

## Eurasian species of the genus *Cochlicopa* (Gastropoda, Pulmonata, Cochlicopidae)

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As a result of the study of *Cochlicopa* shells from different regions of Eurasia with the use of comparative method, it was established that Eurasia is inhabited by 27 species belonging to 2 subgenera of the genus (*C. thalassina* excluded). The subgenus *Cochlicopa* s.str. includes 24 species, 10 of which have European or European-Siberian distribution, 5 are associated with mountain regions of Central Asia, 6 live in Russian Far East, and 3 live in Japan. The subgenus *Sinizua* **subgen. nov.** may appear to be a separate genus after studying the anatomy. It includes 3 Chinese species. All European and European-Siberian species were mostly described previously as varieties of *C. lubrica*. Four of the five species living in Central Asia are described as new. All Far Eastern and two of the three Japanese species are also new. The third Japanese species was originally described as a variety of *C. lubrica*. One of the three Chinese species is new. A key for identification of all 27 species is presented. *C. lubricella* has the widest distribution: the entire Northern and Central Asia, Transcaucasia, Europe, and Madeira Island. *C. repentina* and *C. lubrica* are distributed in Europe, Central Siberia, and Central Asia. The remaining species are distributed more locally: *C. nitens*, *C. major*, *C. curta*, and *C. collina* — in Europe and Central Siberia; *C. major* was found also in N. Algeria, *C. lubricoides* in Europe, Caucasus and Madeira Island. The *C. minima* distribution is limited by Western Europe, Baltic countries and Carpathian mountains. Asiatic *Cochlicopa* are distributed in either Central Asia or Far East of Russia: *C. heptapotamica* **sp. nov.**, *C. mukhitdinovi* **sp. nov.**, *C. izzatullaevi* **sp. nov.** and *C. dushanbensis* **sp. nov.** are known from Tadjikistan and Uzbekistan whereas some species (perhaps all) occur also in south-eastern Kazakhstan (Alma-Ata Region). *C. pseudonitens* is restricted by Altai Mountains. *C. kamchatkica* **sp. nov.** and *C. kurenkovi* **sp. nov.** are endemics of Kamchatka. *C. likharevi* **sp. nov.**, *C. maacki* **sp. nov.** are endemics of Khabarovsk Region and Far Eastern Maritime Territory of Russia, *C. shikotanica* **sp. nov.** and *C. kurilensis* **sp. nov.** are endemics of southern Kurile Islands. It is difficult to discuss the distribution of Japanese species, *C. hachijoensis*, *C. niensis* **sp. nov.** and *C. pilsbryi* **sp. nov.**, but probably they live in Honshu and adjacent small islands. Chinese species (subgenus *Sinizua* **subgen. nov.**) live in Loess Plateau and semidesert regions of China and eastern Mongolia.

### Евразийские виды рода *Cochlicopa* (Gastropoda, Pulmonata, Cochlicopidae)

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В результате изучения раковин рода *Cochlicopa* из различных районов

Евразии с применением компараторного метода установлено, что здесь обитают 27 видов, относящихся к двум под родам (*Cochlicopa thalassina* из рода исключается). К подроду *Cochlicopa* s. str. относятся 24 вида, 10 из которых имеют европейское или европейско-сибирское распространение, 5 приурочены к горным районам Центральной Азии, 6 обитают на Дальнем Востоке России и 3 в Японии. К подроду *Sinizua* subgen. nov., который после изучения анатомии, возможно, придется считать отдельным родом, относятся 3 вида из Китая. Все европейские и европейско-сибирские виды ранее были описаны как разновидности *Cochlicopa lubrica*, реже как самостоятельные виды. Четыре из пяти видов, обитающих в Центральной Азии, описываются в работе как новые. Все дальневосточные виды также описываются как новые. Два японских вида — новые, третий был первоначально описан как разновидность *C. lubrica*. Из трех китайских видов — один новый. Приведена таблица для определения всех 27 видов. Наиболее широко распространены *C. lubricella* — северная и Центральная Азия, Закавказье, Европа, остров Мадейра, *C. repentina* и *C. lubrica* — Европа, Средняя Сибирь, Центральная Азия. Остальные распространены более ограничено: *C. nitens*, *C. major*, *C. curta*, *C. collina* — Европа и Средняя Сибирь, причем *C. major* отмечена еще и в Северной Африке; *C. lubricoides* — Европа, Кавказ и остров Мадейра; *C. minima* ограничена Западной Европой, странами Прибалтики и Карпатами. Азиатские *Cochlicopa* распространены более ограничено. *C. heptapotamica* sp. nov., *C. mukhitdinovi* sp. nov., *C. izzatullaevi* sp. nov., *C. dushanbensis* sp. nov. известны из Таджикистана и Узбекистана, а некоторые виды (возможно, все) доходят до юго-востока Казахстана. *C. pseudonitens* ограничена Алтаем. Для Камчатки эндемичны *C. kamchatica* sp. nov. и *C. kurenkovi* sp. nov., для Приморья — *C. likharevi* sp. nov. и *C. maacki* sp. nov., для острова Шикотан — *C. shikotanica* sp. nov. и *C. kurilensis* sp. nov. Данные о распространении японских *Cochlicopa* — *C. hachijoensis*, *C. niiensis* sp. nov. и *C. pilsbryi* sp. nov. обсуждать пока рано, но, вероятно, все они приурочены к острову Хонсю и прилежащим мелким островам. Наконец, китайские виды под рода *Sinizua* subgen. nov. обитают на лессовом плато и в полупустынных районах Китая и восточной Монголии.

## INTRODUCTION

The first species of the genus under consideration — *Helix lubrica* — was described in the end of 18th century by O.F. Müller [1774]. About 50 years later [Risso, 1826], it was separated into a genus-group taxon — the subgenus *Cochlicopa* (within the genus *Achatina*). However Risso cannot be regarded as the author of this genus-group name, because it was established 5 years earlier [Ferussac, 1821]\* as a subgeneric name in the genus *Helix*, with a short diagnosis but without species included. According to the Article 69 (a) (VII) of the International Code of Zoological Nomenclature, Ferussac\* must be regarded the author of the nominal genus *Cochlicopa* and its type species is *Helix lubrica* Müller by subsequent monotypy [Risso, 1826], in spite of the absence of reference to Ferussac in the Risso's work. Then for a hundred years this genus or subgenus was considered as represented in Europe by only one species

with many varieties. North American representatives of the genus were also regarded as varieties or subspecies of the species [Pilsbry, 1907-1908, 1948]. It was accepted that separate species of the genus occur only at the periphery of Eurasiatic distribution area — in the Madeira Island — *C. maderensis* (Lowe, 1852), China — *C. davidis* (Ancey, 1882) and *C. sinensis* (Heude, 1890), and Aden — *C. thalassina* (Jousseume, 1890). However, it is very doubtful that the latter species belongs to the genus. The examination of illustration accompanying the description [Jousseume, 1890] shows that the shell is too small and the height of the last whorl in this species is almost equal to half of the shell height (Fig. 1), whereas it is significantly larger in other *Cochlicopa* species. This species is known only from the original description, therefore I cannot discuss it and only reproduce its illustration (Fig. 1).

In the 1950s, Walden [1955] paid his attention to the fact that the varieties of *C. lubrica* differ sharply and with evident hiatus from each other in the shell width of adult specimens. It made him to divide the species into 3 separate ones: *C. nitens* (Gallenstein,

\*Here I mean A.E.G. de Ferussac d'Audebard (fils) but not J.B.L. de Ferussac d'Audebard (pere); they are confused by the majority of authors.