallowly, obtuse angled, converging downward, short, ending about 1/4 distance to clypeus (Fig. 4b). Vertex and gena nearly impunctate, shining; frons and clypeus with irregularly small punctures, subshining; postocellar area 1.4x broader than long, lateral furrows parallel; pubescence on vertex scattered, whitish, about as long as diameter of lateral ocellus. Thorax nearly impunctate, shining with pubescence similar to head. Proximal terga contiguously micropunctate, shining, distal terga smooth, shining.

Sawsheath in dorsal view blunt apically, interior surface slightly concave (Fig. 4e), in lateral view rounded at apex (Fig. 4f). Lancet as in Fig. 4g, with about 20 serrulae; serrulae at centre prominent and broadly rounded (Fig. 4h) with irregular subbasal teeth.

Length: 8.7-10.7 mm.

#### **Type material.**

Lectotype: 1 ♀: (golden circle); “Irgiz, Turg. ob., 14.VI.1928, V. POPOV”; “*Pseudarge rubicunda* **sp. n.** ♀ GUSSAKOVSKIJ det.”; “Syntypus *Pseudarge rubicunda* GUSSAKOVSKIJ” (red); “Lectotypus *Pseudarge rubicunda* GUSSAKOVSKIJ ♀, des.: F. Koch 2007” (red) (ZMAS).

Paralectotypes: 3 ♀♀: Konai-kuduk, 9.V.1912 (1 ♀) ZARUDNY; 22 v. ot Irgiza, Turg. ob., 14.VI.1928 (1 ♀) N. OLENEV & V. POPOV; Akdzhar-Mailibash, Kazalin. u., 17.VI.1898 (1 ♀) GEIER (ZMAS).

**Host plant:** Unknown.

**Distribution:** Uzbekistan, Western Kazakhstan (Fig. 7).

#### **Remarks.**

Intraspecific variability affects the colouration of coxae<sub>2/3</sub> and femur<sub>3</sub>, which may be entirely amber.

*Pseudarge rubicunda* is clearly distinguished from *P. ushinskii* by the entirely yellowish-brown metanotum and femora. In *P. ushinskii* the mesonotal lateral lobes have blackish stripes and the femora are entirely blackish. Furthermore the serrulae of the latter are flatter (Fig. 6d) than in *P. rubicunda* (Fig. 4h).

The differential diagnosis of *P. eversmanni* is discussed under that species.

#### ***Pseudarge sinica* (WEI & NIE), comb. nov.**

*Alloscenia sinica* WEI & NIE, 1998: 347, 391.

**Female.** - Head and thorax black; abdomen yellow.

Sawsheath in dorsal view: Fig. 5a; in lateral view: Fig. 5b.

Length: 9.0 mm.

**Host plant:** Unknown.

**Distribution:** China, Zhejiang (Fig. 7).

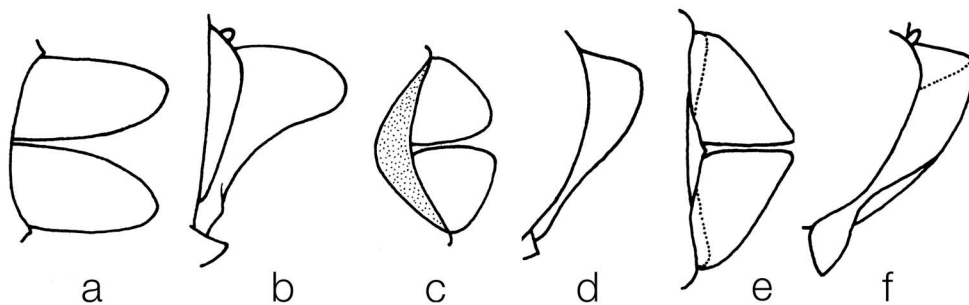
**Remarks:** Description in Chinese with English summary.

#### ***Pseudarge tricincta* (WEN & WEI), comb. nov.**

*Alloscenia tricincta* WEN & WIE, 2001: 76.

**Female.** - Head, thorax black; abdomen black tergum<sub>2-4</sub> yellow. Sawsheath in dorsal view: Fig. 5e; in lateral view: Fig. 5f.

Length: 8.6 mm.



**Figure 5a-f:** After WEI & NIE (1998) and WEN & WIE (2001). *Pseudarge sinica* (WEI & NIE): (a) sawsheath (dorsal aspect); (b) sawsheath (lateral aspect); *Pseudarge wui* (WEI & NIE): (c) sawsheath (dorsal aspect); (d) sawsheath (lateral aspect); *Pseudarge tricincta* (WEN & WEI): (e) sawsheath (dorsal aspect); (f) sawsheath (lateral aspect).

**Host plant:** Unknown.

**Distribution:** China, Sichuan (Fig.7).

**Remarks:** Description in Chinese with English summary.

### *Pseudarge ushinskii* GUSSAKOVSKIJ

*Pseudarge ushinskii* GUSSAKOVSKIJ, 1935: 295, 432. Type locality: Turkestan [Turkmenistan]

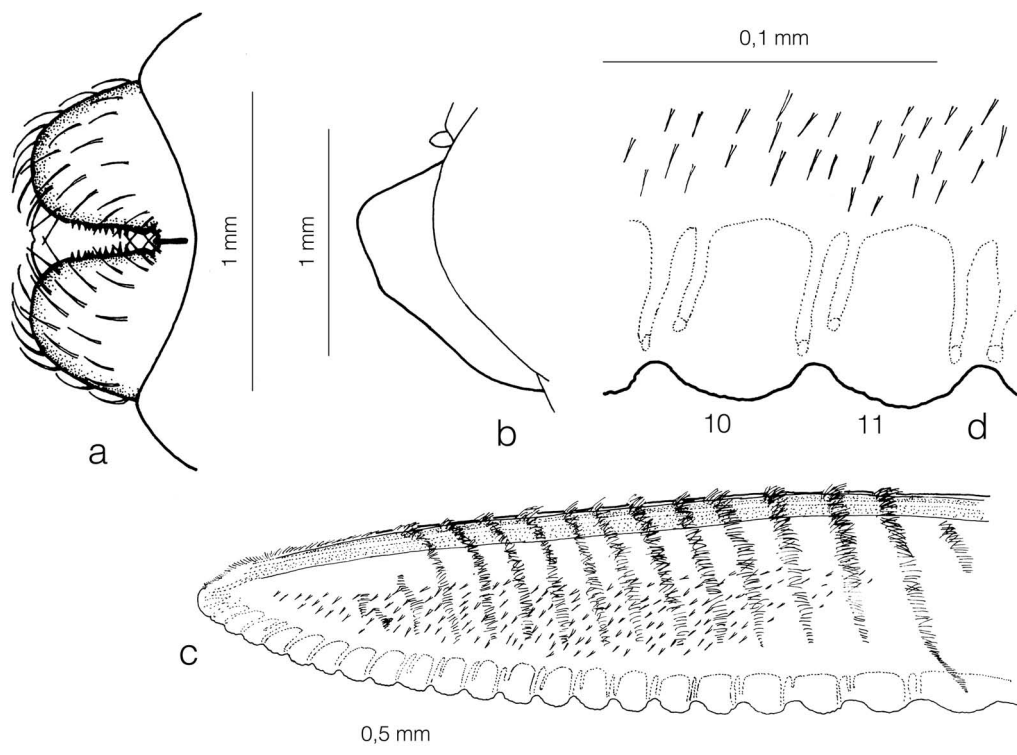
*Alloscenia ushinskii*, ERMOLENKO, 1975: 87

**Female.** – Antenna black. Head and mouthparts amber; small brown mark on each side of clypeus near malar space, interocular area dark brown, two lateral spots on anterior margin of postocellar light brown; apical half of mandible black. Thorax amber with following dark brown to black: anterior margin of mesonotal median lobe, a broad stripe on mesonotal lateral lobe, posterior downturned portion of each lateral lobe, metascutum, mesoscutellar appendage, metascutellum, dorsal part of propleuron, postspiracular sclerite, tegula, dorsal margin of mesepisternum, mesepimeron, metapleuron. Legs yellowish with following brown to black: coxae, ventral surface of coxa<sub>2</sub> light brown, trochanters, femora, tibiae<sub>3</sub> downward from the preapical spine, tarsi. Wings hyaline; costa whitish, subcosta whitish with blackish longitudinal strip, stigma blackish, rest of venation brown to dark brown. Abdomen amber; terga<sub>1/2</sub> blackish, tergum<sub>2</sub> with yellow median spot on posterior margin.

Head quite enlarged behind eyes. Antenna as long as maximum head width; flagellomere<sub>1</sub> slightly enlarged toward apex, ventral surface with shallowly, compressed longitudinal carina. POL : OOL = 1.0 : 0.9. MS : IA = 1.0 : 4.2. Eyes very slightly converging downward, lower interocular distance 1.5x eye length; clypeus roundly excised medially; supraclypeal area roundly protruding, interantennal carinae shallowly, obtuse angled, parallel, short, ending about 1/4 distance to clypeus. Vertex and gena nearly impunctate, shining; frons and clypeus with shallow, rugose sculpture, subshining; postocellar area 1.5x broader than long, lateral furrows subparallel, very slightly diverging toward posterior margin; pubescence on vertex very scattered, whitish, about as long as diameter of lateral ocellus. Thorax nearly impunctate, only mesonotal median lobes with scattered shallow micropunctures, shining; pubescence similar to head, however more densely haired. Terga contiguously micropunctate, shining.

Sawsheath in dorsal view blunt apically, interior surface straight (Fig. 6a), in lateral view rounded at apex (Fig. 6b). Lancet as in Fig. 6c, with about 21 serrulae; serrulae at centre flattened and broadly rounded (Fig. 6d) with irregular subbasal teeth.

Length: 8.8 mm.



**Figure 6a-d:** *Pseudarge ushinskii* GUSSAKOVSKIJ: (a) sawsheath (dorsal aspect); (b) sawsheath (lateral aspect); (c) lancet (lateral aspect); (d) serrulae 11-12.

**Type material.**

Holotype: 1 ♀: (golden circle); “Syulyukly, 21.-30.V.1923, E. SCHESTOPEROV”; “*Pseudarge ushinskii* sp. n. ♀, Typus unicus, V. GUSSAKOVSKIJ det.”; “Holotypus *Pseudarge ushinskii* GUSSAKOVSKIJ ♀, teste: F. KOCH 2007” (red) (ZMAS).

**Host plant:** Unknown.

**Distribution:** Turkmenistan; Korpet-Dagh (Fig. 7).

**Remarks:** The differential diagnoses between *P. ushinskii* and both *P. eversmanni* and *P. rubicunda* are discussed under these species.

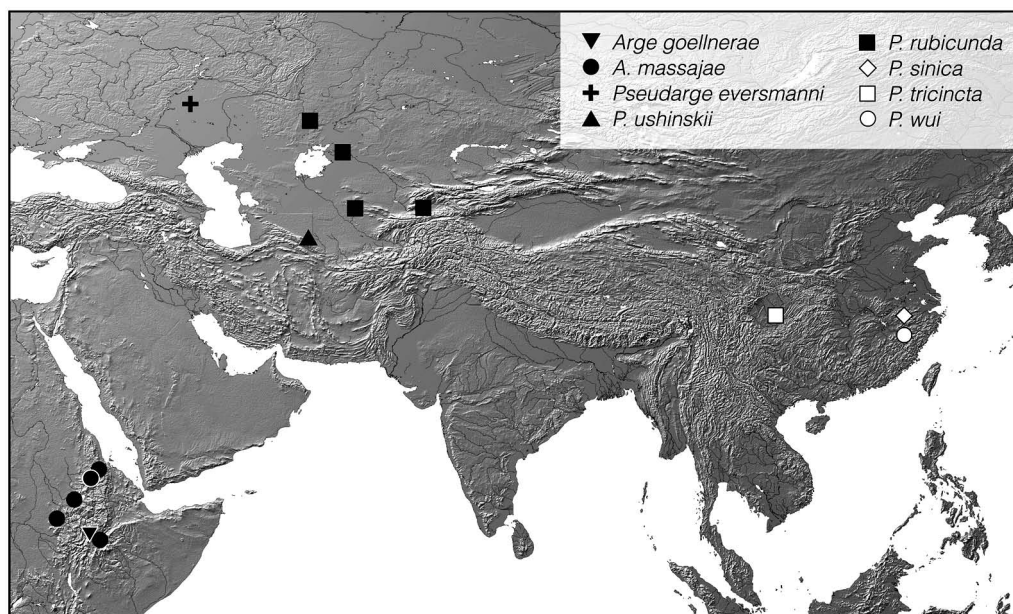
***Pseudarge wui* (WEI & NIE), comb. nov.**

*Alloscenia wui* WEI & NIE, 1998: 346, 391.

**Female.** - Body and legs entirely blue-black.

Sawsheath in dorsal view: Fig. 5c; in lateral view: Fig. 5d.

Length: 8.0 mm.



**Figure 7:** Distribution of *Arge goellnerae* sp. n. and *A. massajae* (GRIBODO) as well as the known *Pseudarge* species.

**Host plant:** Unknown.

**Distribution:** China, Zhejiang (Fig. 7).

**Remarks.**

Description in Chinese with English summary.

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**Zusammenfassung**

Die Gattung *Pseudarge* GUSSAKOVSKIJ, 1935 **gen. rev.** ist kein Synonym von *Alloscenia* ENDERLEIN, 1919, sondern eine valide Gattung, während andererseits *Alloscenia* **syn. n.** ein neues Synonym von *Arge* SCHRANK, 1802 ist. *Alloscenia maculitarsis* ENDERLIN, 1919 **syn. n.** wird synonymisiert mit der afrotropischen Art *Arge massajae* (GRIBODO, 1879) und *Arge goellnerae* sp. n. wird als neue Art für die afrotropische Region beschrieben. Ein Bestimmungsschlüssel für die sechs bekannten paläarktischen Arten der Gattung *Pseudarge* wird vorgelegt und eine osteuropäische und zwei mittelasiatische Arten werden redeskribiert. Der Lectotypus von *Pseudarge rubicunda* GUSSAKOVSKIJ, 1935 wird festgelegt. Die folgenden Arten werden neu kombiniert: *Pseudarge sinica* (WEI & NIE) **comb. n.**, *P. wui* (WEI & NIE) **comb. n.** und *P. tricineta* (WEN & WEI) **comb. n.** Alle Arten sind abgebildet und ihre taxonomische Verwandtschaften werden diskutiert. Eine Karte zeigt die gegenwärtige Verbreitung aller *Pseudarge*-Arten und der abgehandelten afrotropischen *Arge*-Arten.

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Authors addresses:

Dr. Frank KOCH  
Institut für Systematische Zoologie  
Museum für Naturkunde  
Humboldt-Universität zu Berlin  
Invalidenstrasse 43  
D-10115 Berlin, Germany.  
E-mail: frank.koch@museum.hu-berlin.de

Dr. Georg GOERGEN  
International Institute of Tropical Agriculture  
Biological Control Center for Africa  
BP 08 0932 Cotonou, Benin  
E-mail: g.goergen@cgiar.org

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