

Two new subspecies of *Agapanthia (Epopetes) dahli* (C.F.W. Richter, 1820) from South-East Azerbaijan and North Iran

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Abstract: A lectotype of *Agapanthia persica* Semenov, 1893 is designated and figured. *A. dahli persica* Sem. is redescribed on the base of the lectotype and a series of available specimens from Mazandaran. Eastern and Central Mazandaran is proposed to be accepted as a type locality of the taxon. *Agapanthia dahli golestanica* ssp. n. is described from near Minudasht (Golestan province of Iran). It is close to *A. dahli persica* Sem. but elytra look much lighter because of denser yellow pubescence. *A. dahli lenkorana* ssp. n. is described from Talysh area of Azerbaijan. It is close to *A. d. rubenyani* Lazarev, 2013 and *A. dahli ismailovae* Lazarev, 2013, but smaller and much darker.

In general the situation of *A. dahli* forms in North Iran is very complicated and needs further investigation. Different populations were published with different names. Abai (1969) recorded “*A. dahli*” (Gorgan: Gorgan, Khorassan: Scharoud) and “*A. walteri*” (Mazandaran: Babol, Behschahr; Gorgan: Gorgan); “*A. walteri*” was recorded by Villiers (1967) for many Iran localities including Sari environs (Mazandaran); by Gfeller (1972) - for Dasht-Nazir (Mazandaran, 36°25'10"N 51°25'53"E); by Barimani et al. (2010) - for: Dashte-Naz (36°41'36"N, 53°12'36"E, 20 m), Pahnehkola (36°27'30.7"N, 53°05'67"E, 171 m) and Varand (36°32'5"N, 53°11'33"E, 413 m); “*A. persica*” was recorded by Rejzek et al. (2003) for Khorasan prov., Golestan forest 55 km NE Minudast (37°20'N, 56°E).

Abbreviations of collections:

MD - Mikhail Danilevsky (Moscow)
ML - Maxim Lazarev (Moscow)
RP - Radosław Plewa (Raszyn, Poland)
WG - Walter Grosser (Opava, Czech Republic)
ZIN - Zoological Institute (Sankt-Petersburg)
ZMM - Zoological Museum of Moscow University

***Agapanthia dahli persica* Semenov, 1893**

(Figs 1-6)

- Agapanthia persica* Semenov, 1893: 505 - "Persia borealis"; Villiers, 1967: 369, part. ("Nord de la Perse").
- Agapanthia* (s. str.) *persica*, Plavilstshikov, 1968: 121, 149, part. - Turkmenia, North Iran.
- Agapanthia walteri*, Abai, 1969: 53, part. (including Babol).
- Agapanthia (Epoptes) walteri*, Barimani Varandi et al., 2010: 54 - "Sari: Dashte-Naz, 36°41'36"N / 53°12'36"E, 20 m, 24.04.2008 and 9.05.2008, sunflower; Pahnehkola, 36°27'30.7"N / 53°05'67"E, 171 m, 20.04.2007, on *Cirsium vulgare*; Sari: Varand, 36°32'5"N / 53°11'33"E, 413 m, 7.05.2008; on *Cirsium vulgare*."
- Agapanthia (Agapanthiella) persica*, Pesarini & Sabbadini, 2004: 127.
- Agapanthia (Epoptes) persica*, Sama, 2008: 126; 2010: 216, part. (= *transcaspica* Pic, 1900).
- Agapanthi dahli persica*, Lazarev, 2013: 443.
- Agapanthi (Epoptes) dahli persica*, Danilevsky, 2014: 219.

Type locality. Iran, Eastern and Central Mazandaran prov. - according to the comparison of the lectotype with available materials.

A. d. persica is not close to its geographical relative *A. dahli walteri* (Reitter, 1898) from Transcaucasia.

Body black with scattered yellow pubescence, elytra with spotted setae patches; eyes round, slightly elongated, a little shorter than genae; antennae thin, very long, in certain males about 2 times longer than body, surpassing elytral apices by 5 apical joints, in females surpassing elytral apices by 4 joints; 3rd antennal joint with long and dense setae tuft; tufts of 4th and 5th joints smaller but distinct; basal parts of 3rd-12th joints pale, reddish-yellow, but 3rd

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joint often much darker, dark-brown, nearly black; fine pubescence of pale antennal part yellowish-white or grayish-white; prothorax usually wide, strongly widened posteriorly, but in certain males longer, about as long as basal width; pronotal punctation usually very dense and distinct, but smaller and sparser under yellow central stripe; central yellow pronotal stripe very dense, moderately wide; elytra in males about 3 times longer than wide, in females - about 4 times (big specimens), or about - 3 times in small specimens; elytral apices more or less rounded, but sometimes narrowly angulated; setae elytral patches small, sparse, usually not conjugated, grayish-yellow and elytra look rather dark; humeral grey elytral line could be slightly pronounced; long erect setae are distributed along anterior elytral third; elytral punctation very dense and distinct; body length in males: 15.0-19.8 mm, width: 3.5-5.2 mm, body length in females: 17.2-23.2 mm, width: 3.9-6.1 mm.

Materials. Lectotype (present designation - Figs 1-2), male with 4 labels: 1) “Pers.”; 2) “*Agapanthia persica* m. / ♂ typ. A.S. I, 93”; 3) [red-blow paper]; 4) [red] “HOLOTYPUS / *Agapanthia* / *PERSICA* / Semenov det., 1893” - ZIN; 1 male and 1 female: “IRAN, Amol, 6.VI.2015, Tomasz Jaworski; leg.” - ML; 3 males and 1 female with same label - RP; 1 male with same label - MD; 2 females: “IRAN, Sisangan National Park (40m, 36°34'22"N, 51°48'14"E), 7.VI.2015, Tomasz Jaworski; leg.” - RP; 1 female: “IRAN, Mazandaran prov., Sari-Dashtenaz, 18.06.2008, H.Barimani leg.” - MD; 1 male, Iran, Mazandaran prov., Mt. Damavand, 1400-2500 m, 10-11. 6. 2009, W. Grosser leg. - WG.

Distribution. Iran, three localities in Mazandaran prov.: Mahalleh ad Amol, 36°23'48.7"N 52°18'20.3"E, 197m; Sisangan National Forest, about 40m, 36°34'22"N, 51°48'14"E, 40 m; Sari-Dashtenaz, 36°41'36"N, 53°12'36"E, 20 m.

The record of the taxon (as a species) for Turkmenia (Plavilstshikov, 1968) was a mistake.

***Agapanthia dahli golestonica* ssp. n.**

(Figs 7-8)

Agapanthia walteri, Villiers, 1967: 369, part. (including “Astrabad”).

Agapanthia persica, Rejzek et al., 2003: 169 - “prov. Khorasan, Golestan forest 55 km NE Minüdašt, 3720N 5600E (840m)”.

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Agapanthia (Epoetes) persica, Shapovalov, 2009: 17, 18, part. (= *transcaspica* Pic, 1900) - "Astrabad".

Type locality. Iran, Golestan prov., 60 km E Minudasht, 460 m., 37°21'36"N, 55°55'48"E.

Body black with denser yellow pubescence, elytra with denser spotted setae patches; eyes round, elongated, a little longer than genae; antennae thicker, very long, in certain males about 2 times longer than body, surpassing elytral apices by 4 or 5 apical joints, in females surpassing elytral apices by 3 or 4 joints; 3rd antennal joint with distinct setae tuft; tufts of 4th and 5th joints indistinct; basal parts of 3rd - 12th joints reddish; fine pubescence of pale antennal part white; prothorax less wide, a little widened posteriorly; pronotal punctation very dense and distinct, but smaller and sparser under yellow central stripe; central yellow pronotal stripe very dense, moderately wide; elytra in males about 3 times longer than wide, in females - about 4 times (big specimens), or about - 3 times in small specimens; elytral apices more or less rounded, but sometimes narrowly angulated; setae elytral patches wider and denser, often conjugated, yellowish, and elytra look dark-yellow; humeral grey elytral line never pronounced; long erect setae are distributed along anterior elytral third or forth; elytral punctation very dense and distinct anteriorly, obliterated posteriorly; body length in males: 14.0-20.5 mm, width: 3.5-5.7 mm, body length in females: 14.0-21.0 mm, width: 3.3-6.0 mm.

Materials. Holotype, male, Iran, Golestan prov., Golestan N.P., 60 km E Minudasht, 7.6.2009, 460 m., 37.36°N, 55.93°E [37°21'36"N, 55°55'48"E], Walter Gresser leg. - MD; 59 paratypes: 1 male with same label - MD; 1 male, Iran, Golestan prov., Gorgan env. 36°82'N, 54°28'E, 62 m, 7.6.2009, W. Gresser leg. - WG; 4 males and 1 female: Iran, Golestan prov., Golestan N.P., 45 km E Minudasht, 11.6.2010, 960 m., 37.36°N, 55.93°E [37°21'36"N, 55°55'48"E], Walter Gresser leg. - MD, ML, RP; 1 male, Nord-Iran, 26-31.5.1975, 50-70 km östel. Minudasht, Golestan Forest, 450-700 m., leg. Holzschuh & Ressler - MD; 1 female, Mazandaran, 10 km westlich Gorgan, 25-27.5.1977, 300 m, leg. Holzschuh & Ressler - MD; 1 male, Iran, Golestan prov., Golestan N.P., 45 km E Minudasht, 37.36°N, 55.93°E [37°21'36"N, 55°55'48"E], 460 m,

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7.6.2009, W. Grosser leg. - WG; 5 males, 2 females, Iran, Golestan prov., 10 km SW Minudasht, 37.17°N, 55.33°E [37°10'12"N, 55°19'48"E], 246 m, 8.6.2009, W. Grosser leg. - WG; 3 males, 3 females, Iran, Golestan prov., Golestan N.P., 45 km E Minudasht, 37.36°N, 55.93°E [37°21'36"N, 55°55'48"E] 460 m, 11.6.2010, W. Grosser leg. - WG; 18 males, 11 females, Iran, Golestan prov., 40 km E Minudasht, 37°22'05"N, 55°56'57"E, 722 m, 2.6.2014, W. Grosser leg. - WG; 4 males, 3 females, Persia bor. Astrabad, 23.V., 10.VI., 6-7.VII., ex Bodem. - ZMM.

Remark. *A. d. persica* Semenov, 1893 differs from *A. d. golestanica* **ssp. n.** by much darker general color because of less dense elytral pubescence with scattered (not conjugated) grayish (not yellow), smaller setae patches consisting of few setae each; antennae thinner; 4th and 5th antennal joints with rather distinct (though small) setae tufts; 3rd antennal joint never considerably darkened; humeral grey line can be pronounced (never in *A. d. golestanica* **ssp. n.**); fine pubescence of 3rd antennal joint never so white as in *A. d. golestanica* **ssp. n.**

A. d. walteri Reitter, 1898 has bright orange-yellow body pubescence; elytral setae patches big, dense and conjugated forming orange-yellow elytral color; fine pubescence of 3rd antennal joint also orange-yellow; prothorax strongly widened posteriorly, more than in any other subspecies.

Very bright male (Fig. 13) of *A. dahli* (15 mm) from Quazvin prov.(Elburz, Ibrahim Abad, Tallran Road, 36°12'31.76"N, 51°17'03.04"E, 2370 m, 28.V.2008, leg. A. Skale, photo by U. Schmidt, 2013) is shown in: https://www.kaefer-derwelt.de/agapanthia_persica.htm. It is similar to *A. d. walteri*, but pronotum rather narrow posteriorly. Most probably, that male represent a local subspecies not described yet.

***Agapanthia dahli lenkorana* ssp. n.**
(Figs 9-12)

Type locality. SW Azerbaijan, Talysh area (I was not able to localize exactly Andreevka of 1923 in Lenkoran Distr.).

Only two males available: body black with dens yellow

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pubescence, elytra with dens spotted setae patches; eyes about as long as genae; antennae long, in the holotype about 2 times longer than body, surpassing elytral apices by 5 apical joints; 3rd and 4th antennal joints with long and dense setae tufts; basal parts of all joints red; fine pubescence of pale antennal parts white; prothorax rather wide basally; pronotal punctation very dense and distinct; central yellow pronotal stripe very dense but narrow; elytra males about 3 times longer than wide; elytral apices rounded or a little angulated (holotype); setae elytral patches small but dense, often conjugated, yellow, and elytra look dark-yellow; humeral grey elytral line rather distinct in the paratype; long erect setae are distributed along anterior elytral third; elytral punctation very dense and distinct anteriorly, but smaller posteriorly; body length: 17.0 mm (holotype), 17.7 mm (paratype), width: 4.3 mm (holotype), 4.6 mm (paratype).

Materials. Holotype, male: Andreevka, Lenkoran Distr., Baku Region, 25.5.1923 [collector hardly readable - see Fig. 11] - ZIN; paratype, male, Lenkoran Distr., Baku Region, 26.6.1923 [collector hardly readable - see Fig. 12] - ZIN.

Remark. The new subspecies seems to be close to *A. d. rubenyani* Lazarev, 2013 and *A. dahli ismailovae* Lazarev, 2013 because of grey humeral stripe, but the new taxon has relatively scattered, less dense elytral setae patches of paler color.

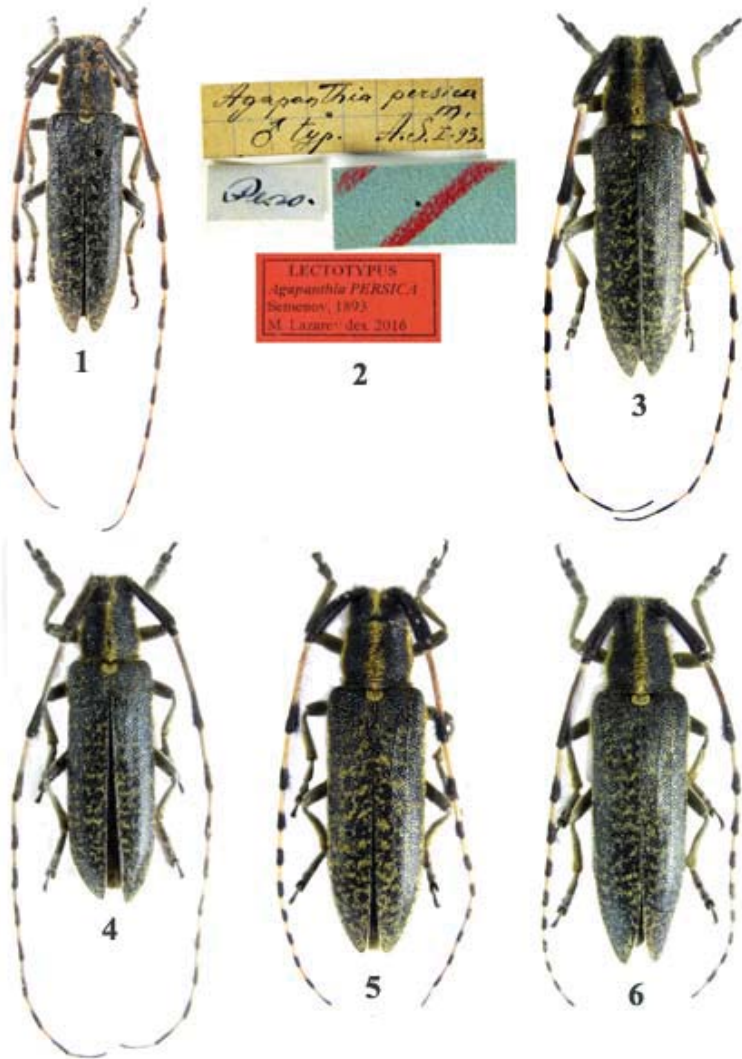
Talysh area was intensively investigated during XX-XXI centuries by entomologists, but no *Agapanthia* close to *A. dahli* were collected in new times.

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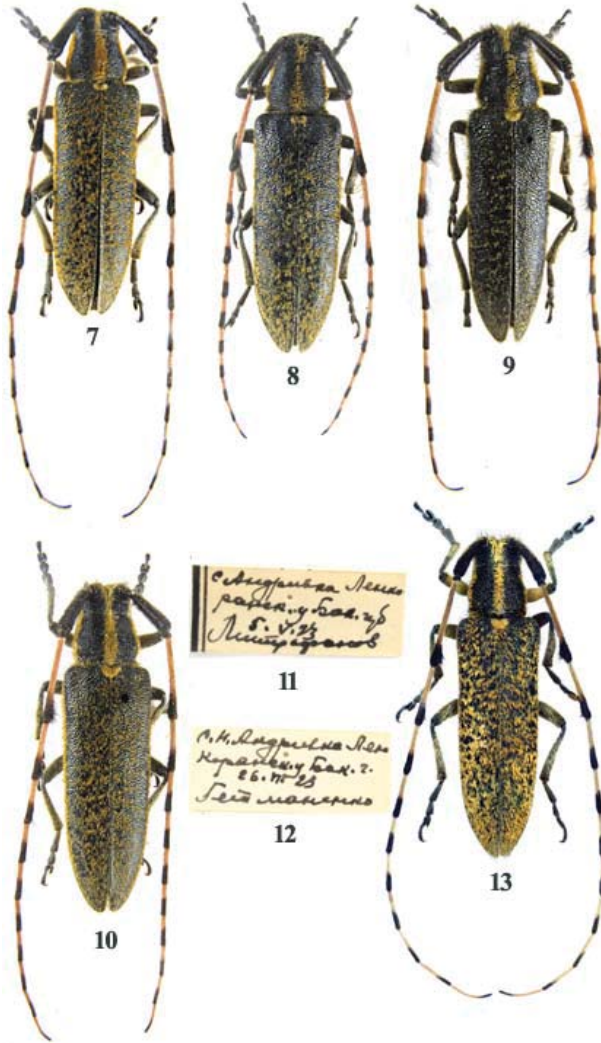
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Figs 1-6. *Agapanthia dahli persica*:

1 - lectotype, male; 2 - labels lectotype; 3-4 - males, Iran, Mazandaran prov.: Mahalleh ad Amol, 36°23'48.7"N 52°18'20.3"E, 197 m, 6.VI.2015, Tomasz Jaworski; leg.; 5 - female with same label; 6 - female, Iran, Sisangan National Forest, about 36°28'N, 51°50'E, 7.VI.2015, Tomasz Jaworski; leg.



Figs 7-8. *Agapanthia dahli golestonica* ssp. n.:

7 - male, holotype; 8 - paratype, females with same label.

Figs 9-12. *Agapanthia dahli lenkorana* ssp. n.:

9 - male, holotype; 10 - male, paratype; 11 - label of the holotype; 12 - label of the paratype.

Fig. 13. *A. dahli* ssp.? - Iran, Quazvin prov., Elburz, Ibrahim Abad, Tallran Road, 36°12'31.76"N, 51°17'03.04"E, 2370 m, 28.V.2008, leg. A.Skale, photo by U.Schmidt, 2013.

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