






The Malacofauna of Mexico City: A Historical and Modern Record

La Malacofauna de la Ciudad de México: Un Registro Histórico y Actual

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Responsible editor: Carlos Fragoso



Acta Zoológica Mexicana (nueva serie)

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How to cite:

Rangel, V. R., Blanco, T. J. E., Naranjo-García, E. (2026) The Malacofauna of Mexico City: A Historical and Modern Record. *Acta Zoológica Mexicana (nueva serie)*, 42, 1–13.

10.21829/azm.2026.4212799
elocation-id: e4212799

Received: 25 August 2025

Accepted: 03 February 2026

Published: 06 March 2026

ABSTRACT. Mexico City, one of the largest urban centers in the Americas, harbors a remarkable diversity of fauna, including land and freshwater mollusks, a group considered globally vulnerable. This study aimed to compile an inventory of terrestrial and freshwater mollusk species present in Mexico City by integrating historical records from museum collections and literature with recent field surveys. A total of 73 species were identified, distributed across 34 families of gastropods and bivalves. A significant proportion of these species are non-native, introduced mainly in recent decades, and now dominate contemporary records, whereas native species are better represented in historical datasets. Additionally, three freshwater mollusks appear to have been locally extirpated. These findings underscore the importance of ongoing monitoring and the implementation of targeted conservation strategies to preserve regional biodiversity.

Key words: Freshwater; terrestrial mollusks; local extirpation; non-native species



RESUMEN. La Ciudad de México, uno de los centros urbanos más grandes de América, alberga una notable diversidad de fauna, incluyendo moluscos terrestres y dulceacuícolas, un grupo considerado vulnerable a nivel global. Este estudio tuvo como objetivo compilar un inventario de las especies de moluscos terrestres y de agua dulce presentes en la ciudad mediante la integración de registros históricos provenientes de colecciones científicas y literatura especializada con observaciones recientes derivadas de muestreos en el campo. Se registraron un total de 73 especies, distribuidas en 34 familias de gasterópodos y bivalvos. Una proporción significativa corresponde a especies exóticas, introducidas principalmente en las últimas décadas, las cuales actualmente dominan los registros recientes, mientras que las especies nativas están mejor representadas en los conjuntos de datos históricos. Además, se identificó la posible extirpación local de tres especies de moluscos dulceacuícolas. Estos hallazgos subrayan la importancia de mantener un monitoreo constante y de implementar estrategias de conservación dirigidas para preservar la biodiversidad regional.

Palabras clave: Especies exóticas; extirpación local; moluscos dulceacuícolas; terrestres

INTRODUCTION

Mexico City is one of the largest metropolitan areas in the Americas and, contrary to common belief, hosts great faunal diversity (Hortelano-Moncada & Cervantes, 2011; Lemos-Espinal & Smith, 2020). This is partly due to its geographic location, which provides a range of ecosystems including lakes, rivers, springs, temperate forests, and xeric scrublands, reflecting both Nearctic and Neotropical faunal influences (Jujnovsky *et al.*, 2012; Castillo-Argüero *et al.*, 2017; Canteiro *et al.*, 2019; Caro-Borrero *et al.*, 2021).

Throughout the city's history, many of these ecosystems have been lost along with their associated fauna (Merlín-Uribe *et al.*, 2013). Today, only small relicts of these environments remain, and they are under significant anthropogenic pressure, posing a serious threat to biodiversity (Martínez-Cruz *et al.*, 2016; García-Sánchez & Güereca, 2019).

Continental mollusks (freshwater mussels and freshwater and terrestrial gastropods) are among the most vulnerable faunal groups globally (Lydeard *et al.*, 2004; Lysne *et al.*, 2008; Johnson *et al.*, 2013), and most threats they face are due to human environmental impact (Modesto *et al.*, 2017; Böhm *et al.*, 2020). In this context, compiling an inventory of the continental mollusk species in Mexico City is crucial. Research in degraded environments is key to understanding biological processes and ecological patterns. Species inventories not only reveal existing biodiversity, but also serve as a foundation for predictive models that can enhance conservation and restoration efforts (Gutiérrez-Yurrita & Morales-Ortiz, 2002; Khazan *et al.*, 2015).

MATERIALS AND METHODS

Virtual records and online databases. We reviewed historical and modern records from various national and international databases, museum collections, and literature sources. The collections and platforms consulted include the Invertebrate Zoology Collection of the California Academy of Sciences (CAS) http://researcharchive.calacademy.org/research/izg/iz_coll_db/index.asp, the Illinois Natural History Survey (INHS) in <https://inhs.illinois.edu/collections/mollusk>, the Carnegie Museum of Natural History (CMNH) <https://carnegiemnh.org>, the Museum and Institute of Zoology of the Polish Academy of Sciences (MIZ PAS) in <https://miiz.waw.pl>, the University of

Michigan Museum of Zoology (UMMZ) <https://lsa.umich.edu/ummz>, the Royal British Columbia Museum (RBCM) <https://royalbcmuseum.bc.ca>, the International Barcode of Life (iBOL) in <https://ibol.org>, the Malacology Collection of the Academy of Natural Sciences of Philadelphia (ANSP) <http://clade.ansp.org/malacology/collections/>, the Bailey-Matthews National Shell Museum (BMSN) <http://webportal.specifycloud.org/shellmuseum/>, the Florida Museum of Natural History (FMNH) in <http://specifyportal.flmnh.ufl.edu/iz/>, the Santa Barbara Museum of Natural History (SBMNH) <http://www.sbcollections.org/>, the Museum of Comparative Zoology at Harvard University (MCZ) https://mczbase.mcz.harvard.edu/SpecimenSearch.cfm?collection_id=1, and the National Museum of Natural History (USNM) in <https://collections.nmnh.si.edu/search/iz/>.

We also accessed occurrence data through the Global Biodiversity Information Facility (GBIF), the National System of Biodiversity Information (SNIB-CONABIO), and TESIUNAM, the digital institutional repository of the National Autonomous University of Mexico (UNAM) (Rivera-García, 2013; Peláez-Parra, 2020; Rodríguez-Gutiérrez, 2023; Rangel, 2024). Additionally, we used the iNaturalist platform to identify recent mollusk records from Mexico City, filtering results geographically and taxonomically. All database queries were performed with information available up to November 2024.

Field surveys and specimen collections. Field surveys were conducted across several green areas and natural or semi-natural habitats within Mexico City. These included the Botanical Garden of UNAM, the Pedregal de San Ángel Ecological Reserve (REPSA), the first section of Chapultepec Park, the Xochimilco canals, the Magdalena River, and areas adjacent to the Institute of Biology (UNAM). Sampling was carried out during 2023 and 2024. We targeted key mollusk microhabitats such as leaf litter, under rocks, soil, aquatic vegetation, and moist environments.

All specimens collected during fieldwork were deposited in the National Mollusk Collection of the UNAM Institute of Biology (CNMO). For specimens whose conchological characters did not allow unequivocal specific determination, the reproductive system was dissected and compared with descriptions and illustrations in specialized literature (*e.g.*, Taylor, 2003 Araiza-Gómez *et al.*, 2017, 2021; Sánchez *et al.*, 2025) to confirm their identity. These records were cross-validated with data from digital platforms, museum holdings, and specialized literature to determine species identity, native or non-native status, and potential changes in geographic distribution.

To synthesize and compare records across time, each species was classified by its biogeographic status (native or non-native), primary data source(s), and period of record. Occurrences were assigned to three temporal categories: historical (before 2000), modern (2000–2019), and recent (2020–2024), based on specimen metadata, literature citations, and observation in iNaturalist. The native or non-native status of each species was determined using authoritative literature (*e.g.*, Naranjo-García & Castillo-Rodríguez, 2017; Araiza-Gómez *et al.*, 2021; Rodríguez-Gutiérrez, 2023).

The following acronyms are used in the species tables to indicate data sources: ANSP: Malacology Collection of the Academy of Natural Sciences of Philadelphia; CMNH: Carnegie Museum of Natural History; CNMO: National Mollusk Collection of the UNAM Institute of Biology; FMNH: Florida Museum of Natural History; iBOL: International Barcode of Life; INHS: Illinois Natural History Survey; MCZ: Museum of Comparative Zoology, Harvard University; MIZ PAS: Museum and Institute of Zoology, Polish Academy of Sciences; USNM: National Museum of Natural History, Smithsonian Institution; RBCM: Royal British Columbia Museum; Pers. Obs.: Personal field observations by the authors and an asterisk (*) indicates translocated species.

RESULTS AND DISCUSION

A total of 73 species of mollusks were recorded (see Tables 1 and 2), including 69 gastropods (53 terrestrial and 16 freshwater) belonging to 32 families. Bivalves were represented by four species across two families.

Table 1. List of native terrestrial and freshwater mollusk species recorded in Mexico City.

| Family | Species | Reference |
|--------------------|--|-----------------------|
| Terrestrial | | |
| Gastropoda | | |
| Agriolimacidae | <i>Deroceras laeve</i> (O. F. Müller, 1774) | CNMO; iNaturalist; UF |
| Bulimulidae | <i>Mesembrinus hegewischi</i> (L. Pfeiffer, 1842) | CNMO |
| | <i>Mesembrinus rudis</i> (Anton, 1838) | ANSP |
| | <i>Mesembrinus sulcosus</i> (L. Pfeiffer, 1841) | CNMO; ANSP |
| Charopidae | <i>Radiodiscus millecostatus</i> Pilsbry & Ferriss, 1906 | CNMO |
| | <i>Rotadiscus hermanni</i> (L. Pfeiffer, 1866) | CNMO |
| Euconulidae | <i>Guppya biolleyi</i> E. von Martens, 1892 | CNMO |
| | <i>Habroconus elegans</i> Strebel, 1880 | INHS |
| Ferussaciidae | <i>Karolus consobrinus</i> (A. d'Orbigny, 1841) | CNMO |
| Gastrocoptidae | <i>Gastrocopta cristata</i> (Pilsbry & Vanatta, 1900) | CMNH |
| | <i>Gastrocopta pellucida</i> (L. Pfeiffer, 1841) | CNMO |
| | <i>Gastrocopta prototypus</i> (Pilsbry, 1899) | ANSP |
| Gastrodontidae | <i>Glyphyalinia indentata</i> (Say, 1822) | CNMO |
| Philomycidae | <i>Pallifera costaricensis</i> (Mörch, 1858) | CNMO; iNaturalist |
| Pristilomatidae | <i>Hawaiia minuscula</i> (A. Binney, 1841) | CNMO |
| Spiraxidae | <i>Euglandina daudebarti</i> (Deshayes, 1850) | CNMO |
| | <i>Volutaxis patzcuarensis</i> (Pilsbry, 1899) | CNMO |
| Strobilopsidae | <i>Strobilops</i> sp. | CNMO |
| Succineidae | <i>Succinea brevis</i> Dunker, 1850 | MCZ |
| | <i>Succinea campestris</i> Say, 1817 | ANSP |
| | <i>Oxyloma tlalpamense</i> (Pilsbry, 1899) | ANSP |
| Valloniidae | <i>Pupisoma mediamericanum</i> Pilsbry, 1920 | CNMO |
| Xanthonychidae | <i>Bunnya bernadinae</i> H. B. Baker, 1942 | ANSP |
| | <i>Humboldtiana buffoniana</i> (L. Pfeiffer, 1845) | MIZ PAS; iNaturalist |
| | <i>Humboldtiana humboldtiana</i> (L. Pfeiffer, 1841) | MIZ PAS |
| | <i>Humboldtiana striata</i> J. B. Burch & F. G. Thompson, 1957 | UMMZ |
| Freshwater | | |
| Gastropoda | | |
| Cochliopidae | <i>Tryonia mariae</i> (J. P. E. Morrison, 1945) | NMNH |
| Valvatidae | <i>Valvata humeralis</i> Say, 1829 | ANSP |
| Lymnaeidae | <i>Ladislavella elodes</i> (Say, 1821) | CNMO |
| | <i>Pseudosuccinea columella</i> (Say, 1817) | CNMO |
| Physidae | <i>Physella acuta</i> (Draparnaud, 1805) | CNMO |
| | <i>Physella boucardi</i> (Crosse & P. Fischer, 1881) | NMNH |
| | <i>Physella osculans</i> (Haldeman, 1841) | NMNH |
| Planorbidae | <i>Biomphalaria orbicula</i> (Morelet, 1849) | ANSP |
| | <i>Dilatata brongniartiana</i> (I. Lea, 1843) | NMNH |
| | <i>Menetus dilatatus</i> (A. Gould, 1841) | CNMO |
| | <i>Planorbella tenuis</i> (Dunker, 1850) | CNMO |
| | <i>Planorbella trivolvis</i> (Say, 1817) | CNMO |

| Bivalvia | | |
|-----------------|--|------------|
| Sphaeriidae | <i>Euglesa casertana</i> (Poli, 1791) | RBCM |
| | <i>Sphaerium</i> sp. | Pers. Obs. |
| | <i>Sphaerium transversum</i> (Say, 1829) | ANSP |
| Unionidae | <i>Anodonta impura</i> Say, 1829 | ANSP |

Some species were excluded from the taxonomic list (e.g., *Opisthosiphon pupoides* (Morelet, 1849), *Pyganodon grandis* (Say, 1829), *Succinea undulata* Say, 1829, among others) due to ambiguities or possible errors in the associated collection data. Additionally, certain species, such as *Lysinoe ghiebreghiti* (Nyst, 1841) and *Coelostemma dalli* (Pilsbry, 1902) listed in GBIF lacked verifiable sources or were not available in the digital collections in which they were reported, preventing confirmation. Likewise, several records obtained from the iNaturalist platform were excluded from the analysis. These records were disregarded when the photographic evidence was insufficient to confirm the taxonomic identity of the specimens or when clear misidentifications were detected. In particular, iNaturalist reports multiple records of *Rabdotus dealbatus* (Say, 1821), *R. mooreanus* (L. Pfeiffer, 1868), and *Euglandina rosea* (A. Férussac, 1821) from Mexico City, each of these records was critically reviewed. Detailed morphological assessment of the available photographs revealed that none of them correspond to the reported species. Specimens identified as *E. rosea* were all determined to be *E. daudebarti*, while those assigned to *R. dealbatus* and *R. mooreanus* were identified as juvenile and adult individuals of the genus *Mesembrinus*, respectively. Therefore, these records were not included in the analysis, as they do not represent reliable evidence of the presence of these species in Mexico City.

Of the included records, 42 species are native (Table 1) and 28 are non-native gastropods (Table 2), most of which originate from Europe. The main introduction vector for terrestrial snails is believed to be the ornamental plant trade, while for freshwater snails, the aquarium trade is most likely responsible (Naranjo-García & Castillo-Rodríguez, 2017). Among the species introduced via the plant trade are: *Ambigolimax valentianus* (A. Férussac, 1821), *Cecilioides acicula* (O. F. Müller, 1774), *Cornu aspersum* (O. F. Müller, 1774), *Deroceras invadens* Reise, Hutchinson, Schunack & Schlitt, 2011, *Deroceras reticulatum* (O. F. Müller, 1774), *Limax maximus* Linnaeus, 1758, *Limacus flavus* (Linnaeus, 1758), *Milax gagates* (Draparnaud, 1801), *Oxychilus alliarius* (J. S. Miller, 1822), *Oxychilus cellarius* (O. F. Müller, 1774), *Oxychilus draparnaudi* (H. Beck, 1837), *Rumina decollata* (Linnaeus, 1758), *Zonitoides arboreus* (Say, 1817), and various species of the slug genus *Arion* A. Férussac, 1819 and snail genus *Vallonia* Risso, 1826.

Specimens of the genera *Helicina* Lamarck, 1799 and *Praticolella* E. von Martens, 1892 reported by Rodríguez-Gutiérrez (2023) were found only as empty shells in piles of organic waste (leaf litter, logs and substrate); no living individuals or established populations were detected. This evidence suggests that the snails were probably introduced accidentally with discarded plant material brought to the Botanical Garden of UNAM or other organic waste, rather than representing natural populations, a pathway consistent with their restriction to tropical, low-elevation areas outside the altitudinal and climatic range of the Basin of Mexico (Thompson, 2011). Several non-native species, such as *Testacella haliotideia* Draparnaud, 1801, *Euconulus fulvus* (O. F. Müller, 1774), *Vallonia gracilicosta* Reinhardt, 1883, *Vallonia perspectiva* Sterki, 1893, *Radix auricularia* (Linnaeus, 1758), and *Planorbella duryi* (Wetherby, 1879), have been detected near botanical gardens and plant nurseries, suggesting these locations may act as introduction hubs.

Table 2. List of non-native terrestrial and freshwater mollusk species recorded in Mexico City. Translocated species are marked with an asterisk (*).

| Family | Species Terrestrial | Reference |
|-------------------|---|----------------------------|
| Gastropoda | | |
| Helicinidae | <i>Helicina</i> sp.* | CNMO |
| Achatinidae | <i>Rumina decollata</i> (Linnaeus, 1758) | CNMO; iNaturalist |
| Agriolimacidae | <i>Deroceras invadens</i> Reise, Hutchinson, Schunack & Schlitt, 2011 | CNMO |
| | <i>Deroceras reticulatum</i> (O. F. Müller, 1774) | CNMO; iNaturalist |
| Arionidae | <i>Arion fasciatus</i> (Nilsson, 1823) | CNMO |
| | <i>Arion intermedius</i> Normand, 1852 | CNMO; iNaturalist |
| | <i>Arion vulgaris</i> Moquin-Tandon, 1855 | CNMO |
| Boettgerillidae | <i>Boettgerilla pallens</i> Simroth, 1912 | iBOL; iNaturalist; CNMO |
| Euconulidae | <i>Euconulus fulvus</i> (O. F. Müller, 1774) | CNMO |
| Ferussaciidae | <i>Ceciloides acicula</i> (O. F. Müller, 1774) | CNMO |
| Gastrodontidae | <i>Zonitoides arboreus</i> (Say, 1817) | ANSP; iNaturalist |
| Helicidae | <i>Cornu aspersum</i> (O. F. Müller, 1774) | CNMO; iNaturalist |
| Limacidae | <i>Ambigolimax valentianus</i> (A. Férussac, 1821) | FMNH; CNMO |
| | <i>Limacus flavus</i> (Linnaeus, 1758) | ANSP |
| | <i>Limax maximus</i> Linnaeus, 1758 | CNMO |
| Milacidae | <i>Milax gagates</i> (Draparnaud, 1801) | ANSP |
| Oxychilidae | <i>Oxychilus alliarius</i> (J. S. Miller, 1822) | CNMO |
| | <i>Oxychilus cellarius</i> (O. F. Müller, 1774) | CNMO |
| | <i>Oxychilus draparnaudi</i> (H. Beck, 1837) | CNMO |
| Polygyridae | <i>Praticolella berlandieriana</i> (S. Moricand, 1834) | FMNH |
| | <i>Praticolella griseola</i> (L. Pfeiffer, 1841)* | CNMO |
| Punctidae | <i>Paralaoma servilis</i> (Shuttleworth, 1852) | CNMO |
| Testacellidae | <i>Testacella haliotidea</i> Draparnaud, 1801 | CNMO |
| Valloniidae | <i>Vallonia costata</i> (O. F. Müller, 1774) | CNMO |
| | <i>Vallonia excentrica</i> Sterki, 1893 | CNMO |
| | <i>Vallonia gracilicosta</i> Reinhardt, 1883 | CNMO |
| | <i>Vallonia perspectiva</i> Sterki, 1893 | CNMO |
| Freshwater | | |
| Gastropoda | | |
| Ampullariidae | <i>Pomacea bridgesi</i> (Reeve, 1856) | Pers. Obs.; iNaturalist |
| Thiaridae | <i>Melanoides tuberculata</i> (O. F. Müller, 1774) | Pers. Obs.; iNaturalist |
| Lymnaeidae | <i>Radix auricularia</i> (Linnaeus, 1758) | CNMO |
| Planorbidae | <i>Planorbella duryi</i> (Wetherby, 1879) | CNMO; iNaturalist |

The presence of *Menetus dilatatus* (A. Gould, 1841) in Mexico City is reported here for the first time, based on specimens of the CNMO surveys in an artificial pond in the UNAM campus quarry area. Previously, the species was known from a discontinuous range extending from Alaska to Alberta and southeastern California (Burch, 1982), with recent records in the eastern United States and northern Mexico (GBIF, 2024). The closest central-Mexican record is from Lake Tecocomulco, Hidalgo (Rangel, 2024), where introduction via migratory birds was hypothesized. Our detection supports this passive-dispersal hypothesis and represents the first documented occurrence of the species in Mexico City.

All collected physid snails are likely *Physella acuta* (Draparnaud, 1805), a species known for high variability in shell morphology. According to Taylor (2003) *Physella osculans* (Haldeman, 1841) it is not an identifiable species and miss an accurate locality even though Burch (1989) cited it as in Mexico; while for Taylor (2003) *Physella boucardi* (Crosse & P. Fischer, 1881) is a synonym of *Haitia mexicana* (Philippi, 1841) from a location possibly near Mexico City. Likewise, *Dilatata brongniartiana* (I. Lea, 1843) may in fact be *Menetus dilatatus avus* (Pilsbry, 1905), which is characterized by a more prominent keel, a trait that can resemble the shell of *D. brongniartiana*. Rangel (2024) mentions that *Menetus dilatatus* (A. Gould, 1841) populations may include individuals assignable to *Menetus dilatatus avus* (Pilsbry, 1905), suggesting this may reflect morphological variation within a single species. A similar issue arises with the genus *Planorbella* Haldeman, 1843, whose species are difficult to distinguish due to shell variability. Accurate identification requires analysis of reproductive anatomy; however, in the case of *Planorbella tenuis* (Dunker, 1850), no detailed description or illustration of such structures exists, potentially leading to an overestimation of species due to misidentification.

The freshwater mussel *Anodonta impura* Say, 1829 and the snails *Valvata humeralis* Say, 1829 and *Tryonia mariae* (J. P. E. Morrison, 1945) are considered locally extirpated. Their last confirmed specimens in Lake Xochimilco are historical vouchers housed at ANSP and NMNH, dated 1907, 1890 and 1944, respectively. No living individual has been found since 2000, including our 2023 field campaign and previous surveys. The collapse coincides with the mid-20th-century shift from clean spring-water to untreated wastewater, which altered water chemistry and promoted eutrophication (Eakin *et al.*, 2019). Likewise, *Sphaerium transversum* (Say, 1829) was not collected in Tlalpan during our 2023 surveys because no natural water bodies remain in that borough. In contrast, a living individual of *Sphaerium* was found in 2024 in the well-preserved upper reach of the Magdalena River, highlighting that clean, flowing habitats are essential for the survival of native freshwater mollusks.

Regarding the temporal distribution of records and the biogeographic status of each species (Table 3), native mollusks are predominantly represented by historical records ($n = 33$), with a smaller proportion of modern ($n = 16$) and recent ($n = 6$) records. Most modern and recent native species records derive from the National Mollusk Collection (CNMO), reflecting targeted sampling efforts in well-conserved green areas (e.g., Rivera-García, 2013; Rodríguez-Gutiérrez, 2023; and field sampling conducted in this study). In contrast, non-native species are overwhelmingly represented by recent records ($n = 29$), with fewer in the modern ($n = 8$) and historical ($n = 7$) categories (Table 4). This pattern suggests a possible turnover in the malacofauna of Mexico City, where native species are being displaced or extirpated due to urban expansion and the increasing presence of introduced taxa, many of which are associated with human activity (Naranjo-García & Castillo-Rodríguez, 2017; Wang *et al.*, 2021). The most striking shift is observed in freshwater mollusks, for which historical records dominate (Table 3). This is likely a consequence of the near-total desiccation of the Lake Texcoco wetlands, with most recent records restricted to species more tolerant to environmental disturbance, occurring in anthropogenically altered systems like the Xochimilco canals, or in relatively well-preserved areas such as the upper reaches of the Magdalena River.

We instead recommend that future studies explicitly focus on mapping the current distribution of both native and non-native mollusks across the urban landscape, incorporating updated georeferenced records to better understand spatial trends, species replacements, and conservation priorities.

Table 3. Terrestrial and freshwater mollusk species documented in Mexico City, classified by biogeographic status (native or non-native), data source(s), and approximate temporal record. Temporal categories correspond to three periods: Historical (H) (before 2000), Modern (M) (2000–2019), and Recent (R) (2020–2024).

| Species | Status | Reference | Temporal category |
|---|------------|-------------------------|-------------------|
| Helicinidae | | | |
| <i>Helicina</i> sp. | Non-native | CNMO | R |
| Achatinidae | | | |
| <i>Rumina decollata</i> (Linnaeus, 1758) | Non-native | CNMO; iNaturalist | R; M |
| Agriolimacidae | | | |
| <i>Deroceras laeve</i> (O. F. Müller, 1774) | Native | CNMO; iNaturalist; UF | R; M; H |
| <i>Deroceras invadens</i> Reise, Hutchinson, Schunack & Schlitt, 2011 | Non-native | CNMO | R |
| <i>Deroceras reticulatum</i> (O. F. Müller, 1774) | Non-native | CNMO; iNaturalist | R |
| Arionidae | | | |
| <i>Arion fasciatus</i> (Nilsson, 1823) | Non-native | CNMO | R |
| <i>Arion intermedius</i> Normand, 1852 | Non-native | CNMO; iNaturalist | R |
| <i>Arion vulgaris</i> Moquin-Tandon, 1855 | Non-native | CNMO | R |
| Boettgerillidae | | | |
| <i>Boettgerilla pallens</i> Simroth, 1912 | Non-native | iBOL; iNaturalist; CNMO | R |
| Bulimulidae | | | |
| <i>Mesembrinus hegewischi</i> (L. Pfeiffer, 1842) | Native | CNMO; iNaturalist | R; M |
| <i>Mesembrinus rudis</i> (Anton, 1838) | Native | ANSP | H |
| <i>Mesembrinus sulcosus</i> (L. Pfeiffer, 1841) | Native | CNMO; ANSP; iNaturalist | R; M; H |
| Charopidae | | | |
| <i>Radiodiscus millicostatus</i> Pilsbry & Ferriss, 1906 | Native | CNMO | R |
| <i>Rotadiscus hermanni</i> (L. Pfeiffer, 1866) | Native | CNMO | R |
| Euconulidae | | | |
| <i>Euconulus fulvus</i> (O. F. Müller, 1774) | Non-native | CNMO | R |
| <i>Guppya biolleyi</i> E. von Martens, 1892 | Native | CNMO | R; M; H |
| <i>Habroconus elegans</i> Strebel, 1880 | Native | INHS | H |
| Ferussaciidae | | | |
| <i>Ceciliooides acicula</i> (O. F. Müller, 1774) | Non-native | CNMO | R |
| <i>Karolus consobrinus</i> (A. d'Orbigny, 1841) | Native | CNMO | H |
| Gastrocoptidae | | | |
| <i>Gastrocopta cristata</i> (Pilsbry & Vanatta, 1900) | Native | CMNH | H |
| <i>Gastrocopta pellucida</i> (L. Pfeiffer, 1841) | Native | CNMO | R; M |
| <i>Gastrocopta prototypus</i> (Pilsbry, 1899) | Native | ANSP | H |
| Gastrodontidae | | | |
| <i>Glyphyalinia indentata</i> (Say, 1822) | Native | CNMO | H |
| <i>Zonitoides arboreus</i> (Say, 1817) | Non-native | ANSP; iNaturalist | R; M; H |
| Helicidae | | | |
| <i>Cornu aspersum</i> (O. F. Müller, 1774) | Non-native | CNMO; iNaturalist | R; M; H |
| Limacidae | | | |
| <i>Ambigolimax valentianus</i> (A. Férussac, 1821) | Non-native | FMNH; CNMO | R; M; H |
| <i>Limacus flavus</i> (Linnaeus, 1758) | Non-native | ANSP | R; M; H |
| <i>Limax maximus</i> Linnaeus, 1758 | Non-native | CNMO | R; M; H |
| Milacidae | | | |
| <i>Milax gagates</i> (Draparnaud, 1801) | Non-native | ANSP | H |
| Oxychilidae | | | |
| <i>Oxychilus alliaris</i> (J. S. Miller, 1822) | Non-native | CNMO; iNaturalist | R |
| <i>Oxychilus cellarius</i> (O. F. Müller, 1774) | Non-native | CNMO | R |
| <i>Oxychilus draparnaudi</i> (H. Beck, 1837) | Non-native | CNMO; iNaturalist | R; M |

| | | | |
|--|------------|-------------------------|---------|
| Philomycidae | | | |
| <i>Pallifera costaricensis</i> (Mörch, 1858) | Native | CNMO; iNaturalist | R; M |
| Polygyridae | | | |
| <i>Praticolella berlandieriana</i> (S. Moricand, 1834) | Non-native | FMNH | H |
| <i>Praticolella griseola</i> (L. Pfeiffer, 1841) | Non-native | CNMO | R |
| Pristilomatidae | | | |
| <i>Hawaiia minuscula</i> (A. Binney, 1841) | Native | CNMO; iNaturalist | R |
| Punctidae | | | |
| <i>Paralaoma servilis</i> (Shuttleworth, 1852) | Non-native | CNMO; iNaturalist | R |
| Spiraxidae | | | |
| <i>Euglandina daudebarti</i> (Deshayes, 1850) | Native | CNMO | R; M; H |
| <i>Volutaxis patzcuarensis</i> (Pilsbry, 1899) | Native | CNMO | H |
| Strobilopsidae | | | |
| <i>Strobilops</i> sp. | Native | CNMO | M |
| Succineidae | | | |
| <i>Succinea brevis</i> Dunker, 1850 | Native | MCZ | H |
| <i>Succinea campestris</i> Say, 1817 | Native | ANSP | H |
| <i>Oxyloma talpamense</i> (Pilsbry, 1899) | Native | ANSP | H |
| Testacellidae | | | |
| <i>Testacella haliotidea</i> Draparnaud, 1801 | Non-native | CNMO; iNaturalist | R; M |
| Valloniidae | | | |
| <i>Pupisoma mediamericanum</i> Pilsbry, 1920 | Native | CNMO | M; H |
| <i>Vallonia costata</i> (O. F. Müller, 1774) | Non-native | CNMO | R; M |
| <i>Vallonia excentrica</i> Sterki, 1893 | Non-native | CNMO | R |
| <i>Vallonia gracilicosta</i> Reinhardt, 1883 | Non-native | CNMO | R |
| <i>Vallonia perspectiva</i> Sterki, 1893 | Non-native | CNMO | R |
| Xanthonychidae | | | |
| <i>Bunnya bernadinae</i> H. B. Baker, 1942 | Native | ANSP | H |
| <i>Humboldtiana buffoniana</i> (L. Pfeiffer, 1845) | Native | MIZ PAS; iNaturalist | R; M; H |
| <i>Humboldtiana humboldtiana</i> (L. Pfeiffer, 1841) | Native | MIZ PAS | H |
| <i>Humboldtiana striata</i> J. B. Burch & F. G. Thompson, 1957 | Native | UMMZ | H |
| Freshwater gastropods | | | |
| Ampullariidae | | | |
| <i>Pomacea bridgesi</i> (Reeve, 1856) | Non-native | Pers. Obs.; iNaturalist | R |
| Cochliopidae | | | |
| <i>Tryonia mariae</i> (J. P. E. Morrison, 1945) | Native | NMNH | H |
| Thiaridae | | | |
| <i>Melanoides tuberculata</i> (O. F. Müller, 1774) | Non-native | Pers. Obs.; iNaturalist | R |
| Valvatidae | | | |
| <i>Valvata humeralis</i> Say, 1829 | Native | ANSP | H |
| Lymnaeidae | | | |
| <i>Ladislavella elodes</i> (Say, 1821) | Native | CNMO | R; M; H |
| <i>Pseudosuccinea columella</i> (Say, 1817) | Native | CNMO; iNaturalist | R; M; H |
| <i>Radix auricularia</i> (Linnaeus, 1758) | Non-native | CNMO | R |
| Physidae | | | |
| <i>Physella acuta</i> (Draparnaud, 1805) | Native | CNMO; CNMO; iNaturalist | R; M; H |
| <i>Physella boucardi</i> (Crosse & P. Fischer, 1881) | Native | NMNH | H |
| <i>Physella osculans</i> (Haldeman, 1841) | Native | NMNH | H |
| Planorbidae | | | |
| <i>Biomphalaria orbicula</i> (Morelet, 1849) | Native | ANSP | H |
| <i>Dilatata brongniartiana</i> (I. Lea, 1843) | Native | NMNH | H |
| <i>Menetus dilatatus</i> (A. Gould, 1841) | Native | CNMO | R; M |
| <i>Planorbella duryi</i> (Wetherby, 1879) | Non-native | CNMO; iNaturalist | R |
| <i>Planorbella tenuis</i> (Dunker, 1850) | Native | CNMO | H |
| <i>Planorbella trivolvis</i> (Say, 1817) | Native | CNMO | R; M; H |

| Freshwater mussels | | | |
|--|--------|------------|---|
| Sphaeriidae | | | |
| <i>Euglesa casertana</i> (Poli, 1791) | Native | RBCM | H |
| <i>Sphaerium</i> sp. | Native | Pers. Obs. | R |
| <i>Sphaerium transversum</i> (Say, 1829) | Native | ANSP | H |
| Unionidae | | | |
| <i>Anodonta impura</i> Say, 1829 | Native | ANSP | H |

Table 4. Summary of mollusk species recorded in Mexico City according to their biogeographic status (native or non-native) and the approximate temporal category of their occurrence: Historical (before 2000), Modern (2000–2019), and Recent (2020–2024).

| Biogeographic status | Historical | Modern | Recent |
|----------------------|------------|--------|--------|
| Native | 33 | 16 | 6 |
| Non-native | 7 | 8 | 29 |
| Total | 40 | 24 | 35 |

CONCLUSION

This study highlights the remarkable diversity of mollusks found in a metropolis like Mexico City, emphasizing the importance of continuous inventories of malacofauna, especially in a context of environmental degradation and anthropogenic pressure. These inventories allow for comparisons between historical records and current data derived from ongoing monitoring. It is essential to develop effective strategies for the control of non-native species and ecological restoration to preserve the biodiversity of the city's remaining natural habitats. The local extinction of vulnerable species is a latent risk that can be prevented through timely action. Urban malacofauna conservation not only preserves local biodiversity but also contributes to understanding urban ecological processes in highly transformed contexts.

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