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**New taxa of genus *Agapanthia* Audinet-Serville, 1835  
(Coleoptera, Cerambycidae) from Kazakhstan and Siberia**

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**Abstract:** *Agapanthia (Epopetes) perovskiensis* **sp. n.** with two subspecies similar to *A. (E.) dahli* is described from South Kazakhstan. The nominative subspecies is described from near Turkestan and Kzyl-Orda environs. *A. (E.) perovskiensis chulakkurgana* **ssp. n.** is described from the south of Karatau Ridge. Very peculiar *Agapanthia (E.) dahli efimovi* **ssp. n.** is described from Kemerovo Region. *A. (E.) cynarae selengensis* **ssp. n.** is described from Selenginsk environs (Buryatia). Type specimens are illustrated. Distinguishing characters are described.

## **Introduction**

Several specimens of very interesting *Agapanthia* were discovered among old materials of Zoological Institute of Russian Academy of Sciences (ZIN). A new species with two subspecies from South Kazakhstan is described below. It looks similar to *A. dahli* (Richter, 1820) because of dense setae tufts on 2<sup>nd</sup> and 3<sup>rd</sup> antennal segments, red basal parts of 3<sup>rd</sup>-12<sup>th</sup> segments and spotted yellowish elytra, but antennal setae tufts strongly protruding along each segment covering about 1/3 of the total length.

The study of a subspecies structure of *Agapanthia (E.) dahli* is going on; 19 subspecies were accepted up to now (Danilevsky, 2020). A series of peculiar *A. (E.) dahli* from different localities of Kemerovo Region of Russia is described below as a new subspecies.

An old female from Zoological Museum of Moscow University (ZMM) of *Agapanthia (E.) cynarae* (Germar, 1817) from Buryatia (Selenginsk environs) is described as a representative of a new subspecies. It is characterized by strongly pubescent 3<sup>rd</sup> and 4<sup>th</sup> antennal joints covered by very dense and long erect black setae.

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*Agapanthia (Epoptes) perovskiensis* **sp. n.**

Figs 1-5, 7-10

**Description.** Body of moderate size; length in males: 14.9-16.4 mm, width: 3.7-4.0 mm, length in females: 15.0-19.6 mm, width: 3.7-5.2 mm.

Head with long erect and oblique black setae, with dense recumbent yellow pubescence, which is much paler on frons near eyes; frons trapezoidal, elongated; sparse frons punctation very small; eyes elongated about as long as genae; vertex with very dense punctation.

Antennae moderately long, in males surpassing elytral apices with 5 apical joints, in females with 3-4 apical joints; with red basal parts of 3<sup>rd</sup>-12<sup>th</sup> joints and head covered with fine white pubescence; 3<sup>rd</sup> joint with extremely dense tuft of relatively short black setae; the tuft of 3<sup>rd</sup> joint covers about 0.3-0.4 of joint length; 4<sup>th</sup> antennal joint with or without apical setae tuft, as well as often 5<sup>th</sup> joint; 3<sup>rd</sup> joint very long, much longer than 1<sup>st</sup>, which is much longer than 4<sup>th</sup>.

Prothorax transverse, about 1.2-1.3 times shorter than basal width; pronotum with long erect black setae, with very dense big punctation, without recumbent pubescence along both sides of wide and very dense central yellow stripe; scutellum transverse or semicircular, with very dense yellow pubescence.

Elytra in males about 3 times longer than width near humeri, in females - about 2.8 times; spotted yellowish scattered pubescence rather diffused, not contrast; elytra look dark, with poor bronze luster; grey humeral stripes more or less distinct; long erect black elytral setae distributed to elytral apex; elytral punctation small and dense; elytral apices acute.

Pygidium and postpygidium in males slightly emarginated, last abdominal sternite roundly truncated; last abdominal tergite in females slightly emarginated, sternite - nearly truncated.

**Differential diagnosis.** The new taxon belongs to a group of *Agapanthia* species with red basal parts of 3<sup>rd</sup>-12<sup>th</sup> antennal joints, with setae tuft on 3<sup>rd</sup> antennal joint and spotted yellow elytral pubescence. The typical representative of this group of species is *A. dahli* (Richter, 1821), which is usually much bigger than *A. perovskiensis* **sp. n.** The new species has unique structure of setae

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tufts with relatively short setae, but very dense and strongly extended along antennal joint occupying about 1/3 of 3<sup>rd</sup> joint or more. Such structure was never observed in any subspecies of *A. dahli*.

The closest relatives of the new species are three vicariants: *A. auliensis* Pic, 1907, *A. shovkuni* Shapovalov, 2009 (both connected with *Eremurus*.) and *A. parauliensis* Danilevsky, 2017, but all three are usually without antennae setae tufts.

One paratype (female) of *A. perovskiensis* sp. n. was collected in same geographical area as the type series of *A. parauliensis* - "Golodnaya Step". But this specimen has extremely dense setae tufts (Fig. 5) occupying more than 1/3 of 3<sup>rd</sup> - 5<sup>th</sup> antennal joints; antennae of *A. parauliensis* (Fig. 6) don't have setae tufts at all. Besides "Golodnaya Step" is a very big area penetrating from Uzbekistan to Kazakhstan, so both species could inhabit very different localities.

**Etymology.** The new species is named after the old name of the central city of the type locality area - Perovsk (now Kzyl-Orda).

Two subspecies are accepted.

*Agapanthia (Epopetes) perovskiensis perovskiensis* **ssp. n.**  
Figs 1-5

**Description.** Body on an average smaller than second subspecies; length in males: 14.9-16.3 mm, width: 3.7-4.0 mm, length in females: 15.0-17.0 mm, width: 3.7-4.5 mm; antennal tufts denser, covering longer parts of the joints, tuft of 5<sup>th</sup> joint often very distinct; dense antennal cilia distributed to about half of antennal length; elytral grey humeral stripes better pronounced; elytral bronze luster less pronounced.

**Material.** Holotype, male, Kazakhstan, Tash Suat (now west environs of Turkestan, about 43°16'N, 68°10'E, 200 m), boundary between Chimkent and Perovsk (now Kzyl-Orda) districts, 24.05.1898, Geyer leg. - ZIN; 5 paratypes; 1 male, 3 females, Kazakhstan, Kara-Uzyak (about 45°0'N, 65°17'E, 120 m, 22 km NW Kzyl-Orda), Perovsk (now Kzyl-Orda) District, 11.6.1916 and 25.6.1916, N. Pulikovskaya leg. - ZIN; 1 female, Hungry Steppe (Golodnaya Step - along left bank of Syr Darya in Gulistan environs, about 40°30'N, 68°55'E 280 m), 10.6.1918, N. Troitzky leg. - ZIN.

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*Agapanthia (Epoptes) perovskiensis chulakkurgana* **ssp. n.**

Figs 7-10

**Description.** Body on an average bigger; length in males: 15.5-16.4 mm, width: 4.0-4.1 mm, length in females: 17.0-19.6 mm, width: 4.0-5.2 mm; antennal tufts sparser, covering shorter parts of the joints, tuft of 5<sup>th</sup> joint indistinct; dense antennal cilia distributed along 2<sup>nd</sup> - 4<sup>th</sup> antennal joints only; elytral grey humeral stripes less visible, better pronounced apically; elytral bronze luster better developed.

**Material.** Holotype, male, Kazakhstan, Karatau Ridge, 22 km W Chulakkurgan, 43°42'N, 68°52'42"E, 800 m, 19.5.1991, M. Danilevsky leg. - author's collection; 3 paratypes; 1 male, 2 females, Kazakhstan, Chimkent environs, Novonikolaevka (Dzhabagly), 70 km E Chimkent, 42°26'N, 70°28'E, 1100 m, 11.6.1991, O. Gorbunov leg. - author's collection.

*Agapanthia (Epoptes) dahli efimovi* **ssp. n.**

Figs 11-18

**Description.** Body big; length in males: 14.9-16.5 mm, width: 3.7-4.0 mm, length in females: 15.0-19.6 mm, width: 3.9-5.2 mm; antennae in males reaching elytral apices by 7<sup>th</sup> or 8<sup>th</sup> joint; in females - by 9<sup>th</sup>-10<sup>th</sup> joint; 3<sup>rd</sup> antennal joint is the longest, 4<sup>th</sup> joint about equal to 1<sup>st</sup> and longer than 5<sup>th</sup>; red parts of 3<sup>rd</sup> - 12<sup>th</sup> joints with fine white pubescence; antennal setae tufts very different in different specimens: from very long and dense on 3<sup>rd</sup> - 4<sup>th</sup> joints (Fig. 16) to about total absence (Fig. 14) with several intermediate conditions; prothorax transverse, usually strongly widened at base, to about 1.4 times wider than long; pronotum with very wide and dense central longitudinal stripe, without yellow recumbent pubescence along both sides of the central stripe, shining, with very dense strong punctation; scutellum strongly transverse, with dense yellow pubescence; elytra in males about 2.8 times longer than basal width, in females - about 2.7 times; elytral pubescence usually very dense, totally hiding punctation, often very regular, without distinct setae patches (typical for all other subspecies of *A. dahli*), without grey

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humeral stripes; strong black oblique setae can be visible along whole elytral length though very short apically, or nearly indistinct; abdomen usually with very dense yellow recumbent pubescence; last abdominal segments truncated apically or slightly emarginated.

**Differential diagnosis.** The new taxon is characterized by uniformly, regular dense elytral pubescence in many specimens, while in other subspecies of *A. dahli* elytral pubescence more or less spotted, consisting of more or less contrast setae patches.

Another species known from West Siberia with red bases of antennal joints, spotted elytral pubescence and absence of setae tufts on 3<sup>rd</sup> antennal joints is *A. altaica* Plavilstshikov, 1933, but it is characterized by dense long erect setae distributed from elytral bases to apices.

**Material.** Holotype, male, Russia, Kemerovo Reg., Prokopyevsk Distr., Karakan Mt. Ridge., 6-7 km from Tykhta, 16.6.2015, D. Efimov leg. - author's collection; 9 paratypes; Kemerovo Region of Russia - author's collection; 1 male, Prokopyevsk Distr., 7 km NE Oktyabrsky Lug, 54°17'N, 86°55'E, 25.6.2014, D. Efimov leg.; 1 male, Belovo Distr., NW of Karakan Mt Ridge, 12.6.2006, D. Sidorov leg.; 1 male, Kemerovo Distr., Staraya Balakhonka, 55°31'44.1"N, 85°53'23.8"E, 9.7.2009, D. Efimov leg.; 1 male, Krapivinsk Distr., 8 km SSW Saltymakovo, 19-30.6.2010, A.V. Korshunov leg.; 1 male, Chebulinsk Distr., 9 km S Chumay, mouth of Kozhukh River, 55°39.5'N, 87°49.5'E, 25.6.2019, S. Luzyanin leg.; 1 male, 1 female, Chebulinsk Distr., Shestakovo, 55°52'59.8"N, 87°59'8.6"E, 15-18.6.2015, A.V. Korshunov leg.; 1 female, Chebulinsk Distr., Shestakovo, 15-16.7.2016, D. Sushchev leg.; 1 female, Krapivinsk Dist., 8 km SSW Saltymakovo, 54°45'46"N, 87°1'27"E, 20-28.5.2012, A.V. Korshunov, A.A. Gurina leg.

*Agapanthia (Eoptes) cinarae selengensis* **ssp. n.**

Figs 19-21

*Agapanthia cinarae cinarae*, Danilevsky, 2012: 113 - "Siberia or. / Selenginsk", "The erect pubescence of 3rd antennal joint is much longer and denser, than in European specimens, so existence of a new taxon cannot be excluded."

*Agapanthia (Eoptes) cinarae*, Shapovalov, 2012: 187 - the specimen is known in old materials of Zoological Museum of Moscow University

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from East Siberia (Selenginsk).

**Description.** A single female available; body length: 18.0 mm, width: 4.0 mm; antennae rather long, reaching elytral apices by 10<sup>th</sup> joint; 3<sup>rd</sup> joint black with very narrow reddish basal ring and here with white pubescence, covered with very dense and long black setae along whole length; 4<sup>th</sup> joint with about same black setae; 5<sup>th</sup> joint with much sparser setae, which are concentrated near joint apex; 4<sup>th</sup>-12<sup>th</sup> joints reddish to about middle and black apically; elytra with diffused yellowish pubescence aggregated in hardly pronounced setae patches; grey humeral stripe nearly indistinct; erect black setae distributed to about elytral middle.

**Differential diagnosis.** The new taxon is characterized by peculiar antennal structure with strongly pubescent 3<sup>rd</sup> and 4<sup>th</sup> antennal joints covered by very dense and long erect black setae; nominative subspecies usually with only 3<sup>rd</sup> antennal joint strongly pubescent by shorter and sparser oblique setae; setae of 5<sup>th</sup> joint in nominative subspecies are not concentrated apically.

**Materials.** Holotype, female with the label: "Sibiria or. / Selenginsk" (now Novoselenginsk) - ZMM.

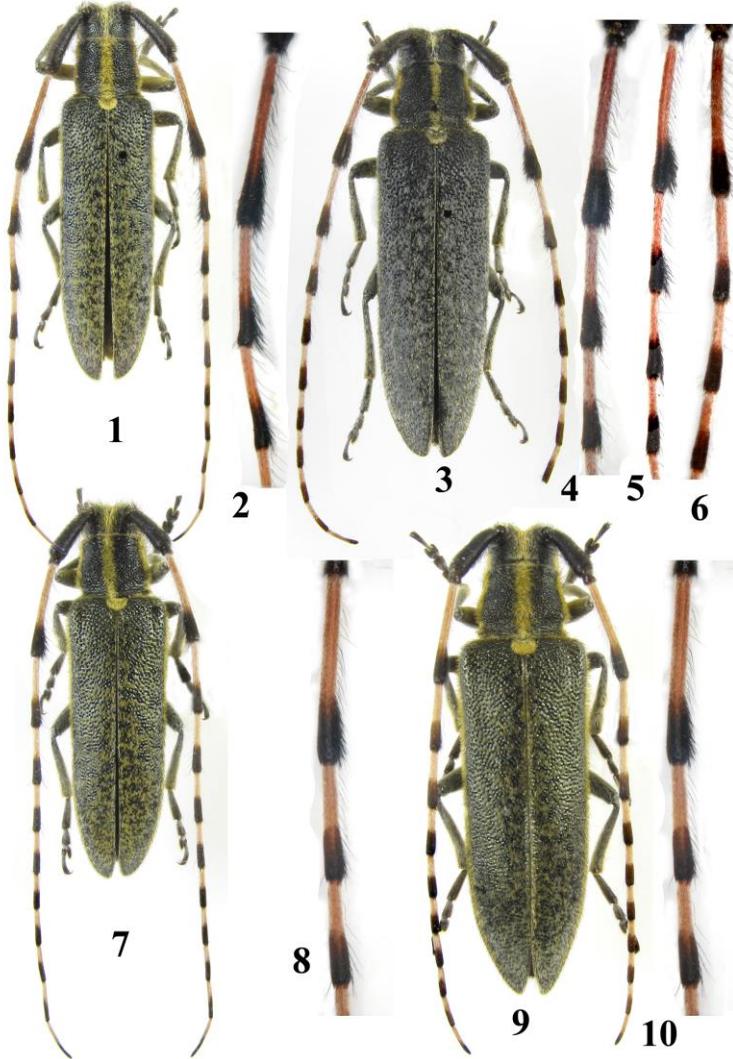
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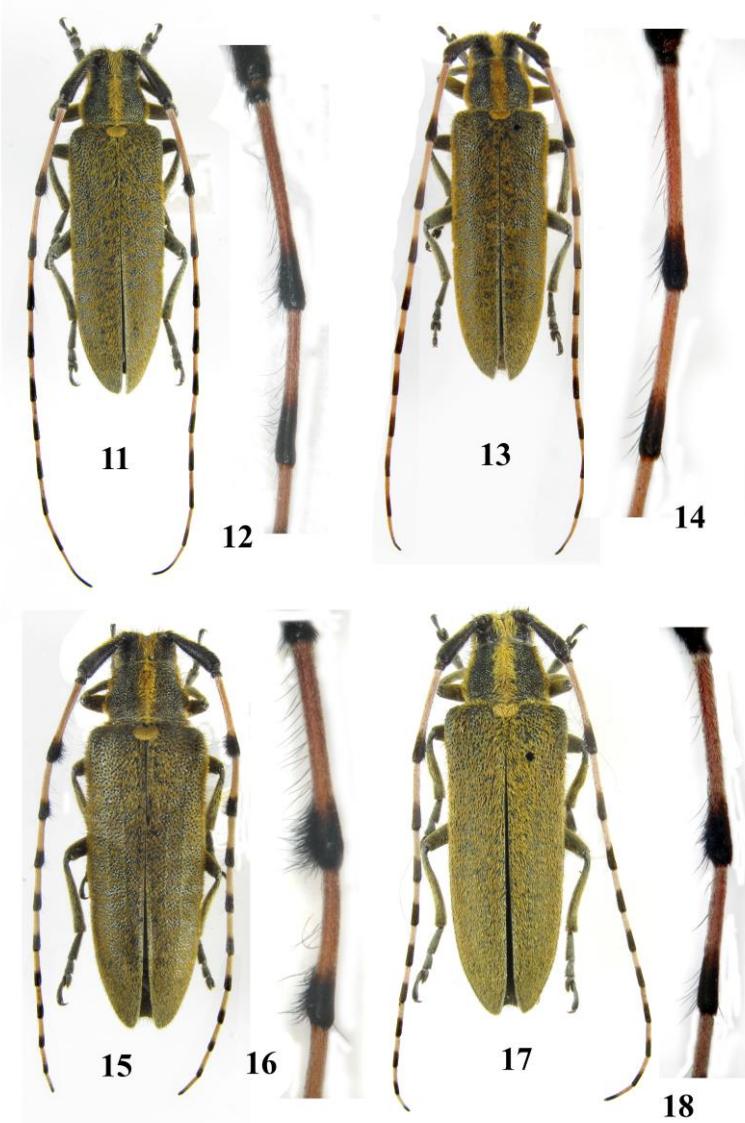
**Figs 1-5.** *Agapanthia (Epoptes) perovskiensis perovskiensis* ssp. n.

1 - holotype, male; 2 - holotype, 2<sup>nd</sup>- 5<sup>th</sup> antennal joints; 3 - Paratype, female, Kazakhstan, Kara-Uzyak (about 45°0'N, 65°17'E, 120 m, 22 km NW Kzyl-Orda), Perovsk (now Kzyl-Orda) District, 11.6.1916 and 25.6.1916, N. Pulikovskaya; 4 - same paratype, female, 2<sup>nd</sup>- 5<sup>th</sup> antennal joints; 5 - paratype, female, Golodnaya Step, 2<sup>nd</sup>-6<sup>th</sup> antennal joints.

**Fig. 6.** *Agapanthia (Epoptes) parauliensis* Danilevsky, 2017, paratype female, 2<sup>nd</sup> - 6<sup>th</sup> antennal joints.

**Figs 7-10.** *Agapanthia (Epoptes) perovskiensis chulakkurgana* ssp. n.

7 - holotype, male; 8 - holotype, 2<sup>nd</sup>- 5<sup>th</sup> antennal joints; 9 - paratype, female, Kazakhstan, Chimkent env., Novonikolaevka 11.6.1991, O. Gorbunov; 10 - paratype, female, 2<sup>nd</sup>- 5<sup>th</sup> antennal joints.



**Figs 11-18. *Agapanthia (Epopetes) dahli efimovi* ssp. n.**

11 - holotype, male; 12 - holotype, 2<sup>nd</sup>- 4<sup>th</sup> antennal joints; 13 - paratype, male, Belovsky Distr. NW Karakan Ridge 12.6.2006 D. Sidorov; 14 - same male, 2<sup>nd</sup> - 4<sup>th</sup> antennal joints; 15 - paratype, female, Chebulinsk, Shestakovo, 15-16.7.2016, D.Sushchev; 16 - same female, 2<sup>nd</sup>- 4<sup>th</sup> antennal joints; 17 - paratype, female, 8 km SSW Saltymakovo 20-28.5.2012 A.V. Korshunov et A.A. Gurina; 18 - paratype, female, 3<sup>rd</sup>- 4<sup>th</sup> antennal joints.



**Figs 19-21.** *Agapanthia (Epoptes) cynarae selengensis* ssp. n.

19 - holotype, female; 20 - holotype, 2nd- 6th antennal joints; 21 - label of the holotype

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