The Newsletter of the IUCN/SSC Mollusc Specialist Group
Species Survival Commission • International Union for Conservation of Nature

TENTACLE

UNITAS MALACOLOGICA

EDITORIAL

This issue, the largest ever, represents 20 almost continuous years of publication of *Tentacle*, the first issue having appeared in December 1989. The newsletter has developed from a typed original, cyclostyled and distributed to a limited readership in the mail, to a full colour, web-based publication read much more widely and with contributions from almost every corner of the globe. Yet the underlying issues remain the same – molluscs are still severely threatened, with many on the brink of extinction. A recent paper by Claire Régnier and colleagues of the Muséum nationale d'Histoire naturelle in Paris, published in *Conservation Biology* in November 2009 (vol. 23, pages 1214–1221), asks what we really know about the true level of mollusc extinctions and whether the global IUCN *Red List* accurately reflects this knowledge. The answer provides much food for thought.

The IUCN *Red List* is an important tool in conservation – only with knowledge of which species are extinct and which are threatened can conservation action be appropriately targeted. More mollusc species than species in any other group are listed as extinct in the *Red List*. Yet, how accurate is the *List*? Perhaps quite accurate for vertebrates, but what about invertebrates? In the first article in this issue of *Tentacle*, Régnier summarizes their *Conservation Biology* paper. The results show that the *Red List* seriously under-estimates the number of extinct mollusc species. The problems lie primarily in (1) the lack of sufficient specialists to address the diversity of what is the second largest animal phylum (in terms of numbers of described species), compared to the relatively large numbers of people recording vertebrates, (2) the geographic locations of those specialists, which for the most part do not match the locations facing the greatest levels of threat, and (3) the longer process leading to listing of invertebrates than vertebrates because it is taxonomists rather than field ecologists and conservation biologists who accrue the knowledge of invertebrate population trends, resulting in an additional step in the trajectory from field-derived knowledge to listing. [Insects of course represent an even great problem.] It is an important paper and I recommend that everyone reads it.

Robert H. Cowie, Editor

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collected on 16 May 1962 by Professor Rusev and deposited in the collection of Professor Angelov, who published the locality in late 2000. The only thermal spring near the Pyasachnik Dam is on its western side (approximate GPS coordinates 42°24′52.41″N, 24°31′17.11″E) and this is probably the locality at which Professor Rusev collected the material.

Bithynia rumelica Wohlberedt, 1911 (Fig. 1) was described as a new species from a thermal spring (water temperature 20° C) in the Rhodopes Mountains near the town of Krichim (Wohlberedt, 1911). The only known such spring is Krichimski Vircheta, near the Vacha River (approximate GPS coordinates 41°59′51.13″N, 24°28′46.08″E) (Fig. 2). The taxonomic status of the species is unclear. It was considered a synonym of *Bithynia* (*Codiella*) *leachi* by Angelov (2000). Given the recent description of the genus *Pseudobithynia* from nearby Greece, representatives of which are very similar to species in the subgenus *Codiella* of the genus *Bithynia* (Glöer & Pešić, 2006), we cannot even be sure to which genus *B. rumelica* belongs.

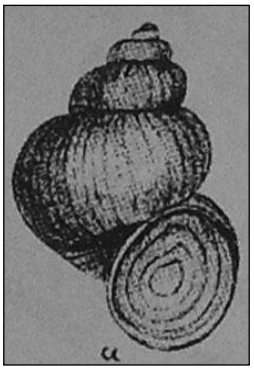

Fig. 1. Drawing of *Bithynia rumelica* by Wohlberedt (1911).

In November 2008 and April 2009 the only known Bulgarian localities of *M. parreyssi* and *B. rumelica* were visited. The spring on the Pyasachnik Dam bank had been piped and its water flowed into a small pool intensively used for watering of domestic cattle. Cow footprints were visible everywhere on its bottom which was highly disturbed. Similar destruction of the benthic area was recorded at Krichimski Vircheta spring as a result of many people washing themselves in the hot water. In both springs pollution from plastic and other materials was obvious.

No individuals or even shell remains of either species were found after an intensive search (checking all types of substrates, sieving mud and sand deposits). If these localities are indeed the only ones for these species in Bulgaria, *B. rumelica* and *M. parreyssi* can be considered extinct in the country.

I thank Peter Glöer and Zdravko Hubenov for literature and for encouraging me to search for these two species and throw some light on their status in Bulgaria. My thanks also go to Angel Tsekov who showed me the thermal spring localities. I also thank Slaveya Stoycheva for her help in the field.

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Fig. 2. The type locality of *Bithynia rumelica*: Krichimski Vircheta spring, West Rhodopes, Bulgaria. (Photos: S. Stoycheva)

Glöer, P. & Pešić, V. 2006. On the identity of *Bithynia graeca* Westerlund, 1879 with the description of three new *Pseudobithynia* n. gen. species from Iran and Greece (Gastropoda: Bithyniidae). *Malakologische Abhandlungen* 24: 29-36.

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NON-MARINE MOLLUSC SPECIES IN THE REGIONAL RED DATA BOOKS OF THE URALS AND SIBERIA (RUSSIAN FEDERATION)

By Maxim E. Grebennikov & Maxim V. Vinarski

Compilation and publication of *Red Data Books* is considered to be one of the most effective approaches to biodiversity conservation (Bouchet, 1997). In the USSR, the first edition of the national *Red Data Book* was published in 1974 and two updated editions of it were issued prior to 1991. The first edition of the *Red Data Book* of the Russian Federation (formerly the Russian Soviet Federative Socialistic Republic – RSFSR) was published in 1983 (a volume devoted to plant species) and 1988 (a volume containing endangered animal species). In the same decade, some republics of the RSFSR (Buryatia, Bashkiria and several others) published their own *Red Data Books*.

In 1995, the federal law of the Russian Federation entitled ‘On the Fauna’ was passed. This law requires each region of Russia (there are 84 regions now in the Russian Federation) to publish its own *Red Data Book* and update it at least once within 10 yr. Sixty regional *Red Data Books* were published by 2003 (Gorbatovsky, 2003) and now almost all regions of Russia have such editions.

It is not surprising that most animal taxa included in these regional editions are vertebrates, with apparent prevalence of birds and mammals. Possibly, this reflects a global trend of paying more public attention to the most attractive species. Vertebrates are well studied and public opinion doubtless acknowledges their practical and aesthetic significance. There is surely hardly anyone who would deny the importance of

survival of the Giant Panda or White Rhinoceros. Regrettably, invertebrate species are relatively neglected subjects in the regional *Red Data Books* of Russia (Gorbatovsky, 2003), though their diversity is much higher than that of vertebrates. The main cause of this is ignorance of invertebrate species diversity in most of regions. For example, nobody knows today how many species of insects inhabit the Omsk Region, although its area (139,000 km^2) exceeds that of such European countries as Belgium (30,500 km^2), Portugal (about 92,000 km^2) and Greece (132,000 km^2).

Here we analyse the *Red Data Books* of Russian regions in the Urals and Siberia. We aimed to learn how extensively continental mollusc species are represented in these books. Our analysis covers both freshwater and terrestrial species.

In the 1980s, the number of mollusc species in the *Red Data Books* of the USSR and RSFSR was low and only endemic species distributed in some remote areas of the country were acknowledged as endangered. For instance, in the second edition of the national *Red Data Book* of the USSR (Borodin *et al*., 1984) only 19 species of molluscs were included. Of this number, 14 were large unionid mussels living in waterbodies of the Russian Far East, one was the European pearl mussel, *Margaritifera margaritifera* (Linnaeus, 1758), and the rest were gastropods (the Transcaucasian endemic *Helix buchi* Dubois de Montpéreux in Pfeiffer, 1853 and 3 rare species of *Melanoides* Olivier, 1804 from central Asia).

The current *Red List* of rare and threatened animal species of the Russian Federation (Danilov-Danilyan, 2001) continues to include local endemic species of molluscs predominantly. There are no continental gastropod species in this *Red List*, whereas 33 out of 34 species of freshwater bivalves included are Far Eastern unionid mussels with quite local distributions. It should be noted that the taxonomic independence of some of these endemic mussel species has recently been questioned (Chernyshev, 2004).

In our opinion, this situation demands inclusion of more continental mollusc species in the regional *Red Data Books*. This would attract more attention to the conservation of rare molluscs, which are overlooked by the compilers of the national *Red List*. There are a number of species that cannot be considered as threatened on the national scale but that are rare at a regional scale and hence worth protecting.

We examined 19 *Red Data Books* of Uralian and Siberian regions (Table 1) and found that continental mollusc species are represented in only four (21 %) of them. The largest number of endangered species (5) is included to the *Red Data Book* of the Kirov Region. Three species of continental molluscs are represented in the *Red Data Book* of the Chelyabinsk Region (Fig. 1).

All 11 species included (Table 2) are Gastropoda (6 freshwater and 5 terrestrial). Bivalves were represented earlier in the *Red Data Book* of the Bashkirian Autonomous Republic (Kucherov, 1984) by the species *Unio pictorum* (Linnaeus, 1758); however this species was subsequently excluded from the Republic's *Red List* and in the most recent edition

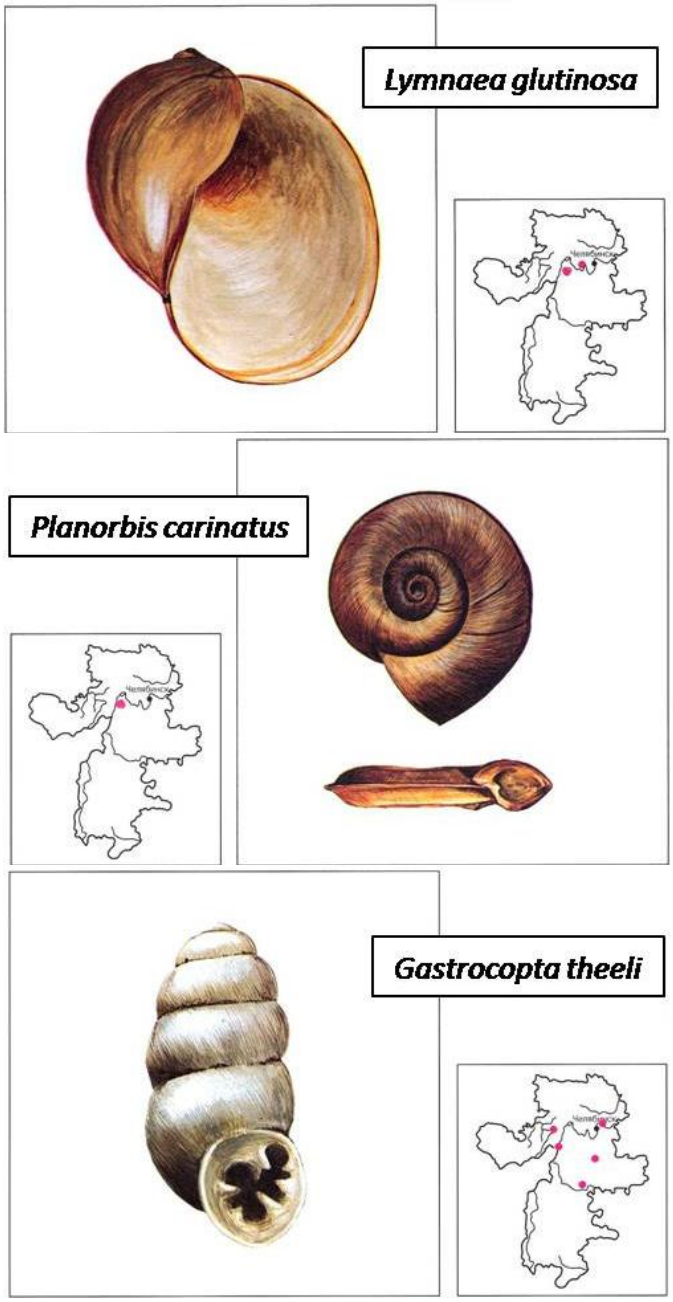

Fig. 1. Three species of continental molluscs represented in the *Red Data Book* of the Chelyabinsk Region, with their known localities. (from Korytin, 2005)

(Bayanov, 2004) it is not considered as threatened in Bashkiria since "its abundance does not decline and special efforts for its conservation are not needed".

In most cases, continental molluscs are placed in category 3 – 'rare species', and only *Hippeutis fontana* (Lightfoot, 1786) in the *Red Data Book* of the Komi Republic was placed in category 2 – 'rare vulnerable species, whose abundance is declining'. Notably, no species of such diverse molluscan families as the Valvatidae, Bithyniidae or Sphaeriidae is included in the regional *Red Lists* of Siberia and Urals.

Interestingly, although there are nearly 50 Siberian endemic species of non-marine molluscs, only one of them is included

Table 1. List of regional *Red Data Books* for regions of Siberia and Urals available to date, indicating whether any mollusc species are included (+) or not included (–).

Region	Reference	Molluscs
Altay Region	Irisova *et al*., 2006	–
Bashkirian Autonomous Republic	Kucherov, 1984	+
Bashkortostan Republic (formerly Bashkirian Autonomous Republic)	Bayanov, 2004	–
Buryatia Republic	Plotnikov *et al*., 1988	–
Chelyabinsk Region	Korytin, 2005	+
Kemerovo Region	Gagina & Skalon, 2000	+
Khanty-Mansiyskii Automomous District (part of the Tyumen Region)	Vasin, 2003	–
Kirov Region	Dobrinsky & Korytin, 2001	+
Komi Republic	Taskayev, 1998	+
Kurgan Region	Shevelev, 2002	–
"Middle Urals" (Perm and Sverdlovsk Regions)	Bolshakov, 1996	–
Novosibirsk Region	Yudkin & Shaulo, 2008	–
Omsk Region	Sidorov & Rusakov, 2005	–
Orenburg Region	Vasilyev, 1998	–
Tatarstan Republic	Schchepovskikh, 1995	–
Tomsk Region	Revushkin, 2002	–
Udmurtian Republic	Zubtsovsky, 2001	–
Yakutia-Sakha Republic	Solomonov, 1987	–
Yamalo-Nenetskii Automomous District (part of the Tyumen Region)	Dobrinsky, 1997	–

in a regional *Red Data Book*: *Sibirobythinella kuznetzkiana* Johansen & Starobogatov, 1982, belonging to the family Pomatiopsidae. This mollusc is still known only from the type locality (Mountain Shoria, Kemerovo region in the south-east part of western Siberia).

So, we may conclude that continental molluscs are highly under-represented in the recent regional *Red Data Books* of Siberia and Urals. In our opinion, the main cause of this is that there are too few professional malacologists for this large territory and most parts of the Uralo-Siberian region have still not been covered by malacological surveys due to its remoteness and absence of communication.

Table 2. Continental mollusc species included in regional *Red Data Books* of the Urals and Siberia, with their conservation category. Category 2: rare vulnerable species, whose abundance is declining; category 3: rare species.

Species	Region (Republic)	Category
BIVALVIA		
Family UNIONIDAE		
Unio pictorum (Linnaeus, 1758)*	Bashkirian Autonomous Republic	–
GASTROPODA		
Family CLAUSILIIDAE		
Cochlodina laminata (Montagu, 1803)	Kirov Region	3
Lacinaria cana (Held, 1836)	Kirov Region	3
Family ENIDAE		
Ena montana (Draparnaud, 1801)	Kirov Region	3
Family GASTROCOPTIDAE		
Gastrocopta theeli (Westerlund, 1877)	Chelyabinsk Region	3
Family LIMACIDAE		
Limax cinereoniger Wolf, 1803	Kirov Region	3
Family LYMNAEIDAE		
Lymnaea carelica Kruglov & Starobogatov, 1983	Kirov Region	3
Lymnaea glutinosa (Müller, 1774)	Chelyabinsk Region	3
Family PHYSIDAE		
Physa adversa (Da Costa, 1778)	Komi Republic	3
Family PLANORBIDAE		
Hippeutis fontana (Lightfoot, 1786)	Komi Republic	2
Planorbis carinatus (Müller, 1774)	Chelyabinsk Region	3
Family POMATIOPSIDAE		
Sibirobythinella kuznetzkiana Johansen & Starobogatov, 1982	Kemerovo Region	3

* In the most recent edition (Bayanov, 2004) this species was excluded from the list of endangered animals.

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Bolshakov V.N. (ed.). 1996. *Red Data Book of the Middle Urals. Rare and Endangered Species of Animals and Plants*. Ural University Press, Yekaterinburg. 280 p. [in Russian].

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Gagina T.N. & Skalon, N.V. (eds.) 2000. *Red Data Book of the Kemerovo Region: Rare and Endangered Animal Species*. Kemerovskoje Knizhnoje Izdatel'stvo, Kemerovo. 276 p. [in Russian].

Gorbatovsky, V.V. 2003. *Red Data books of the Regions of Russian Federation: a Handbook*. NIA-Priroda, Moscow. 496 p. [in Russian].

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Korytin N.S. (ed.) 2005. *Red Data Book of the Chelyabinsk Region. Animals. Plants. Fungi*. Ural University press, Yekaterinburg. 448 p. [in Russian].

Kucherov, E.V. (ed.). 1984. *Red Data Book of the Bashkirian Autonomous Republic. Rare Animals and Plants, Problems of their Protection*. Bashkirskoje Knizhnoje Izdatel'stvo, Ufa. 199 p. [in Russian].

Plotnikov A.I., Korsunov V.M., Pronin N.M., Boykov T.G., Prokopiev V.N., Khvorostov A.V. & Shargayev M.A. (eds.) 1988. *Red Data Book of Rare and Endangered Species of Animals and Plants of the Buryat Autonomous Republic*. Buryatskoje Knizhnoje Izdatel'stvo, Ulan-Ude. 416 p. [in Russian].

Revushkin A.S. (ed.). 2002. *Red Data Book of the Tomsk Region*. Tomsk State University Press, Tomsk. 402 p. [in Russian].

Shevelev V.P. (ed.) 2002. *Red Data Book of the Kurgan Region*. Zauralye Publishers, Kurgan. 422 p. [in Russian].

Schchepovskikh A.I. (ed.) 1995. *Red Data Book of the Tatarstan Republic. Animals, Plants, Fungi*. Priroda Publishers, Kazan. 452 p. [in Russian].

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Solomonov N.G. (ed.). 1987. *Red Data Book of the Yakutian Autonomous Republic*. Nauka Publishers, Siberian branch, Novosibirsk. 99 p. [in Russian].
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Vasin A.M. (ed.). 2003. *Red Data Book of the Khanty-Mansiyskii Automomous District*. Pakrus, Yekaterinburg. 374 p. [in Russian].
Yudkin V.A. & Shaulo D.N. (eds.). 2008. *Red Data Book of the Novosibirsk Region*. Arta, Novosibirsk. 527 p. [in Russian].
Zubtsovsky N.E. (ed.). 2001. *Red Data Book of the Udmurtian Republic*. Udmurtia, Izhevsk. 152 p. [in Russian].

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LAND MOLLUSC CONSERVATION PROBLEMS IN EL GIGANTE ECOLOGICAL RESERVE, EASTERN CUBA

By David Maceira Filgueira & Yovanis Batista

El Gigante Ecological Reserve is located in Granma province, in the Sierra Maestra mountain range, eastern Cuba (Fig. 1). The reserve is 10.46 km^2 in area with a maximum elevation of 1339 m above sea level (El Gigante itself). Minimum and maximum temperatures are 9.7-19.7°C and 20-27°C, respectively. Annual precipitation exceeds 1350 mm. The land snail fauna of the reserve has not previously been studied. The land snail fauna of the Sierra Maestra mountain range has been reported to comprise 155 species, 75 % endemic to Cuba, (Maceira, 2000). A few specific protected areas in Sierra Maestra have been inventoried for molluscs: 12 species in the Gran Piedra Protected Natural Landscape (Maceira, 2005a); 21 species (91 % endemic to Cuba) in the Siboney-Juticí Ecological Reserve (Maceira, 2005b); 13 species, all endemic, in La Bayamesa National Park (Maceira, 2005c); and 12 species (83 % endemic to Cuba) in the Pico Mogote Ecological Reserve (Maceira, 2006). The Cauto River basin has also been studied, as it is the most extensive river in Cuba; 64 land snail species (88 % endemic to Cuba) were recorded (Maceira, 2004). At present, the mollusc fauna of most of the the protected areas in the eastern Cuban mountains is unknown, as are the threats they face and the use that the residents of local communities make of them. This study contributes to the knowledge of the terrestrial molluscs of El Gigante Ecological Reserve and the threats they face.

During 2-7 December 2008 the terrestrial molluscs in the litter and soil, and on rocks, fallen trunks and vegetation were collected in the montane rain forest. Because of the frequent, intense and cold rain in the study area during the field work period it was impossible to develop a methodology to estimate species abundance, so only species composition, endemism and threats were assessed. All samples are deposited in the Malacological Collection of BIOECO (BSC-M).


Fig. 1. El Gigante hill.

Ten species of land snails were recorded, of which eight are endemic to Cuba and two are introduced. Of these, seven species live in the soil and three live on trees. It is possible that the low number of species recorded may be related to the low temperatures during December. More species might be detected if surveys were carried out during spring and summer.

Originally the montane rain forest vegetation covered a larger area in the Sierra Maestra, as suggested by the 44 % similarity in mollusc species composition between the present El Gigante and La Bayamesa protected areas. In La Bayamesa, two species of *Cysticopsis* occur: *C. pemphigodes* (Pfeiffer) and *C. lesavillei* (Gundlach). Also, there are two species of *Obeliscus*: *O. clavus flavus* Pilsbry and *O. lata* Gundlach in Pilsbry. While both *Obeliscus* species also occurred in El Gigante, only one species of *Cysticopsis* was found: *C. pemphigodes*. Another similarity between these two protected areas is the genus *Coryda* of which *C. lindoni* (Pfeiffer) occurs in La Bayamesa and *C. alauda* (Férussac) in El Gigante. These similarities indicate that perhaps a connection existed between these two areas that facilitated exchange of species and that during the current process of habitat degradation some species may have disappeared.

Threats to the conservation of land molluscs inhabiting the montane rain forest in El Gigante Ecological Reserve include intense human activity over an extensive period that has resulted in destruction and fragmentation of the original plant formation and the introduction of two species of terrestrial molluscs not characteristic of this ecosystem (*Deroceras reticulatum*, *Succinea angustior*). Also, damage to the vegetation structure has been reported. Inappropriate agricultural practices on the steep mountain slopes have lead