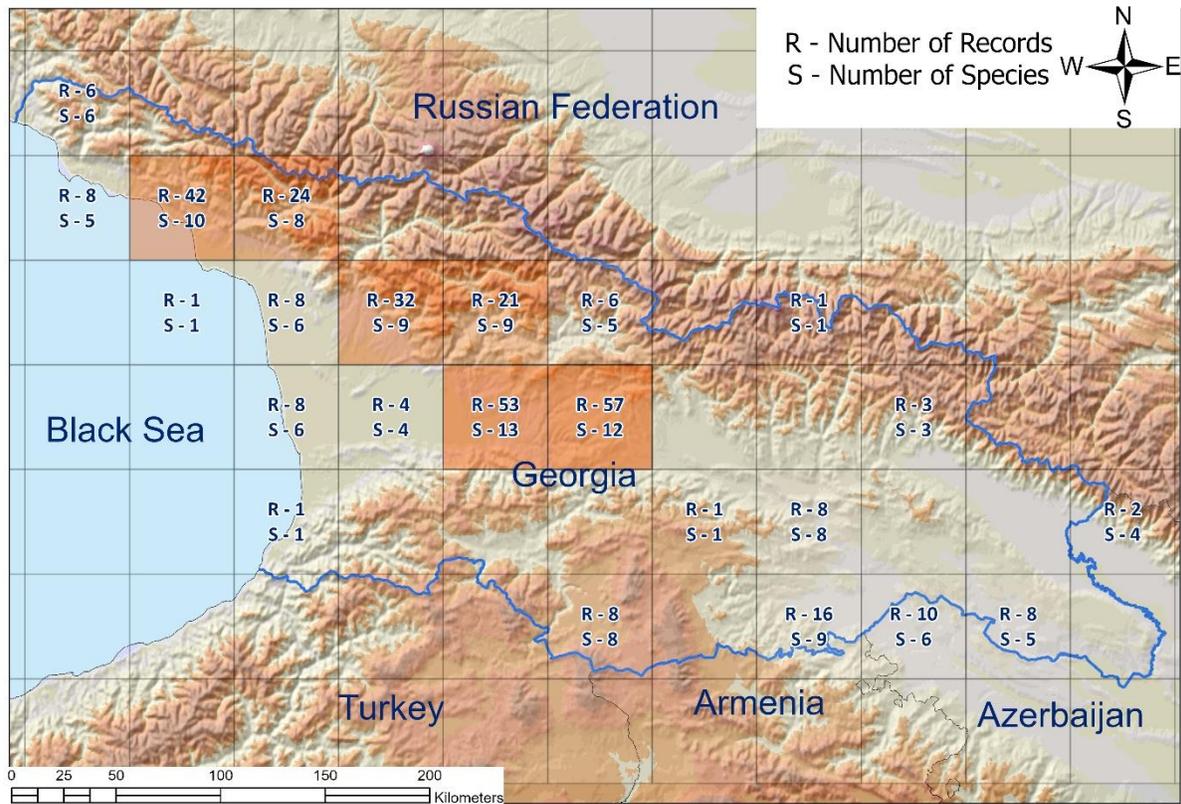


Supplement materials



Map 1. The number of records and species found in each quadrat of Georgia.

#	Scientific name	Common name	Status	Roosts	Caves
1.	<i>Rhinolophus ferrumequinum</i> (Schreber, 1774)	Greater Horseshoe Bat	-	Caves, buildings, cellars (Dietz 2016) Churches (Papava 1949; Kuziyakin 1950)	Anakopia cave (Tintilozov 1968); Adzaba cave (Satunin 1912; Ivanitskiy 2002); Adit close to village Arasadzikhi Lidzava cave, Gegi cave, Abrskili cave, Otapis Tavi cave, Minasiani cave, Mogzaurta cave, (Ivanitsky 2010); Cavi at riv. Dzikhay, Tkhini cave, Lykhni cave, Kvemo Shakurani cave, Nameless cave close to Besleti, Akhali Atoni cave in the river Psirtska gorge, Mkrali cave (Ivanitskiy 2017); Jali tunnel (Benda et al. 2011); Urta cave (Papava 1949; Bukhnikashvili 2004; Natradze et al. 2023); Kortskheli cave (Kipiani et al. 1966); Kheta Oghueubi cave (Kipiani et al. 1966); Okhvameshkari cave, Okhvameshkari II cave and Okhvameshkari III cave, Sakishore cave, Gogoleti cave, Artillery pillbox close to vill. Ajarisaghmarti, Taroklde cave, Samerckhleke cave, Water tunnel on Mtsvane Kontskhi, Rock-cut monastery Nakhiduri (Bukhnikashvili et al. 2008); Tskaltubo II (Kumistavi, Promethe) cave, Tsilto III cave, Kotiasklde cave (Sveris Kvabkari cave), Sadatvia cave, Sabikia cave, Sachinkia cave, Manganous mines, Rock-cut city Vardzia, Rock-hewn town Uplistsikhe, Rock-cut monastery Shiomghbvime, Rock-cut monastery Didi Kvabebi, Rock-cut monastery Dodos Rka, Rock-cut monastery Tetri Senakebi, Tunnel at Rock-cut monastery Tetri senakebi, Rock-cut monastery Sabereebi, Rock-cut monastery Natlismtsemeli (Bukhnikashvili 2004); Sataplia reserve (Sokolov, Syroechkovskiy 1989); Ghliana cave (Natradze et al. 2023); Letsurtsume cave, Saadamio cave, Motena cave, Piraghia cave, Satskialo mghvime cave (Natradze et al. 2023); Rock-cut monastery David Gareji (Matsaberidze 1976; Bukhnikashvili 2004); Nameless small cave close Muris khidi on Tsageri-Lentekhi road, Leskhulukhi cave, Ortvala cave, Shurubumu cave, Satsurbliia cave, Vardigora cave, Baryte mine near vil. Lekereti, Talc mine near vil. Chorchana, mine near vill. Namokvani, Shvilobisa cave, Nameless artificial cave close Jvari monastery, Algeti reservoir diversion tunnel, Rock-cut monastery Damaluli eklesia, Tunnel close to Sulphuric bathes in Tbilisi, Tunnel in Mziuri park Tbilisi, mines close vil. Kazreti open quarry, adit in the Matsimi gorge in Lagodekhi

					reserve, cave in the valley of Stori River (Natradze et al. 2023), Khomuli cave (Unpublished data)
2.	<i>Rhinolophus hipposideros</i> (Andre', 1797)	Lesser Horseshoe Bat	-	Caves, mines, buildings, churches, mines (Dietz 2016), one record in tree hollow (Papava 1949)	Lidzava cave (Ivanitskiy 2002); Gegi cave, Adzaba cave, Abrskili cave, Otapis Tavi cave, Jampali cave, Anakopia cave, Mogzaurta cave, Tsebelda cave, Nameless cave close to Besleti cave, Akhali Atoni cave in Simon Kananit cell, Nameless cave close to Gumista riv. (Ivanitskiy 2010); Tounel in the Sokhumi Dendrological park, Tsivi (Kharkovi) cave, Tkhini cave, Minasiani cave, Tsvitskala cave, Didi Datvi cave, Kvemo Shakuranis cave, Mkrali cave (Ivanitskiy 2017); Urta cave (Papava 1949; Natradze et al. 2023); Kortskheli cave, Kheta Oghueubi cave, Letsurtsume cave, Machkhapi cave (Kipiani et al. 1966); Kelasuri cave, Sataplia cave, Tskaltubo II (Kumistavi, Promethe) cave, Tsilto III cave, Tsilto IV cave, Sachinkia cave, Tsilto IV cave, Sadatvia cave, Sabikia cave, Kotias klde cave (Sveris Kvabkari cave), Water tunnel on Mtsvane Kontskhi, Rock-hewn town Uplistsikhe, Rock-cut monastery Dodos Rka, Rock-cut monastery Natlismtsemeli, Rock-cut monastery Sabereebi (Bukhnikashvili 2004); Sakishore cave, Kidobana cave, Tarokldis cave, Tsutskhvati V cave, Tsutskhvati VII cave, Artillery Pillbos close to vill. Ajarisaghmarti; Samerckhleke cave, Piraghia cave, Satskrialo mghvime cave), Satsurbliia cave; Usholta cave, Verdzis tavi cave, Nameless cave under the road close to vil. Lakhepa, Samele cave, Gharta Grotto, Ortvala cave, Baryte mine near vil. Lekereti, Talc mine near vil. Chorchana, Adits near vill. Namokhvani, Adit close to vill. Ghelivake, Tunnel near vill. Ghelivake, Adit near vill. Chartala, Algeti reservoir diversion tunnel (Natradze et al. 2023), Khomuli cave (Unpublished data).
3.	<i>Rhinolophus euryale</i> Blasius, 1853	Mediterranean Horseshoe Bat	VU in the Red List of Georgia (=GRL)	Caves, buildings, rarely mines (Dietz 2016)	Adzaba cave (Perov 1980; Gazaryan, Ivanitskiy 2005; Ivanitskiy 2010); Lidzava cave, Abrskili cave (Gazaryan, Ivanitskiy 2005); Otapis tavi cave, Besleti cave, Akuyu cave, Akhali Atoni cave in Simon Kananit cell (Ivanitskiy 2010); Tkhini cave (Ivanitskiy 2017); Otkhara (Kostrovaya) cave, Pavlovskoe cave, Tsebelda cave (Satunin 1912); Jali tunnel (Benda et al. 2011); Urta cave (Papava 1949; Natradze et al. 2023); Tsilto IV cave, Sachinkia cave, Adit close to sulphur bases in Tbilisi (Bukhnikashvili 2004); Grotto close to Khornabuji castle; Ghliana cave; Tskaltubo II (Kumistavi, Promethe) cave, Gogoleti cave,

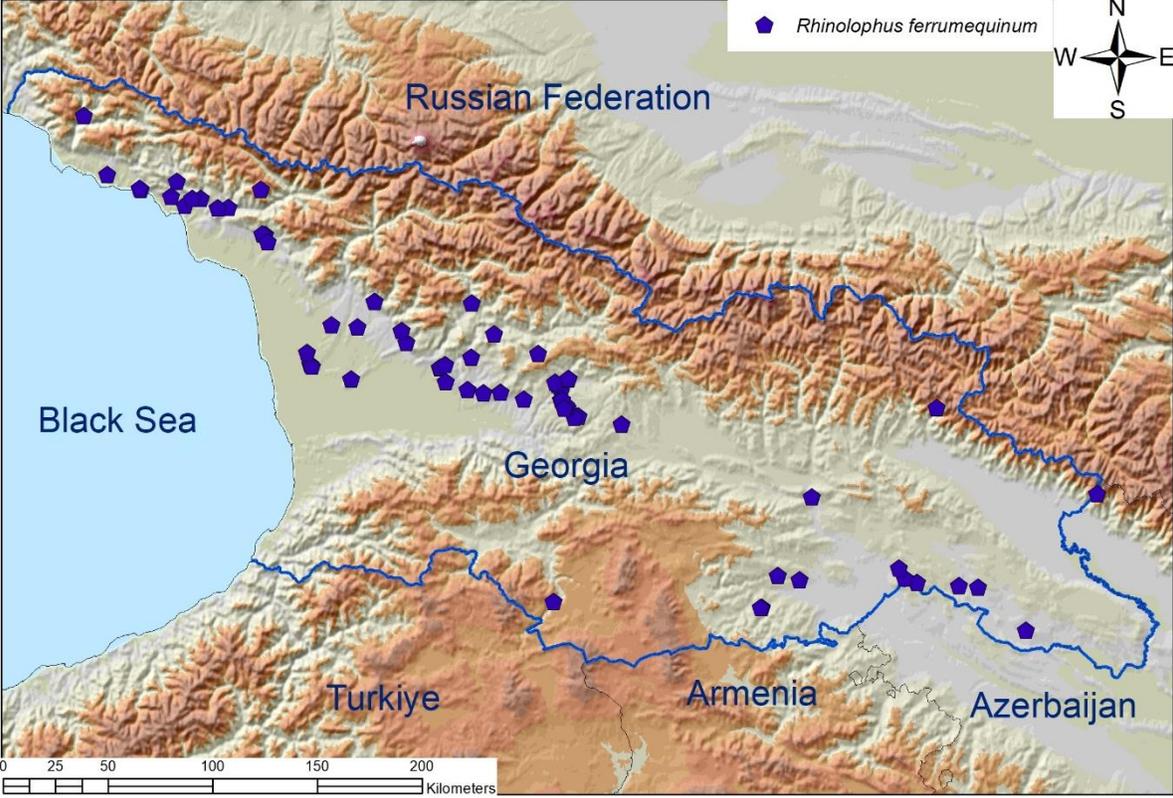
					Tarokldis cave, Tsutskhvati VII cave, Sachinkia cave, Tsilto IV cave, Okhvameshkari III cave (Bukhnikashvili et al. 2008); Tsutskhvati V cave, Leskhulukhi cave, Kotias klde cave (Sveris Kvabkari cave), Letsurtzume cave, Vardigora cave, Baryte mine near vil. Lekereti, Piraghia cave, Satsurbliia cave, Matkhoji cave, Talc mine near vil. Chorchana, Shurubumu cave, Algeti reservoir diversion tunnel, Adits close vil. Kazreti open quarry, Rock-cut monastery Damaluli church (Natradze et al. 2023); Matkhoji cave, Khomuli cave (Unpublished data)
4.	<i>Rhinolophus blasii</i> Peters, 1866	Blasius' Horseshoe Bat	-	Caves, underground roosts (Dietz 2016)	Tskaltubo II (Kumistavi, Promethe) cave, Tarokldis cave, Gogoleti cave (Natradze et al. 2023).
5.	<i>Myotis blythii</i> (Tomes, 1857)	Lesser Mouse-eared Bat	-	Mostly caves and underground sites, also buildings and bridges (Dietz 2016), Churches (Papava 1949; Kuzyakin 1950)	Lidzava cave, Abrskili cave, Otapis tavi cave, MGU 2003.01 cave (Ivanitskiy 2010); Adzaba cave (Perov 1980; Ivanitskiy 2002); Tkhini cave (Ivanitskiy 2017); Irina cave (Perov 1983); Urta cave (Papava 1949); Kortskheli cave, Nazodelavo cave, Kudaro VII cave (Kipiani et al. 1966); Letsurtsume cave (Kipiani et al. 1966, Natradze et al. 2023); Tskaltubo II (Kumistavi, Promethe) cave, Ghliana cave (Natradze et al. 2023); Tsilto IV cave, Rock-cut monastery Dodos Rka, Rock-cut monastery Natlismtsemeli, Rock-cut monastery Sabereebi, Rock-cut monastery David Gareji, Rock-cut monastery Tetri Senakebi, Tunnel at Rock-cut monastery Tetri senakebi (Bukhnikashvili 2004); Okhvameshkari III cave, Tsutskhvati VII cave, Kidobana cave, Gogoleti cave, Kotias klde cave (Sveris Kvabkari cave) (Bukhnikashvili et al. 2008); Piraghia cave, Satskrialo mghvime cave (Natradze et al. 2023); Nameless small cave close Muris khidi on Tsageri-Lentekhi road, Ortvala cave, Becho cave, Satsurbliia cave, Usholta cave, Vardigora cave, Artificial grottos in riv. Kura valley near vil. Pia, Tunnel near vill. Ghelivake, Adit close to vill. Ghelivake, Nameless artificial cave close Jvari monastery, cave in the valley of Stori River (Natradze et al. 2023).
6.	<i>Myotis mystacinus</i> (Kuhl, 1817)	Whiskered Bat	-	Cavities and houses, bridges, rock crevices,	Adzaba cave (Ivanitskiy 2010); MGU 2003.01 cave, (Gazaryan 2009); Tunnel near vill. Ghelivake (Natradze et al. 2023); Saadamio cave, Usholta cave, Adit in The Matsimi gorge in Lagodekhi reserve, Artificial grottos in riv. Kura valley near vil. Pia (Natradze et al. 2023);

				wintering in caves, mines (Dietz 2016)	
7.	<i>Myotis brandtii</i> (Eversmann, 1845)	Brandt's Bat	-	Trees, buildings, wintering in caves, mines (Dietz 2016)	MGU 2003.01 cave, (Ivanitskiy 2010)
8.	<i>Myotis daubentonii</i> (Kuhl, 1817)	Daubenton's Bat	-	Trees, bridges, in caves during winter (Dietz 2016).	Kidobana cave, Tskaltubo II (Kumistavi, Promethe) cave (Natradze et al. 2023)
9.	<i>Myotis emarginatus</i> (Geoffroy, 1806)	Geoffroy's Bat	-	Caves, buildings (Dietz 2016), Churches (Papava 1949; Kuzyakin 1950)	Adzaba cave, Tkhinis cave, Besleti cave (Ivanitskiy 2017); Jali tounel (Benda et al. 2011); Rock-cut monastery Tetri Senakebi, Rock-cut monastery Natlismtsemeli, Rock-cut monastery David Gareji (Bukhnikashvili 2004); Ghliana cave; Urta cave; Tskaltubo II (Kumistavi, Promethe) cave, Kidobana cave, Letsurtsume cave, Piraghia cave, Artificial grottos in riv. Kura valley near vil. Pia, Tunnel near vill. Ghelivake, mines close vil. Kazreti open quarry, Rock-cut monastery Sabereebi, Adit in The Matsimi gorge in Lagodekhi reserve (Natradze et al. 2023);
10.	<i>Myotis nattereri sensu lato</i> (Kuhl, 1817)	Natterer's Bat	-	Trees, buildings, crevices, in caves and underground sites during winter (Dietz 2016)	Okhvameshkari III cave, Tunnel close to <u>sulphuric baths</u> . in Tbilisi (Natradze et al. 2023)
11.	<i>Myotis bechsteini</i> (Kuhl, 1817)	Bechstein's Bat	VU in GRL	Trees, rarely buildings (Dietz 2016)	Kvemo Shakurani cave (Ivanitskiy 2010), Letsurtsume cave, Gogoleti cave (Natradze et al.2023)
12.	<i>Pipistrellus pipistrellus</i> (Schreber, 1774)	Common Pipistrelle Bat		Wide spectrum of	Tskaltubo II (Kumistavi, Promethe) cave, Rock-cut monastery Natlismtsemeli (Bukhnikashvili 2004); adit near vill. Ghelivake; Saadamio cave, Tunnel close to sulphuric baths in Tbilisi, Tunnel near

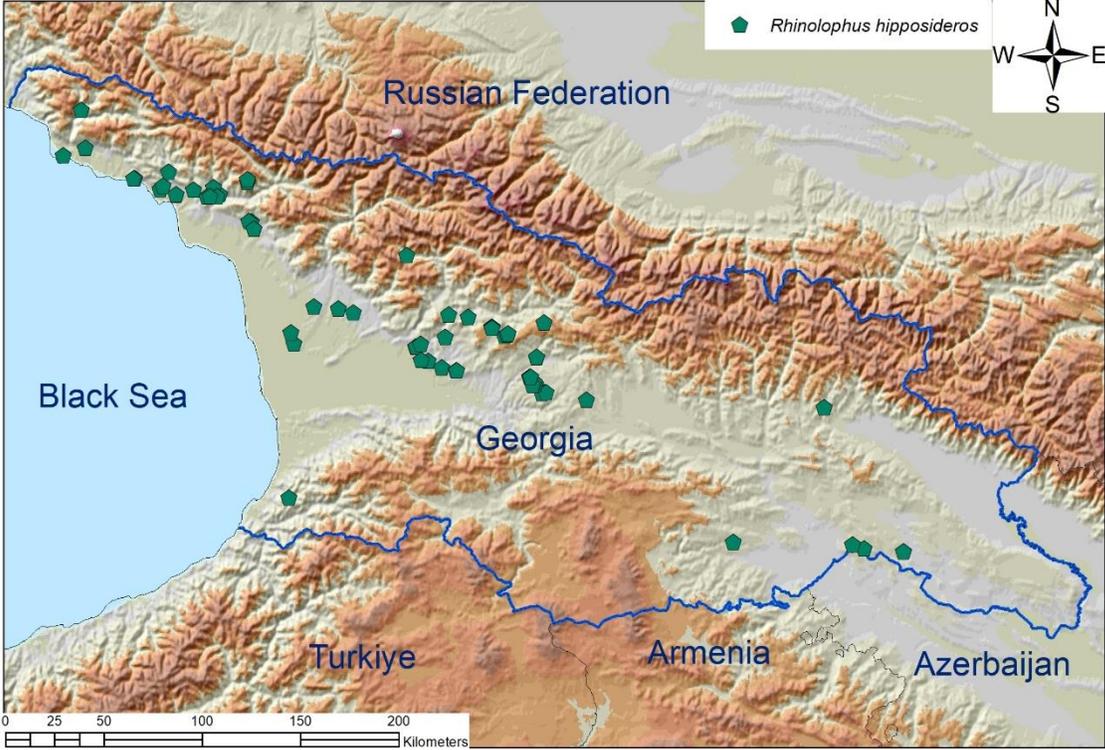
				crevices (Dietz 2016)	vill. Ghelisvake; Kidobana cave, Gogoleti cave, Tsutskhvati V cave, Okhvameshkari III cave, Kotias klde cave (Sveris Kvabkari cave), Letsurtsume cave, Tunnel in Mziuri park Tbilisi, Artificial grottos in riv. Kura valley near vil. Pia, Nameless artificial cave close to Jvari monastery (Natradze et al. 2023).
13.	<i>Hypsugo savii</i> (Bonaparte, 1837)	Savi's Pipistrelle Bat		Rock and wall crevices, cracks in entrances of caves, single animals in bridges or arches (Dietz 2016)	Artificial grottos in riv. Kura valley near vil. Pia (Natradze et al. 2023).
14.	<i>Eptesicus serotinus</i> (Schreber, 1774)	Serotine Bat		Buildings, crevices in cliffs and entrances of big caves, rock crevices, single animals in tree holes (Dietz 2016)	Artificial grottos in riv. Kura valley near vil. Pia, Tunnel close to sulphur baths in Tbilisi (Natradze et al. 2023)
15.	<i>Barbastella barbastellus</i> (Schreber, 1774)	Western Barbastelle Bat	VU in GRL	Trees, rock crevices, in Caves during winter (Diets 2016)	Adzaba cave, Kvemo Shakurani cave (Ivanitsky 2010), Usholta cave, Gogoleti cave, Tsutskhvati V cave, mines close to vil. Kazreti open quarry, Lagodekhi reserve - adit close to the Ninoskhevi river, Lagodekhi reserve - adit on the Matsimi river gorge, an artificial cave near Jvari monastery (Natradze et al. 2023).
16.	<i>Nyctalus leisleri</i> (Kuhl, 1817)	Leisler's Bat	-	Trees (Dietz 2016)	Tsutskhvati V cave, Tunnel close to sulphuric baths in Tbilisi (Natradze et al. 2023)
17.	<i>Plecotus auritus</i> (Linnaeus, 1758)	Brown Long-eared Bat	-	Trees, buildings, rock crevices, in Caves	Adzaba cave (Ivanitskiy 2017); Letsurtsume cave, Kidobana cave, Kotias klde cave (Sveris Kvabkari cave), Piraghia cave, mine close to vil. Kazreti open quarry (Natradze et al. 2023)

				during winter (Dietz 2016)	
18.	<i>Plecotus macrobullaris</i> Kuzynkin, 1965	Alpine Long-eared Bat	-	Attics, churches, rock crevices, in Caves some winter records (Dietz 2016)	Rock-cut city Vardzia (Bukhnikashvili 2004); Piraghia cave (Natradze et al. 2023)
19.	<i>Miniopterus schreibersii</i> (Kuhl, 1817)	Schreibers' Bent-winged Bat	VU in IUCN	Mainly caves, but also underground sites, joints of bridges, domes (Diets 2016)	Adzaba cave (Satunin 1915; Zaitsev 1949; Perov 1980; Ivanitskiy 2002, Ivanitskiy 2017); Urta cave (Papava 1949); Nazodelavo cave (Kipiani et al. 1966); Garakha cave (Kipiani et al. 1966; Avaliani 1970); Samertskhle klde cave (Avaliani 1970; CAMPESTER 2014); Nameless cave close to vil. Didi Ateni (Perov 1980); Rock-cut monastery Udabno close to David Gareji (Perov 1980); Gegi cave (Ivanitskiy 2002); Lidzava cave, Abrskili cave, Otapis Tavi cave, Anakopia cave, Kelasuri cave (Ivanitskiy 2010); Tkhini cave, Otkhara (Kostrovaya) cave, Khabyu cave, Besleti cave (Ivanitskiy 2017); Tskaltsitela cave, Sachinkia cave, Rock-cut monastery Shiomgvime (Bukhnikashvili 2004); Tskaltubo II (Kumistavi, Promethe) cave, Sakishore cave, Gogoleti cave, Tsutskhvati V cave, Tsutskhvati VII cave, Sachinkia cave; Ghliana cave; Leskhulukhi cave, Nameless small cave near Muris khidi on Tsageri-Lentekhi road, Sadzaghle Kldis cave, Sakinule cave, Vardigora cave, abandoned tunnel on the road „Tbilisi-Batumi“ near Kveda Tsegva village, Shurubumu cave, Becho cave, Algeti reservoir diversion tunnel, mines near vil. Kazreti open quarry, artificial cave close to) Jvari monastery (Natradze et al. 2023), Khomuli cave (Unpublished data).
20.	<i>Vespertilio murinus</i> Linnaeus, 1758	Particoloured Bat		Crevices, buildings, records from tree holes, cliffs and castle ruins (Dietz 2016)	Tunnel near vill. Ghelivake (Natradze et al. 2023)

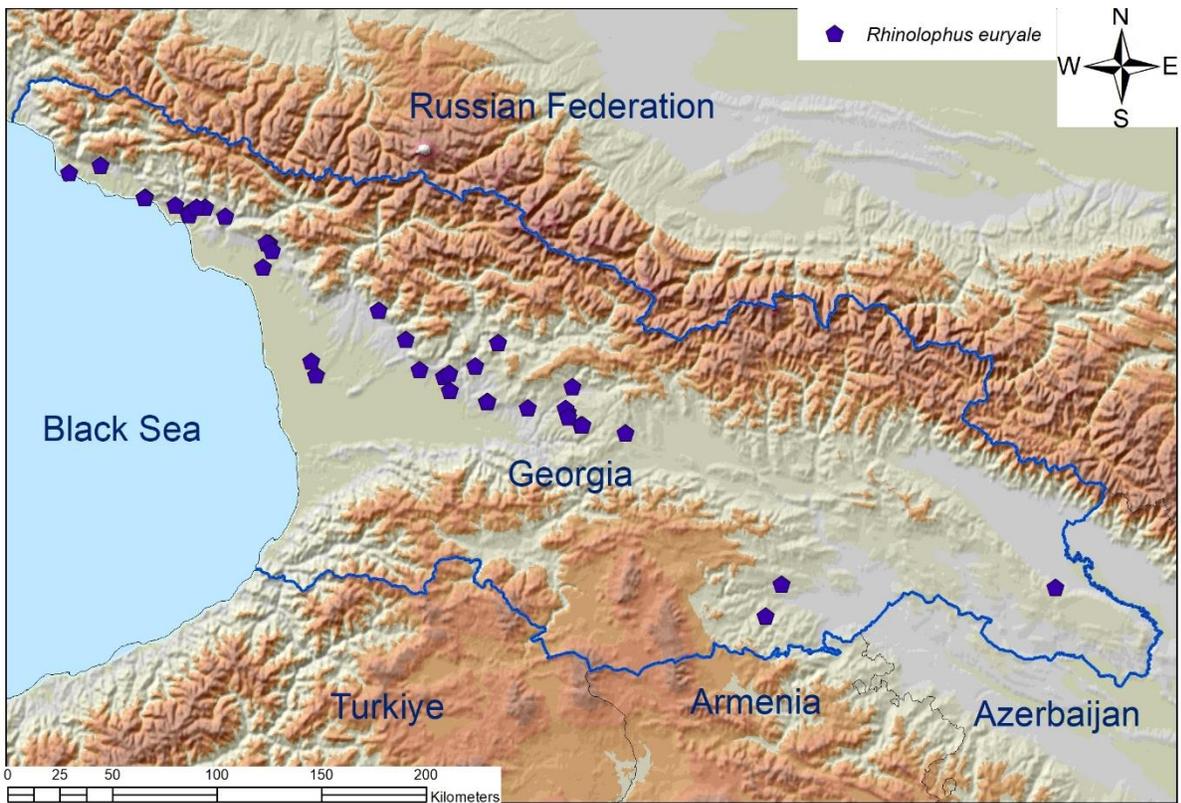
Maps 2-10. species distribution Maps of records in underground habitats



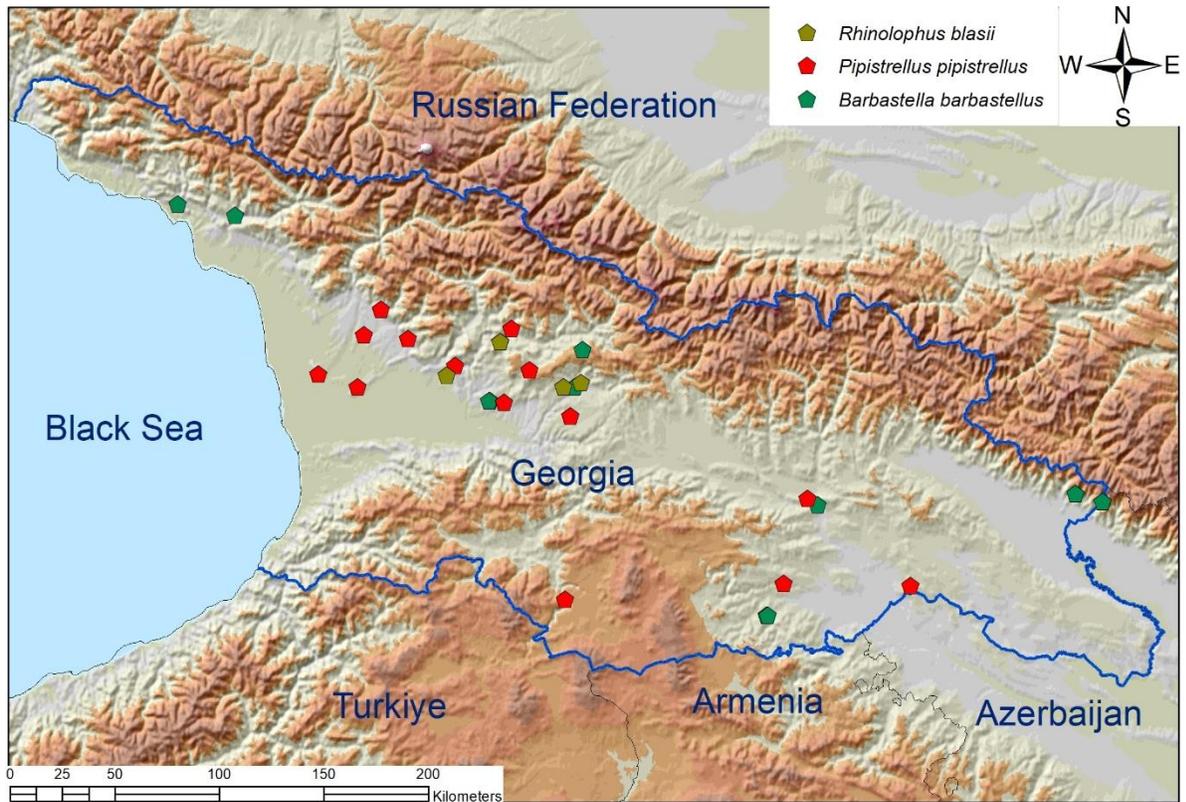
Map 2. Records of *Rhinolophus ferrumequinum* in underground habitats



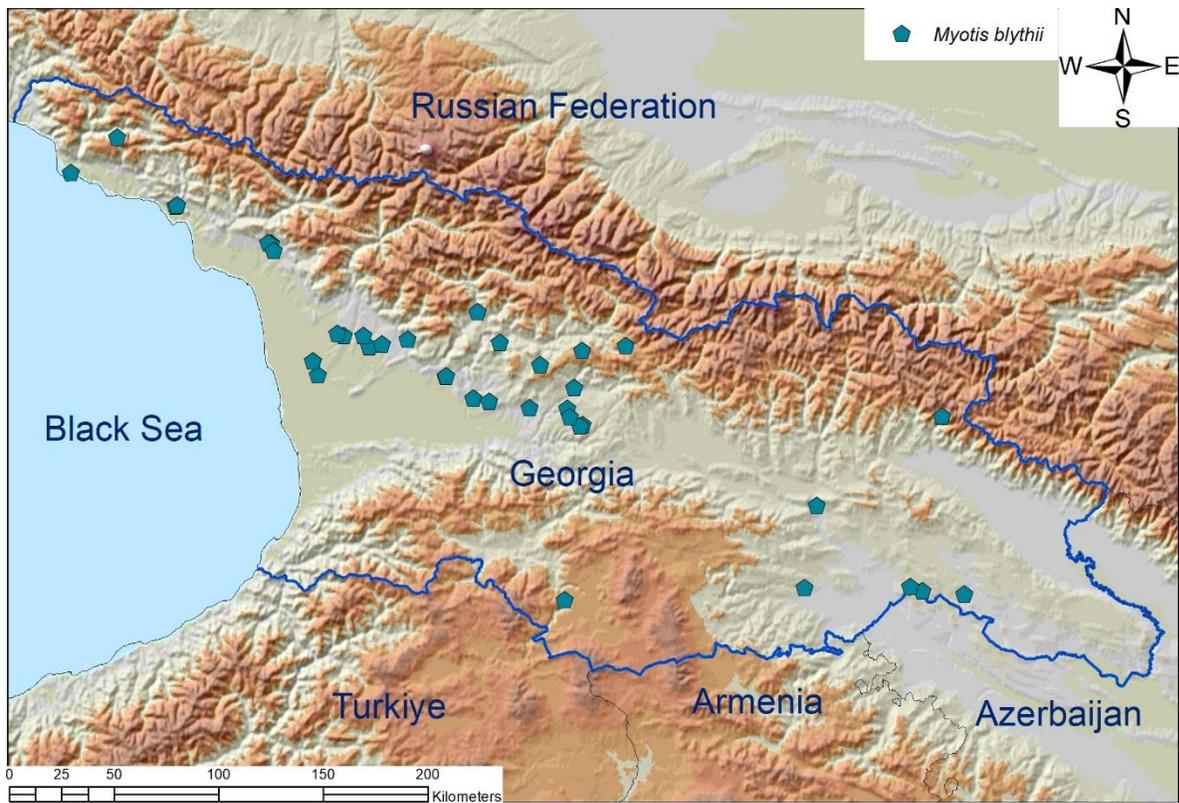
Map 3. Records of *Rhinolophus hipposideros* in underground habitats



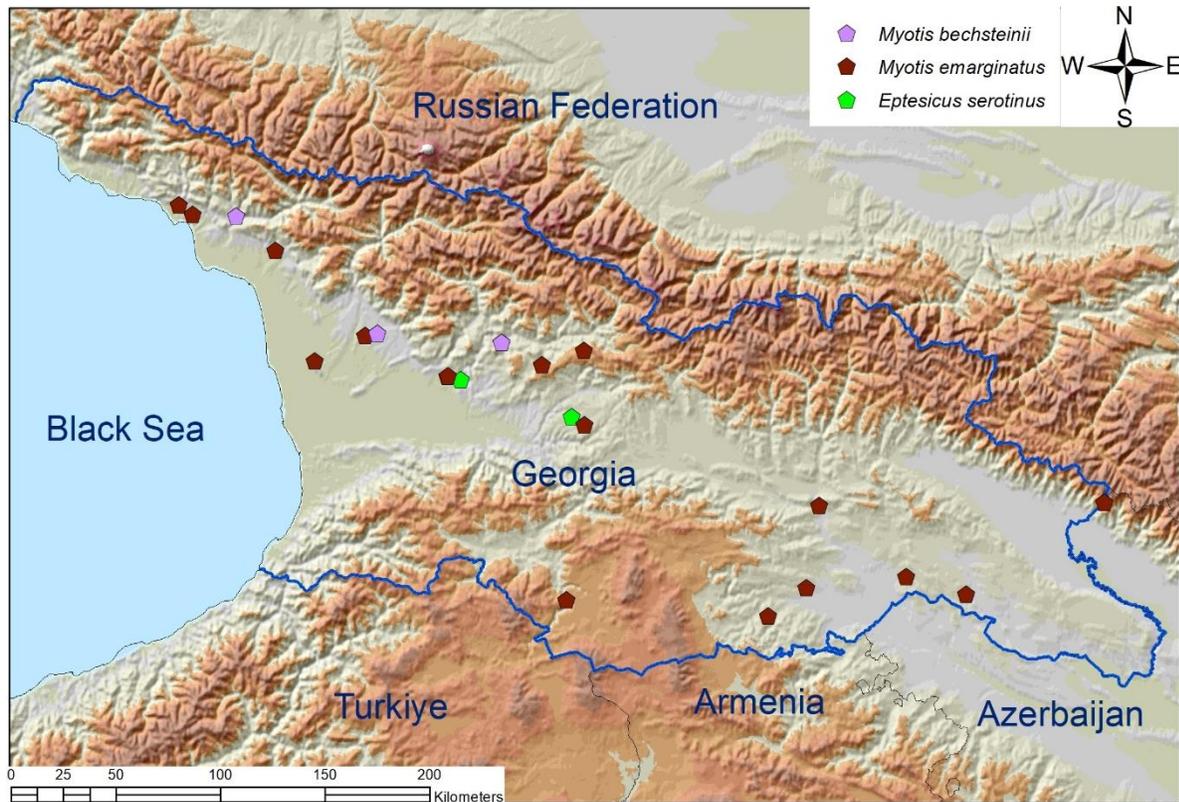
Map 4. Records of *Rhinolophus euryale* in underground habitats



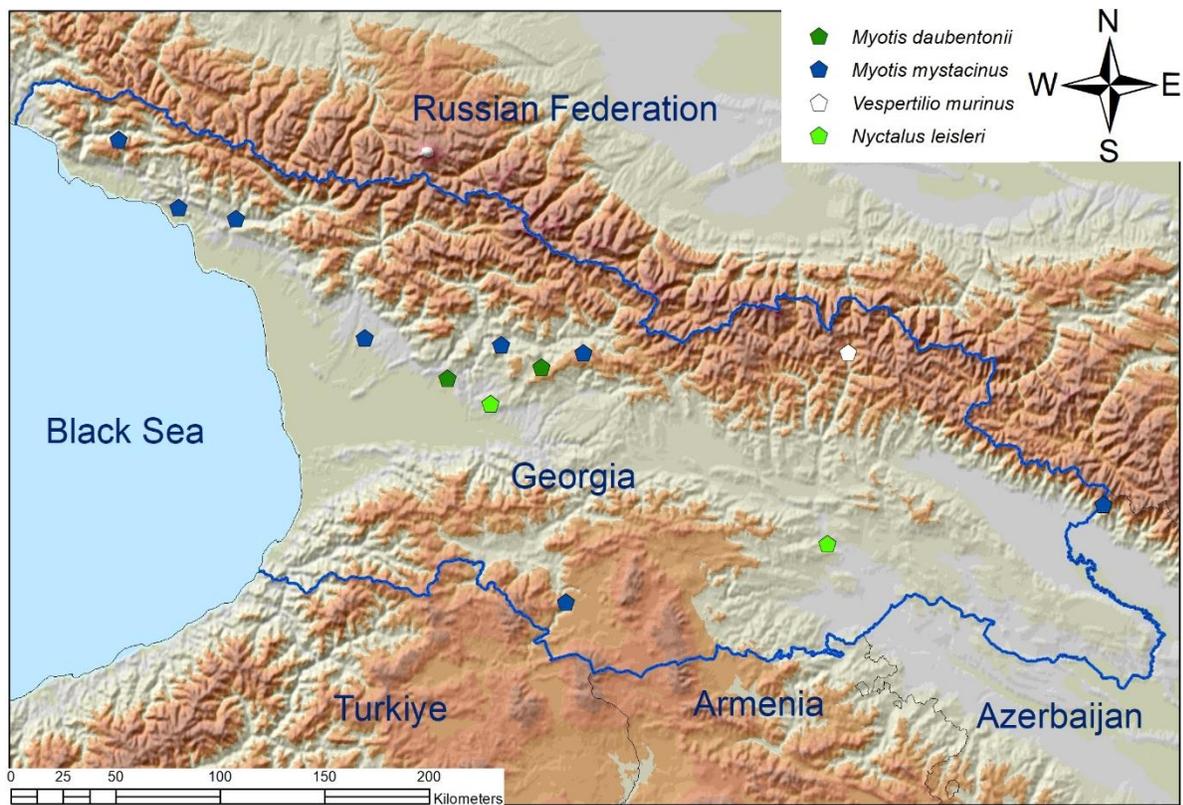
Map 5. Records of *Rhinolophus blasii*, *Barbastella barbastellus*, *Pipistrellus pipistrellus* in underground habitats



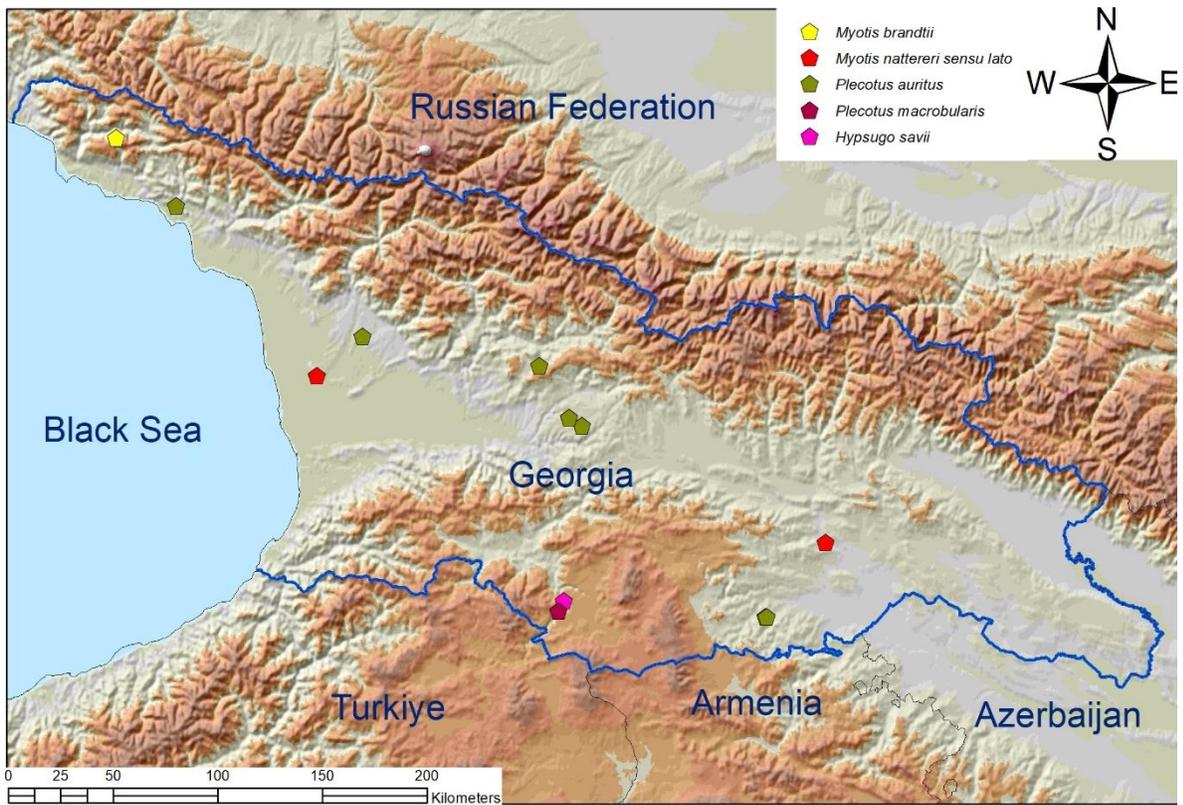
Map 6. Records of *Myotis blythii* in underground habitats



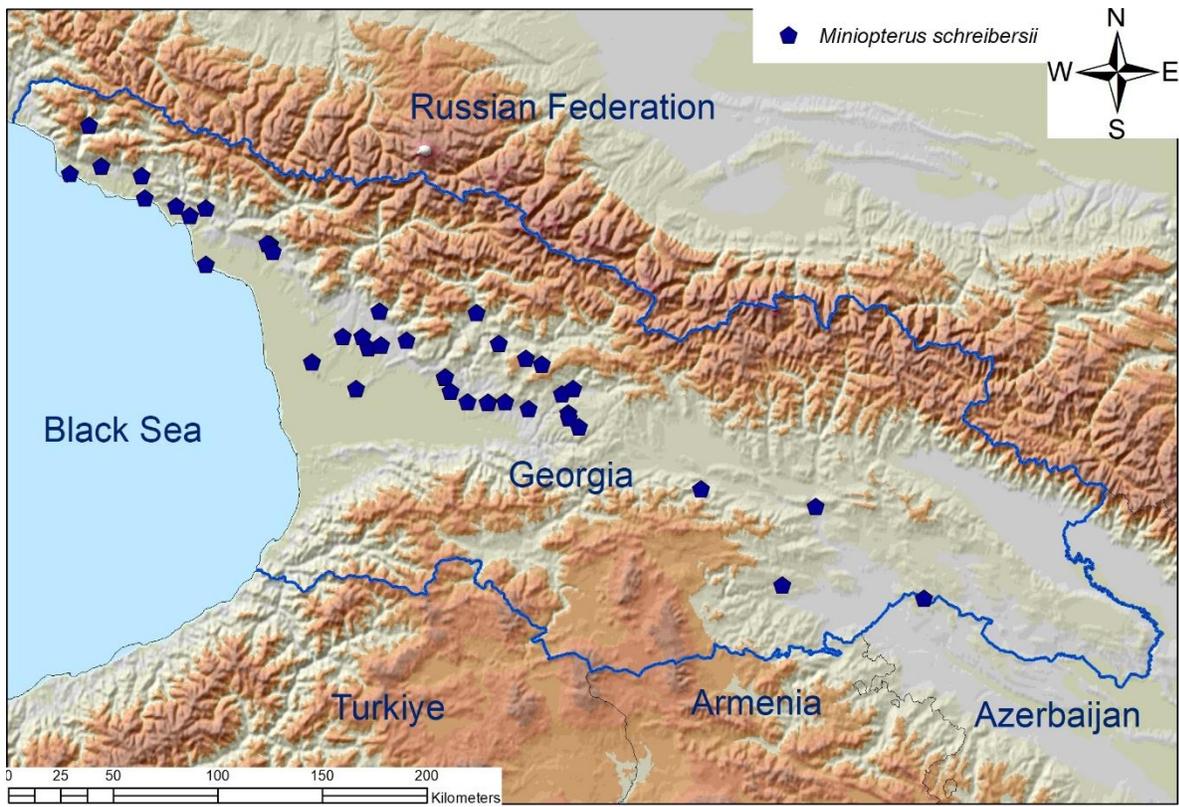
Map 7. Records of *Myotis bechsteinii*, *Myotis emarginatus*, *Eptesicus serotinus* in underground habitats



Map 8. Records of *Myotis daubentonii*, *Myotis mystacinus*, *Vespertilio murinus*, *Nyctalus leisleri* in underground habitats



Map 9. Records of *Myotis brandtii*, *Myotis nattereri*, *Plecotus auritus*, *Plecotus macrobullaris*, *Hypsugo savii* in underground habitats



Map 10. Records of *Miniopterus schreibersii* in underground habitats