

Taxonomic notes on Euro-Siberian freshwater molluscs. 3. *Galba occulta* Jackiewicz, 1959 is a junior synonym of *Limnaea palustris* var. *terebra* Westerlund, 1885 *

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> Abstract

The findings of the Palaearctic stagnicoline (Pulmonata: Lymnaeidae) species *Catascopia occulta* from Eastern Siberia described by JACKIEWICZ (1992, 1998b) are critically reconsidered. It was revealed that this species has been described earlier from Northern Siberia by WESTERLUND (1885) under the name *Limnaea palustris* var. *terebra*. The latter name is available and has nomenclatorial priority before *Galba occulta* Jackiewicz. The shells from Sweden and Russian malacological collections determined by Westerlund himself as *L. palustris* var. *terebra* were examined, however none of these could with certainty be identified as being the series. On absence of the type materials, the neotype of *L. palustris* var. *terebra* is designated. The geographic range of the species *Catascopia terebra* (= *Galba occulta*) syn. n. is mapped. It is much more common in Siberia than in Europe where the species inhabits a restricted area only.

> Kurzfassung

Taxonomische Anmerkungen zu euro-sibirischen Süßwassermollusken. 3. *Galba occulta* Jackiewicz, 1959 ist ein jüngerer Synonym von *Limnaea palustris* var. *terebra* Westerlund, 1885. – Die Nachweise der paläarktischen stagnicolen (Pulmonata: Lymnaeidae) Art *Catascopia occulta* aus Ost-Sibirien, beschrieben von JACKIEWICZ (1992, 1998b), wurden kritisch überprüft. Es zeigte sich, dass diese Art von WESTERLUND (1885) aus Nord-Sibirien bereits früher unter dem Namen *Limnaea palustris* var. *terebra* beschrieben wurde. Dieser Name ist verfügbar und hat nomenklatorische Priorität vor *Galba occulta* Jackiewicz. Keines der Gehäuse aus schwedischen und russischen malakologischen Sammlungen, die von Westerlund persönlich bestimmt wurden, konnten mit Sicherheit der Typuserie zugeordnet werden. Da kein Typusmaterial verfügbar ist, wird hier ein Neotypus für *L. palustris* var. *terebra* designiert. Die geographische Verbreitung der Art *Catascopia terebra* (= *Galba occulta*) syn. n. wird in einer Verbreitungskarte dargestellt. Sie ist in Sibirien sehr viel häufiger als in Europa, wo diese Art nur ein begrenztes Gebiet besiedelt.

> Резюме

Критически рассмотрены данные М. Яцкевич (JACKIEWICZ 1992, 1998b), описавшей находки палеарктического вида прудовиков *Catascopia occulta* из водоемов Восточной Сибири. Показано, что это вид был гораздо ранее описан из Сибири Вестерлуном (WESTERLUND 1885) под названием *Limnaea palustris* var. *terebra*. Это название вполне пригодно в номенклатурном смысле и имеет приоритет перед *Galba occulta* Jackiewicz. Были изучены раковины *L. palustris* var. *terebra*, определенные самим Вестерлуном, из малакологических коллекций Швеции и России, однако типовую серию обнаружить не удалось. В отсутствие типовых материалов нами был обозначен неотип *L. palustris* var. *terebra*. Ареал вида *Catascopia terebra* (= *Galba occulta*) syn. n. был нанесен на карту. Этот вид гораздо более обычен в Сибири, нежели в Европе, где он населяет довольно ограниченную территорию.

> Key words

Catascopia occulta, *Limnaea terebra*, Siberia, synonymy, Lymnaeidae, neotype.

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Introduction

The system most commonly accepted in Western Europe of the (sub)genus *Stagnicola* Jeffreys, 1830 was proposed by M. JACKIEWICZ (1959) in her revision of the species that belong to the so-called *Lymnaea palustris* group. This group is equal to the species *Lymnaea palustris* sensu HUBENDICK (1951) and consists of several distinct species that differ from each other by distinctions in their genitals, whereas interspecific differences in shell form and proportions are of low taxonomic importance (JACKIEWICZ 1959, 1993, 1998). One of these species has been described as a new one under the name *Galba occulta* Jackiewicz, 1959 and lately was repeatedly quoted as *Lymnaea (Stagnicola) occulta* or *Stagnicola occultus* (HUDEC & BRABENEC 1966, STADNICHENKO 1968, PIECHOCKI 1979, JACKIEWICZ 1998a, FALKNER et al. 2001, GLÖER 2002, GLÖER & MEIER-BROOK 2003, but see KILIAS 1992). Recently, taxonomic distinctness of *S. occultus* was confirmed by means of DNA analyses (BARGUES et al. 2001, 2006), and it has been shifted into the new genus *Catascopia* Meier-Brook et BARGUES, 2002 on the grounds of its genetic uniqueness among all another European species of *Stagnicola* (MEIER-BROOK & BARGUES 2002).

The locus typicus of *Galba occulta* is situated in Poland but consequently this snail was also found in many countries of Northern, Central and Eastern Europe, including Germany, Ukraine, Sweden, Czech Republic and some others (HUDEC & BRABENEC 1966, STADNICHENKO 1968, JACKIEWICZ & VON PROSCHWITZ 1991, JACKIEWICZ 1997, KORNIUSHIN 1999, GARBAR 2001¹, STADNICHENKO 2004). In recent European taxonomic surveys, the *Catascopia occulta* range is given as Euro-Siberian (JACKIEWICZ 1998a, GLÖER 2002, GLÖER & MEIER-BROOK 2003) due to findings of this species in malacological samplings made in waterbodies of Eastern Siberia (JACKIEWICZ 1992, 1998b). These findings are of high value since species identification was carried out by the author of the species herself with anatomical traits characteristic for *C. occulta*. However, JACKIEWICZ (1992, 1998b) did not quote some important papers of Russian authors devoted to Siberian malacofauna, where the same species is described under a quite another name, *Lymnaea (Stagnicola) terebra* (Westerlund). The aim of this paper is to show that the species under consideration had been described from Siberia earlier than from Europe and the widely accepted taxonomic name *Catascopia*

(= *Stagnicola) occulta* is not the oldest one available to designate this snail. This assumption was stated by VINARSKI (2003) in a short taxonomic note, however we believe that this question is of special interest for European malacologists and, therefore, it is worthwhile to discuss it separately where special regard is paid to additional materials obtained since 2003.

Material and methods

Our knowledge on *Catascopia occulta*'s identity is based on three sources.

1. Paratypes of this species housed in the Zoological Institute of the Russian Academy of Science, Sankt-Petersburg (ZIN, hereafter). Paratypes are originated from Poland and collected from two localities, namely: a) ditch near Siemianice, district Kępno, 1953–1955, leg. L. Berger. It is the locus typicus of *C. occulta*, and the holotype was collected in this habitat. The ZIN sample includes 7 empty shells and two soft bodies removed from shells and stored in ethanol; b) ditch in a forest near Gołaszyn, district Rawicz, 24.08.1955, leg. L. Berger. This sample contains 9 empty shells.

2. Shells of *C. occulta* collected by A.V. Korniuschin in Western Ukraine and described by him in a special paper (KORNIUSHIN 1999). These shells are housed at present in the Staatliche Naturhistorische Sammlungen Dresden, Museum für Tierkunde (Germany).

3. Data on shell characters, external and internal morphology of *C. occulta* provided by both the species' author (JACKIEWICZ 1959, 1993, 1998a) as well as by subsequent researchers (HUDEC & BRABENEC 1966, STADNICHENKO 1968, PIECHOCKI 1979, KORNIUSHIN 1999). These data were compared with those of different stagnicoline species from Siberia housed in ZIN, the Zoological Museum of the Institute of Plant and Animal Ecology, Uralian Branch of the Russian Academy of Science (Yekaterinburg; IPAE hereafter), and the Museum of Siberian Aquatic Molluscs (Omsk State Pedagogical University, Russia). In particular, 282 specimens of *Lymnaea (Stagnicola) terebra* (Westerlund) were dissected in order to study their genital structure.

In addition, all samples of shells determined by Westerlund himself as *Lymnaea terebra* (or as *L. palustris* var. *terebra*) were examined. At present, the Westerlund's collection is dispersed among at least five scientific collections in Sweden, Russia, Great Britain and Ireland (DANCE 1986, who listed them, has overlooked ZIN, where many important lots are housed), and the main part of this student's lots is

¹ GARBAR (2001) and STADNICHENKO (2004) record this species under the name *Lymnaea (Stagnicola) vulnerata* (Küster, 1862) following the opinion of STAROBOGATOV (1977) and KRUGLOV & STAROBOGATOV (1986), who synonymized these species (see Discussion below).

in the Göteborgs Naturhistoriska Museum, Sweden. We could find original Westerlund's materials of *L. palustris* var. *tereбра* in the Göteborgs Museum and ZIN only, whereas there are no traces of them in the Stockholm Museum. Unfortunately, we were not able to find the type series out (see below), therefore we consider all *L. palustris* var. *tereбра* shells from the Westerlund's collection as the *hypodigm* of the variety. According to the SIMPSON's (1940, 1961) terminology, the term 'hypodigm' can be defined as being a totality of specimens used by a given taxonomist to establish a new species (subspecies, variety) even if he did not designate these as being a nomenclatorial type. Hypodigm has a wider meaning than "type series" as it may comprise all specimens that were determined by the author as belonging to a given taxon after its description of it, as published by him in earlier papers.

Examination of the *L. palustris* var. *tereбра* hypodigm allows us to find out what meaning the author originally assigned to this taxonomic name.

Critical consideration of M. Jackiewicz's materials on *C. occulta*

According to JACKIEWICZ (1959, 1998a) and subsequent authors (HUDEC & BRABENEC 1966, STADNICHENKO 1968, PIECHOCKI 1979, KORNIUSHIN 1999), the most characteristic anatomical traits of the species are: nearly equal lengths of praeputium and penis sheath, dark-pigmented praeputium, which is only slightly wider than penis sheath, and swollen basal part of the spermathecal duct (see VINARSKI 2003). Amongst shell features, the existence of a "wide thick chalky white" columellar lip and cylindrically turriform shell shape should be mentioned as specific traits of *C. occulta* (JACKIEWICZ 1997, VINARSKI 2003). However, from our experience with this species, shell characters are not as stable as anatomical ones. For example, a wide white columellar lip is sometimes weakly developed, though anatomical traits of such specimens always correspond to those mentioned in the original description. Shape of shell is of great variation as well (see, for example, figures of numerous *C. occulta* paratypes portrayed by JACKIEWICZ 1959). It agrees with the JACKIEWICZ's (1997) opinion that it is impossible to determine *C. occulta* unambiguously by means of conchological characters only.

Both conchological and anatomical traits, of Siberian representatives of *C. occulta* given by JACKIEWICZ (1992, 1998b) are similar to those of European populations of the species, and below we critically review these Siberian findings and make a comparison between the data of JACKIEWICZ and Russian authors.

1. *C. occulta* from Yenisseisk (Eastern Siberia, nearly 280 kilometers north of Krasnoyarsk). It was the first report on this species from Siberia. The author (JACKIEWICZ 1992) describes a small sample of *C. occulta* collected by the Swedish Polar Expedition² in 1876 which is now housed in the Museum of Natural History in Stockholm. It is worthwhile to mention that collections of the Swedish Polar expeditions as well as of other research trips in the middle of the XIX century (collections of Maack, Ehrenberg, Schrenck) are housed not only in Sweden. In particular, the ZIN collection includes a number of lots that contain snails determined by C. A. Westerlund himself. Amid others, shells of stagnicoline species collected in vicinities of Yenisseisk and Krasnoyarsk, which were determined by Westerlund as *Limnaea palustris* var. *tereбра* (West.) are housed there under accession numbers 1 and 4. One of these shells was portrayed in a paper by STAROBOGATOV & STRELETZKAJA (1967) on Eastern Siberian freshwater malacofauna under the name *Limnaea tereбра* (Fig. 1, B). The authors believe that it is a distinct species different from all other stagnicoline species that live in Siberia. Obviously, the shell illustrated by STAROBOGATOV & STRELETZKAJA (1967) belongs to the same species as shells from Yenisseisk, which were depicted by Jackiewicz (1992). Furthermore, they are utterly indistinguishable from some shells of paratypes of *Galba occulta* collected in Poland as well as from specimens of *L. tereбра* found in another parts of Siberia (see fig. 1). All shells mentioned are of cylindrically turriform shape and bear a wide chalky white columellar lip.

The label of a sample collected in Krasnoyarsk (Fig. 2, A) witnesses that C. A. Westerlund himself determined these shells as belonging to *L. palustris* var. *tereбра*. We have to add that the type locality of the variety is Luzino village situated on the Yenisei River north of the Polar Circle (68° 35' N, see WESTERLUND 1885). In his earlier work (WESTERLUND 1877), the author mentioned one more locality – a drainage basin of the Podkamennaja Tunguska River. Both the habitats lie within the boundaries of the Yenisei River basin and, thus, individuals of *C. occulta* studied by JACKIEWICZ (1992) were sampled not so far from the terra typica of *L. palustris* var. *tereбра*.

2. *C. occulta* from the Selenga River. This finding described by JACKIEWICZ (1998b) is based on relatively recent collections made by Prof. Z. Bogucki (Poland)

² WESTERLUND (1897: 134) quoted it as "Novaja-Semlja-Jenissej-Expedition". It was commanded by A. E. Nordenskiöld accompanied by A. Stuxberg and A. Lundström. The expedition explored the Yenisei River basin and arrived up-stream to Krasnoyarsk situated at 56° N (see WESTERLUND 1897).

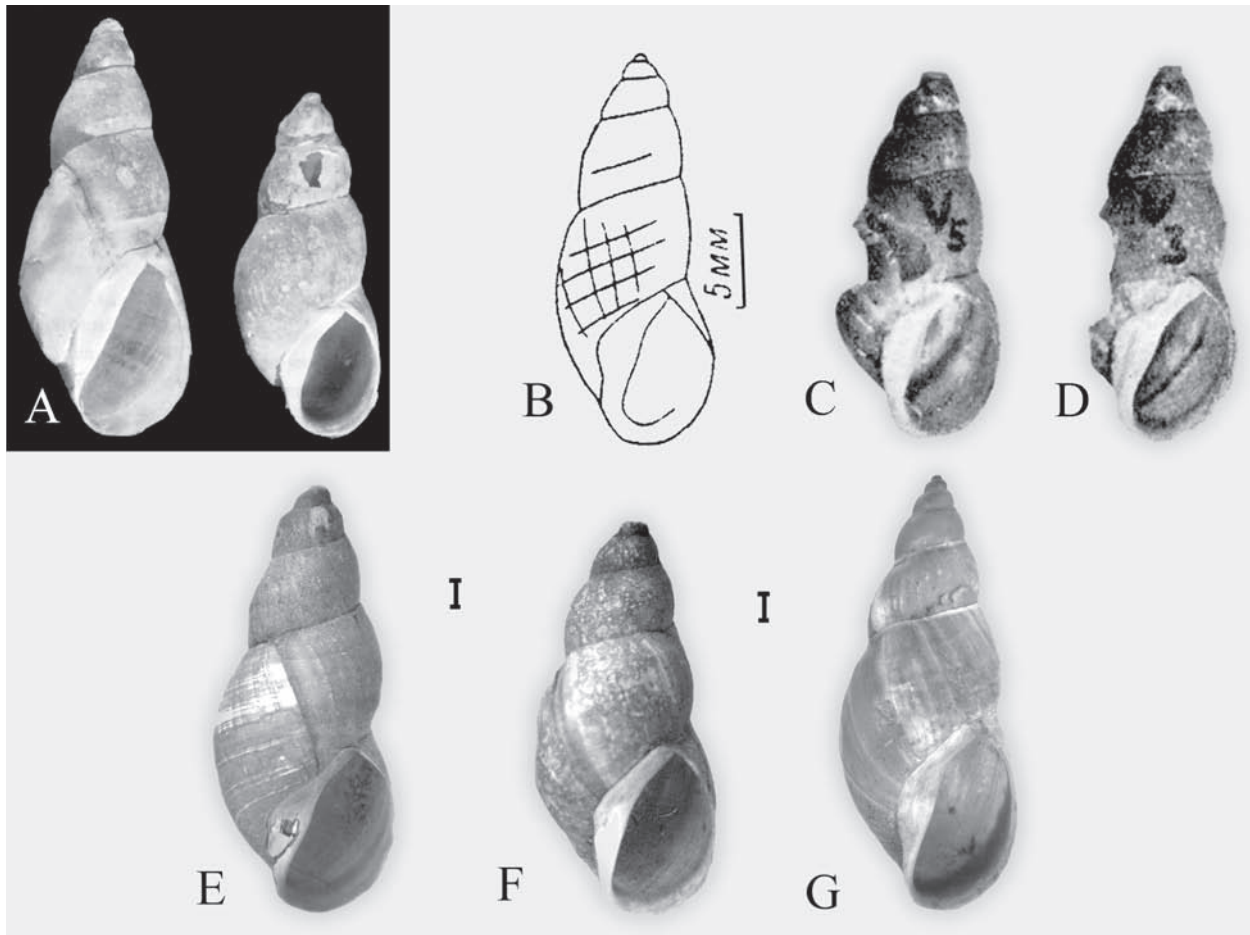


Fig. 1. Shells of *Catascopia occulta/Lymnaea terebra* from different parts of Eurasia. **A:** Yeniseisk (after Jackiewicz 1992); **B:** Krasnoyarsk (after STAROBOGATOV & STRELETZKAJA 1967); **C–D:** Poland (paratypes, after JACKIEWICZ 1959); **E–F:** Russia, Tyumen Region, Yamal Peninsula, Khadyta River (IPAE collection); **G:** Russia, Sverdlovsk Region, Severouralsk Town (IPAE collection). Scale bars in E–F are equal to 1 mm. Photos E–F are made by M. Grebennikov.



Fig. 2. Shells of the *Limnaea palustris* var. *terebra* hypodigm kept in ZIN. **A:** Krasnoyarsk. The bottom label is an original one by Maack and the above label is fulfilled by a Russian museum staff after species determination carried out by Westerlund. Perhaps, this shell is portrayed by STAROBOGATOV & STRELETZKAJA (1967), compare with Fig. 1, B. **B:** Om' River. **C:** Lunkha River. Scale bar 2 mm.

in the delta of the Selenga River (Eastern Siberia). Shell and anatomical features as described by JACKIEWICZ (1998b) are concordant with those of the snails described in the previous paragraphs.

In our opinion, the facts given above provide us with strong reasons to synonymise *Galba occulta* sensu JACKIEWICZ (1992) with *L. palustris* var. *terebra* sensu WESTERLUND (1885).

On the identity of *Limnaea palustris* var. *terebra*

It is impossible to acclaim the synonymy between *Galba occulta* and *L. palustris* var. *terebra* unambiguously without understanding the identity of the latter taxon. There are some nomenclatural points which have to be resolved.

1. Date of publication of the taxonomic name *Limnaea palustris* var. *terebra*. It is believed that this species name was introduced by WESTERLUND as a substitute one for *Limnaea attenuata* sensu Westerlund, 1877 non Say, 1829 in a paper entitled “Land- och Söttvatten-Mollusker insamlade under Vega-Expeditionen af C. Nordquist och A. Stuxberg” (see KANTOR & SYSOEV 2005). We managed to find as many as three alternative dates of publication of this paper. ZHADIN (1933), KRUGLOV & STAROBOGATOV (1993), and WESTERLUND (1885) himself date this publication by 1884, whereas WESTERLUND in his posterior paper (WESTERLUND 1897) and some subsequent authors (BAKER, 1911, MOZLEY 1936, HUBENDICK 1951, KANTOR & SYSOEV 2005) believed that the fourth volume of the expedition report was issued in 1885. At last, KENNARD & WOODWARD (1926) ascribe 1887 to be the date of this volume’s publication. In the catalogue of the ZIN library this book is dated as 1887 as well. Recently, we have been informed by Dr. T. von Proschwitz (Göteborgs Museum), who states that the exact date of publication is 1887 (based on information obtained from the King’s Library in Stockholm). However, it contradicts the WESTERLUND’s (1885) own statement that this variety had been described before the publication of the fifth volume of his “Fauna der in der Paläarktischen Region lebenden Binnenconchylien”. Possibly, WESTERLUND (1885) believed that the other paper had appeared before the fifth volume of the “Fauna...” but the publication was delayed until 1887. Here, we accept (conditionally) that the place of the original publication of *Limnaea palustris* var. *terebra* is in the fifth volume of the “Fauna...” (WESTERLUND 1885) and the date of its description is 1885.

2. Type series of *Limnaea palustris* var. *terebra*. We failed to find the type series of this taxon in the three major museum collections where parts of Westerlund’s materials are kept (ZIN, Göteborg and Stockholm museums), and, most probably, either Westerlund did not separate the type series, or he did not label the type specimen, or his type materials are lost. According to the article 72.4.4 of ICZN (INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE 1999), we may include into the type series all specimens determined by Westerlund which originate from either the vicinity of Luzi-



Fig. 3. The neotype of *Limnaea palustris* var. *terebra* Westerlund (Göteborgs Naturhistoriska Museum). The shell, original label and reproduction of a *Limnaea attenuata* shell from WESTERLUND (1877) are given.

no village, or from the Podkamennaja Tunguska River, since these localities were mentioned in the WESTERLUND’s (1877: 50–51) description of *Limnaea attenuata* from Siberia. However, there are no shells collected in Luzino in all the three collections used, and only one specimen under the label “Sib.[eria], Tunguska” was found in the Göteborgs Museum collection (Fig. 3), and, probably, this shell was mentioned by WESTERLUND (1877) as *Limnaea attenuata* collected in the Podkamennaja Tunguska River basin.

In this case, we are forced to operate on the hypodigm of *L. palustris* var. *terebra*, which includes 23 empty shells from ZIN and the Göteborgs Naturhistoriska Museum (Table 1). In order not to raise possible debates in the future on the identity of *Limnaea palustris* var. *terebra* and its synonymy, we designate the neotype of the latter here (see Fig. 3). The specimen labelled as “Sib., Tunguska” was chosen as the neotype as it was collected near the type locality, it bears all diagnostic shell features of *L. terebra*/*C. occulta*, and resembles the picture of the *L. attenuata* shell given by WESTERLUND (1877). The shell height of the neotype is 20 mm.

Tab. 1. Composition of the hypodigm of *Limnaea palustris* var. *terebra*.

Sampling site, date and collector name (if available)	n	Museum location
Krasnoyarsk, 1852, leg. Maack.	4	ZIN
Luncha River (Lena River basin), leg. Maack.	6	ZIN
Tunguska River, 1852, leg. Maack.	5	ZIN
Om' River, leg. Ehrenberg.	2	ZIN
Vicinity of Yenisseisk, leg. Kitmanov.	1	ZIN
Tunguska.	1	Göteborg
Germany, Seeteich am Salz, Mansfeld Lake.	2	Göteborg
Barents Sea, Kolguev Island (juvenile shells).	2	Göteborg

Other shells from the *L. palustris* var. *terebra* hypodigm (see Fig. 2) are with almost no doubt conspecific to that from the Tunguska River, and Westerlund himself did consider these as belonging to the same variety.

Redescription of *Limnaea terebra*

Type locality: Podkamennaja Tunguska, Eastern Siberia, Russia (place of the neotype collection).

Characteristic shell features: Shell of cylindrical turriculate shape with moderately inflated whorls (in some shells whorls are very convex). Number of whorls up to 7.0–7.5. Body whorl is only a little wider than preceding ones. The columellar lip is usually wide, thick and white-coloured.

Animal body is of light grey colour on its front (above the head) and hind (above the hepatopancreas) parts, and is almost black in the middle part (over the kidney and the hind-gut) with numerous wide white spots.

Reproductive organs: Praeputium cylindrical, oblong, dark-pigmented, penis sheath is of cylindrical shape and only a little narrower than praeputium, bears a well developed bulbous termination. Their ratio is nearly equal to 1:1 (usually praeputium is slightly longer). Prostate with the only inner fold. The provaginal duct is rather long, in its distal part it is clearly swollen.

Discussion

The taxonomic name *Limnaea palustris* var. *terebra* West. was almost forgotten in the subsequent malacofaunistic literature, although there has at least one record of this species from Germany made in the end of XIX century. Namely, O. GOLDFUSS (1900, 1904) mentioned *L. palustris* var. *terebra* from Thuringia

(vicinity of Jena, Seeteich near Wansleben am Salz, and Mansfeld Lake). In the malacological collection housed in Göteborg, we found two shells from the Mansfeld Lake labelled as *L. palustris* var. *terebra* by Westerlund himself, and, possibly, these were donated to this Museum by Goldfuss. In Russia, V. ZHADIN (1933, 1952) included it in the list of varieties within the species *L. palustris*, however his description adds nothing to our knowledge as it is an almost literal Russian translation of the diagnosis given in the WESTERLUND's "Fauna der in der Paläarktischen Region lebenden Binnenconchylien" (WESTERLUND 1885). Since 1967, when STAROBOGATOV & STRELETZKAJA (1967) considered *L. palustris* var. *terebra* to be a good species, all Russian malacologists took their opinion (KRUGLOV & STAROBOGATOV 1986, 1993, VINARSKI 2003, 2005, KRUGLOV 2005, SITNIKOVA et al 2004, KANTOR & SYSOEV 2005).

Regrettably, JACKIEWICZ (1992, 1998b), when discussing new records of *C. occulta* from Siberia, neither used the STAROBOGATOV & STRELETZKAJA (1967) paper nor did she compare her materials with those of previous authors. Possibly, it was due to her strong prejudice against the 'Russian' taxonomy of lymnaeid snails, as has been reported in another paper by the author (JACKIEWICZ 1998a: 3). The possibility that an older available name for *C. occulta* might exist has been overlooked by JACKIEWICZ and all other Western-European malacologists.

We would like to note, in addition, that KRUGLOV & STAROBOGATOV (1986, 1993) believed *Galba occulta* sensu Jackiewicz, 1959 was a junior synonym for the species *Limnaea vulnerata* (Küster, 1862). However, this opinion appeared before 1988, when JACKIEWICZ (1988) has published her redescription of this species, which was based on anatomical examination of snails collected in the type habitat (Cetina River near Omiš Town in the former Yugoslavia). The JACKIEWICZ's (1988) data show that *L. vulnerata* has nothing to do with *C. occulta* as it has two inner folds within the prostate (*C. occulta* has only one inner fold) and reveals quite different proportions of the copulative

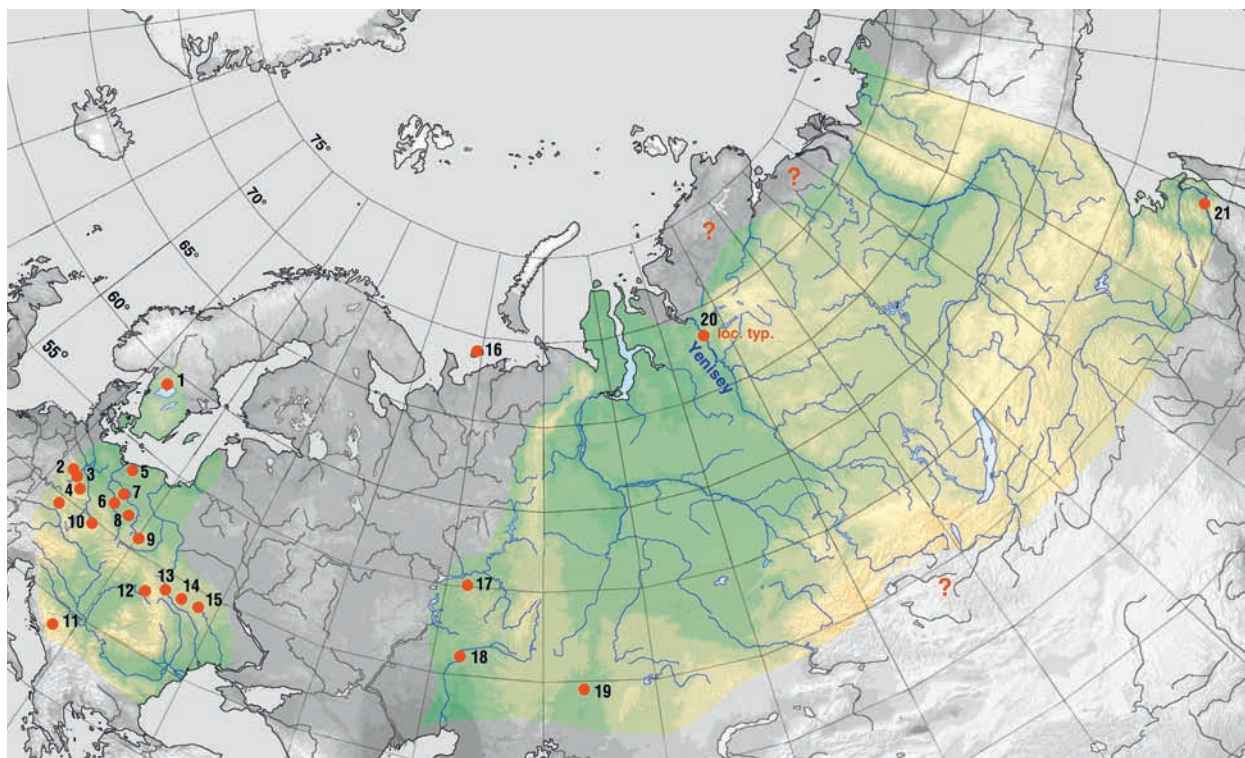


Fig. 4. Map of the *L. terebra* syn. n. geographic distribution. Only points of findings situated outside Siberia are shown. **1:** Karlstad (Sveden), **2–4:** Germany, **2:** Lake Mansfeld, **3:** Lake Wansleben, **4:** vicinity of Leipzig, **5–9:** Poland, **5:** Koszalin and Szczecin provinces, **6–7:** Wielkopolska, **8:** Wrocław, **9:** Świętokrzyski Góry, **10:** near Kolesa village (Czech Republic), **11:** Sarajewo (Bosnien-Herzegovina), **12–16:** Ukraine, **12:** Khust, **13:** Vicinity of Kalush Town, **14:** Vicinity of Bugsk Town, **15:** Zhitomir Region, **16–22:** Russia and Kazakhstan, **16:** Barents Sea, Kolguev Island, **17:** Perm, **18:** Orenburg, **19:** Kostanay, **20:** loc. typ., **21:** Vicinity of Khabarovsk..

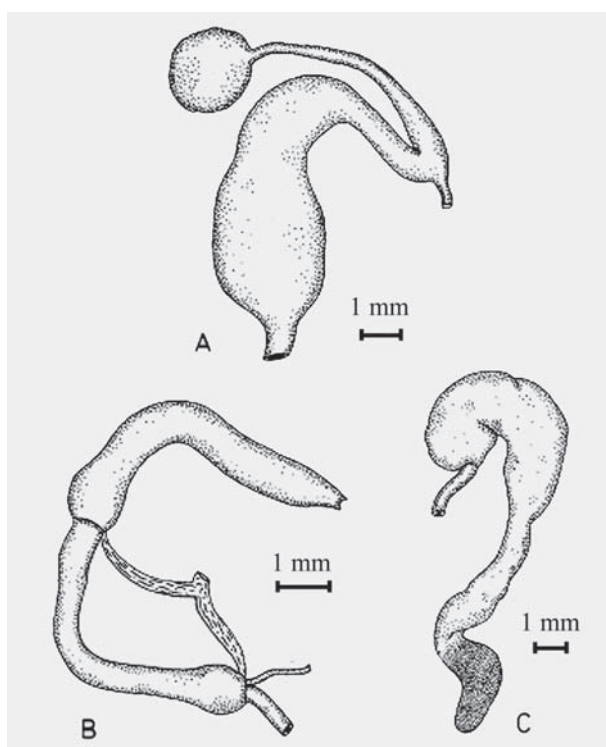


Fig. 5. Fragments of the reproductive system of *Catascopia occulta* from the Selenga River (after JACKIEWICZ 1998b). **A:** Terminal part of the female reproductive organs; **B:** Praepitium and penis sheath; **C:** Prostate.

organ. Thus, *Galba occulta* cannot be synonymised with *L. vulnerata* (see VINARSKI 2003 for details).

According to our data, the species *Lymnaea terebra* sensu Starobogatov et Streletzkaia, 1967 is widely distributed throughout Siberia (Fig. 4) and over its range it keeps the same shell and anatomical diagnostic features that are characteristic for European *C. occulta* (VINARSKI 2003). Anatomical structure of *L. terebra* from different parts of Siberia is stable though some slight extent of variation in the proportions of the copulative apparatus was found (VINARSKI, unpublished data). There are no principal differences between the genital anatomy of Siberian and Eastern European representatives of the species (Fig. 5–6). The pattern of the mantle pigmentation, which is thought to be of importance in lymnaeids taxonomy (JACKIEWICZ, 1993), is identical for the Siberian *L. terebra* and the European *C. occulta* (compare Fig. 6 to Plate X, fig. 9 in JACKIEWICZ 1998a).

JACKIEWICZ (1998b) herself reported on the only anatomical distinction between Eastern European and Siberian representatives of *C. occulta*. She found slight differences in the shape of a pyriform body. This trait, however, does not play an important role in lymnaeid taxonomy and differences in this respect should not be used for species delineation.

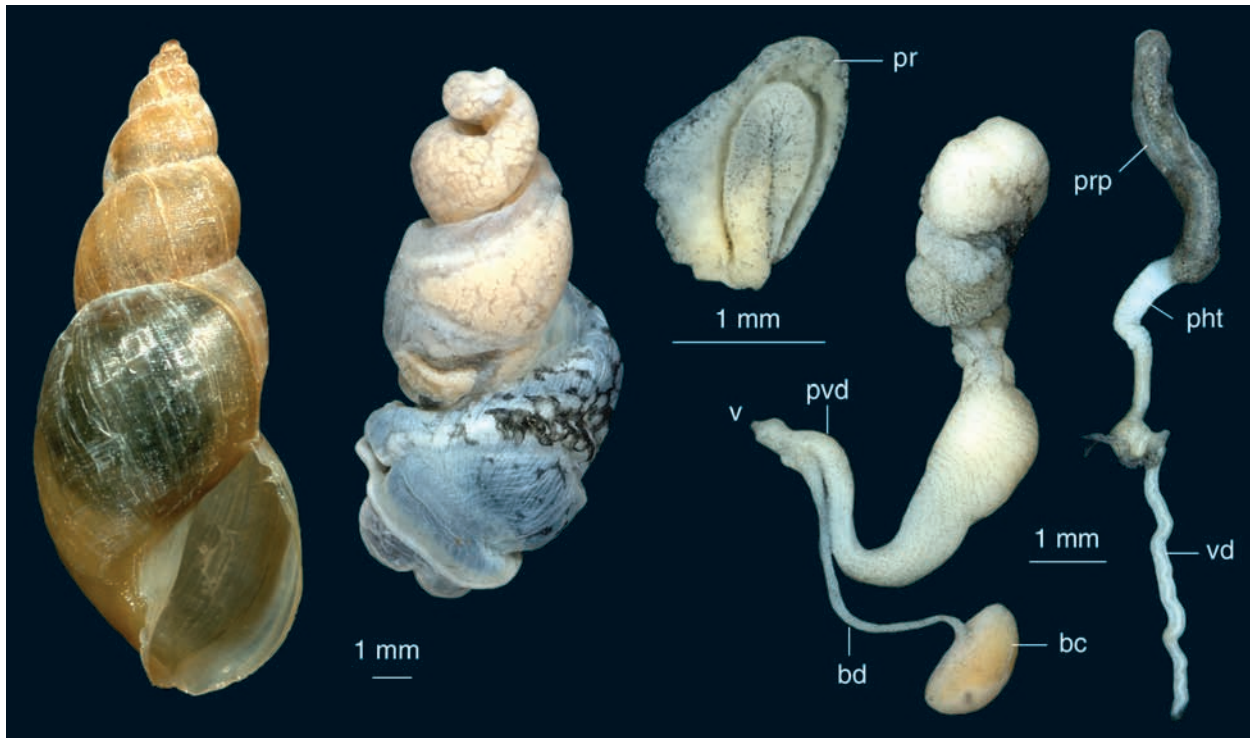


Fig. 6. Shell, soft body and fragments of genital anatomy of *Limnaea terebra* from Siberia (Omsk Region, a swamp near Rechavovo village). Please note that this shell has no well developed columellar lip, however its anatomy is identical with that of *L. terebra* from another parts of Siberia and *C. occulta* from Europe. Abbreviations: **prp** – praeputium; **pht** – penis sheath; **vd** – vas deferens; **bc** – bursa copulatrix; **bd** – bursa duct; **pvd** – provaginal duct; **pr** – prostate; **v** – vagina.

As there are no evident differences between the neotype of *L. palustris* var. *terebra*, the shells of the hypodigm of the latter and the specimens from Poland and Siberia described by JACKIEWICZ (1959, 1992, 1998a, b), we assert here that the species *Galba occulta* Jackiewicz, 1959 should be regarded henceforth as a junior synonym of *Limnaea palustris* var. *terebra* Westerlund, 1885, syn. n. Following the recent European taxonomy based on molecular taxonomic studies (MEIER-BROOK & BARGUES 2002) it has to be named *Catascopia terebra* (West.), though the generic name *Catascopia* Meier-Brook et BARGUES, 2002 is, presumably, not the oldest one available for this taxon (VINARSKI, in preparation).

The range of *C. terebra* covers Eastern Europe (outside Russia), all the Siberia and some adjoining territories (Central Kazakhstan, Amur River Basin, possibly Mongolia). The distribution map (see Fig. 4) is generated on the results of thorough survey of primary faunistic information, and all sources available to the date were taken into account. We know nearly 15 localities where *C. terebra* lives in Europe outside Russia (JACKIEWICZ 1959, 1997, 1998a, b, HUDEC & BRABENEC 1966, STADNICHENKO 1968, PIECHOCKI 1979, BAADE 1989a, b, JACKIEWICZ & VON PROSCHWITZ 1991, KORNIUSHIN 1999, ZEISSLER 1999, GARBAR 2001, STADNICHENKO 2004). The southernmost habitat of the species in Europe is the area around of Sarajevo (JACKIEWICZ 1997), but

it is absent in countries lying to the south and east, namely in Bulgaria (ANGELOV 2000, HUBENOV 2007), Greece (BANK 2006), and Albania (DHORA 2002). It is still not known from the European Russia except for its easternmost part, which is adjacent to the Urals (see points 17, 18 on Fig. 4). The cause of this absence is not known, probably, the species has become extinct there during a great Pleistocene defaunation induced by glaciation events. Thus, the range of *C. terebra* is a disjunctive one.

In Asia, the species is much more common than in Europe and it would be utterly impossible to place all known localities on the map therefore only the position of the type locality is given (see Fig. 4, 20). However, since the neotype of this taxon is designated, the type locality should be referred as “Tunguska, Siberia” in accordance with the information from the lectotype’s label.

According to observations of one of the authors (MVV), *C. terebra* is, perhaps, the most abundant stagnicoline species in Siberia and in some regions it occurs in almost every suitable habitat. The easternmost finding of the species is situated in the Russian Far East in vicinity of Khabarovsk (see Fig. 4, № 21). This opinion is based on an examination of a series of samples labelled as *Limnaea (Stagnicola) liogyra* (West., 1897) in the ZIN collection. Though *L. liogyra* is obviously distinct from *C. terebra* (STAROBOGATOV &

STRELETZKAJA 1967, KRUGLOV 2005), some shells kept under this name are indistinguishable from those of *C. terebra* in the sense proposed here. The question as to how widely *C. terebra* is distributed in the Far East should be resolved in the future.

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