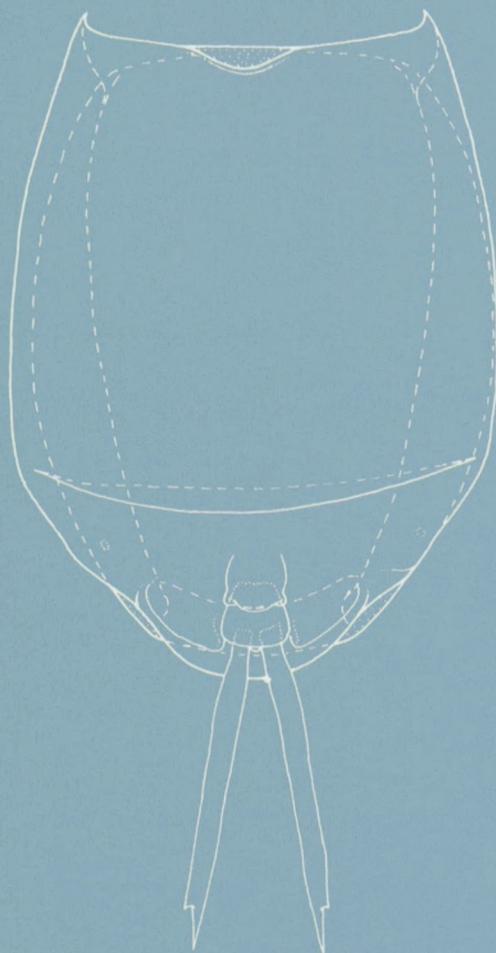


World records of Lecanidae (Rotifera, Monogononta)

by Hendrik SEGERS



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World records of Lecanidae (Rotifera, Monogononta)

by Hendrik SEGERS*

* Laboratorium voor Ecologie der Dieren, Zoogeografie en Natuurbehoud
Departement Morfologie, Systematiek en Ecologie
Universiteit Gent
K.L. Ledeganckstraat 35
B-9000 GENT

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Abstract: World records of Lecanidae (Rotifera, Monogononta)

This work lists all records of Lecanidae, available to the author. Only verified records are taken into account. Such records are either collected or published by the author, either concern literature records that could be verified by examining original material or drawings of the record. Distribution maps of 62 of the 167 Lecane morphospecies included are added.

key words: Rotifera, Lecanidae, records

Samenvatting

In deze bijdrage worden alle beschikbare meldingen van Lecanidae opgesomd. Enkel bevestigde meldingen werden opgenomen. Dergelijke meldingen zijn ofwel verzameld of gepubliceerd door de auteur, of betreffen literatuurvermeldingen waarvan de determinatie kon bevestigd worden door het nazien van het originele materiaal of de originele figuur bij de melding. Verspreidingskaarten van 62 van de 167 Lecane soorten werden bijgevoegd.

sleutelwoorden: Rotifera, Lecanidae, verspreidingsgegevens

INTRODUCTION

Data on the ecology and distribution of many groups of animals have to be interpreted with caution, as misidentifications may blur extant patterns. This is especially the case in Rotifera. Most rotifers were considered 'potential cosmopolites' until recently, when this view became untenable following the advances in taxonomy. In the following, a list is provided of the verified records of *Lecane* morphospecies, based on the taxonomic treatment of the genus as in Segers (1995), supplemented by the additions in Segers (1994b), Segers *et al.* (1994b) and Segers & Dumont (1995). A list of the valid species is as in table 1. These records form the basis of a zoogeographical analysis of the genus (Segers, in press.).

The majority of these records concern published records (Part 1), either identified or verified by myself (Chiambeng *et al.*, 1992; Dumont *et al.*, 1994; Galindo *et al.*, 1994; Maas *et al.*, 1995; Moreno *et al.*, 1992; Sanoamuang *et al.*, 1995; Segers, 1991, 1992, 1993, 1994a, 1994b; Segers & De Meester, 1994; Segers & Dumont, 1993a, 1993b, 1995; Segers & Sanoamunang, 1994; Segers & Sarma, 1994; Segers *et al.*, 1991, 1992, 1993a, 1993b, 1994a, 1994b, 1994c, 1995), or verified by examining the original drawings accompanying the record. Some of the records by Russell (Part 2) could be verified by examining figures in his original notebooks, copies of which were provided by Dr R.J. Shiel. A number of unpublished records are also included in the analysis (Part 3). These are from Algeria, Belgium, Brazil, Burundi, China, Egypt, Ethiopia, Finland, India, Indonesia, Laos, Malawi, Malaysia, Mexico, New Zealand, Nigeria, Peru, the Philippines, Russia, Surinam, Tanzania, Uganda and Vietnam, and concern material collected by researchers of the Institute of Animal Ecology or, mostly, by trainees of the A.B.O.S.-B.G.D.C. International Training Course: 'Zooplankton: a Tool in Lake Management', organised by the laboratory of Animal Ecology, Zoogeography and Nature Conservation, department M.S.E., R.U.G. A number of distribution maps of some representative taxa are added. Note that, at the scale of the maps, one symbol may represent several individual records.

LIST OF VALID SPECIES IN *LECANE*

- L. abanica* Segers, 1994
L. acanthinula (Hauer, 1938)
L. aculeata (Jakubski, 1912)
L. aeganea Harring, 1914
L. agilis (Bryce, 1892)
L. amazonica (Murray, 1913)
L. arcuata (Bryce, 1891)
L. arcula Harring, 1914
L. armata Thomasson, 1971
L. aspasia Myers, 1917
L. asymmetrica (Murray, 1913)
L. batillifer (Murray, 1913)
L. bifastigata Hauer, 1938
L. bifurca (Bryce, 1892)
L. blachei Bérzinš, 1973
L. boettgeri Koste, 1986
L. boliviiana Segers, 1994
L. boorali Koste & Shiel, 1983
L. broaensis Segers & Dumont, 1995
L. braumi Koste, 1988
L. braziliensis Segers, 1993
L. bryophila Koniar, 1957
L. bulla (Gosse, 1851)
L. calcaria Harring & Myers, 1926
L. candida Harring & Myers, 1926
L. clara (Bryce, 1892)
L. climacois Harring & Myers, 1926
L. closterocerca (Schmarda, 1859)
L. copeis (Harring & Myers, 1926)
L. cornuta (Müller, 1786)
L. crepida Harring, 1914
L. curvicornis (Murray, 1913)
L. decipiens (Murray, 1913)
L. depressa (Bryce, 1891)
L. deridderae Koste, 1972
L. donneri Chengalath & Mulamoottil, 1974
L. donyanaensis Mazuelos & Segers, 1994
L. doryssa Harring, 1914
L. dumonti Segers, 1993
L. dysoarata Myers, 1942
L. elasma Harring & Myers, 1926
L. elegans Harring, 1914
L. elongata Harring & Myers, 1926
L. elsa Hauer, 1931
L. eswari Dhanapathi, 1976
L. eutarsa Harring & Myers, 1926
L. eylesi Russel, 1953
L. fadeevi (Neiswestnowa-Shadina, 1935)
L. flabellata Edmondson, 1936
L. flexilis (Gosse, 1886)
L. formosa Harring & Myers, 1926
L. furcata (Murray, 1913)
L. galeata (Bryce, 1892)
L. gilliardi (Bérzinš, 1960)
L. grandis (Murray, 1913)
L. gwileti (Tarnogradski, 1930)
L. haliclysta Harring & Myers, 1926
L. hamata (Stokes, 1896)
L. hastata (Murray, 1913)
L. herzigi Koste, Shiel & Tan, 1988
L. hornemannii (Ehrenberg, 1834)
L. inconspicua Segers & Dumont, 1993
L. inermis (Bryce, 1892)
L. infula Harring & Myers, 1926
L. inopinata Harring & Myers, 1926
L. inquieta Myers, 1936
L. intrasiniata (Olofsson, 1917)
L. ivli (Wiszniewski, 1935)
L. jaintiaensis Sharma, 1987
L. junki Koste, 1975
L. kluchor Tarnogradski, 1930
L. kutikowa Koste, 1972
L. lamellata (Daday, 1893)
L. lateralis Sharma, 1978
L. latissima Yamamoto, 1955
L. lauterborni Hauer, 1924
L. leontina (Turner, 1892)
L. leura Myers, 1942
L. levistyla (Olofsson, 1917)
L. ligona (Dunlop, 1901)
L. ludwigii (Eckstein, 1883)
L. luna (O.F. Müller, 1776)
L. lunaris (Ehrenberg, 1832)
L. marchantaria Koste & Robertson, 1983
L. margalefi De Manuel, 1994
L. margarethae Segers, 1991
L. melini Thomasson, 1953
L. minutula Segers, 1994
L. mira (Murray, 1913)
L. mitella (Myers, 1936)
L. mitis Harring & Myers, 1926
L. monostyla (Daday, 1897)

- L. mucronata* Herring & Myers, 1926
L. myersi Segers, 1993
L. nana (Murray, 1913)
L. nelsoni Segers, 1994
L. nigeriensis Segers, 1993
L. niotis Herring & Myers, 1926
L. nwadiaroi Segers, 1993
L. obtusa (Murray, 1913)
L. opias (Herring & Myers, 1926)
L. ordwayi Bienert, 1986
L. palinacis Herring & Myers, 1926
L. papuana (Murray, 1913)
L. paradoxa (Steinecke, 1916)
L. pawlowskii Wulfert, 1966
L. paxiana Hauer, 1940
L. pelatis Herring & Myers, 1926
L. perpusilla (Hauer, 1929)
L. pertica Herring & Myers, 1926
L. pideis (Herring & Myers, 1926)
L. proiecta Hauer, 1956
L. psammophila (Wiszniewski, 1932)
L. pumila (Rousselet, 1906)
L. punctata (Murray, 1913)
L. pusilla Herring, 1914
L. pustulosa Myers, 1938
L. pyriformis (Daday, 1905)
L. pyrrha Herring & Myers, 1926
L. quadridentata (Ehrenberg, 1832)
L. remanei Hauer, 1964
L. rhacois Herring & Myers, 1926
L. rhenana Hauer, 1929
L. rhopalura (Herring & Myers, 1926)
L. rhytidia Herring & Myers, 1926
L. robertsonae Segers, 1993
L. rudescri Hauer, 1965
L. rugosa (Herring, 1914)
L. ruttneri Hauer, 1938
L. sagula Herring & Myers, 1926
L. satyrus Herring & Myers, 1926
L. schraederi Wulfert, 1966
L. scutata (Herring & Myers, 1926)
L. serrata (Hauer, 1933)
L. shieli Segers & Sanoamuang, 1994
L. signifera (Jennings, 1896)
L. simonneae Segers, 1993
L. sola Hauer, 1936
L. solfatara (Hauer, 1938)
L. spiniventris Segers, 1994
L. spinulifera Edmondson, 1935
L. stenroosi (Meissner, 1908)
L. stephensae (Hutchinson, 1931)
L. stichaea Herring, 1913
L. stichoclysta Segers, 1993
L. subtilis Herring & Myers, 1926
L. subulata (Herring & Myers, 1926)
L. sylviae Segers, 1993
L. symoensi De Ridder, 1981
L. sympoda Hauer, 1929
L. syngenes (Hauer, 1938)
L. tabida Herring & Myers, 1926
L. tabulifera Edmondson, 1936
L. tenua Myers, 1936
L. tenuiseta Herring, 1914
L. thailandensis Segers & Sanoamuang, 1994
L. thalera (Herring & Myers, 1926)
L. thienemannii (Hauer, 1938)
L. tryphema Herring & Myers, 1926
L. uenoi Yamamoto, 1951
L. undulata Hauer, 1938
L. unguitata (Fadeev, 1925)
L. ungulata (Gosse, 1887)
L. urna Nogrady, 1962
L. venusta Herring & Myers, 1926
L. verecunda Herring & Myers, 1926
L. whitfordi (Ahlstrom, 1938)

PART 1. VERIFIED PUBLISHED RECORDS OF LECANIDAE

Records are listed alphabetically, by political or geographical units (names abbreviated according to the Times Atlas) for continental records, or by the name of the island or archipelago. The appropriate locality or region(s) is(are) indicated in cases of records from large units, or general information on species' distribution in such units cited.

L. abanica Segers, 1994

Madagascar (sub. ?*L. rotundata*. Segers, 1992)

Saudi Arabia: North-East part (Segers, 1994a)

L. acanthinula (Hauer, 1938)

(map 1)

India: Delhi region (Segers *et al.*, 1994c)

Indonesia: Java (Hauer, 1937; 1938)

Oman: Dhofar region (Segers & Dumont, 1993b)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

L. aculeata (Jakubski, 1912)

(map 2)

Caribbean Islands (De Ridder, 1977)

China: Zhejiang Province (sub. *L. arcula*. Wang, 1961)

India: West Bengal (Sharma, 1978a)

Indonesia: Sumatra, Java (Hauer, 1937; 1938)

Italy: near Venice (sub. *L. stichaea*. Braioni & Gelmini, 1983)

Japan: Kyoto Prefecture (sub. *L. curvicerata*. Yamamoto, 1951; Yamamoto, 1952)

Madagascar (Segers, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Senegal (Bērziņš, 1959)

Seychelles (Maas *et al.*, 1995)

Singapore (Karunakaran & Johnson, 1978)

Spain: Albufera de Valencia (Wiszniewski, 1932a)

Taiwan (Sudzuki, 1991a)

Tanzania: Usangu savanna (Jakubski, 1912)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

Zaire: Lubumbashi region (De Ridder, 1981)

L. aeganea Herring, 1914
 (map 3)

- Argentina:** Rio Paraná, Resistencia region (sub. *L. tenuiseta*. Martinez & José de Paggi, 1988)
- Bahamas Islands:** New Providence (Segers *et al.*, 1995)
- Panama:** (Herring, 1914)
- Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- U.S.A.:** New Jersey (Herring & Myers, 1926)
- Yemen:** North (Segers & Dumont, 1993b)

L. agilis (Bryce, 1892)

- Austria:** Hohen Tauern (Jersabek & Schabetsberger, 1992a)
- Brazil:** Broa reservoir, São Paulo (Segers & Dumont, 1995)
- Germany:** Schwarzwald region (Hauer, 1929); Würzburg, Bayern (Hauer, 1958a); Düben, Sachsen-Anhalt (Wulfert, 1960a)
- Jamaica:** (Koste *et al.*, 1993)
- the Netherlands:** 'Grote Huisven', Oisterwijk (de Graaf, 1956)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Romania:** (Rudescu, 1960)
- Russian Federation:** Karatschaevo, Caucasus region (Tarnogradski, 1961a)
- U.S.A.:** not specified, 'rare' (Herring & Myers, 1926)
- U.K.:** Eppin Forest (Bryce, 1892)

L. amazonica (Murray, 1913)
 (map 4)

- Brazil:** River Amazon (Murray, 1913a); Rio Negro, Manaus (sub. *L. murrayi*. Hauer, 1965a; 1965b); Lago Jurucui, Amazonas (sub. *L. murrayi*. Thomasson, 1971); Amazonas (sub. *L. murrayi*. Koste, 1972)
- Ecuador:** Jatun Cocha (sub. *L. murrayi*. Koste & Böttger, 1992)

L. arcuata (Bryce, 1891)
 (map 5)

- Austria:** Hohen Tauern (Jersabek & Schabetsberger, 1992a)
- Brazil:** Rio de Janeiro (Murray, 1913a)
- Canada:** Little Cornwallis Island, Northwest Territories (sub. *L. piepelsi*. De Smet & Bafort, 1990a)
- Comoro Islands:** (Segers, 1992)
- Easter Island:** (Segers & Dumont, 1993a)
- Galápagos Archipelago:** (De Smet, 1989a)
- Hungaria:** Belső Tó, Tihany (Varga, 1937)
- Iceland:** (De Ridder, 1969)
- Italy:** (sub. *L. closterocerca*, partly. Braioni & Gelmini, 1983)

- Japan:** Southwestern Islands around Okinawa (sub. *Monostyla* sp. Sudzuki, 1992b)
- Kenya:** Mount Kenya (De Smet & Bafort, 1990c)
- Madagascar** (sub. *L. galeata*. Bērziņš, 1982b)
- New Zealand:** Canterbury (Russell, 1954)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Norway:** Svalbard (sub. *L. piepelsi*. De Smet, 1993)
- Romania** (Rudescu, 1960)
- Spain:** Albufera de Valencia (Wiszniewski, 1932a)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- U.S.A.:** 'fairly common' (Harring & Myers, 1926)
- U.K.:** Epping forest (Bryce, 1891)
- Yemen:** North (Segers & Dumont, 1993b)

L. arcula Herring, 1914
(map 6)

- Argentina** (Murray, 1913a)
- Antilles:** Guadeloupe (sub. *L. aculeata*. Pourriot, 1975)
- Belgium:** Genk (Schepens, 1960)
- Brazil:** (Murray, 1913a); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)
- Canada:** Ontario (Chengalath & Mulamoottil, 1974)
- Chile** (Murray, 1913a)
- China:** Xinjiang Province (sub *L. flexilis*. Wang, 1961)
- Comoro Islands** (Segers, 1992)
- Germany:** near Karlsruhe (Hauer, 1935a); near Bersenbrück, Niedersachsen (Koste, 1962)
- India:** Madras (sub. *L. methoria*. Pasha, 1961); Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); West Bengal (Sharma, 1978a)
- Indonesia:** Sumatra, Java (Hauer, 1937; 1938)
- Latvia** (sub. *L. strandi*. Bērziņš, 1943)
- Nepal** (Daems & Dumont, 1974)
- Nicaragua** (Moreno *et al.*, 1992)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Oman:** Dhofar region (Segers & Dumont, 1993b)
- Panama** (Herring, 1914)
- Poland:** Białowieża forest (Pawlowski, 1938)
- Russian Federation:** Caucasus region (Tarnogradski, 1961b)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Sri Lanka** (sub. *L. verecunda*. Chengalath & Fernando, 1973)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- U.S.A.:** common ... everywhere in the United States (Harring & Myers, 1926)
- Yemen:** North (Segers & Dumont, 1993b)
- Yugoslavia:** Danube river (Živković, 1987)
- Zambia:** Lake Bangweulu (Wulfert, 1965)

L. armata Thomasson, 1971

Brazil: Lago Jurucui, Amazonas (Thomasson, 1971); near Santarém (sub. *L. gillardi armata*. Koste, 1974)

L. aspasia Myers, 1917

Argentina: Rio Paraná, Resistencia region (sub. *L. stichaeoides*. Martinez & José de Paggi, 1988)

?Canada: Ontario (sub. *L. verecunda*. Chengalath & Mulamoottil, 1974)

Hungary: Lake Balaton (Varga, 1939)

India: Delhi region (Segers *et al.*, 1994c)

Indonesia: Sumatra (Hauer, 1937; 1938)

Russian Federation: Moskow region (Bogoslovski, 1935)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

U.S.A.: California (Myers, 1917)

L. asymmetrica (Murray, 1913)

Guyana (Murray, 1913a)

Jamaica (sub. *L. janetzkyi*. Koste *et al.*, 1991)

L. batillifer (Murray, 1913)

(map 7)

Australia: Sydney (Murray, 1913b); Northern Territoriy (Bērziņš, 1982a)

China: Zhejiang Province (Wang, 1961)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

L. bifastigata Hauer, 1938

(map 8)

India: West Bengal (Sharma, 1979)

Indonesia: Java (Hauer, 1937; 1938)

Oman: Jabal Al Akhdar region (Segers & Dumont, 1993b)

Russian Federation: Caucasus region (Tarnogradski, 1961b)

Sri Lanka (Chengalath *et al.*, 1974)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

Turkey : Lake Beşehir (Segers *et al.*, 1992; Segers & Dumont, 1993b)

L. bifurca (Bryce, 1892)

Australia: Victoria (sub. *L. bifurca entome*. Bērziņš, 1982a)

Austria: Hohen Tauern (sub. *L. furcata*. Jersabek & Schabetsberger, 1992a)

Brazil: Broa reservoir, São Paulo (Segers & Dumont, 1995)
Canada: Laurentides National Park, Quebec (sub. *L. fusilis*. Myers, 1936c)
Easter Island (Segers & Dumont, 1993a)
Galàpagos Archipelago (Segers, 1991)
Germany: Bad Wilstein (sub. *L. crypta*. Hauer, 1940)
India: Yamuna river (Sarma, 1988)
Indonesia: Sumatra, Java (sub. *M. crypta*. Hauer, 1937; 1938)
Madagascar (Bērziņš, 1982b)
Nepal: Khatmandu (Turner, 1987)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Oman: Dhofar region (Segers & Dumont, 1993b)
Romania (Rudescu, 1960)
Russian Federation: Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)
Spain: Minorca (De Manuel, 1990b; De Manuel, 1994)
Sweden: Aneboda region (Carlin, 1939)
U.S.A.: not rare (Harring & Myers, 1926)
U.K.: Sandown (Bryce, 1892)

L. blachei Bērziņš, 1973
 (map 9)

Cambodia: Mekong delta (Bērziņš, 1973)
India: Calcutta (Sarma, 1988)
Indonesia: Borneo (Koste, 1988a)
Thailand: North-East part (Sanoamuang *et al.*, 1995)

L. boettgeri Koste, 1986

Paraguay: near Concepción (Koste, 1986)

L. boliviana Segers, 1994

Bolivia: Kothia Lake, near La Paz (Segers *et al.*, 1994b)

L. boorali Koste & Shiel, 1983

Australia: southwest Western Australia (Koste *et al.*, 1983)

L. braumi Koste, 1988
 (map 10)

Indonesia: Borneo (Koste, 1988a)
Nigeria: River Niger floodplain (sub. *L. elsa*. Segers *et al.*, 1993a)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

?Sri Lanka (sub. *L. elsa*. Chengalath *et al.*, 1974)

L. braziliensis Segers, 1993

Brazil: Roraima, Pantanal region (Segers *et al.*, 1993b); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

L. broaensis Segers & Dumont, 1995

Brazil: Broa reservoir, São Paulo (Segers & Dumont, 1995)

L. bryophila Koniar, 1957

Slovakia: Tatra mountains (sub. *L. spec.* Koniar, 1955; Koniar, 1957)

L. bulla (Gosse, 1851)
(map 11)

Argentina: Buenos Aires (Olivier, 1965); Santa Fe province (sub. *L. bulla styrax*. José de Paggi & Koste, 1988)

Austria: Thaya River region (Donner, 1954)

Belgium (De Ridder, 1961a); Gent (Segers *et al.*, 1991)

Brazil: Rio de Janeiro (Murray, 1913a); lower Rio Nhamundá (sub. *L. lunaris lunaris*, *L. bulla styrax*. Brandorff *et al.*, 1982); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Cameroon: western part (Chiambeng *et al.*, 1991)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Caribbean Islands (sub. *L. styrax*. De Ridder, 1977)

China: Jiangsu, Zhejiang Province (Wang, 1961)

Comoro Islands (Segers, 1992)

France: Camargue (De Ridder, 1961b)

Germany: Sachsen-Anhalt (Althaus, 1957); Düben, Sachsen-Anhalt (sub. *L. physalis*. Wulfert, 1960a); near Bersenbrück, Niedersachsen (Koste, 1962); Lake Stechlin (Koch-Althaus, 1963)

India: Lake Sholavaram, Madras (sub. *M. bulla* f. *diabolica*. Hauer, 1936b); Madras (Pasha, 1961); Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); Andhra Pradesh (sub. *M. styrax*. Dhanapathi, 1976a); West Bengal (Sharma, 1978a); Jammu and Kashmir region (Jyoti & Sehgal, 1980); Gwalior, Madhya Pradesh (Saksena & Kulkarni, 1986)

Italy (Braioni & Gelmini, 1983)

Japan: Hateruma Jima, Taketomi Jima, Okinawa Jima (sub. *M. bulla constricta* and f. *triangulata*., *M. bulla dentata*. Sudzuki, 1992a); Southwestern Islands around Okinawa (incl. *Monostyla* sp. Sudzuki, 1992b)

Kenya: Ahero (Segers *et al.*, 1994a)

Korea, South (Song & Kim, 1989; Chung *et al.*, 1991)

- Latvia** (sub. *M. ozolini*. Bērziņš, 1943)
- Madagascar** (Segers, 1992)
- Moldavia** (incl. *L. bulla kutikovi*, *L. goniata*. Naberezhniyi & Irmasheva, 1975)
- Myanmar**: Kinda reservoir (Koste & Tobias, 1990)
- Nepal** (Daems & Dumont, 1974); Kathmandu Valley (Sarma & Ghimire, 1990)
- Nicaragua** (Moreno *et al.*, 1992)
- Nigeria**: River Sokoto (Green, 1960); River Niger floodplain (Segers *et al.*, 1993a)
- Oman**: Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)
- Papua New Guinea**: East Sepik, Madang Provinces (Segers & De Meester, 1994)
- Peru**: Ucayali dept., Amazon region (sub. *M. quadridentata*. Samanez, 1988)
- Philippines** (Mamaril & Fernando, 1978)
- Poland**: River Grabi basin (Pawłowski, 1958)
- Romania** (Rudescu, 1960)
- Russian Federation**: Dagestan (sub. *L. bulla diana*. Abdullaev, 1989); Moskow region (sub. *M. goniata*. Bogoslovski, 1935; Segers, 1994b)
- Saudi Arabia**: North-East part (Segers & Dumont, 1993b)
- Senegal** (Bērziņš, 1959)
- Seychelles** (Maas *et al.*, 1995)
- Spain**: Minorca (De Manuel, 1990b)
- Taiwan** (Sudzuki, 1991a)
- Thailand**: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
- Turkey**: Akgöl, Selçuk- İzmir (Ustaoğlu & Balık, 1987); Central and East Anatolia (Segers *et al.*, 1992)
- U.S.A.**: Lake Erie, South Bass Island (Jennings, 1900); 'abundant everywhere' (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)
- Venezuela**: Lago de Valencia (Infante, 1980)
- Yemen**: North (Segers & Dumont, 1993b)
- Yugoslavia**: Danube river (Živković, 1987)
- Zaire**: Lubumbashi region; Lake Mweru, Kiwa (De Ridder, 1981)
- Zambia**: Lake Bangweulu, Luapula regions (De Ridder, 1981)

L. calcaria Harring & Myers, 1926

- Ecuador**: 'Laguna Grande' (Koste & Böttger, 1992)
- U.S.A.**: New Jersey (Harring & Myers, 1926)

L. candida Harring & Myers, 1926

- U.S.A.**: Wisconsin (Harring & Myers, 1926)

L. clara (Bryce, 1892)

- Brazil**: Maracá Island, Roraima (Koste & Robertson, 1990); Broa reservoir, São Paulo (Segers & Dumont, 1995)
- Germany**: Schwarzwald region (Hauer, 1931); Dieksee, near Plön (Wszniewski, 1934b)
- Madagascar** (Bērziņš, 1982b; Segers, 1992)
- Nigeria**: River Niger floodplain (Segers *et al.*, 1993a)

Poland: Lake Wigry, Suwalki region (Wiszniewski, 1934)

Romania: (Rudescu, 1960)

Russian Federation: Caucasus region (Tarnogradski, 1961b)

U.S.A.: New Jersey, Washington D.C. (Harring & Myers, 1926); Michigan (sub. *Proales longidactyla*. Edmondson, 1948)

U.K.: Sandown (Bryce, 1892)

L. climacoides Harring & Myers, 1926

Nigeria: River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

U.S.A.: Florida, Maryland, New Jersey (Harring & Myers, 1926)

L. closterocerca (Schmarda, 1859)

(map 12)

Antarctica: South Georgia Island (Dartnall & Hollowday, 1985)

Argentina: Buenos Aires (Murray, 1913a; sub. *L. lunaris*. Olivier, 1965); North East Provinces (José de Paggi, 1989)

Australia: Victoria (Bērziņš, 1982a)

Austria: Donau region (Donner, 1964; Donner, 1978); Hohen Tauern (Jersabek & Schabetsberger, 1992a)

Bahamas Islands: New Providence (Segers *et al.*, 1995)

Belgium: (De Ridder, 1961a); Gent (Segers *et al.*, 1991)

Bolivia: Lake Titicaca (Murray, 1913a); Kothia Lake, near La Paz (Segers *et al.*, 1994b)

Brazil: Rio de Janeiro (Murray, 1913a); Amazonas (sub. *L. wulferti*, incl. *Lecane* sp. Koste, 1972); near Santarém (Koste, 1974); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Cameroon: western part (Chiambeng *et al.*, 1991)

Canada: Ontario (Chengalath & Malamoottil, 1974)

Chile: Valparaiso, Antofagasta (Murray, 1913a)

China: Manchuria (Hada, 1938); Guangdong, Hubei Provinces (Wang, 1961)

Comoro Islands: (Segers, 1992)

Ecuador: Quito (Schmarda, 1859)

Easter Island: (Segers & Dumont, 1993a)

Finland: Helsinki region (sub. *M. cornuta*. Levander, 1894); Tvärminne archipelago (Björklund, 1972)

France: Camargue (De Ridder, 1960; 1961b)

Galápagos Archipelago: (De Smet, 1989a; Segers, 1991)

Germany: Oldesloe, Holstein (sub. *L. cornuta*. Hauer, 1925); Sachsen-Anhalt (Althaus, 1957); Near Ludwigsburg, Baden-Württemberg (Klement, 1959); Düben, Sachsen-Anhalt (Wulfert, 1960a, b)

Greenland: Disko (sub. *L. quennerstedti*. Bergendal, 1892)

Iceland: (De Ridder, 1972)

India: Rajasthan (Nayar, 1968); West Bengal (Sharma, 1978a)

Italy: (Braioni & Gelmini, 1983)

Japan: Mount Fuji (Sudzuki, 1978); Southwestern Islands around Okinawa (Sudzuki, 1992b)

Korea, South: (Chung *et al.*, 1991)

Latvia: (sub. *M. latvica*. Bērziņš, 1943)

Moldavia (incl. *L. beningi*, *L. punctata*. Naberezhniyi & Irmasheva, 1975)

the Netherlands: Oisterwijkse vennen (de Graaf, 1960)

Nepal (Daems & Dumont, 1974); Kathmandu Valley (Sarma & Ghimire, 1990)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Norway: Bjørnøya (De Smet, 1988)

Oman: Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Philippines (Mamaril & Fernando, 1978)

Poland: river Grabi basin near Łódź (partly. Pawłowski, 1956; 1958)

Romania (Rudescu, 1960)

Russian Federation: Ural mountains, Perm region (Oparina-Charitonova, 1928); Caucasus region (Tarnogradski, 1961b); Moskow region (Segers, 1994b)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

Seychelles (Maas *et al.*, 1995)

Sierra Leone: Lake Sonfon (sub. *L. wulferti*. Green, 1979)

Singapore (Suzuki, 1991a)

Spain: Los Marismas (De Ridder, 1962); Minorca (De Manuel, 1990b); Majorca (De Manuel, 1994)

Sweden: Lappland (Pejler, 1962)

Tanzania: Mount Kilimanjaro (De Smet & Bafort, 1990b)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

Turkey: Central and East Anatolia (Segers *et al.*, 1992)

U.K. (sub. *L. cornuta*. Bryce, 1891)

Ukraine (sub. *L. arcuata*. Ovander, 1980a)

U.S.A.: 'abundant everywhere' (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

Venezuela: Laguna Mucubaji (Hauer, 1956)

Yemen: North (Segers & Dumont, 1993b)

Yugoslavia: Danube river (Živković, 1987)

Zaïre: Lubumbashi region; Lake Mweru, Kilwa (De Ridder, 1981)

Zambia: Luangwa river region (De Ridder, 1981)

L. copeis (Harring & Myers, 1926)
(map 13)

Brazil: Amazonas (sub. *L. obtusa*, cf. *L. acanthinula*. Koste, 1972); Mato Grosso do Sul (Turner & Da Silva, 1992)

Ecuador: 'Costa', 'Oriente' (sub. *L. eupsammophila*. Koste & Böttger, 1992)

Romania (Rudescu, 1960)

U.S.A.: Colorado, Wisconsin (Harring & Myers, 1926)

L. cornuta (Müller, 1786)
(map 14)

Antilles: Guadeloupe, Marie Galante (sub. *Lecane* sp. 2. Pourriot, 1975)

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Lago Maica, Amazonas (Thomasson, 1971); Lake Jurucui, Belterra, Tapajoz (Gillard, 1967); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Caribbean region: Hispaniola (sub. *M. rotunda*. Edmondson, 1934)

Colombia: Baranquilla (incl. var. *oidipus*. Hauer, 1956)

Germany: near Karlsruhe (Hauer, 1929)

Nicaragua: Lake Nicaragua (Segers, 1995)

Panama: (Harring & Myers, 1926)

Peru: Ucayali dept., Amazon region (Samanez, 1988)

Romania: (Rudescu, 1960)

Russian Federation: vicinity of Kharkov, Lopan River, Uda River (sub. *M. rotunda*. Fadeev, 1927); Ural mountains, Perm region (sub. *M. rotundata*. Oparina-Charitonova, 1928)

U.S.A.: Lake Erie, South Bass Island (Jennings, 1900); 'abundant ... in the United States (Harring & Myers, 1926); North Carolina (Ahlstrom, 1938); Laurentian Great Lakes (incl. *M. stenroosi*. Stemberger, 1979)

Venezuela: Laguna Taiguaguai, near Barrancas (incl. var. *oidipus*. Hauer, 1956); Lago de Valencia (var. *oidipus*. Infante, 1980); Mantecal (sub. *Lecane* species. Michelangelii *et al.*, 1980); Mantecal, Rio Urama, Yaracuy, Aroa (var. *rotunda*. Zoppi de Roa *et al.*, 1994)

L. crepida Harring, 1914
(map 15)

Argentina: North East Provinces (José de Paggi, 1989)

Bahamas Islands: Grand Bahama (Nogrady, 1983)

Brazil: Lake Maica, Varzea Santarém (sub. *Lecane* sp. Gillard, 1967); Rio Madeira (sub. *L. crepida longidactyla*. Koste, 1972); near Santarém (Koste, 1974); Boa Vista region, Roraima (Segers & Sarma, 1994)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

China: Zhejiang Province (Wang, 1961)

India: Madras (Pasha, 1961); Ajwa reservoir, near Baroda, Gujarat (incl. *L. neali*. Wulfert, 1966); West Bengal (Sharma, 1978a; sub. f. *bengalensis*. Sharma, 1979; sub. *L. vasishti*. Sharma, 1980)

Indonesia: Sumatra, Java (Hauer, 1937; 1938); Borneo (Koste, 1988a)

Madagascar: (Segers, 1992)

Nepal: (Daems & Dumont, 1974)

Nicaragua: (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Panama: (Harring, 1914)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Peru: Ucayali dept., Amazon region (Samanez, 1988)

Philippines: (Mamaril & Fernando, 1978)

Singapore: (Suzuki, 1991a)

Spain: Albufera de Valencia (Wiszniewski, 1932a)

Sri Lanka: (Chengalath & Fernando, 1973)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

U.S.A.: South Bass Island (sub. *D. gissensis*. Jennings, 1900); Maine, Wisconsin (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

***L. curvicornis* (Murray, 1913)**
(map 16)

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Rio de Janeiro (incl. *C. nitida*. Murray, 1913a); Lago Maica, Lago Jurucui, Amazonas (incl. *L. curvicornis nitida*. Thomasson, 1971); Paraná de Xiborena, Amazonas (Hauer, 1965b); Maranhão State (incl. f. *lofuana*, *L. curvicornis nitida*. Reid & Turner, 1988); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (incl. f. *nitida*. Segers & Dumont, 1995)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Caribbean region: Hispaniola (sub. *L. bondi*. Edmondson, 1934)

Ethiopia: Lake Zwai (sub. *L. zwaiensis*. Bryce, 1931)

China: Heilongjiang, Jiangsu, Zhejiang Provinces (Wang, 1961)

Czechia: Silesia (sub. *L. ungulata curvicornis*. Dvorakova, 1960a)

Germany: Donaueschingen (Hauer, 1931)

Guatemala (Harring & Myers, 1926)

India: Nagpur (sub. *L. curvicornis* var. *padespares*, *L. tesselata*, *L. curvilinealis*, *L. longidactyla*. Arora, 1965); Ajwa reservoir, near Baroda, Gujarat (var. *nitida*. Wulfert, 1966); West Bengal (incl. var. *miamiensis*. Sharma, 1978a); Gwalior, Madhya Pradesh (Saksena & Kulkarni, 1986); Megalaya, Northeast region (sub. var. *nitida*. Sharma, 1987)

Indonesia: Sumatra (sub. *L. curvicornis nitida*. Hauer, 1937; 1938)

Italy: near Venice (Braioni & Gelmini, 1983)

Japan: Hyogo Prefecture (sub. *L. triloba*. Yamamoto, 1951)

Korea, South (Song & Kim, 1989; Chung *et al.*, 1991)

Nicaragua (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Panama (Harring & Myers, 1926)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Philippines (incl. var. *miamiensis*. Mamaril & Fernando, 1978)

Russian Federation: Lake Khanka (sub. *L. chankensis*. Bogoslovski, 1958); Ural mountains, Perm region (sub. *L. acronycha*. Oparina-Charitonova, 1928); Caucasus region (Tarnogradski, 1961b)

Senegal (sub. *L. ungulata curvicornis*. Bērziņš, 1959)

Singapore (sub. *L. curvicornis lofuana*, *L. curvicornis nitida*, *Lecane* sp. 2. Sudzuki, 1991a)

Sri Lanka (incl. var. *miamiensis*. Chengalath & Fernando, 1973)

Tanzania: Lake Tanganyika (sub. *L. lofuana*. Murray, 1913c)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

U.S.A.: Arkansas, California, Maine, New Jersey, Texas, Wisconsin, Lake Erie (incl. *L. acronycha*. Harring & Myers, 1926); Florida (sub. var. *miamiensis*. Myers, 1941)

Venezuela: Mantecal (sub. *L. luna* var. *presumpta*. Zoppi de Roa *et al.*, 1994)

Zaïre: Lake Mweru, Kilwa; Lubumbashi region (incl. var. *nitida*. De Ridder, 1981); Bas-Zaïre (De Smet, 1989b)

Zambia: Lake Bangweulu, Luapula regions (incl. var. *nitida*. De Ridder, 1981)

Zimbabwe: Lake Kariba (Thomasson, 1965)

L. decipiens (Murray, 1913)
 (map 17)

Brazil: Rio de Janeiro (Murray, 1913a); Ilha de Marchantaria, Amazonas (Koste & Robertson, 1983); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Galàpagos Archipelago (Segers, 1991)

Jamaica (Koste *et al.*, 1991)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Panama (Harring & Myers, 1926)

Peru: Ucayali dept., Amazon region (sub. *M. hamata*. Samanez, 1988)

L. depressa (Bryce, 1891)
 (map 18)

Canada: Ontario (sub *L. tudicola*. Chengalath & Mulamootttil, 1974); Québec (sub. *L. brachydactyla*. Nogrady, 1976)

Germany: Plön (sub. *Distyla truncata*. Leissing, 1914); near Karlsruhe (sub. *L. tudicola*. Hauer, 1935a); Luckenwalde, Brandenburg (sub. *L. tudicola*. Wulfert, 1940); near Bersenbrück, Niedersachsen (sub. *L. tudicola*. Koste, 1962); Bayern: Donau region (sub. *L. tudicola*. Donner, 1972)

Italy: near Venice (sub. *L. tudicola*. Braioni & Gelmini, 1983)

Japan: Honshu (sub. *L. brachydactyla*. Yamamoto, 1952); Ozegahara (sub. *L. truncata*. Yamamoto, 1953a)

Korea, North (sub. *L. brachydactyla*. Yamamoto, 1953b)

Latvia (Kutikova, 1959)

Poland: Gdansk (Danzig: sub. *L. brachydactyla*. Rousselet, 1912; Murray, 1913c); Silesia (sub. *L. brachydactyla*. Sachse, 1915)

Russian Federation: Caucasus region (sub. *L. brachydactyla*, *L. tudicola*. Tarnogradski, 1961b); St-Petersburg region (sub. *L. tudicola*. Kutikova, 1962); Karelian lakes (sub. *L. brachydactyla*. Kutikova, 1965)

Sweden: Dalarö (sub. *L. tudicola*. Carlin-Nilsson, 1934)

Ukraine (sub. *L. brachydactyla*. Ovander, 1980a)

U.S.A.: Maine, New Jersey, Wisconsin, St. Paul, Pribilof Islands, Alaska (sub. *L. brachydactyla*, incl. *L. tudicola*. Harring & Myers, 1926); Laurentian Great Lakes (sub. *L. tudicola*. Stemberger, 1979)

U.K.: River Lea (Bryce, 1891)

L. deridderae Koste, 1972

Brazil: Amazonas (Koste, 1972)

L. donneri Chengalath & Mulamootttil, 1974

Canada: Ontario (Chengalath & Mulamootttil, 1974)

?Indonesia: Borneo (sub. *L. lauterborni*. Koste, 1988a)

Madagascar (sub. *L. lauterborni*. Segers, 1992)
Oman: Dhofar region (Segers & Dumont, 1993b)

L. donyanaensis Mazuelos & Segers, 1994

Spain: Doñana National Park (Galindo *et al.*, 1994)

L. doryssa Herring, 1914
 (map 19)

Brazil: near Santarém (Koste, 1972); lower Rio Nhamundá (Brandorff *et al.*, 1982)

China: Liaoning Province (Wang, 1961)

Guatemala: Puerto Barrios (Herring & Myers, 1926)

India: Megalaya, Northeast region (Sharma, 1987); Calcutta (Sarma, 1988)

Indonesia: Sumatra (Hauer, 1937; 1938); Borneo (Koste, 1988a)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Panama (Herring, 1914)

Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

Russian Federation: Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)

Seychelles (Maas *et al.*, 1995)

Sweden: Aneboda region (Carlin, 1939)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

L. dumonti Segers, 1993

Brazil: Roraima (Segers *et al.*, 1993b; Segers & Sarma, 1994)

Nigeria: River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

L. dysoarata Myers, 1942

U.S.A.: Northeastern Pennsylvania (Myers, 1942)

L. elasma Herring & Myers, 1926

Germany: Schwarzwald region (Hauer, 1929); near Bersenbrück, Niedersachsen (Koste, 1962)

the Netherlands: 'Grote Huisven', Oisterwijk (de Graaf, 1956)

Romania (Rudescu, 1960)

U.S.A.: D.C., New Jersey, Wisconsin (Herring & Myers, 1926)

L. elegans Herring, 1914

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: near Santarém (Koste, 1974)

Indonesia: Borneo (Koste, 1988a)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Panama: (Harring, 1914)

Philippines: (Mamaril & Fernando, 1978)

L. elongata Harring & Myers, 1926

Poland: Tatra mountains (Pawłowski, 1938)

Romania: (Rudescu, 1960)

Russian Federation: Dagestan (sub. *L. lebedevae*. Abdullaev, 1989)

U.S.A.: New Jersey (Harring & Myers, 1926)

L. elsa Hauer, 1931

(map 20)

Argentina: Rio Paraná, Resistencia region (partly. Martinez & José de Paggi, 1988)

Brazil: Paraná de Xiborena, Amazonas (Hauer, 1965b); Amazonas (Koste, 1972)

Czechia: Silesia (Dvorakova, 1960a)

Germany: near Karlsruhe (Hauer, 1931)

Jamaica: (Koste *et al.*, 1993)

Poland: River Grabi basin (Pawłowski, 1958)

Russian Federation: Caucasus region (sub. *L. luna* var. *presumpta*. Tarnogradski, 1961b)

Ukraine: (Ovander, 1980a)

Yugoslavia: Danube river (sub. *L. presumpta*. Živković, 1987)

L. eswari Dhanapathi, 1976

India: Andhra Pradesh (Dhanapathi, 1976b)

L. eutarsa Harring & Myers, 1926

(map 21)

Argentina: Santa Fe province (sub. *L. amazoniana*. José de Paggi & Koste, 1988)

Brazil: Arapuns, near Manaus (sub. *L. rhytida*, *Lecane* sp. 1. Hauer, 1965b); Amazonas (sub. *L. rhytida*. Koste, 1972); Ilha de Marchantaria, Amazonas (sub. *L. amazoniana*. Koste & Robertson, 1983); Boa Vista region, Roraima (Segers & Sarma, 1994)

Ecuador: 'Oriente' (sub. *L. amazonica*. Koste & Böttger, 1992)

Guatemala: Puerto Barrios (Harring & Myers, 1926)

L. eylesi Russell, 1953

(map 22)

New Zealand: Chatham Islands (Russel, 1953a); near Greymouth (sub. *L. tasmaniensis*. Sanoamuang & Stout, 1993)

Tasmania (sub. *L. tasmaniensis*. Shiel & Koste, 1985)

L. fadeevi Neiswestnowa-Schadina, 1935

?**Poland:** River Grabi basin (sub. *L. closterocerca*, partly. Pawłowski, 1956; 1958)

Russian Federation: Moskow region (Neiswestnowa-Schadina, 1935; Segers, 1994b)

L. flabellata Edmondson, 1936

U.S.A.: Maine (Edmondson, 1936)

L. flexilis (Gosse, 1886)
(map 23)

Austria: Hohen Tauern (Jersabek & Schabetsberger, 1992a)

Belgium: Gent (incl. *L. glypta*. Segers *et al.*, 1991)

Bolivia: Kothia Lake, near La Paz (Segers *et al.*, 1994b)

Brazil: Rio de Janeiro (Murray, 1913a); Ilha de Marchantaria, Amazonas (sub. *L. aculeata*. Koste & Robertson, 1983); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

China: Yunnan Province (sub. *L. glypta*. Wang, 1961)

Denmark: Faroér Islands (De Smet *et al.*, 1988)

France: Camargue (De Ridder, 1960; 1961b)

Germany: In cold sulphur and thermal springs (Pax & Wulfert, 1941); Düben, Sachsen-Anhalt (incl. *L. glypta*. Wulfert, 1960a); Lake Stechlin (Koch-Althaus, 1963)

India: West Bengal (Sharma, 1978a)

Italy: Braioni & Gelmini, 1983)

Korea, South: Chung *et al.*, 1991)

Nepal: Kathmandu Valley (sub. *L. tudicola*. Sarma & Ghimire, 1990)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Norway: Bjørnøya (De Smet, 1988)

Panama: (incl. *L. compta*. Harring, 1914)

Romania: (Rudescu, 1960)

Russian Federation: Caucasus region (Tarnogradski, 1961b); Moskow region (Segers, 1994b)

Spain: Minorca (De Manuel, 1994)

Sweden: Aneboda region (Carlin, 1939); Lappland (Pejler, 1962)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

U.K.: England (Harring & Myers, 1926)

U.S.A.: common ... everywhere in the United States (incl. *L. glypta*. Harring & Myers, 1926);

Laurentian Great Lakes (Stemberger, 1979)

Yugoslavia: Danube river (Živković, 1987)

L. formosa Harring & Myers, 1926

U.S.A.: Wisconsin (Harring & Myers, 1926)

L. furcata (Murray, 1913)
 (map 24)

Belorussiya: Pinsk region (Wiszniewski, 1930)

Brazil: Rio de Janeiro (Murray, 1913a); Amazonas (sub. *L. scutata*, sub. *L. rugosa*. Koste, 1972); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Chile: (Schmid-Araya, 1991)

China: Manchuria (Hada, 1938); Heilongjiang, Zhejiang Provinces (incl. *L. elachis*, *L. tethis*. Wang, 1961)

France: Camargue (sub. *L. vanoyei*. De Ridder, 1960; 1961b)

Germany: near Karlsruhe (Hauer, 1929); Sachsen-Anhalt (Althaus, 1957); near Bersenbrück, Niedersachsen (Koste, 1962)

Guatemala: Puerto Barrios (Harring & Myers, 1926)

India: Ajwa reservoir, near Baroda, Gujarat (sub. *L. elachis*. Wulfert, 1966); Andhra Pradesh (sub. *M. tethis*. Dhanapathi, 1976a); West Bengal (Sharma, 1979); Megalaya, Northeast region (sub. *L. scutata*. Sharma, 1987)

Indonesia: Sumatra, Java (incl. *M. elachis*, *Monostyla* sp (*rugosa*?). Hauer, 1937; 1938); Borneo (sub. *L. rugosa*. Koste, 1988a)

Italy: (Braioni & Gelmini, 1983)

Japan: Southwestern Islands around Okinawa (Sudzuki, 1992b)

Latvia: (sub. *M. rugosa*. Kutikova, 1959)

Moldavia: (incl. *L. rugosa*. Naberezhniyi & Irmashova, 1975)

Myanmar: Kinda reservoir (Koste & Tobias, 1990)

Nicaragua: (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (incl. f. *elachis*. Segers *et al.*, 1993a)

Oman: Jabal Al Akhdar region (Segers & Dumont, 1993b)

Panama: (Harring & Myers, 1926)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Romania: (Rudescu, 1960)

Russian Federation: Ural mountains, Perm region (sub. *M. tethis*. Oparina-Charitonova, 1928); Northern Caucasus (Tarnogradski, 1930); Moskow region (sub. *M. mologensis*, *M. tethis*. Bogoslovski, 1935); Caucasus region (Tarnogradski, 1961b)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

Spain: Minorca (De Manuel, 1990b); Majorca (De Manuel, 1994)

Sri Lanka: (incl. *L. scutata*. Chengalath *et al.*, 1974)

Sweden: Aneboda region (Carlin, 1939); Lappland (Pejler, 1962)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

Turkey: Central and East Anatolia (Segers *et al.*, 1992)

Ukraine: (sub. *L. elachis*. Ovander, 1980a)

U.S.A.: common ... in the United States (incl. *M. elachis*, *M. tethis*, Harring & Myers, 1926)

Yemen: North (Segers & Dumont, 1993b)

Yugoslavia: Danube river (incl. *L. elachis*. Živković, 1987)

Zaïre: Bas-Zaïre (De Smet, 1989b)

L. galeata (Bryce, 1892)
 (map 25)

Austria: Salzburg (Pax & Wulfert, 1942); Hohen Tauern (Jersabek & Schabetsberger, 1992a)

Belgium: Postel (Segers, 1995)

Germany: Schneeberg, Brandenburg (sub. *M. pygmaea*. Wulfert, 1940)

Iceland: (De Ridder, 1969)

Ireland: Clare Island (sub. *M. turbo*. Murray, 1913c)

Moldavia (sub. *L. rylovi*. Naberezhniyi & Irmashova, 1975)

the Netherlands: 'Grote Huisven', Oisterwijk (de Graaf, 1956)

Romania (sub. *L. pygmaea*. Rudescu, 1960)

Russian Federation: Caucasus region (incl. *L. beningi*. Tarnogradski, 1961b)

U.S.A.: D.C., Florida, Maine, New Jersey, Wisconsin (sub *M. pymaea*. Harring & Myers, 1926)

U.K.: Sandown (Bryce, 1892)

L. gillardi (Bērziņš, 1960)

Madagascar (Bērziņš, 1960)

L. grandis (Murray, 1913)
 (map 26)

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Rio de Janeiro (Murray, 1913a), Pernambuco (Neumann-Leitão, 1986)

Caribbean Islands (De Ridder, 1977)

Oman: Dhofar region (Segers & Dumont, 1993b)

Romania (Rudescu, 1960)

Russian Federation: Novorossiysk, Black Sea Coast (Fadeev, 1925)

Spain: Minorca (De Manuel, 1994)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

U.A.E. (Segers & Dumont, 1993b)

U.S.A.: New Jersey (Harring & Myers, 1926)

L. gwileti (Tarnogradski, 1930)

Germany: near Karlsruhe (sub. *L. kieferi*. Hauer, 1931)

Russian Federation: Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)

L. haliclysta Harring & Myers, 1926

Brazil: Paraná de Xiborena, Amazonas (Hauer, 1965b); Ilha de Marchantaria, Amazonas (sub. *L. stichaeoides*. Koste & Robertson, 1983); Boa Vista region, Roraima (Segers & Sarma, 1994)

France: Etang de Pommerau, Loire-et-Cher (Tassigny *et al.*, 1970)

- Germany:** Düben, Sachsen-Anhalt (Wulfert, 1960a)
India: Megalaya, Northeast region (Sharma, 1987)
Indonesia: Sumatra (sub. *L. stichaeoides*. Hauer, 1937; 1938)
Nigeria: River Niger floodplain (sub. *L. stichaeoides*. Segers *et al.*, 1993a)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)
Singapore (sub. *Lecane* sp. 1. Sudzuki, 1991a)
Thailand: North-East part (Sanoamuang *et al.*, 1995)
U.S.A.: Maine, New Jersey, Wisconsin, Lake Erie (Harring & Myers, 1926)

L. hamata (Stokes, 1896)
 (map 27)

- Antilles** (Pourriot, 1975)
Australia: Victoria (sub. *L. hamata victoriensis*. Koste & Shiel, 1980; Bērziņš, 1982a)
Austria: Thaya River region (Donner, 1954); Hohen Tauern (Jersabek & Schabetsberger, 1992a)
Argentina: Nahuel Huapi National Park (Thomasson, 1959); Buenos Aires (Olivier, 1965); Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)
Bahamas Islands: New Providence (Segers *et al.*, 1995)
Belgium (De Ridder, 1961a)
Brazil: Rio de Janeiro (Murray, 1913a); Amazonas (Koste, 1972); Ilha de Marchantaria, Amazonas (Koste & Robertson, 1983); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)
Cameroon: western part (Chiambeng *et al.*, 1991)
Canada: Ontario (incl. *L. fernandoi*, *L. decipiens*. Chengalath & Mulamoottil, 1974)
Caribbean Islands (sub. *L. arcuata*. De Ridder, 1977)
China: Manchuria (Hada, 1938); Shanghai (Wang, 1961)
Comoro Islands (Segers, 1992)
Easter Island (Segers & Dumont, 1993a)
Germany: Bad Landeck, Bad Schallerbach (Pax & Wulfert, 1941)
Hungary: near Budapest (sub. *L. decipiens*. Nogrady, 1962)
Iceland (De Ridder, 1972)
India: Madras (Pasha, 1961); Ajwa reservoir, near Baroda, Gujarat (incl. *L. arcuata*, *L. sinuata*. Wulfert, 1966); West Bengal (incl. *L. decipiens*. Sharma, 1978a); Jammu and Kashmir region (sub. *L. decipiens*. Jyoti & Sehgal, 1980)
Indonesia: Sumatra (sub. *M. sinuata*. Hauer, 1937; 1938)
Italy (Braioni & Gelmini, 1983)
Jamaica (Koste *et al.*, 1991)
Japan: Southwestern Islands around Okinawa (incl. *M. hamata* ssp. Sudzuki, 1992b)
Korea, South (incl. *L. arcuata*. Chung *et al.*, 1991)
Madagascar (Segers, 1992)
Moldavia (Naberezhniyi & Irmashova, 1975)
Nepal (Daems & Dumont, 1974); Kathmandu Valley (sub. *L. decipiens*. Sarma & Ghimire, 1990)
Nicaragua (Moreno *et al.*, 1992)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Oman: Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)
Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

- Philippines** (sub. *L. decipiens*. Mamaril & Fernando, 1978)
- Romenia:** Bucegi Mountains (sub. *L. arcuata*. Godenau, 1970; Rudescu, 1960)
- Russian Federation:** Moskow region (Segers, 1994b)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Singapore** (Sudzuki, 1991a)
- Spain:** Minorca (De Manuel, 1990b); Ibiza (De Manuel, 1994)
- Sweden:** Lappland (sub. *L. cf. decipiens*. Pejler, 1962)
- Tanzania:** Mount Kilimanjaro (sub. *L. arcuata*. De Smet & Bafort, 1990b)
- Thailand:** Bong Borapet, Central Thailand (sub. *L. arcuata*. Koste & Robertson, 1983); North-East part (Sanoamuang *et al.*, 1995)
- Turkey:** Central and East Anatolia (Segers *et al.*, 1992)
- U.S.A.:** South Bass Island (Jennings, 1900); 'common everywhere' (Harring & Myers, 1926); Oklahoma (sub. *M. lunaris*. Taft, 1932)
- Yemen:** North (Segers & Dumont, 1993b)
- Yugoslavia:** Danube river (Živković, 1987)
- Zaïre:** Lubumbashi region (incl. *L. arcuata*. De Ridder, 1981); Bas-Zaïre (sub. *Lecane* sp. De Smet, 1989b; 1990)

L. hastata (Murray, 1913)

- Argentina:** Northwestern Buenos Aires Province (Modenutti & Claps, 1988); Santa Fe province (José de Paggi & Koste, 1988)
- Brazil:** Rio de Janeiro (Murray, 1913a); near Bôa Vista (Koste, 1972)
- Caribbean Islands** (sub. *L. plesia*. De Ridder, 1977)
- India:** Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); West Bengal (Sharma, 1979)
- Japan:** Hegura Island (sub. *L. hegurensis*. Yamamoto, 1951); Southwestern Islands around Okinawa (Sudzuki, 1992b)
- Moldavia** (incl. *L. plesia*. Naberezhniyi & Irmashewa, 1975)
- Namibia:** Namid Desert (sub. *Proales namibiensis*. Brain & Koste, 1993)
- Oman:** Dhofar region (Segers & Dumont, 1993b)
- Papua New Guinea:** Madang Province (Segers & De Meester, 1994)
- Philippines** (Mamaril & Fernando, 1978)
- Romenia** (Godenau, 1961b)
- Russian Federation:** Caucasus region (Tarnogradski, 1961b); Dagestan (sub *L. jana*. Abdullaev, 1989)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Spain:** Majorca (De Manuel, 1990a); Majorca (De Manuel, 1994)
- Sri Lanka** (incl. *L. kahouteki*. Chengalath *et al.*, 1974)
- Thailand:** Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
- U.A.E.** (Segers & Dumont, 1993b)
- U.S.A.:** Louisiana, New Jersey, Virginia, Washington D.C. (Harring & Myers, 1926); New Jersey (sub. *L. plesia*. Myers, 1936b)
- Yemen:** North (Segers & Dumont, 1993b)

L. herzigi Koste, Shiel & Tan, 1988

New Zealand: near Greymouth (Sanoamuang & Stout, 1993)
Tasmania (Koste *et al.*, 1988)

L. hornemannii (Ehrenberg, 1834)
 (map 29)

Australia: Victoria (sub. *L. nodosa*. Bērziņš, 1982a)

Brazil: Rio de Janeiro (Murray, 1913a); Amazonas (sub. *L. nodosa*. Koste, 1972); lower Rio Nhamundá (incl. *L. nodosa*. Brandorff *et al.*, 1982); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Bolivia: Lake Titicaca (Murray, 1913a)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Chad: Lake Chad (Pourriot, 1968)

China: Zhejiang Province (sub. *L. nodosa*. Wang, 1961)

India: Madras (Pasha, 1961); Ajwa reservoir, near Baroda, Gujarat (incl. *L. nodosa*. Wulfert, 1966); Andhra Pradesh (Dhanapathi, 1976a)

Indonesia: Sumatra, Java, Bali (incl. *L. nodosa*. Hauer, 1937; 1938); Borneo (sub. *L. nodosa*. Koste, 1988a)

Italy: Trentino (Braioni & Gelmini, 1983)

Japan: Nagano Prefecture (Yamamoto, 1952); Southwestern Islands around Okinawa (partly. Sudzuki, 1992b)

Madagascar (incl. *L. camptica*, *L. lamiranoensis*. Bērziņš, 1982b; Segers, 1992)

Nicaragua (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

Philippines (incl. *L. ceylonensis*. Mamaril & Fernando, 1978)

Romania (Rudescu, 1960)

Russian Federation: Caucasus region (Tarnogradski, 1961b)

Singapore (sub. *L. nodosa*, *L. ruttneri*. Sudzuki, 1991a)

Spain: Albufera de Valencia (Wiszniewski, 1932a)

Sri Lanka (incl. *L. ceylonensis*. Chengalath & Fernando, 1973)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

U.S.A.: New Jersey, Maine, Washington D.C., Wisconsin (Harring & Myers, 1926)

U.K.: England (Murray, 1913a)

Zaire: Lubumbashi region (sub. *L. nodosa*. De Ridder, 1981)

Zambia: Luapula region (sub. *L. nodosa*. De Ridder, 1981)

L. inconspicua Segers & Dumont, 1993

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

L. inermis (Bryce, 1892)
 (map 30)

- Austria:** Thaya River region (Donner, 1954)
- Brazil:** Broa reservoir, São Paulo (Segers & Dumont, 1995)
- China:** Jiangsu Province (Wang, 1961)
- Easter Island** (Segers & Dumont, 1993a)
- Germany:** In cold sulphur and thermal springs (Pax & Wulfert, 1941); Near Ludwigsburg, Baden-Württemberg (Klement, 1959); Düben, Sachsen-Anhalt (Wulfert, 1960a); Lake Stechlin (Koch-Althaus, 1963)
- Iceland** (De Ridder, 1972)
- India:** Megalaya, Northeast region (Sharma, 1987); Delhi region (sub. *L. althausi*. Sarma, 1988)
- Italy** (sub. *L. supinoi*. Manfredi, 1929)
- Japan:** Southwestern Islands around Okinawa (sub. *Lecane* sp. Sudzuki, 1992b)
- Nicaragua** (Moreno *et al.*, 1992)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Nepal** (Daems & Dumont, 1974)
- Oman:** Jabal Al Akhdar region (Segers & Dumont, 1993b)
- Panama** (sub. *L. amorpha*. Herring, 1914)
- Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)
- Romania** (Rudescu, 1960)
- Russian Federation:** Northern Caucasus (sub. *L. tenuiseta*. Tarnogradski, 1930); Moskow region (Segers, 1994b)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Seychelles** (Maas *et al.*, 1995)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- Turkey:** Central Anatolia (Segers *et al.*, 1992)
- U.S.A.:** Common everywhere (Herring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)
- U.K.:** Sandown (Bryce, 1892)
- Yugoslavia:** Danube river (Živković, 1987)

L. infula Herring & Myers, 1926

- Japan:** Nagano Prefecture (Yamamoto, 1960)
- Russian Federation:** Olenyi Island (Fadeev, 1927)
- U.S.A.:** Maine (Herring & Myers, 1926)

L. inopinata Herring & Myers, 1926

- Brazil:** Boa Vista region, Roraima (Segers & Sarma, 1994)
- China:** Hubei, Sichuan, Zhejiang Province (sub. *L. sympoda*. Wang, 1961)
- Colombia:** Barranquilla (Hauer, 1956)
- Comoro Islands** (sub. *L. sympoda*. Segers, 1992)
- France:** Lake Pazac, Dept. Nîmes (De Ridder, 1958)

- India:** Ajwa reservoir, near Baroda, Gujarat (sub. *L. sympoda*, partly. Wulfert, 1966); Andhra Pradesh (Dhanapathi, 1976a); West Bengal (incl. *L. sympoda*. Sharma, 1978a)
- Indonesia:** Sumatra, Java (sub. *L. sympoda*. Hauer, 1937; 1938)
- Italy:** near Alto Adige, Lazio (Braioni & Gelmini, 1983)
- Japan:** Southwestern Islands around Okinawa (sub. cf. *inopinata*. Sudzuki, 1992b)
- Madagascar** (Bērziņš, 1982b; sub. *L. sympoda*. Segers, 1992)
- Myanmar:** Kinda reservoir (sub. *L. inopinata sympoda*. Koste & Tobias, 1990)
- Nepal** (Daems & Dumont, 1974)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Oman:** Jabal Al Akhdar region, Dhofar region (sub. *L. sympoda*. Segers & Dumont, 1993b)
- Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)
- Philippines** (Mamaril & Fernando, 1978)
- Russian Federation:** Caucasus region (sub. *L. sympoda*. Tarnogradski, 1961b)
- Senegal** (Bērziņš, 1959)
- Spain:** Albufera de Valencia (sub. *L. sympoda*. Wiszniewski, 1932a); Ibiza (De Manuel, 1994)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- U.S.A.:** Wisconsin (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)
- Zaire:** Lubumbashi region (sub. *L. sympoda*. De Ridder, 1981)
- Zambia:** Lake Bangweulu (sub. *L. sympoda*. Wulfert, 1966)

L. inquieta Myers, 1936

- U.S.A.:** New Jersey (Myers, 1936a)

L. intrasINUATA (Olofsson, 1917)

- Canada:** Ontario (sub. *L. methoria*. Chengalath & Mulamoottil, 1974)
- Norway:** Alexandrovsk, mouth of Kolafjord (Oloffson, 1917)
- Russian Federation:** Caucasus region (Tarnogradski, 1961b)
- U.S.A.:** Maine, New Jersey, Wisconsin (incl. *L. mylacrvis*. Harring & Myers, 1926)

L. ivli (Wiszniewski, 1935)
(map 31)

- Hungary:** Budapest (sub. *M. vargai*. Török, 1935)
- Italy:** near Venice (Braioni & Gelmini, 1983)
- Macedonia:** Lake Ohrid (Wiszniewski, 1935)
- Yugoslavia:** Danube river (Živković, 1987)

L. jaintiaensis Sharma, 1987

- India:** Megalaya, Northeast region (Sharma, 1987)

L. junki Koste, 1975

Thailand: Bong Borapet, Central Thailand (Koste, 1975)

L. kluchor Tarnogradski, 1930
(map 32)

Austria: Hohen Tauern (Jersabek & Schabetsberger, 1992a)

France: Puy-de Dôme (Francez & Pourriot, 1984)

Germany: Schwarzwald region (sub. *L. diadema*. Hauer, 1931; Hauer, 1935b)

Romania (Rudescu, 1960)

Russian Federation: Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)

Spain: Sierra Nevada (Morales-Baquero, 1987)

L. kutikowa Koste, 1972

Brazil: Cururú Mission, Amazonas (Koste, 1972)

L. lamellata (Daday, 1893)
(map 33)

France: Camargue (De Ridder, 1960; 1961b)

Hungary: Halas, Pest-Pilis-Solt-Kiskun (Daday, 1893)

Mexico: San Cristobal (Harring & Myers, 1926)

Nicaragua (Moreno *et al.*, 1992)

Romania: Black See Coast (Rodewald, 1940; Rudescu, 1960)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

Spain: Majorca (De Manuel, 1994)

Turkey: Central Anatolia (Segers *et al.*, 1992)

Ukraine: near Kharkov (Skorikov, 1898)

U.S.A.: Devils Lake, North Dakota (Bryce, 1924)

L. lateralis Sharma, 1978
(map 34)

India: West Bengal (Sharma, 1978b)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

L. latissima Yamamoto, 1955
 (map 35)

- Canada:** Ellismere Island, Northwest Territories (Nogrady, 1989); Little Cornwallis Island, Northwest Territories (De Smet & Bafort, 1990a)
Iceland (sub. *L. kostei*. De Ridder, 1972)
Japan: Taka-numa pond, Shimokita Peninsula, Aomori Prefecture (Yamamoto, 1955)
Morocco: Lake Ifni (Coussement & Dumont, 1980)
Norway: Bjørnøya (De Smet, 1988)
Spain: Majorca (De Manuel, 1994)
Sweden: Lappland (sub. *L. rotundata*. Pejler, 1962)

L. lauterborni Hauer, 1924
 (map 36)

- Austria:** Hohen Tauern (Jersabek & Schabetsberger, 1992a)
Germany: Schwarzwald region (Hauer, 1924)
Romania (Rudescu, 1960)
Russian Federation: Ural mountains, Perm region (Oparina-Charitonova, 1928); Karatschaevo, Caucasus region (sub. *L. muscicola*. Tarnogradski, 1961a)
Slovakia: Tatra mountains (Koniar, 1955)
Sweden: Lappland (Pejler, 1962)
U.S.A.: Maine (Harring & Myers, 1926)

L. leontina (Turner, 1892)
 (map 37)

- Brazil:** Rio de Janeiro (Murray, 1913a); Lago Maica, Amazonas, (Thomasson, 1971); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)
Canada: Ontario (Chengalath & Mulamoottil, 1974)
Chad: Lake Chad (Pourriot, 1968)
China: Hubei, Zhejiang Provinces (Wang, 1961)
Gambia (Bérzinš, 1957)
India: West Bengal (Sharma, 1978a)
Indonesia: Sumatra, Java (Hauer, 1937; 1938)
Japan: Honshu (Yamamoto, 1952)
Kenya: Sangoro (Segers *et al.*, 1994a)
Nicaragua (Moreno *et al.*, 1992)
Nigeria: River Sokoto (Green, 1960); River Niger floodplain (Segers *et al.*, 1993a)
Oman: Dhofar region (Segers & Dumont, 1993b)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)
Peru: Ucayali dept., Amazon region (Samanez, 1988)
Philippines (Mamaril & Fernando, 1978)
Sri Lanka (Chengalath & Fernando, 1973)
Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
U.S.A.: Lake Erie, South Bass Island (Jennings, 1900); common all over the United States (Harring & Myers, 1926); Oklahoma (Taft, 1932); Laurentian Great Lakes (Stemberger, 1979)

Venezuela: Lago de Valencia (Infante, 1980); Mantecal (Zoppi de Roa *et al.*, 1994)
Zaïre: Lake Mwero (Evans, 1949); Lake Tanganyika (Gillard, 1957); Lubumbashi region (De Ridder, 1981); Bas-Zaïre (De Smet, 1990)
Zambia: Lake Bangweulu (incl. *L. thomassoni*. Wulfert, 1965); Luapula region (De Ridder, 1981)
Zimbabwe (Rousselet, 1906)

L. leura Myers, 1942

U.S.A.: Northeastern Pennsylvania (Myers, 1942)

L. levistyla (Olofsson, 1917)

Canada: Bernard harbour, N.W. Territories (sub. *L. scobis*. Harring & Myers, 1926)
Germany: Lake Stechlin (Koch-Althaus, 1963)
Poland: Lakes in the Suwalki region (Wiszniewski, 1934)
Romania (Rudescu, 1960)

L. ligona (Dunlop, 1901)
 (map 38)

Canada: Yukon Territory, near New Rampart House (sub. *L. jessupi*. Harring, 1921); Ontario (Chengalath & Mulamoottil, 1974); Park Mont Tremblant (sub. *L. jessupi*. Nogrady, 1980)
Germany: Plön region (Voigt, 1904); Schwarzwald region (incl. *L. abnobensis*. Hauer, 1929)
the Netherlands: 'Grote Huisven', Oisterwijk (de Graaf, 1956)
India: West Bengal (Sharma, 1979)
Japan: Hokkaido (Yamamoto, 1959)
Romania (Rudescu, 1960)
Russian Federation: Ural mountains, Perm region (sub. *L. scobis*. Oparina-Charitonova, 1928)
Sweden: Aneboda region (incl. *L. jessupi*. Carlin, 1939)
U.K.: Arran Island, Scotland (Dunlop, 1901); Fort Augustus, Scotland (Murray, 1913c)
U.S.A.: Alaska, Maine, New Jersey, Wisconsin (incl. *L. jessupi*, *L. pycina*. Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)
Venezuela: Rio Churun (sub. f. *abnobensis*. Zoppi de Roa *et al.*, 1990)

L. ludwigii (Eckstein, 1883)
 (map 39)

Afghanistan (sub. *L. ichthyoura*. Bērziňš, 1961)
Argentina: Santa Fe province (sub. *L. ludwigi abrupta*. José de Paggi & Koste, 1988)
Belgium: Genk (sub. *L. stokesii*. Schepens, 1960)
Brazil: Rio de Janeiro (Murray, 1913a); Amazonas (Koste, 1972); near Santarém (incl. *L. ludwigi ercodes*. Koste, 1974); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Boa

- Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)
- Canada:** Ontario (incl. *L. ohioensis*, *L. stokesi*. Chengalath & Mulamoottil, 1974)
- Czechia:** Elbe region (Dvorakova, 1961)
- China:** Soochow, Jiangsu (Harring & Myers, 1926); Guangxi, Heilongjiang, Jiangsu, Zhejiang and Yunnan Provinces (incl. *L. ohioensis*. Wang, 1961)
- Ecuador:** 'Oriente', 'costa' (sub. *L. ludwigi laticaudata*, *L. ludwigi lacinulata*. Koste & Böttger, 1992)
- Finland:** Helsinki region (sub. *C. appendiculata*. Levander, 1894); Tvärminne archipelago (sub. *L. ohioensis*. Björklund, 1972)
- France:** Camargue (sub. *L. appendiculata*. De Ridder, 1960; 1961b)
- Galápagos Archipelago** (sub. *L. ohioensis* f. *ichthyoura*. De Smet, 1989a)
- Germany:** Oldesloe, Holstein (sub. *L. ichthyoura*. Hauer, 1925); near Karlsruhe (sub. *L. stokesii*. Hauer, 1929); Berlin region (Wulfert, 1956); near Bersenbrück, Niedersachsen (Koste, 1962); Lake Stechlin (Koch-Althaus, 1963)
- Hungary:** Belső Tó, Tihany (sub. *L. ichthyoura*. Varga, 1937); Lake Balaton (Varga, 1945); Budapest (sub. *L. ichthyoura*. Kertész, 1955)
- India:** Andhra Pradesh (Dhanapathi, 1976a); West Bengal (incl. several formae, *L. ohioensis*. Sharma, 1978a; sub. *L. stokesi*, *L. ludwigii ercodes*. Sharma, 1979); Jammu and Kashmir region (Jyoti & Sehgal, 1980); Gwalior, Madhya Pradesh (Saksena & Kulkarni, 1986)
- Indonesia:** Sumatra, Java (incl. several formae. Hauer, 1937; 1938); Borneo (incl. *L. ichthyoura*. Koste, 1988a)
- Italy:** Sicilia (sub. *L. ohioensis*. Bērziņš, 1954); near Venice, Trentino, Sardegna, Lazio (incl. *L. ohioensis* f. *ichtyoura*. Braioni & Gelmini, 1983)
- Japan:** Mount Fuji (Sudzuki, 1978); Southwestern Islands around Okinawa (Sudzuki, 1992b)
- Korea, South** (Chung *et al.*, 1991)
- Latvia** (sub. *L. ohioensis*. Kutikova, 1959)
- Madagascar** (Segers, 1992)
- Moldavia** (sub. *L. ohioensis*., incl. var. *jorroi*. Naberezhniyi & Irmashova, 1975)
- Nepal** (sub. *L. ohioensis*. Daems & Dumont, 1974)
- Nigeria:** River Niger floodplain (incl. *L. ohioensis*. Segers *et al.*, 1993a)
- Panama** (sub. *L. ercodes*, *L. marshi*. Harring, 1914)
- Papua New Guinea:** Madang Province (Segers & De Meester, 1994)
- Peru:** Ucayali dept., Amazon region (sub. *L. ercodes*. Samanez, 1988)
- Philippines** (Mamaril & Fernando, 1978)
- Poland:** Parczew region (sub. *L. ohioensis*. Radwan, 1974)
- Romania** (sub. *L. ohioensis* var. *jorroi*. Godenau, 1961b; sub. f. *typica*, incl. f. *lacinulata*, *L. ohioensis*. Rudescu, 1960)
- Russian Federation:** Caucasus region (sub. *L. ohioensis* var. *jorroi*. Tarnogradski, 1961b)
- Saudi Arabia:** North-East part (incl. *L. ohioensis* f. *ichthyoura*. Segers & Dumont, 1993b)
- Singapore** (Sudzuki, 1991a)
- Spain:** Albufera de Valencia (sub. *L. ohioensis* var. *jorroi*. Wiszniewski, 1932a); Minorca (De Manuel, 1990b; sub. *L. ohioensis*. De Manuel, 1994)
- Sri Lanka** (incl. *L. ohioensis*. Chengalath & Fernando, 1973)
- Taiwan** (Sudzuki, 1991a)
- Tasmania** (sub. *L. ohioensis appendiculata*. Koste & Shiel, 1986)
- Thailand:** Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
- Turkey:** Central and East Anatolia (sub. *L. ohioensis* f. *ichthyoura*. Segers *et al.*, 1992)

U.S.A.: Lake Erie, South Bass Island (incl. *L. ohioensis*, *L. stokesii*. Jennings, 1900); D.C., Florida, Maine, New Jersey, Wisconsin, Virginia; widely distributed in the United States, common everywhere (incl. *L. ohioensis*, *L. stokesii*, *L. ichthyoura*, *L. ercodes*. Harring & Myers, 1926); Oklahoma (sub. *Distyla ohioensis*. Taft, 1932); Laurentian Great Lakes (incl. *L. ohioensis*, *L. stokesii*. Stemberger, 1979)

Venezuela: North East (incl. *L. ludwigi ercodes*, f. *laticaudata*. Lópes, 1993)

Yugoslavia: Danube river (incl. *L. ludwigi brevicaudata*, *L. ludwigi abrupta*, *L. ohioensis*. Živković, 1987)

Zaire: Lake Tanganyika (Gillard, 1957)

***L. luna* (O.F. Müller, 1776)**
(map 40)

'occurs in abundance in weedy ponds all over the world and is without doubt one of the commonest of all rotifers' (Harring & Myers, 1926)

Afghanistan (Bérziņš, 1961)

Austria: Thaya River region (Donner, 1954); Hohen Tauern (Jersabek & Schabetsberger, 1992a)

Argentina: Nahuel Huapi National Park (Thomasson, 1959)

Belgium (De Ridder, 1961a); Gent (Segers *et al.*, 1991)

Brazil: Rio de Janeiro (Murray, 1913a)

Cameroon: western part (Chiambeng *et al.*, 1991)

Canada: Ontario (partly. Chengalath & Mulamoottil, 1974)

China: Qinghai Province (Wang, 1961)

Chile: Punta Arenas (Murray, 1913a)

Comoro Islands (Segers, 1992)

Finland: Helsinki region (Levander, 1894)

France: Camargue (sub. *L. submagna*. De Ridder, 1960; 1961b)

Galápagos Archipelago (De Smet, 1989a)

Germany: Sachsen-Anhalt (Althaus, 1957); Near Ludwigsburg, Baden-Württemberg (Klement, 1959); Düben, Sachsen-Anhalt (Wulfert, 1960a); Lake Stechlin (Koch-Althaus, 1963)

Hungaria: Lake Balaton (sub. *L. luna* f. *balatonica*. Varga, 1945)

Iceland (sub. *L. magna*. De Ridder, 1969)

India: Nagpur (sub. *L. dorsicalis*. Arora, 1965); Rajasthan (Nayar, 1968); West Bengal (incl. f. *doricalis*. Sharma, 1978a); Gwalior, Madhya Pradesh (Sakseña & Kulkarni, 1986)

Iraq: Shat-el-Arab region (sub. *C. affinis*. Voronkov, 1907)

Italy: 'present in all, and varied biotopes' (Braioni & Gelmini, 1983)

Japan: Southwestern Islands around Okinawa (Suzuki, 1992b)

Kenya: Ahero (Segers *et al.*, 1994a)

Korea, South (Chung *et al.*, 1991)

Madagascar (sub. *L. luna intermedia*. Bérziņš, 1982b; Segers, 1992)

Moldavia (sub. *L. luna balatonica*. Naberezhniyi & Irmashova, 1975)

Nepal: Kathmandu Valley (Sarma & Ghimire, 1990)

Nicaragua (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

- Philippines** (Mamaril & Fernando, 1978)
Romania (incl. *f. balatonica*. Rudescu, 1960)
Russian Federation: Moskow region (sub. *L. grandis*. Bogoslovski, 1935)
Saudi Arabia: North-East part (Segers & Dumont, 1993b)
Seychelles (Maas *et al.*, 1995)
Singapore (Suzuki, 1991a)
Spain: Minorca (De Manuel, 1990b); Majorca (De Manuel, 1994)
Sri Lanka (Chengalath & Fernando, 1973)
Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
Turkey: Göreme, Central Anatolia (Dumont & De Ridder, 1987); Akgöl, Selçuk-Izmir (Ustaoğlu & Balık, 1987); Karataş and Beyşehir (Emir, 1991); Central and East Anatolia (Segers *et al.*, 1992)
Ukraine (sub. *L. luna balatonica*. Ovander, 1980a)
U.S.A.: Lake Erie, South Bass Island (Jennings, 1900); Oklahoma (Taft, 1932); Laurentian Great Lakes (Stemberger, 1979)
Venezuela: Lago de Valencia (Infante, 1980)
Yemen: North (Segers & Dumont, 1993b)
Yugoslavia: Danube river (Živković, 1987)
Zaire: Lake Mweru (Evans, 1949)
Zambia: Lake Bangweulu (Thomasson, 1960); Lake Bangweulu, Luapula regions (De Ridder, 1981)

L. lunaris (Ehrenberg, 1832)

- Antarctica**: South Shetland Island (José de Paggi, 1982); Signy and South Georgia Islands (Dartnall & Hollowday, 1985)
Austria: Hohen Tauern (incl. *L. acus*. Jersabek & Schabetsberger, 1992a)
Argentina: Buenos Aires (Murray, 1913a); Argentina: Santa Fe province (sub. *L. lunaris perplexa*. José de Paggi & Koste, 1988)
Australia: Sydney (sub. *Monostyla* sp. Murray, 1913b); Victoria (sub. *L. lunaris australis*. Bērziņš, 1982a)
Austria: Donau region (Donner, 1964; partly, incl. *L. perplexa*. Donner, 1978)
Belgium: Linkhout (sub. *L. galeata*. De Maeseneer, 1980); Gent (Segers *et al.*, 1991)
Bolivia: Kothia Lake, near La Paz (Segers *et al.*, 1994b)
Brazil: Rio de Janeiro (Murray, 1913a); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)
Cameroon: western part (Chiambeng *et al.*, 1991)
Canada: Ontario (incl. *L. crenata*. Chengalath & Mulamoottil, 1974)
Caribbean Islands (sub. *L. crenata*. De Ridder, 1977)
China: Hubei, Yunnan, Zhejiang Provinces (incl. *L. crenata*. Wang, 1961)
Finland: Helsinki region (Levander, 1894)
Germany: Schwarzwald region (incl. *M. crenata*. Hauer, 1929); Sachsen-Anhalt (Althaus, 1957); Near Ludwigsburg, Baden-Württemberg (incl. *L. crenata*. Klement, 1959); near Bersenbrück, Niedersachsen (sub. *L. perplexa*. Koste, 1962); Düben, Sachsen-Anhalt (incl. *L. acus*. Wulfert, 1966)
Hungary: Lake Balaton (sub. *M. crenata*. Varga, 1939)
Iceland (sub. *L. cornuta*. De Ridder, 1969)

- India:** Ajwa reservoir, near Baroda, Gujarat (incl. *L. galeata*, *L. perplexa*. Wulfert, 1966); West Bengal (incl. *L. crenata*. Sharma, 1978a)
- Italy:** near Venice (incl. *L. crenata*, *L. psammophila*. Braioni & Gelmini, 1983)
- Japan:** Ozegahara (sub. *L. acus*. Yamamoto, 1953a); Southwestern Islands around Okinawa (sub. *M. cf. perplexa*. Sudzuki, 1992b)
- Korea, North** (incl. *M. crenata*. Yamamoto, 1953b)
- Korea, South** (Chung *et al.*, 1991)
- Madagascar** (sub. *L. lunaris arthrodactylus*. Bērziņš, 1982b; Segers, 1992)
- the Netherlands:** 'Grote Huisven', Oisterwijk (sub. *M. crenata*, *M. constricta*. de Graaf, 1956)
- New Zealand:** Mount Cook (sub. *Monostyla* sp. Murray, 1913b); Canterbury (sub. *M. crenata*. Russell, 1945)
- Nepal** (Daems & Dumont, 1974); Kathmandu Valley (Sarma & Ghimire, 1990)
- Nicaragua** (Moreno *et al.*, 1992)
- Nigeria:** River Niger floodplain (incl. *L. perplexa*. Segers *et al.*, 1993a)
- Oman:** Jabal Al Akhdar region (Segers & Dumont, 1993b)
- Panama** (sub. *M. virga*. Harring, 1914)
- Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)
- Poland:** Gdansk (Danzig: sub. *M. constricta*. Murray, 1913c)
- Romania** (sub. *L. perplexa*; Godenau, 1961a; incl. *L. acus*, *L. crenata*. Rudescu, 1960)
- Russian Federation:** Caucasus region (sub. *L. crenata*. Tarnogradski, 1961b); Moskow region (incl. f. *crenata*, *perplexa*. Segers, 1994b)
- Spain:** Majorca (De Ridder, 1967b); Ibiza (De Manuel, 1994)
- Sri Lanka** (Chengalath & Fernando, 1973)
- Sweden:** Aneboda region (incl. *M. crenata*, *M. constricta*, *M. perplexa*. Carlin, 1939); Lappland (incl. *L. constricta*, *L. scutata*. Pejler, 1962)
- Tanzania:** Mount Kilimanjaro (incl. f. *perplexa*. De Smet & Bafort, 1990b)
- Thailand:** Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
- Turkey:** Central and East Anatolia (Segers *et al.*, 1992)
- Ukraine:** Kharkov region (sub. *M. virga*. Fadeev, 1924; incl. *L. constricta*. Ovander, 1980b)
- U.S.A.:** Lake Erie, South Bass Island (Jennings, 1900); 'Abudant ... all over the world'. Arkansas, D.C., Florida, Louisiana, Maine, Mississippi, New Jersey, Texas, Wisconsin (incl. *L. crenata*, Harring & Myers, 1926); North Carolina (sub. *M. perplexa*. Ahlstrom, 1939); Laurentian Great Lakes (sub. *M. crenata*. Stemberger, 1979)
- Yemen:** North (Segers & Dumont, 1993b)
- Yugoslavia:** Danube river (incl. *L. cornuta*. Živković, 1987)
- Zaire:** Lubumbashi region; Lake Mweru, Kilwa (De Ridder, 1981)
- Zambia:** Lake Bangweulu, Luapula regions (De Ridder, 1981)

L. marchantaria Koste & Robertson, 1983

- Brazil:** Ilha de Marchantaria, Amazonas (Koste & Robertson, 1983)
- Peru:** Panguana (Koste, 1988b)

L. margalefi De Manuel, 1994

- Spain:** Majorca (De Manuel, 1994)

L. margarethae Segers, 1991
 (map 41)

Caribbean Islands (sub. *L. punctata*. De Ridder, 1977)
U.S.A.: Florida (sub. *L. punctata*. Ahlstrom, 1934)

L. melini Thomasson, 1953
 (map 42)

Brazil: Rio Negro, Manaus (Thomasson, 1953); Lago Jurucui, Lago Maica, Amazonas (Thomasson, 1971); Paraná de Xiborena, Amazonas (Hauer, 1965b); Lake Rio Preto da Eva (sub. *Lecane* sp. Gillard, 1967)

L. minuta Segers, 1994

Brunei (Segers, 1994a)

L. mitis Herring & Myers, 1926
 (map 43)

Brazil: Broa reservoir, São Paulo (Segers & Dumont, 1995)
U.S.A.: New Jersey; "widely distributed" (incl. *L. depressa*. Herring & Myers, 1926)
Venezuela: Rio Churun (sub. *Lecane levistyla depressa*. Zoppi de Roa *et al.*, 1990)

L. mira (Murray, 1913)
 (map 44)

Austria: Hohen Tauern (Jersabek & Schabetsberger, 1992a)
Germany: Schwarzwald region (Hauer, 1929); Bayern: Donau region (Donner, 1972)
Iceland (sub. *L. islandica*. De Ridder, 1967a)
Italy: Trentino (Braioni & Gelmini, 1983)
the Netherlands: Oisterwijkse vennen (de Graaf, 1960)
Poland: Huculszczyzna region (Pawlowski, 1938)
Sweden: Aneboda region (Carlin, 1939), Lappland (Pejler, 1962)
U.S.A.: Arkansas, D.C., Florida, Louisiana, Maine, New Jersey, Texas, Wisconsin (Herring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

L. mitella (Myers, 1936)

U.S.A.: New Jersey (Myers, 1936a)

L. monostyla (Daday, 1897)
 (map 45)

Brazil: Amazonas (Koste, 1972); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Korea, South (Chung *et al.*, 1991)

India: Kerala State (Segers *et al.*, 1994c)

Indonesia: Sumatra (Hauer, 1937; 1938)

Jamaica (Koste *et al.*, 1991)

Japan: Mount Fuji (Suzuki, 1978)

Nicaragua (Moreno *et al.*, 1992)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Papua New Guinea: New Guinea (Daday, 1897); East Sepik Province (Segers & De Meester, 1994)

Seychelles: Praslin (De Ridder, 1987; Maas *et al.*, 1995)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

U.S.A.: D.C., Florida, Maine, New Jersey, Wisconsin (Harring & Myers, 1926)

Zaïre: Katanga, Dembo river region (Gillard, 1959); Lubumbashi region (De Ridder, 1981); Bas-Zaïre (De Smet, 1989b)

Zambia: Lake Bangweulu region (Thomasson, 1960; De Ridder, 1981)

L. mucronata Harring & Myers, 1926
 (map 46)

Canada: Ontario (Chengalath & Mulamoottil, 1974); Park Mont Tremblant (Nogrady, 1980); Cape Breton island (Chengalath & Koste, 1988)

U.S.A.: Maine, New Jersey, Wisconsin (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

L. myersi Segers, 1993
 (map 47)

Brazil: lower Rio Nhamundá (sub. *L. ornata*. Brandorff *et al.*, 1982)

China: Zhejiang Province (sub. *L. ornata*. Wang, 1961)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

U.S.A.: New Jersey (sub *M. ornata*. Harring & Myers, 1926)

Venezuela: Rio Churun (sub. *Lecane* sp. Zoppi de Roa *et al.*, 1990)

L. nana (Murray, 1913)

Argentina: North East Provinces (José de Paggi, 1989)

Bolivia : Lake Titicaca (Murray, 1913a)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

Comoro Islands (Segers, 1992)

Easter Island (Segers & Dumont, 1993a)

Finland: Tvärminne archipelago (Björklund, 1972)

Hungaria: Belső Tó, Tihany (Varga, 1937)

- Germany:** Oldesloe, Holstein (Hauer, 1925); Sachsen-Anhalt (Althaus, 1957)
- Iceland:** (De Ridder, 1972)
- India:** Ajwa reservoir, near Baroda, Gujarat (sub. *L. sola*. Wulfert, 1966); West Bengal (Sharma, 1978a)
- Italy:** Sardegna (sub. *L. paxiana*. Braioni & Gelmini, 1983)
- Japan:** Southwestern Islands around Okinawa (Suzuki, 1992b)
- Latvia:** (Kutikova, 1959)
- Madagascar:** (Segers, 1992)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Oman:** Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)
- Panama:** (Harring & Myers, 1926)
- Papua New Guinea:** East Sepik, Madang Provinces (Segers & De Meester, 1994)
- Romania:** (Rudescu, 1960)
- Russian Federation:** Donetz River near Zmiev (Fadeev, 1927); Moskow region (Bogoslovski, 1935); Ural mountains, Perm region (Oparina-Charitonova, 1928); Caucasus region (Tarnogradski, 1961b)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Seychelles:** (Maas *et al.*, 1995)
- Spain:** Minorca (De Manuel, 1990b); Formentera (De Manuel, 1994)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- Turkey:** Central Anatolia (Segers *et al.*, 1992)
- U.S.A.:** D.C., Florida, Maine, New Jersey, Wisconsin (Harring & Myers, 1926)
- Yemen:** North (Segers & Dumont, 1993b)
- Yugoslavia:** Danube river (Živković, 1987)
- Zambia:** Lake Bangweulu, Luapula regions (De Ridder, 1981)

L. nelsoni Segers, 1994

- Brazil:** Boa Vista region, Roraima (Segers, 1994a; Segers & Sarma, 1994)
- ?Nigeria:** River Niger floodplain (sub. *Lecane* sp. Segers *et al.*, 1993a; Segers, 1994a)

L. nigeriensis Segers, 1993

- Nigeria:** River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

L. niotthis Herring & Myers, 1926

- China:** Zhejiang Province (Wang, 1961)
- U.S.A.:** Maine (Herring & Myers, 1926)

L. nwadiaroii Segers, 1993

- Nigeria:** River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

L. obtusa (Murray, 1913)**Caribbean Islands** (De Ridder, 1977)**Brazil:** Rio de Janeiro (Murray, 1913a); Boa Vista region, Roraima (Segers & Sarma, 1994)**India:** West Bengal (Sharma, 1979)**Indonesia:** Sumatra, Java (Hauer, 1937; 1938)**Jamaica** (Koste *et al.*, 1993)**Madagascar** (Segers, 1992)**Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)**Oman:** Dhofar region (Segers & Dumont, 1993b)**Panama** (Harring & Myers, 1926)**Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)**Philippines** (sub. *L. perpusilla*. Mamaril & Fernando, 1978)**Russian Federation:** Ural mountains, Perm region (Oparina-Charitonova, 1928)**Spain:** Albufera de Valencia (Wiszniewski, 1932a)**Sri Lanka** (Chengalath & Fernando, 1973)**Thailand:** North-East part (Sanoamuang *et al.*, 1995)**U.S.A.:** Louisiana, Maine, Massachusetts (incl. *M. vastita*. Harring & Myers, 1926)**Yemen:** North (Segers & Dumont, 1993b)**Zambia:** Lake Bangweulu (sub. *M. pygmaea*. Thomasson, 1960; Wulfert, 1965)*L. opias* (Harring & Myers, 1926)**Germany:** Würzburg, Bayern (Hauer, 1958a); near Bersenbrück, Niedersachsen (Koste, 1962)**Iceland** (De Ridder, 1969)**Poland:** Białowieża forest (Pawłowski, 1938)**Romania** (Rudescu, 1960)**Russian Federation:** Kharkov region (Fadeev, 1927)**U.S.A.:** D.C., Wisconsin (Harring & Myers, 1926)*L. ordwayi* Bienert, 1986**U.S.A.:** Ross Lake, Florida (Bienert, 1986)*L. palinacis* Harring & Myers, 1926**Galàpagos Archipelago** (Segers, 1991)**U.S.A.:** Massachusetts, Washington D.C. (Harring & Myers, 1926)*L. papuana* (Murray, 1913)
(map 48)**Brazil:** Amazonas (Koste, 1972); Suape Laguna, Pernambuco (Neumann-Leitão, 1990)**Caribbean Islands** (De Ridder, 1977)**China:** Sichuan Province (Wang, 1961)**Comoro Islands** (Segers, 1992)

- Guatemala:** Puerto Barrios (Harring & Myers, 1926)
- India:** Madras (Pasha, 1961); Yamuna river (sub. *L. yamunensis*. Novotná-Dvor'aková, 1963); Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); Andhra Pradesh (Dhanapathi, 1976a); West Bengal (Sharma, 1978a)
- Japan:** Southwestern Islands around Okinawa (Sudzuki, 1992b)
- Kenya:** Ahero (Segers *et al.*, 1994a)
- Korea, South:** (Chung *et al.*, 1991)
- Madagascar:** (Segers, 1992)
- Mauretania:** Adrar mountains (Coussement & Dumont, 1980)
- Moldavia:** (incl. *L. luna* var. *presumpta*. Naberezhniyi & Irmashewa, 1975)
- Morocco:** Cavagnac reservoir (Coussement & Dumont, 1980)
- Nicaragua:** (Moreno *et al.*, 1992)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Panama:** (Harring & Myers, 1926)
- Papua New Guinea:** East Sepik, Madang Provinces (Segers & De Meester, 1994)
- Philippines:** (Mamaril & Fernando, 1978)
- Romania:** (sub. *L. luna* var. *presumpta*. Godenau, 1961b)
- Russian Federation:** Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)
- Spain:** Albufera de Valencia (Wiszniewski, 1932a)
- Sri Lanka:** (Chengalath & Fernando, 1973)
- Taiwan:** (Sudzuki, 1991a)
- Thailand:** Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)
- Turkey:** Central Anatolia (Segers *et al.*, 1992)
- U.S.A.:** Florida (Harring & Myers, 1926), North Carolina (sub. *L. luna* var. *presumpta*. Ahlstrom, 1938)
- Venezuela:** Lago de Valencia (Infante, 1980)
- Yemen:** North (Segers & Dumont, 1993b)
- Zaire:** Lubumbashi region (incl. *L. luna* var. *presumpta*. De Ridder, 1981)
- Zimbabwe:** Lake Kariba (Thomasson, 1965)

L. paradoxa (Steinecke, 1916)
(map 49)

- France:** Camargue (sub. *L. hoffmanni*. De Ridder, 1960; 1961b)
- Germany:** 'Westpreußen' (sub. *M. lunaris* f. *paradoxa*. Steinecke, 1916)
- Japan:** Ozegahara (sub. *L. ozensis*. Yamamoto, 1953a)
- Romania:** Lake Agigea (Rodewald-Rudescu & Godenau, 1961)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)

L. pawlowskii Wulfert, 1966

- India:** Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); West Bengal (Sharma, 1978a)

L. paxiana Hauer, 1940**Czechia:** Elbe region (Dvorakova, 1960b)**Germany:** Bad Wilstein, thermal spring (Hauer, 1940; Pax & Wulfert, 1941)**Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)*L. pelatis* Herring & Myers, 1926**U.S.A.:** Maine, New Jersey, Wisconsin (Herring & Myers, 1926)*L. perpusilla* (Hauer, 1929)**Austria:** Sengsengebirges (Jersabek & Schabetsberger, 1992b)**Germany:** near Freiberg (Hauer, 1929)**U.S.A.:** Northeastern Pennsylvania (sub. *L. brevita*. Myers, 1942)**Russian Federation:** Northern Caucasus (Tarnogradski, 1930)**Tanzania:** Mount Kilimanjaro (De Smét & Bafort, 1990b)*L. pertica* Herring & Myers, 1926**Brazil:** Lake Jurucui, Tapajoz (sub. *Lecane* sp. Gillard, 1967); Amazonas (Koste, 1972); Boa Vista region, Roraima (Segers & Sarma, 1994)**India:** Megalaya, Northeast region (Sharma, 1987)**Indonesia:** Sumatra (Hauer, 1937; 1938)**Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)**U.S.A.:** Florida, Maine, New Jersey, Wisconsin (Herring & Myers, 1926)**Venezuela:** Rio Churun (Zoppi de Roa *et al.*, 1990)*L. pideis* (Herring & Myers, 1926)**U.S.A.:** Maine (Herring & Myers, 1926)*L. proiecta* Hauer, 1956**Brazil:** Lake Maica, Amazonas (Gillard, 1967; Thomasson, 1971); Itugui, Lago rotondo, Lago Tefé, Amazonas (Hauer, 1965b); Maranhão state (Reid & Turner, 1988)**Venezuela:** Orinocco Laguna Barrancas (Hauer, 1956)*L. psammophila* (Wiszniewski, 1932)**Germany:** Plöner See, Plön (Wiszniewski, 1934)**Poland:** Lake Wigry (Wiszniewski, 1932b); Lakes in the Suwalki region (Wiszniewski, 1934)**Romania** (Rudescu, 1960)

L. pumila (Rousselet, 1906)
 (map 50)

- France:** 'Pyr. Orient.' (Segers, 1995)
Germany: Lake Garren, Holstein (Hauer, 1936a)
Indonesia: Sumatra, Java (Hauer, 1937; 1938)
Romania (Rudescu, 1960)
Tanzania: Mount Kilimanjaro (De Smet & Bafort, 1990b)
Tasmania (Koste & Shiel, 1986)
U.K.: Scotland (Rousselet *in* Murray, 1906)

L. punctata (Murray, 1913)

- Argentina:** North East Provinces (José de Paggi, 1989)
Brazil: Rio de Janeiro (Murray, 1913a; incl. *L. harringi*. Turner, 1990)
Caribbean Islands (sub. *L. harringi*. De Ridder, 1977)
Egypt: Lake Etku (sub. *L. harringi*. Hauer, 1963)
France: Camargue (sub. *L. aguessei*. De Ridder, 1960; 1961b)
India: Ajwa reservoir, near Baroda, Gujarat (sub. *L. harringi*. Wulfert, 1966)
Iraq: Shat-el-Arab region (sub. *M. ovata*. Voronkov, 1907)
Oman: Dhofar region (Segers & Dumont, 1993b)
Russian Federation: Caucasus region (Tarnogradski, 1961b)
Saudi Arabia: North-East part (Segers & Dumont, 1993b)
Spain: Albufera de Valencia (Wiszniewski, 1932a); Minorca (De Manuel, 1990b); Ibiza (De Manuel, 1994)
Turkey: Central Anatolia (Segers *et al.*, 1992)
U.S.A.: New Jersey (Harring & Myers, 1926); Florida (sub. *L. harringi*. Ahlstrom, 1934; Turner, 1990)
Venezuela: Laguna Taiguaigui. (sub. *L. harringi*. Hauer, 1956)
Yemen: North (Segers & Dumont, 1993b)
Zaire: Bas-Zaire (De Smet, 1989b)

L. pusilla Herring, 1914

- Brazil:** Broa reservoir, São Paulo (Segers & Dumont, 1995)
Ecuador: 'Costa' (Koste & Böttger, 1992)
India: West Bengal (Sharma, 1978a)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Panama (Herring, 1914)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)
Sri Lanka (Chengalath & Fernando, 1973)
Thailand: North-East part (Sanoamuang *et al.*, 1995)
Yugoslavia: Danube river (Živković, 1987)
Zaire: Bas-Zaire (De Smet, 1989b)

L. pustulosa Myers, 1938

U.S.A.: New Jersey (Myers, 1938)

L. pyriformis (Daday, 1905)

Austria: Donau region (Donner, 1978)

Bahamas Islands: New Providence (Segers *et al.*, 1995)

Belgium: Gent (Segers *et al.*, 1991)

Brazil: Rio de Janeiro (sub. *M. truncata*. Murray, 1913a); Rio Cururú (Koste, 1972); near Santarém (Koste, 1974); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Cameroon: western part (Chiambeng *et al.*, 1991)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

China: Sichuan Province (Wang, 1961)

Comoro Islands (Segers, 1992)

Easter Island (Segers & Dumont, 1993a)

Germany: near Karlsruhe (Hauer, 1929); Near Ludwigsburg, Baden-Württemberg (Klement, 1959)

India: West Bengal (Sharma, 1978a)

Jamaica (Koste *et al.*, 1991)

Japan: Mount Fuji (Sudzuki, 1978)

Korea, South (Chung *et al.*, 1991)

Madagascar (Bērziņš, 1982b)

Myanmar: Kinda reservoir (Koste & Tobias, 1990)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Philippines (Mamaril & Fernando, 1978)

Romania (Rudescu, 1960)

Russian Federation: Moskow region (Segers, 1994b)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

Senegal (Bērziņš, 1959)

Singapore (sub. *M. paraclosterocerca*. Sudzuki, 1991a)

Sri Lanka (Chengalath *et al.*, 1974)

Spain: Minorca (De Manuel, 1990b; De Manuel, 1994)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

Turkey: Central Anatolia (Segers *et al.*, 1992)

U.S.A.: 'not rare' (Harring & Myers, 1926); Maine (sub. *L. pomiformis*. Edmondson, 1938);

N-Wisconsin (sub. *L. paraclosterocerca*. Pennak, 1939); Kentucky (sub. *L. paraclosterocerca*. Bērziņš, 1984)

Yemen: North (Segers & Dumont, 1993b)

Yugoslavia: Danube river (Živković, 1987)

Zambia: Luangwa river region (De Ridder, 1981)

L. pyrrha Herring & Myers, 1926
 (map 51)

Canada: Park Mont Tremblant (Nogrady, 1980); Cape Breton island (Chengalath & Koste, 1988)

U.S.A.: Florida (Ahlstrom, 1934); Maine, New Jersey, Wisconsin (Herring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

L. quadridentata (Ehrenberg, 1832)

Argentina: Buenos Aires (Olivier, 1965)

Australia: Victoria (Bērziņš, 1982a)

Bahamas Islands: Grand Bahamas (Segers *et al.*, 1995)

Brazil: Rio de Janeiro (Murray, 1913a); Suape Laguna, Pernambuco (Neumann-Leitão, 1990); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

China: Manchuria (Hada, 1938); Zhejiang Province (Wang, 1961)

Germany: Sachsen-Anhalt (Althaus, 1957)

Hungaria: Lake Péteri (Kertész, 1960)

India: West Bengal (Sharma, 1978a); Gwalior, Madhya Pradesh (Saksena & Kulkarni, 1986)

Indonesia: Borneo (Koste, 1988a)

Italy: (Braioni & Gelmini, 1983)

Japan: Southwestern Islands around Okinawa (Sudzuki, 1992b)

Korea, South (Song & Kim, 1989; Chung *et al.*, 1991)

the Netherlands: Oisterwijkse vennen (de Graaf, 1960)

Nepal: (Daems & Dumont, 1974)

Nigeria: River Sokoto (Green, 1960); River Niger floodplain (Segers *et al.*, 1993a)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Peru: Ucayali dept., Amazon region (Samanez, 1988)

Philippines: (Mamaril & Fernando, 1978)

Romania: (Rudescu, 1960)

Russian Federation: Caucasus region (Tarnogradski, 1961b); Moskow region (Segers, 1994b)

Spain: Los Marismas (De Ridder, 1962); Minorca (De Manuel, 1990b); Majorca (De Manuel, 1994)

Sri Lanka: (Chengalath & Fernando, 1973)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

Turkey: Akgöl, Selçuk-İzmir (Ustaoğlu & Balık, 1987); Central Anatolia (Segers *et al.*, 1992)

U.S.A.: Lake Erie, South Bass Island (Jennings, 1900); 'one of the commonest rotifers in ... the United States' (Herring & Myers, 1926); Oklahoma (Taft, 1932); Laurentian Great Lakes (Stemberger, 1979)

Yugoslavia: Danube river (Živković, 1987)

Zaire: Ruki river near Eala (sub. *M. sexidentata*. Van Oye, 1926); Lake Tanganyika (Gillard, 1957); Lubumbashi region (De Ridder, 1981); Bas-Zaire (De Smet, 1990)

Zimbabwe: Lake Kariba (Thomasson, 1965)

L. remanei Hauer, 1964

Brazil: near Manaus, Amazonas (Hauer, 1964; 1965b); Lago Jurucui, Amazonas (Thomasson, 1971)

L. rhacois Herring & Myers, 1926

U.S.A.: Washington D.C., Wisconsin (Herring & Myers, 1926)

L. rhenana Hauer, 1929

Brazil: Boa Vista region, Roraima (Segers & Sarma, 1994)

Germany: near Karlsruhe-Daxlanden (Hauer, 1929)

Indonesia: Borneo (Koste, 1988a)

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994; Sanoamuang *et al.*, 1995)

L. rhopalura (Herring & Myers, 1926)
(map 52)

Bolivia: Kothia Lake, near La Paz (Segers *et al.*, 1994b)

Canada: Cape Breton island (Chengalath & Koste, 1988)

Russian Federation: Lake Baikal (sub. *L. aspersa*. Kutikova & Arov, 1985)

U.S.A.: Maine, Michigan, New Jersey, Wisconsin, Lake Erie (Herring & Myers, 1926);
?Laurentian Great Lakes (sub. *M. lunaris* Stemberger, 1979)

L. rhytida Herring & Myers, 1926

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Ilha de Marchantaria, Amazonas (Koste & Robertson, 1983)

Madagascar (sub. *L. lauterborni*. Bērziņš, 1982b)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

U.S.A.: Maine, New Jersey (Herring & Myers, 1926)

L. robertsonae Segers, 1993

Brazil: Ilha de Marchantaria, Amazonas (sub. *L. aspasia amazonica*. Koste & Robertson, 1983)

L. rudescri Hauer, 1965

Brazil: Tarumaõ (Hauer, 1965b); Ilha de Marchantaria, Amazonas (Koste *et al.*, 1984)

L. rugosa (Harring, 1914)**Panama** (Harring, 1914)*L. ruttneri* Hauer, 1938
(map 53)**Brazil:** Amazonas (Koste, 1972); Boa Vista region, Roraima (Segers & Sarma, 1994)**India:** Kerala State (Segers *et al.*, 1994c)**Indonesia:** Sumatra (Hauer, 1937; 1938)**Madagascar** (Segers, 1992)**Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)**Oman:** Dhofar region (Segers & Dumont, 1993b)**Thailand:** North-East part (Sanoamuang *et al.*, 1995)*L. sagula* Harring & Myers, 1926**U.S.A.:** Maine, Wisconsin (Harring & Myers, 1926)**Venezuela:** Rio Churun (Zoppi de Roa *et al.*, 1990)*L. satyrus* Harring & Myers, 1926
(map 54)**Canada:** Park Mont Tremblant (Nogrady, 1980); Cape Breton island (Chengalath & Koste, 1988)**Japan:** Nagano Prefecture (Yamamoto, 1960)**U.S.A.:** Florida, Maine, Maryland, New Jersey, Wisconsin (Harring & Myers, 1926)*L. schraederi* Wulfert, 1966**India:** Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966)*L. scutata* (Harring & Myers, 1926)
(map 55)**Austria:** Donau region (sub. *L. furcata*. Donner, 1978)**Germany:** near Freiburg i. B., Schwarzwald region (Hauer, 1931); near Plön (Wiszniewski, 1934)**Hungary:** Budapest (sub. *M. stroesneri*. Török, 1935); Lake Balaton (Varga, 1957)**India:** West Bengal (Sharma, 1979)**Korea, North** (sub. *M. furcata*. Yamamoto, 1953b)**Poland:** Lakes in Suwalki region (Wiszniewski, 1934); River Grabi basin (Pawlowski, 1958)**Romania** (Rudescu, 1960)**Russian Federation:** Ural mountains, Perm region (sub. *M. copeis*. Oparina-Charitonova, 1928)

Sweden: Lappland (sub. *L. perplexa*. Pejler, 1962)

U.S.A.: Wisconsin (Harring & Myers, 1926); Laurentian Great Lakes (sub. *M. copeis*. Stemberger, 1979)

Yugoslavia: Danube river (Živković, 1987)

L. serrata Hauer, 1933

(map 56)

Indonesia: Java (Thienemann, 1933; Hauer, 1937; 1938); Borneo (Koste, 1988a)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

L. shieli Segers & Sanoamuang, 1994

Thailand: Sakon Nakhon province (Segers & Sanoamuang, 1994)

L. signifera (Jennings, 1896)

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Lago Jurucui, Amazonas (sub. *L. ploenensis*, incl. *L. saginata*, *L. lauterborni*. Thomasson, 1971); Amazonas (sub. *L. levistyla*. Koste, 1972); near Santarém (sub. *L. signifera ploenensis*. Koste, 1974); lower Rio Nhamundá (Brandorff *et al.*, 1982); Boa Vista region, Roraima (Segers & Sarma, 1994); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Ontario (incl. *L. ploenensis*. Chengalath & Mulamoottil, 1974)

Chili: Villarica region (sub. *L. aquila*. Hauer, 1958b)

China: Zhejiang Province (Wang, 1961)

Germany: Plön region (sub. *D. ploenensis*. Voigt, 1904); Luckenwalde, Brandenburg (sub. *L. ploenensis*. Wulfert, 1940)

India: West Bengal (sub. *L. ploenensis*. Sharma, 1978a); Megalaya, Northeast region (Sharma, 1987)

Indonesia: Sumatra, Java (sub. *L. ploenensis*. Hauer, 1937; 1938)

Japan: Okinawa (Sudzuki, 1991b)

Madagascar (Segers, 1992)

the Netherlands: Oisterwijkse vennen (de Graaf, 1960)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)

Philippines (Mamaril & Fernando, 1978)

Singapore (sub. *L. signifera glandulosa*. Sudzuki, 1991a)

Sri Lanka (sub. *L. ploenensis*. Chengalath & Fernando, 1973)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

U.S.A.: D.C., Florida, Maine, New Jersey, Wisconsin; Abundant ... everywhere in the United States (incl. *L. aquila*, *L. ploenensis*. Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

U.K.: Scotland (sub. *L. ploenensis*. Murray, 1913c)

Yemen: North (Segers & Dumont, 1993b)

Zaïre: Bas-Zaïre (De Smet, 1990)

Zambia: Lake Bangweulu region (De Ridder, 1981)

Zimbabwe: Lake Kariba (sub. *L. ploenensis*. Thomasson, 1965)

L. simonneae Segers, 1993

India: Kerala State (Segers *et al.*, 1994c)

Nigeria: River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

L. sola Hauer, 1936

Brazil: Boa Vista region, Roraima (Segers & Sarma, 1994)

India: ?Ajwa reservoir, near Baroda, Gujarat (sub. *L. nana*. Wulfert, 1966); Lake Almati, Madras (Hauer, 1936b)

Indonesia: Borneo (Koste, 1988a)

Myanmar: Kinda reservoir (Koste & Tobias, 1990)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

L. solfatara (Hauer, 1938)

Indonesia: Sumatra (Hauer, 1937; 1938)

L. spiniventris Segers, 1994

Brunei (Segers, 1994a)

L. spinulifera Edmondson, 1935
(map 57)

Bahamas Islands: Grand Bahama (Nogrady, 1983)

Brazil: Rio de Janeiro (Turner, 1990)

Caribbean region: Hispaniola (sub. *M. spinifera*. Edmondson, 1934)

U.S.A.: Everglades National Park, Florida (Nogrady, 1983)

L. stenorosi (Meissner, 1908)

Austria: Thaya River region (Donner, 1954)

Brazil: Rio de Janeiro (sub. *M. bicornis*. Murray, 1913a)

Canada: Ontario (Chengalath & Mulamoottil, 1974)

China: Soochow, Jiangsu (Harring & Myers, 1926); Hubei, Jiangsu Provinces (Wang, 1961)

Czechia: Elbe region (Dvorakova, 1961)

Germany: near Bersenbrück, Niedersachsen (Koste, 1962)

Hungary: Lake Balaton (Varga, 1939)

India: Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); Andhra Pradesh (Dhanapathi, 1976a); West Bengal (Sharma, 1978a)

Iraq: Shat-el-Arab region (sub. *M. bicornis*, partly. Voronkov, 1907)

Italy (Braioni & Gelmini, 1983)

Japan: Southwestern Islands around Okinawa (incl. *Monostyla* sp. Sudzuki, 1992b)

Korea, South (Chung *et al.*, 1991; Kim *et al.*, 1991)

Madagascar (Segers, 1992)

Moldavia (Naberezhniyi & Irmasheva, 1975)

Myanmar: Kinda reservoir (Koste & Tobias, 1990)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Oman: Dhofar region (Segers & Dumont, 1993b)

Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)

Philippines (Mamaril & Fernando, 1978)

Poland: Silesia (sub. *M. bicornis*. Sachse, 1915); River Grabi basin (Pawłowski, 1958)

Romania (Rudescu, 1960)

Russian Federation: Moskow region (Bogoslovski, 1935; Segers, 1994b); Caucasus region (Tarnogradski, 1961b)

Saudi Arabia: North-East part (Segers & Dumont, 1993b)

Spain: Albufera de Valencia (Wiszniewski, 1932a)

Sri Lanka (Chengalath & Fernando, 1973)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

Turkey: Akgöl, Selçuk- İzmir (sub. *M. cornuta*. Ustaoğlu & Balık, 1987)

U.S.A.: California (Harring & Myers, 1926); Florida (Ahlstrom, 1934)

Venezuela: North East (Lópes, 1993)

Yugoslavia: Danube river (Živković, 1987)

Zaire: Bas-Zaire (De Smet, 1989b)

Zambia: Lake Bangweulu (Wulfert, 1965)

L. stephensae (Hutchinson, 1931)

Mozambique: Lake Matsume (Hutchinson, 1931)

L. stichaea Herring, 1913
(map 58)

Austria: Hohen Tauern (Jersabek & Schabetsberger, 1992a)

Argentina: Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)

Brazil: Lago Maica, Amazonas (sub. *L. methoria*. Thomasson, 1971); Broa reservoir, São Paulo (Segers & Dumont, 1995)

Canada: Yukon Territory, Old Crow river flats (sub. *L. ephestra*. Herring, 1921)

Denmark: Faroér Islands (De Smet *et al.*, 1988)

France: Etang de Pommerau, Loire-et-Cher (Tassigny *et al.*, 1970)

Germany: Schwarzwald region (incl. *L. intrasinuata*. Hauer, 1935b); Luckenwalde, Schneeberg, Brandenburg (sub. *L. intrasinuata*. Wulfert, 1940); Würzburg, Bayern (Hauer, 1958a)

Hungaria: Hoverla mountain (Varga, 1962)

Japan: Honshu (sub. *L. haliclysta*, *L. intrasinuata*. Yamamoto, 1952)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Poland: Pabianice region (sub. *L. saginata*. Pawłowski, 1938)

Romania (incl. *L. intrasiniuata*. Rudescu, 1960)

Russian Federation: Kharkov region (sub. *L. muscicola*, *L. methoria*. Fadeev, 1927); Caucasus region (sub. *L. methoria*. Tarnogradski, 1961b); Karelian lakes (sub. *L. intrasiniuata*. Kutikova, 1965)

Sweden: Aneboda region (Carlin, 1939); Lappland (Pejler, 1962)

U.S.A.: D.C. (Harring, 1913); Florida, Maine, Maryland, New Jersey, Wisconsin, Virginia (incl. *L. methoria*, *L. saginata*: Harring & Myers, 1926); Laurentian Great Lakes (incl. *L. intrasiniuata?* Stemberger, 1979)

Venezuela: Rio Churun (sub. *Lecane* sp. Zoppi de Roa *et al.*, 1990)

L. stichoclysta Segers, 1993

Nigeria: River Niger floodplain (Segers, 1993; Segers *et al.*, 1993a)

L. subtilis Harring & Myers, 1926

Brazil: Broa reservoir, São Paulo (Segers & Dumont, 1995)

Germany: Schwarzwald region (Hauer, 1929)

Italy: near Venice, Trentino, Friuli (Braioni & Gelmini, 1983)

Nigeria: River Niger floodplain (Segers *et al.*, 1993a)

Romania (Rudescu, 1960)

Russian Federation: Ural mountains, Perm region (Oparina-Charitonova, 1928); Northern Caucasus (Tarnogradski, 1930); Caucasus region (Tarnogradski, 1961b)

U.S.A.: Wisconsin (Harring & Myers, 1926)

Yugoslavia: Danube river (sub. *L. apatinensis*. Živković, 1987)

L. subulata (Harring & Myers, 1926)

Chili: Villarica region (Hauer, 1958b)

Germany: Schwarzwald region (Hauer, 1929); Germany: Würzburg, Bayern (Hauer, 1958a); Düben, Sachsen-Anhalt (sub. *L. gwileti*. Wulfert, 1960a)

the Netherlands: 'Grote Huisven', Oisterwijk (de Graaf, 1956)

Russian Federation: Northern Caucasus (Tarnogradski, 1930); Karatschaevo, Caucasus region (Tarnogradski, 1961a; 1961b)

U.K.: Eppin Forest (Harring & Myers, 1926)

U.S.A.: 'fairly common' (Harring & Myers, 1926)

L. sylviae Segers, 1993

Nigeria: River Niger floodplain, Owena river Basin (Segers, 1993; Segers *et al.*, 1993a)

L. symoensi De Ridder, 1981**Zaïre:** Lake north of Lubumbashi (De Ridder, 1981)*L. sympoda* Hauer, 1929**Germany:** near Karlsruhe (Hauer, 1929)**Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)*L. syngenes* (Hauer, 1938)
(map 59)**Brazil:** Amazonas (Koste, 1972)**India:** West Bengal (Sharma, 1979)**Indonesia:** Sumatra (Hauer, 1937; 1938)**Jamaica** (sub. *L. kluchor syngenes*. Koste *et al.*, 1993)**Nigeria:** River Niger floodplain (sub. *L. kluchor f. syngenes*. Segers *et al.*, 1993a)**Papua New Guinea:** East Sepik Province (Segers & De Meester, 1994)**Sri Lanka** (Chengalath *et al.*, 1974)*L. tabida* Harring & Myers, 1926**Sierra Leone:** Lake Sonfon (Green, 1979)**U.S.A.:** Maine (Harring & Myers, 1926)*L. tabulifera* Edmondson, 1936**U.S.A.:** Maine (Edmondson, 1936)*L. tenua* Myers, 1936**U.S.A.:** New Jersey (Myers, 1936a)*L. tenuiseta* Harring, 1914**Australia:** Victoria (Bērziņš, 1982a)**Austria:** Sengsengebirges (Jersabek & Schabetsberger, 1992b)**Belgium:** Lake Donk (Coussement, 1977)**Cameroon:** western part (Chiambeng *et al.*, 1991)**Caribbean Islands** (De Ridder, 1977)**China:** Zhejiang Province (Wang, 1961)**Easter Island** (Segers & Dumont, 1993a)**Germany:** Lake Stechlin (Koch-Althaus, 1963)**Italy:** near Venice (Braioni & Gelmini, 1983)

- Japan:** Southwestern Islands around Okinawa (sub. *Lecane* sp. Sudzuki, 1992b)
- Korea, South** (Chung *et al.*, 1991)
- Nigeria:** River Niger floodplain (Segers *et al.*, 1993a)
- Oman:** Jabal Al Akhdar region, Dhofar region (Segers & Dumont, 1993b)
- Panama** (Harring, 1914)
- Romania** (Rudescu, 1960)
- Russian Federation:** Tambov region (sub. *L. aeganea*. Fadeev, 1924); Ural mountains, Perm region (sub. *L. aeganea*. Oparina-Charitonova, 1928); Caucasus region (incl. *L. aeganea*, f. *punctata*. Tarnogradski, 1961b)
- Saudi Arabia:** North-East part (Segers & Dumont, 1993b)
- Spain:** Minorca (De Manuel, 1994)
- Sweden:** Skåne, Närke, Kalarna (sub. *L. punctata*. Carlin-Nilsson, 1934); Aneboda region (Carlin, 1939)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- Ukraine:** Kharkov region (sub. *L. aeganea*. Fadeev, 1924)
- U.S.A.:** common ... all over the United States (Harring & Myers, 1926)
- Yemen:** North (Segers & Dumont, 1993b)
- Yugoslavia:** Danube river (Živković, 1987)
- Zambia:** Luapula region (De Ridder, 1981)
- Zaire:** Lake Tanganyika (sub. *Lecane* sp. Gillard, 1957)

L. thailandensis Segers & Sanoamuang, 1994

- China:** Zhejiang Province (Wang, 1961)
- Thailand:** Sakon Nakhon province (Segers & Sanoamuang, 1994)

L. thalera (Harring & Myers, 1926)
(map 60)

- Argentina:** North East Provinces (José de Paggi, 1989)
- Egypt:** Lake Edku (Hauer, 1963)
- France:** Camargue (De Ridder, 1960; 1961b)
- India:** Lake Sholavaram, Madras (sub. *M. conspicua*. Hauer, 1936b); Rajasthan (sub. *M. paradeciopiens*. Nayar, 1968); West Bengal (Sharma, 1978a); Delhi region (sub. *L. lamellata thalera*. Sarma, 1988)
- Iraq:** Shat-el-Arab region (sub. *M. hamata*. Voronkov, 1907)
- Mexico:** San Cristobal (Harring & Myers, 1926)
- Oman:** Dhofar region (sub. *L. lamellata*. Segers & Dumont, 1993b)
- Philippines** (sub. *L. lunaris*. Mamaril & Fernando, 1978)
- Romania:** Black See Coast (Rodewald, 1940; Rudescu, 1960)
- Spain:** Albufera de Valencia (Wiszniewski, 1932a)
- Thailand:** North-East part (Sanoamuang *et al.*, 1995)
- U.A.E.** (sub. *L. lamellata*. Segers & Dumont, 1993b)
- U.S.A.:** California (Harring & Myers, 1926), Florida (Ahlstrom, 1934)
- Venezuela:** lake Valencia, Laguna Taiguaguai (Hauer, 1956)
- Yemen:** North (sub. *L. lamellata*. Segers & Dumont, 1993b)

L. thienemanni (Hauer, 1938)
 (map 61)

- China:** Zhejiang Province (Wang, 1961)
India: Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); West Bengal (Sharma, 1979)
Indonesia: Sumatra, Java (Hauer, 1937; 1938); Borneo (Koste, 1988a)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)
Philippines: Mamaril & Fernando, 1978
Venezuela: Rio Yaracuy, Urama (sub. *M. hamata* var. *thienemanni*. Zoppi de Roa *et al.*, 1994)

L. tryphema Herring & Myers, 1926

- Austria:** Hohen Tauern (Jersabek & Schabetsberger, 1992a)
Germany: Schwarzwald region (Hauer, 1929)
the Netherlands: 'Grote Huisven', Oisterwijk (de Graaf, 1956)
Romania: (Rudescu, 1960)
U.S.A.: Maine, New Jersey, Wisconsin (Herring & Myers, 1926)

L. uenoi Yamamoto, 1951

- Brazil:** near Santarém (sub. *L. rugosa*. Koste, 1974); São Paulo, Roraima (Segers *et al.*, 1993b); Broa reservoir, São Paulo (Segers & Dumont, 1995)
Japan: Kyoto Prefecture (Yamamoto, 1951)

L. undulata Hauer, 1938

- Canada:** Ontario (sub. *L. sympoda*. Chengalath & Mulamoottil, 1974)
Galápagos Archipelago (sub. *L. inopinata* f. *sympoda*. De Smet, 1989a)
India: Ajwa reservoir, near Baroda, Gujarat (sub. *L. sympoda*, partly. Wulfert, 1966)
Indonesia: Java (Hauer, 1937; 1938)
Madagascar (Segers, 1992)
Myanmar: Kinda reservoir (sub. *L. inopinata undulata*. Koste & Tobias, 1990)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Oman: Dhofar region (Segers & Dumont, 1993b)
Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)
Philippines: Mamaril & Fernando, 1978
Russian Federation: Caucasus region (sub. *L. sympoda*. Tarnogradski, 1961b)
Thailand: North-East part (Sanoamuang *et al.*, 1995)
Yugoslavia: Danube river (sub. *L. sympoda*. Živković, 1987)
Zaïre: Lake Tanganyika (Gillard, 1957); Lake Mweru, Kilwa (De Ridder, 1981)

L. unguitala (Fadeev, 1925)
 (map 62)

- Australia:** Cape York, Queensland (Shiel & Koste, 1985)
China: Zhejiang Province (Wang, 1961)
India: Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); West Bengal (Sharma, 1978a)
Indonesia: Borneo (Koste, 1988a)
Iraq: Shat-el-Arab region (sub. *M. bicornis*, partly. Voronkov, 1907)
Japan: Southwestern Islands around Okinawa (sub. *M. cornuta*. Sudzuki, 1992b)
Madagascar (Segers, 1992)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Papua New Guinea: East Sepik, Madang Provinces (Segers & De Meester, 1994)
Philippines (Mamaril & Fernando, 1978)
Russian Federation: Krasnodarsk (Fadeev, 1925)
Sri Lanka (Chengalath & Fernando, 1973)
Thailand: North-East part (Sanoamuang *et al.*, 1995)
Zimbabwe: Lake Kariba (sub. *L. cornuta*. Thomasson, 1965)

L. unguitala (Gosse, 1887)

- Argentina:** Santa Fe province (José de Paggi & Koste, 1988); Rio Paraná, Resistencia region (Martinez & José de Paggi, 1988)
Australia: Alexandra, Victoria (sub. *L. unguitala var. australiensis*. Koste, 1979)
Brazil: Broa reservoir, São Paulo (Segers & Dumont, 1995)
Canada: Ontario (Chengalath & Mulamoottil, 1974); Québec (Nogrady, 1976)
Caribbean Islands (De Ridder, 1977)
Chad: Lake Chad (Pourriot, 1968)
China: Zhejiang, Hubei Provinces (incl. *L. sibina*. Wang, 1961)
France: Camargue (De Ridder, 1960; 1961b)
Germany: Luckenwalde, Brandenburg (sub. *L. magna*. Wulfert, 1940); near Bersenbrück, Niedersachsen (Koste, 1962); Lake Stechlin (Koch-Althaus, 1963)
India: Ajwa reservoir, near Baroda, Gujarat (Wulfert, 1966); Andhra Pradesh (incl. *L. donnerianus*. Dhanapathi, 1976a); West Bengal (Sharma, 1978a)
Italy: near Venice (Braioni & Gelmini, 1983)
Kenya: Sangoro (Segers *et al.*, 1994a)
Korea, South (Song & Kim, 1989)
Madagascar (sub. *L. fracida*. Bērziņš, 1982b; Segers, 1992)
Moldavia (Naberezhniyi & Irmashova, 1975)
Nigeria: River Niger floodplain (Segers *et al.*, 1993a)
Papua New Guinea: East Sepik Province (Segers & De Meester, 1994)
Philippines (Mamaril & Fernando, 1978)
Poland: Silesia (sub. *C. minnesotensis*. Sachse, 1915); River Grabi basin (Pawlowski, 1958)
Romania (Rudescu, 1960)
Russian Federation: Caucasus region (Tarnogradski, 1961b); Moskow region (Segers, 1994b)
Saudi Arabia: North-East part (Segers & Dumont, 1993b)
Singapore (Sudzuki, 1991a)
Spain: Los Marismas (De Ridder, 1962)

Sri Lanka (Chengalath & Fernando, 1973)

Sweden: Lappland (Pejler, 1962)

Thailand: North-East part (Sanoamuang *et al.*, 1995)

U.S.A.: Lake Erie, South Bass Island, Ohio (Jennings, 1900); Florida (sub. *L. sverigis*. Ahlstrom, 1934); very common and widely distributed (Harring & Myers, 1926); Laurentian Great Lakes (Stemberger, 1979)

Yugoslavia: Danube river (sub. *L. magna*. Živković, 1987)

Zaire: Lake Mweru (Evans, 1949); Lake Tanganyika (Gillard, 1957); Lubumbashi region (De Ridder, 1981); Bas-Zaire (De Smet, 1990)

Zambia: Lake Bangweulu, Luapula regions (De Ridder, 1981)

Zimbabwe (Rousselet, 1906)

L. urna Nogrady, 1962

Hungary: near Budapest (Nogrady, 1962)

L. venusta Harring & Myers, 1926

Italy: near Venice (Braioni & Gelmini, 1983)

U.S.A.: Ottman Lake, Wisconsin (Harring & Myers, 1926)

L. verecunda Harring & Myers, 1926

U.S.A.: Maine, Wisconsin (Harring & Myers, 1926)

L. whitfordi (Ahlstrom, 1938)

Argentina: North East Provinces (sub. *L. obtusa*. José de Paggi, 1989)

U.S.A.: North Carolina (Ahlstrom, 1938)

PART 2. VERIFIED RECORDS OF *LECANE* BY C.R. RUSSELL

Records could be verified by comparison of sketches in C.R. Russell's notebooks. Copies of these were provided by Dr R.J. Shiel. The notebook records are, whenever possible, connected to records in Russell's publications. No drawings of Russell (1947, 1950 and 1952) were present.

New Zealand

- * Canterbury (Russell, 1945): *Monostyla crenata* = *L. lunaris*; (Russell, 1954): *Monostyla arcuata* : one figure unrecognisable, one correct, one *L. closterocerca*; *L. hamata* = *L. closterocerca*
- * Westland (Russell, 1951): *L. pomiformis* = incompletely contracted *L. closterocerca*.
- * West Canterbury (Russell, 1953a): *L. hornemannii*: not recognisable
- * Lake Katrine (Russell, 1953a): *Lecane perplexa* = *L. lunaris*
- * Notornis Valley (Russell, 1954): *Monostyla rugosa* = unrecognisable, not *L. rugosa*.
- * Fiordland district (Russell, 1956c): *L. tenuiseta*: unrecognisable; *L. glypta* f. *nuda* = *L. flexilis*; *Monostyla opias*: unrecognisable, not *L. opias*; *Monostyla styrax* = *L. bulla*.
- * Dunedin and Wellington (Russell, 1957b): *Lecane inopinata* = *L. undulata*; *L. verecunda*: unrecognisable, not *L. verecunda*.
- * Campbell Island (Russell, 1958): *Lecane closterocerca*: correct.
- * Buller (Russell, 1959): *Monostyla pyriformis*: correct

Gilbert Islands (Russell, 1957a)

L. acronycha = *L. curvicornis*; *Monostyla punctata*: correct

New Hebrides (Russell, 1957a)

L. crepida = *L. hastata*; *Monostyla punctata*: correct.

Fiji (Russell, 1957a)

L. luna: correct; *L. pusilla*: unrecognisable, not *L. pusilla*.

Chatham Islands

- * Russell, 1953b: *L. bulla*; *L. eylesi*; *L. gissensis*: non-contracted, unrecognisable specimen; *L. hamata*; *L. hornemannii* = *L. latissima*, *L. lauterborni*: unrecognisable, not *L. lauterborni*; *L. lunaris*; *L. palinacis*: unrecognisable, not *L. palinacis*; *L. styrax* = *L. bulla*; *L. tudicola* = *L. herzigi*.
- * Russell, 1956b: *L. rhacois*: unrecognisable; *L. tenuiseta*: unrecognisable, not *L. tenuiseta*; (*Monostyla bulla*: no drawing); *Monostyla crenata* = *L. lunaris*.

Gold Coast (Ghana: Russell, 1956a)

L. calcaria = *L. inermis*; *L. curvicornis*; *L. leontina*; *L. pyrrha* = *L. signifera*; *L. sibina* = *L. curvicornis*; *L. verecunda* = *L. signifera*; *Monostyla hamata*: unrecognisable; *Monostyla truncata* = *L. arcuata*;

In notes only (unpublished): *L. curvicornis*: one figure unrecognisable, on correct; *Monostyla closterocerca*: correct; *Monostyla decipiens* = *L. hamata*; *L. luna*: correct; *L. papuana*: correct; *Monostyla quadridentata*: correct; *Monostyla styrax* = *L. bulla*.

PART 3. SOME UNPUBLISHED RECORDS OF *LECANÉ*

The following unpublished records are identified or, at the least, verified by me; most of them concern results of the A.B.O.S. International Training Course: 'Zooplankton: a Tool in Lake Management'. The Australian records were kindly provided by Dr R.J. Shiel.

List of localities

Algeria (leg. & det. B. Samraoui)

1. Several localities in the El Kala wetlands, N.E. Algeria, 28 V 1993 - 12 VII 1993
2. Idem, Guerbes-Senhadja wetlands, N.E. Algeria, 24 V 1993 - 5 VII 1993

Australia (leg. R.J. Shiel)

1. Darling River Anabranch floodplain, National Parks and Wildlife Service, NSW. coll. J. Hillman
2. Lake Angove, South West West Australia, 18 II 1993, coll. S. Halse
3. Lake Moates, South West West Australia, 18 II 1993, coll. S. Halse
4. Long Spring Swamp, West Australia, 18 II 1993, coll. S. Halse
5. Lake Gregory, North West West Australia, 19 VIII 1993, coll. W.D. Williams
6. Ryan's #3 billabong, an ephemeral roadside pool, Bonegilla, Victoria, 15 VII 1994
7. Dune Lake, Cape York Peninsula, Queensland, coll. B.V. Timms
8. Ormiston Gorge, Northern Territory, 22 II 1994, coll. M. Lawton
9. Ellery Big Hole, Northern Territory, 21 II 1994

Belgium

1. Oostkamp, Leiemersen, 15 IV 1991, leg. K. De Kleer
2. Gent, tap water, 5 V 1991
3. Neerpelt, Hageven, 1 June 1992
4. Postel, Ronde Put, 2 June 1992

Brazil

1. 10 Stations in the Paraguai River and its tributaries near Corumba, mato Grosso de Sul, 25-30 VI 1983 (Mitamura *et al.*, 1985). Coll. A.L. de Oliveira-Neto
2. Lago do Prato, Rio Negro, Amazonas State, 17 IV 1992. Coll E.N. dos Santos-Silva
3. Rio Jatapu, close to confluence with Rio Uatumá, Amazon State, 27 III 1987. Coll E.N. dos Santos-Silva
4. Lago Jacundá, Rio Tapajós, Alten do Chão, Pará State. 20 XII 1987. Coll E.N. dos Santos-Silva
5. Ilha de Maraca, Roraima State, 24 IX 1987. Coll E.N. dos Santos-Silva & B. Robertson
6. Pond near Lobo Reservoir, SP, 3 I 1990.
7. Prairie pond on road to Broa, ca 5 km from station SP, 3 I 1990.
8. Bonito pond, Brasilia (Federal district), 1991 (leg. & det. F.L. de Rêgo Monteiro Starling).
9. Formosa pond, Goias State, near Planaltina de Goias, 1991 (leg. & det. F.L. de Rêgo Monteiro Starling).

Burundi

1. Freshwaters in Bujumbura province, 1990 (leg. H.J. Dumont, det. D. Baribwegure)

China

1. Li- river, Yuangshuo SSE of Guilin, Zizhiqiu province, 24°48'N - 110°26'E, 19 VII 1989 (leg. H.J. Dumont)
2. Yuangshuo, rice field. 24°48'N - 110°26'E, 19 VII 1989 (leg. H.J. Dumont)
3. Yuangshuo, pond. 24°48'N - 110°26'E, 20 VII 1989 (leg. H.J. Dumont)
4. Yuangshuo, eutrophic pond. 24°48'N - 110°26'E, 20 VII 1989 (leg. H.J. Dumont)
5. Yuangshuo, pond near cave. 24°48'N - 110°26'E, 20 VIII 1989 (leg. H.J. Dumont)
6. Er Hoi lake, near Dali, Yunnan province, 25°39'N - 100°11'E, 23 VII 1989 (leg. H.J. Dumont)
7. Pond near Er Hoi lake, 25°39'N - 100°11'E, 23 VII 1989 (leg. H.J. Dumont)
8. between Dali and Lijiang, ditch. 25°50'E - 100°11'E, 24 VII 1989 (leg. H.J. Dumont)
9. between Dali and Lijiang, pond. 25°50'E - 100°11'E, 26 VII 1989 (leg. H.J. Dumont)
10. Taihu lake, Jiangsu province. 30°55'-31°33'N, 119°53'-120°36'E, IX 1993 (leg. & det. G. Xiaoming)
11. Lake Wudalianchi, Heilongjiang province, 20 V 1992 (leg. & det. Q. Wang)

Ecuador (leg. H.J. Dumont)

1. Lago de Cuicocha, 29 X 1993
2. Lake Yahuarcocha, 30 X 1993

Egypt (leg. & det. G.M. El Shebrawy Mohammed)

1. Wadi El-Raiyan, El Fayoum
2. River Nile near El Fayoum
3. Abbasa fish farm, El Sharkia
4. Irrigation canal, El Fayoum
5. Fish pond in Shakshouk research station, El Fayoum

Ethiopia (leg. & det. S. Bekelie)

1. Lake Awasa (7°03'N-38°36'E), 6 III 1993
2. Lake Chelelaqua (8°46'N-38°59'E), 14 IX 1994

Finland

1. Onkilampi pond, Joensuu region, IX 1993 (leg. & det. M. Rahkola)
2. Lake Saimaa, VI and VIII 1992 (leg. & det. M. Rahkola)
3. Kangaslampi pond, Kuopio, IX 1993 (leg. & det. K. Hyvönen)

India

1. Lake Kollera, 9 III 1974. leg. Y. Ranga Reddy
2. Temporary pond, near Guntur, 8 I 1980. leg. Y. Ranga Reddy
3. Roadside ditch, Nagamalai, near Madurai, Tamil Nadu, 1991 (leg. & det. G. Murugan)

4. Several localities (\pm 50) in Kerala state, 1991-1992 (leg. & det. F.K. Kakkassery)
5. Several localities in the Delhi region (leg. & det. S.S.S. Sarma, leg. & det N. Iyer)

Indonesia

1. Ponds (freshwater and brackish) in Jepara, Central Java, 25 IX 1992 (leg. & det. A. Erlina)
2. Lake Lido, West Java, 11 XI 1990 (leg. & det. Y. Retnaning-Widyastuti)
3. Taman Ayun, temple pond, Bali, 22 I 1995 (leg. Y. Kobayashi)
4. Lake Buyan, Bali, 22 I 1995 (leg. Y. Kobayashi)

Laos

1. ponds near Vientiane, 8-11 IX 1994 (leg. & det. S. Phanousith)

Malawi (leg. & det. V.E. Mushi)

1. Pool at Salima, 26 VII 1991
2. Senga Bay, Hippo pool, 28 VII 1991
3. Nteheu Mzimba, Pa dam, 31 VII 1991
4. Lithipe river, 31 VII 1991

Malaysia

1. Lake Kenyir, 22 XI 1990 (4°40'N, 102°40'E)(leg. & det. C.H. Peng)

Mexico

1. Lake Chapala, between state of Jalisco and Micoacan, Sept. 1990- Sept. 1991 (leg. & det. R. Rico-Martinez)

New Zealand

1. Roadside pools, between Kumara and Greymouth. 19°C, pH 4.5 (leg. & det. L. Sanoamuang)
2. Travis Swamp, Christchurch, 10 VI 1993 (leg. R.J. Shiel & J.D. Green)
3. Rotootuauru, 7 II 1994, lake on North Island (leg. R.J. Shiel & J.D. Green)
4. Humuhumu Lake, 7 II 1994, North Island (leg. R.J. Shiel & J.D. Green)
5. Horsham Downs Pond, 24 VI 1993, North Island (leg. R.J. Shiel & J.D. Green)
6. stock dam, Cleaseby Hill, 6 II 1994, North Island (leg. R.J. Shiel & J.D. Green)
7. dune lagoon, 7 II 1994, North Island (leg. R.J. Shiel & J.D. Green)
8. Phoebe's lagoon, 7 II 1994, North Island (leg. R.J. Shiel & J.D. Green)

Nicaragua

1. Lake Nicaragua, littoral on Northern shore. Granada, 13 VII 1991

Nigeria

1. Abadaba lake, Imo State (leg. & det. S.N. Umeham)

2. Agbada swamp, Rivers State (leg. & det. S.N. Umeham)
3. Akika lake, Imo State (leg. & det. S.N. Umeham)
4. Nnenmiri lake, Imo State (leg. & det. S.N. Umeham)
5. Umu-Oseriche lake, Imo State (leg. & det. S.N. Umeham)
6. Yenagoa river, Rivers State (leg. & det. S.N. Umeham)
7. Asa lake, Ilorin Kwara State ($4^{\circ}30'E$ - $8^{\circ}26'N$, leg. & det. S.I. Ovie)
8. Shiroro lake, Niger State ($6^{\circ}15'E$ - $9^{\circ}55'N$, leg. & det. S.I. Ovie)
9. Fish pond, Kainji lake region, Niger State (leg. & det. S.I. Ovie)
10. Rivers in Ondo State, 1981-1983 (leg. I.F. Adeniyi, det. A.O. Ayayi)

Peru (leg. & det. M.A. Paliza)

1. Fish pond, near Rio Huallaga, Ahuashiyacu, 1991
2. Yarinacocha lagoon, near Rio Ucayali, 1991
3. Hemimarsh near Rio Madre de Dios, 1991

Philippines

1. Artificial pond in Los Banos, Laguna, Luzon, 28 IX 1990 (leg. & det. S.B. Torralba)
2. Rice research Institute reservoir, Los Banos, Laguna, Luzon, 28 IX 1990 (leg. & det. S.B. Torralba)
3. Swamp at Consolacion, Cebu, 4 I 1991 (leg. & det. S.B. Torralba)
4. Laguna de Bay, Luzon (leg. & det. A.C. Rivera)
5. Bataan, Luzon, IX 1994 (leg. & det. M.V. dela Cruz Camacho)
6. Talisay, Batangas, Luzon, 22 VII 1994 (leg. & det. M.V. dela Cruz Camacho)
7. Ilaguen river, Isabela, Luzon, VI 1994 (leg. & det. M.V. dela Cruz Camacho)

Russia

1. Lake Glubokoe, 31 VII - 8 VIII 1992
2. Pond near lake Glubokoe, Terehovo, 2 VIII 1992
3. Pond near lake Glubokoe, Ordino, 4 VIII 1992
4. Pond near lake Glubokoe, Novo-Gorbovo, 8 VIII 1992
5. Pond near lake Glubokoe, along road to village, left. With *Calla palustris* and *Sphagnum* sp., 8 VIII 1992
7. Pond near Andreevskoe, 10 VIII 1992

Surinam

1. Ponds around Paramaribo, Lake Brokopondo, IX 1994 (leg. & det. A. Haripersad)

Tanzania

1. Ponds in the Usangu plain, 1993 (leg. & det. N.L. Mchome)
2. Zanzibar, IX 1994 (leg. & det. S.M. Yussuf)

Thailand

1. Pratumthanee, near Bangkok (leg. & det. J. Wongsanoon)

Uganda

1. Lake Wamala, 1990-1991 ($0^{\circ}15'$ - $0^{\circ}25'N$, $31^{\circ}45'$ - $32^{\circ}0'E$)(leg. L. Mwebaza-Ndawula, det. D.R. Mbaga)

Vietnam

1. Lakes in Hanoi City, 1993 (leg. & det. L.T. Kim Cuc)

Records

Numbers behind the country name refer to the sample(s) number as listed above.

- L. acanthinula* (Hauer): India 5
- L. aculeata* (Jakubski): Brazil 5, China 7; Ecuador 2; India 4, 5; Nigeria 5, 7
- L. aeganea* Herring & Myers: Brazil 1; India 5
- L. amazonica* (Murray): Brazil 3, 5
- L. arcuata* (Bryce): Belgium 1; Nicaragua 1
- L. arcula* Herring: Brazil 1, 5, 6; Egypt 1; India 4, 5; Nicaragua 1
- L. aspasia* Myers: India 5; Russia 1
- L. bifurca* (Bryce): India 4
- L. braumi* Koste: Nigeria 3, 5
- L. bifastigata* Hauer: India 5
- L. bifurca* (Bryce): Ecuador 2; Russia 1, 5
- L. bulla* (Gosse): Algeria 1, 2; Australia 3, 4, 5, 8, 9; Brazil 1, 2, 3, 4, 5, 6 (incl. f. *styrax*), 7 (f. *styrax*), 8, 9; Burundi 1; China 1, 3, 4, 5, 6, 7, 8, 9, 10, 11; Ecuador 1, 2; Egypt 1, 2, 4; Ethiopia 1; India 1, 2, 4, 5; Indonesia 2, 3, 4; Laos 1; Malawi 1, 3, 4; Malaysia 1; New Zealand 3, 4, 6, 8; Nicaragua 1; Nigeria 5, 7, 10; Philippines 3, 5; Russia 1, 2, 5, 6; Surinam 1; Tanzania 1, 2; Thailand 1; Uganda 1; Vietnam 1
- L. clara* (Bryce): Algeria 1; Brazil 3, 5; Belgium 3; Finland 2; Russia 1
- L. closterocerca* (Schmarda): Algeria 1, 2; Belgium 1, 4; Brazil 1, 2, 5; Burundi 1; China 6, 7, 8, 9, 11; Ecuador 2; Egypt 1; India 4, 5; Indonesia 1; Laos 1; Mexico 1; New Zealand 4, Nigeria 3, 5, 9, 10; Philippines 6; Russia 1, 2, 3, 4, 5, 6; Tanzania 2; Uganda 1
- L. copeis* (Herring & Myers): Brazil 1, 4
- L. cornuta* (Müller): Brazil 1 (incl. f. *rotunda*), 3, 5; Mexico 1; Surinam 1
- L. crepida* Herring: Brazil 1; India 4, 5; Indonesia 3; Philippines 7
- L. curvicornis* Murray: Australia 4, 7; Brazil 1, 2, 6, Burundi 1; Ethiopia 2; India 1, 2, 4, 5; Laos 1; Nicaragua 1; Nigeria 1, 5, 9, 10; Philippines 3; Surinam 1; Tanzania 2; Vietnam 1
- L. decipiens* Murray: Algeria 1; Brazil 1, 2, 5; Nicaragua 1; Philippines 5; Surinam 1
- L. depressa* (Bryce): Finland 1; Russia 5
- L. deridderae* Koste: Brazil 4
- L. dumonti* Segers: Brazil 5
- L. doryssa* Herring: Brazil 1, 5, 6; India 4; Peru 3
- L. elegans* Herring: Brazil 1, 2, 5, 7
- L. elsa* Hauer: Brazil 5; Surinam 1
- L. eswari* Dhanapathi: India 5
- L. eutarsa* Herring & Myers: Brazil 1, 2, 3, 4, 5, 6; Surinam 1
- L. eylesi* Russel: New Zealand 1
- L. flexilis* (Gosse): Brazil 1, 2, 5; Belgium 2; China 9; Indonesia 3; New Zealand 4; Russia 1
- L. furcata* (Murray): Algeria 1; Brazil 2, 3, 5; Burundi 1; China 3 (var. *elachis* & *thetis*), 6, 10; Ecuador 2; India 4, 5; New Zealand 7; Nicaragua 1; Nigeria 3, 5; Philippines 1; Russia 1, 2, 5, 6; Surinam 1
- L. grandis* (Murray): Egypt 1, 5; Indonesia 1
- L. gwileti* (Tarnogradski): Belgium 1

- L. hamata* Stokes: Algeria 1, 2; Belgium 2; Brazil 2, 3, 5; Burundi 1; China 4, 6, 8, 9, 10; Ecuador 2; Egypt 1, 4; India 1, 2, 4, 5; Indonesia 2, 4; Mexico 1; New Zealand 7; Nicaragua 1; Nigeria 3, 5, 7, 10; Philippines 3; Russia 1, 2, 3, 4, 5, 6; Surinam 1; Tanzania 1, 2; Uganda 1
- L. haliclysta* Herring & Myers: Brazil 1, 2, 5; Nicaragua 1
- L. hastata* (Murray): Brazil 1; China 3, 5; India 4, 5; Nigeria 10; Philippines 5
- L. hornemannii* (Ehrenberg): Australia 5; Brazil 2, 6, 7; China 5; India 2, 4, 5; Indonesia 2, 3; New Zealand 3, 4, 8; Nigeria 7; Tanzania 2
- L. inermis* (Bryce): Brazil 1, 5; China 6; Nigeria 7; Philippines 5
- L. inopinata* Herring & Myers: Algeria 1; Brazil 1, 6; India 4, 5; Philippines 2, 7
- L. intrasiniuata* (Olofsson): Belgium 2
- L. kutikowa* Koste: Brazil 3
- L. lateralis* Sharma: Burundi 1; China 9; India 1, 2, 5; Nigeria 8
- L. latissima* Yamamoto: New Zealand 1
- L. leontina* (Turner): Brazil 1, 2, 3, 4, 5, 6, 8, 9; China 10; India 1, 2, 4, 5; Indonesia 3; Laos 1; Malawi 2; Nicaragua 1; Nigeria 1, 2, 3, 4, 5, 6, 7; Surinam 1
- L. ludwigii*: Algeria 1; Australia 1, 5; Brazil 1 (incl. f. *ercodes*), 2, 5 (incl. f. *ohioensis*); 6 (incl. near f. *ohioensis*), 7; China 3 (f. *lacinulata*), 4, 6 (incl. f. *laticaudata*), 10; India 4, 5; Nigeria 5, 7; Peru 3 (f. *ohioensis*); Russia 1
- L. luna* (O.F. Müller): Algeria 1, 2; Australia 3, 4, 5; Brazil 1; Burundi 1; China 4, 6, 7, 9, 10; Ecuador 2; Egypt 1, 2, 3, 4; Ethiopia 2; India 1, 2, 4, 5; Indonesia 2, 3; Mexico 1; Malawi 1; New Zealand 3, 4, 6, 8; Nicaragua 1; Nigeria 7, 10; Philippines 7; Russia 1, 3; Surinam 1; Tanzania 2; Thailand 1
- L. lunaris* (Ehrenberg): Algeria 1, 2; Australia 3, 4, 5; Belgium 2 (f. *perplexa*), 3 (incl. f. *crenata*), 4 (f. *constricta*, *crenata*); Brazil 1, 2, 3, 4 (incl. f. *crenata*), 5 (incl. f. *crenata*), 6, 7, 8 (incl. f. *crenata*), 9 (f. *crenata*); Burundi 1; China 6, 7, 8, 9, 10; Ecuador 2; Egypt 3; Finland 1, 3; India 4, 5; Indonesia 2; Mexico 1; New Zealand 1 (incl. f. *crenata*), 2, 4, 5, 7; Nigeria 1, 3, 5, 7, 10; Philippines 7; Russia 1 (incl. f. *perplexa*), 2, 3, 4, 5 (incl. f. *crenata*), 6; Thailand 1
- L. marchantaria* Koste & Robertson: Brazil 1
- L. melini* Thomasson: Brazil 1, 2, 3
- L. mira* (Murray): Belgium 4; Russia 5
- L. monostyla* (Daday): Brazil 1, 2, 3, 5; India 4; Nicaragua 1; Peru 3
- L. myersi* Segers: Brazil 6
- L. nana* (Murray): Algeria 1; Burundi 1; Ecuador 2; Egypt 1, 4; India 5; Nicaragua 1; Russia 2; Surinam 1
- L. obtusa* (Murray): Brazil 1, 4, 5; India 4, 5; Nigeria 7; Surinam 1
- L. opias* (Herring & Myers): Belgium 1
- L. papuana* (Murray): Australia 9; Brazil 1; China 2; Egypt 3, 4; India 1, 2, 3, 4, 5; Indonesia 3; Laos 1; Malawi 1; Nicaragua 1; Nigeria 1, 6, 7; Peru 1, 2, 3; Philippines 1, 3, 4, 5; Surinam 1; Tanzania 1, 2
- L. pertica* Herring & Myers: Brazil 1, 2, 3, 5, 6, 8, 9; India 4
- L. proiecta* Hauer: Brazil 1, 4
- L. punctata* (Murray): India 5
- L. pusilla* Herring: India 4, 5; Russia 1
- L. pyriformis* (Daday): Algeria 1; Brazil 1, 4, 5; India 4, 5; Mexico 1; Nicaragua 1; Nigeria 7, 9; Russia 6; Uganda 1
- L. quadridentata*: Algeria 1, 2; Australia 4, 5; Brazil 1, 3, 5; China 1, 3, 10; India 4, 5; Indonesia 2, 3; Nicaragua 1; Nigeria 5, 10; Peru 3; Philippines 3; Russia 3; Surinam 1

- L. remanei* Hauer: Brazil 3
L. rhenana Hauer: Burundi 1
L. rhopalura (Harring & Myers): Russia 1
L. rhytidia Harring & Myers: Brazil 1, 5, 6; New Zealand 7; Nicaragua 1
L. robertsonae Segers: Brazil 1, 5, 6;
L. rudescri Hauer: Brazil 3
L. rugosa (Harring): Brazil 6
L. ruttneri Hauer: Brazil 5, 6, 7; India 4; Philippines 2
L. scutata (Harring & Myers): Russia 1
L. signifera (Jennings): Brazil 1, 2, 3, 5, 8, 9; India 4, 5; Indonesia 1, 3; New Zealand 7;
 Nicaragua 1; Nigeria 1, 5, 7; Philippines 5, 7; Surinam 1
L. simonneae Segers: India 4
L. sola Hauer: Brazil 1
Lecane sp. near *bulla*: Australia 2
Lecane sp. near *elsa*: Burundi 1
Lecane sp. near *rhenana*: Australia 1
L. spinulifera (Edmondson): Jamaica (Koste, *in litt.*)
L. stenroosi (Meissner): Burundi 1; China 6, 8; India 1, 2, 5; Indonesia 4; Philippines 7
L. stephensae (Hutchinson): Indonesia 3
L. stichaea Harring: Brazil 1, 3, 5, 6; Belgium 3, 4; Finland 1; Nigeria 1, 7; Russia 1, 5
L. subtilis Harring & Myers: Brazil 3, 6
L. subulata (Harring & Myers): Burundi 1
L. sylviae Segers: Nigeria 10
L. syngenes Hauer: Brazil 6
L. tenuiseta Harring: Algeria 1; Brazil 1; India 4; Russia 1, 4
L. thalera (Harring & Myers): India 1, 5; Philippines 2
L. thienemanni Hauer: Brazil 1; Philippines 5, 7
L. tryphema Harring & Myers: Belgium 3
L. uenoi Yamamoto: Brazil 5, 6
L. undulata Hauer: Burundi 1; Ecuador 2; India 5; Nigeria 2; Thailand 1
L. unguitata (Fadeev): India 1, 2, 4, 5; Nigeria 7, 10; Philippines 5
L. ungulata (Gosse): Algeria 1; Australia 6; Brazil 1, 5; Burundi 1; China 10; India 1, 2,
 4, 5; Indonesia 4; Malawi 2; Nigeria 1, 2, 3, 5, 6, 9, 10; Philippines 4; Russia 1; Tanzania
 2

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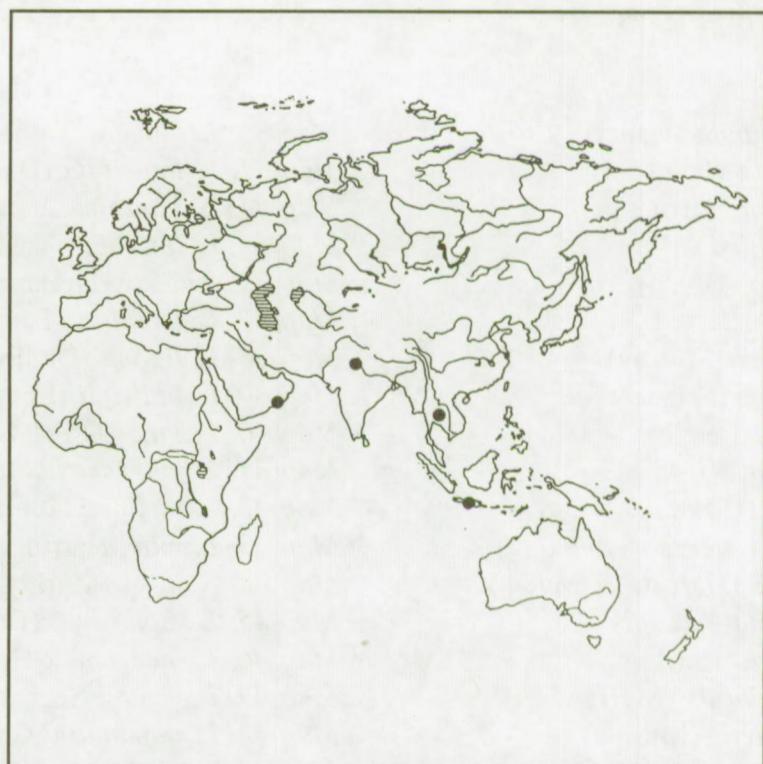
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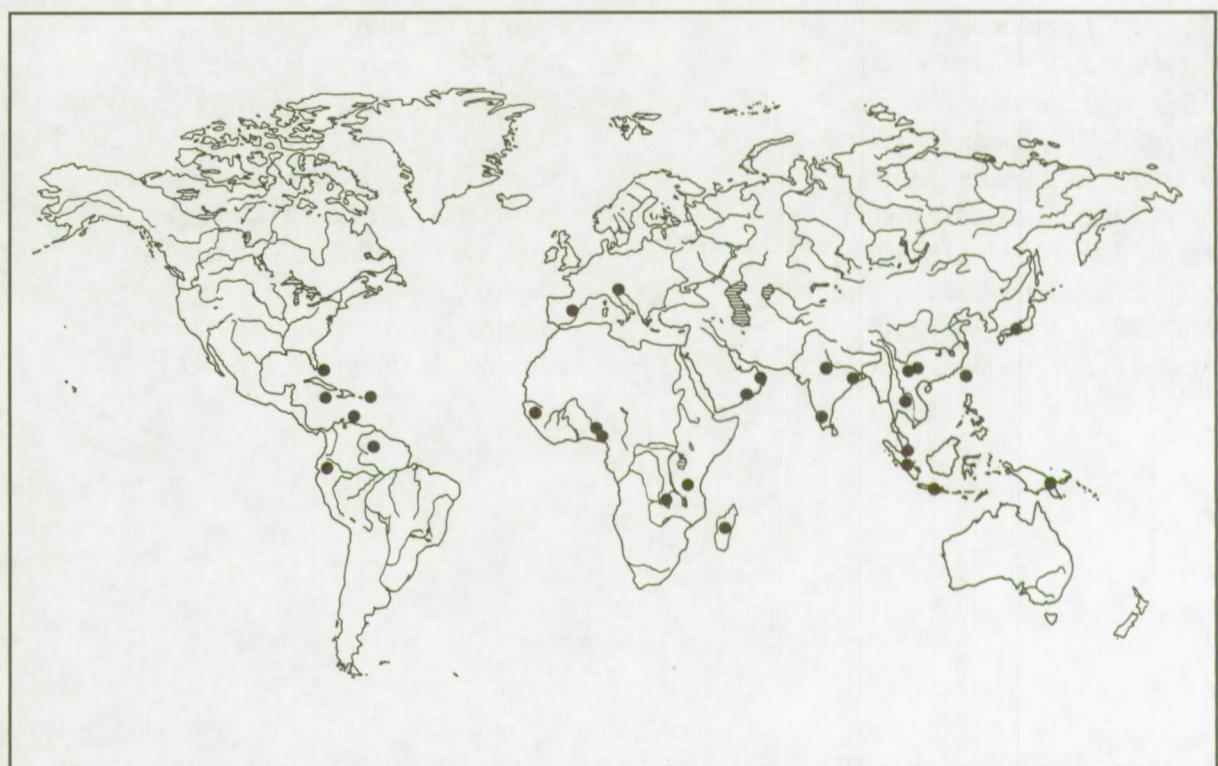
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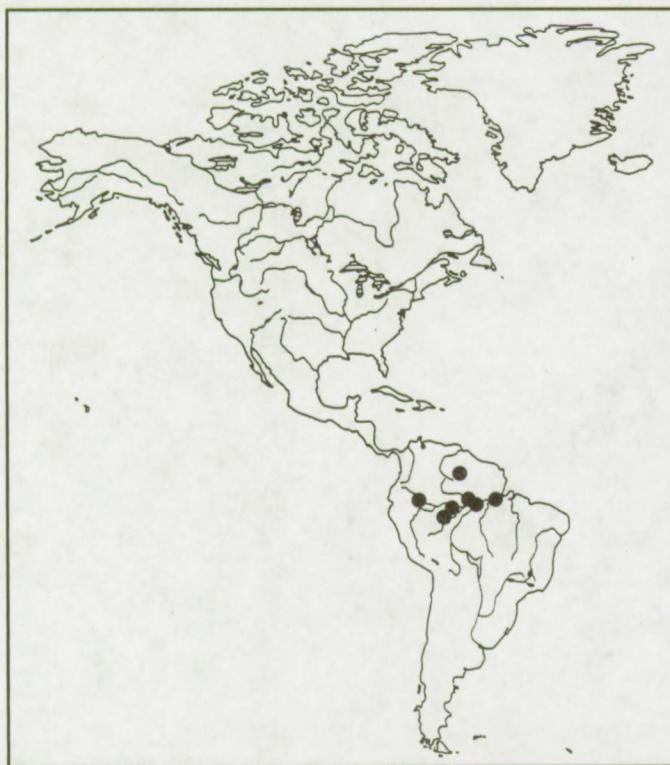
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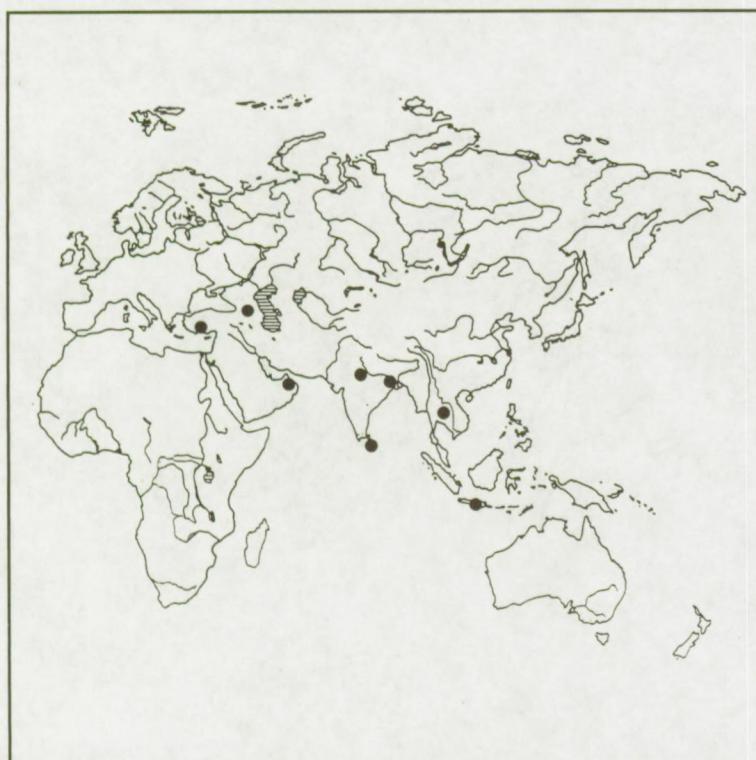
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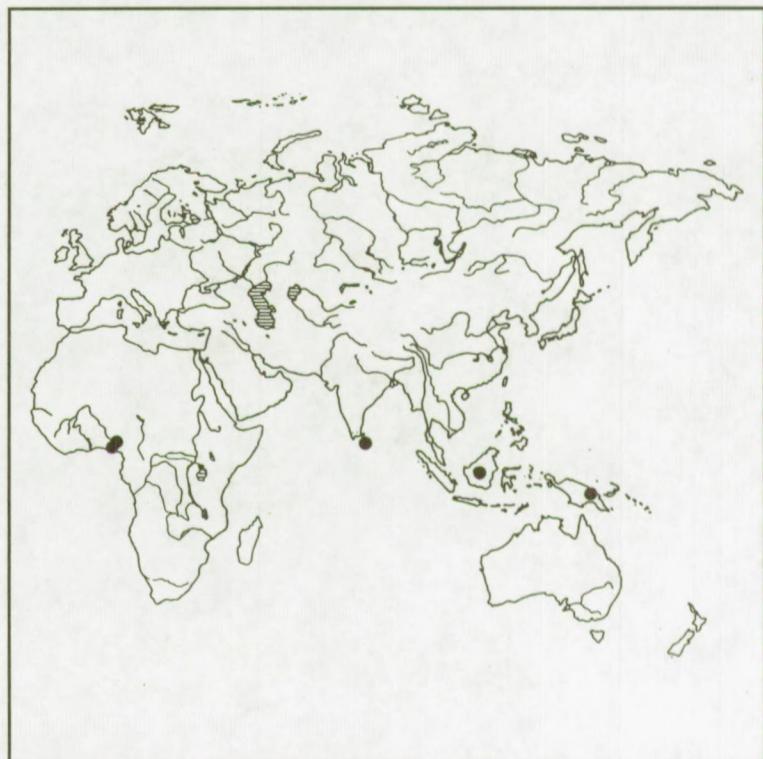
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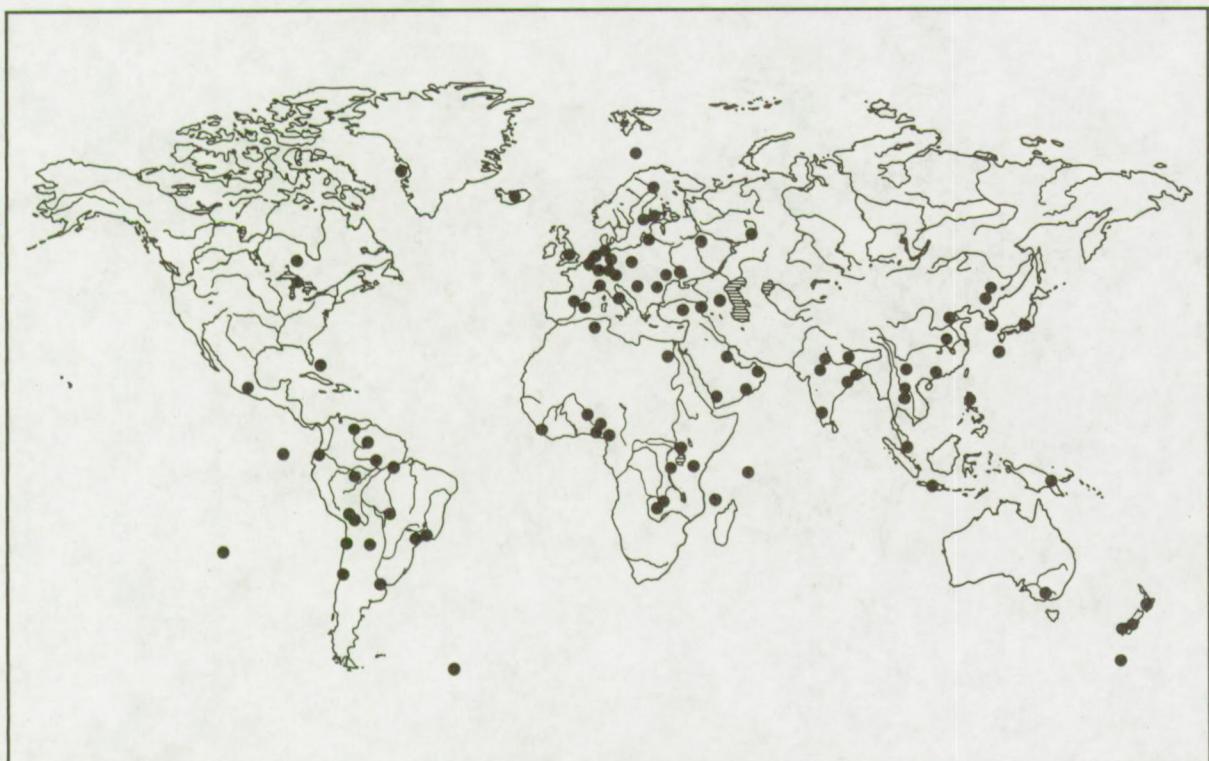
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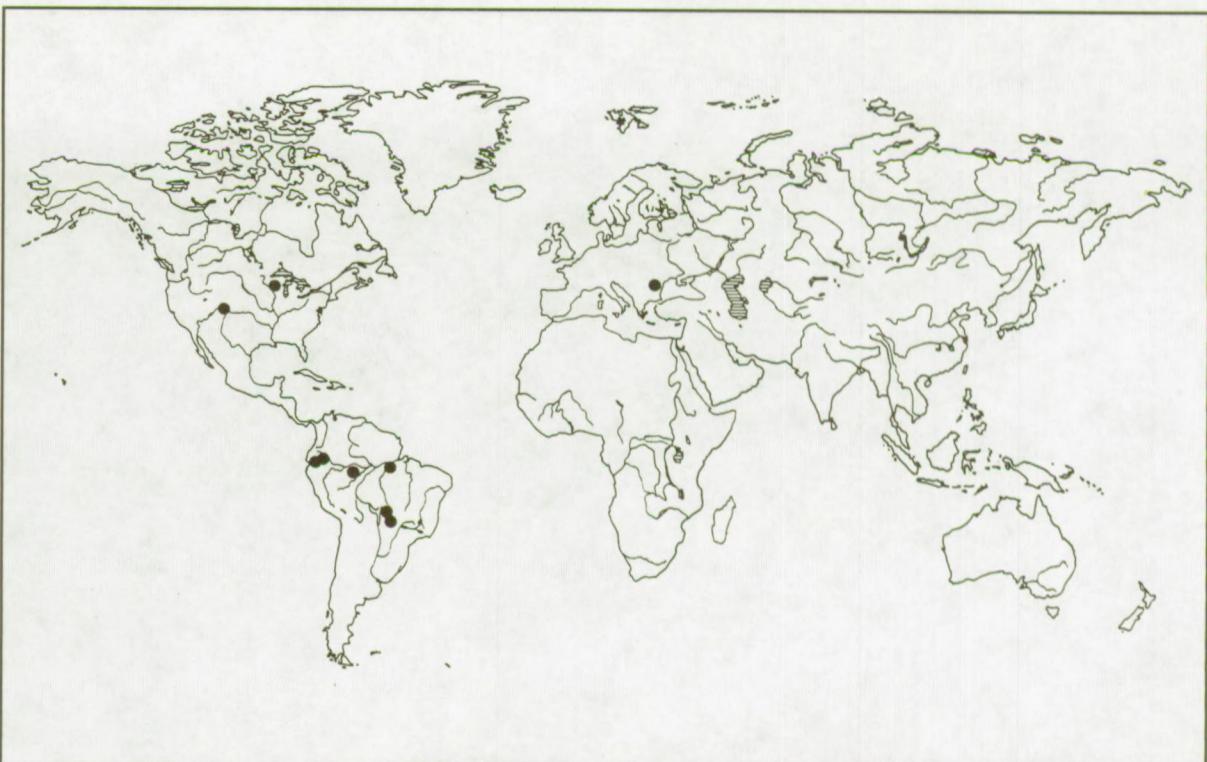
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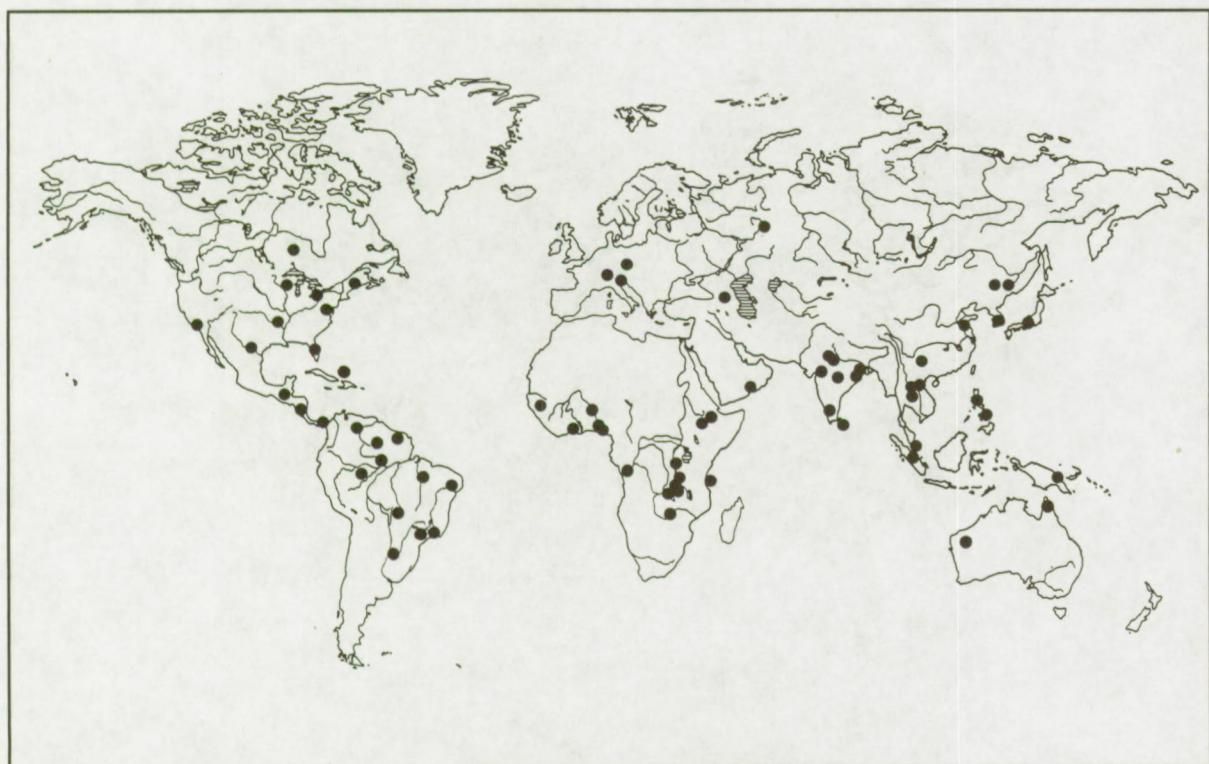
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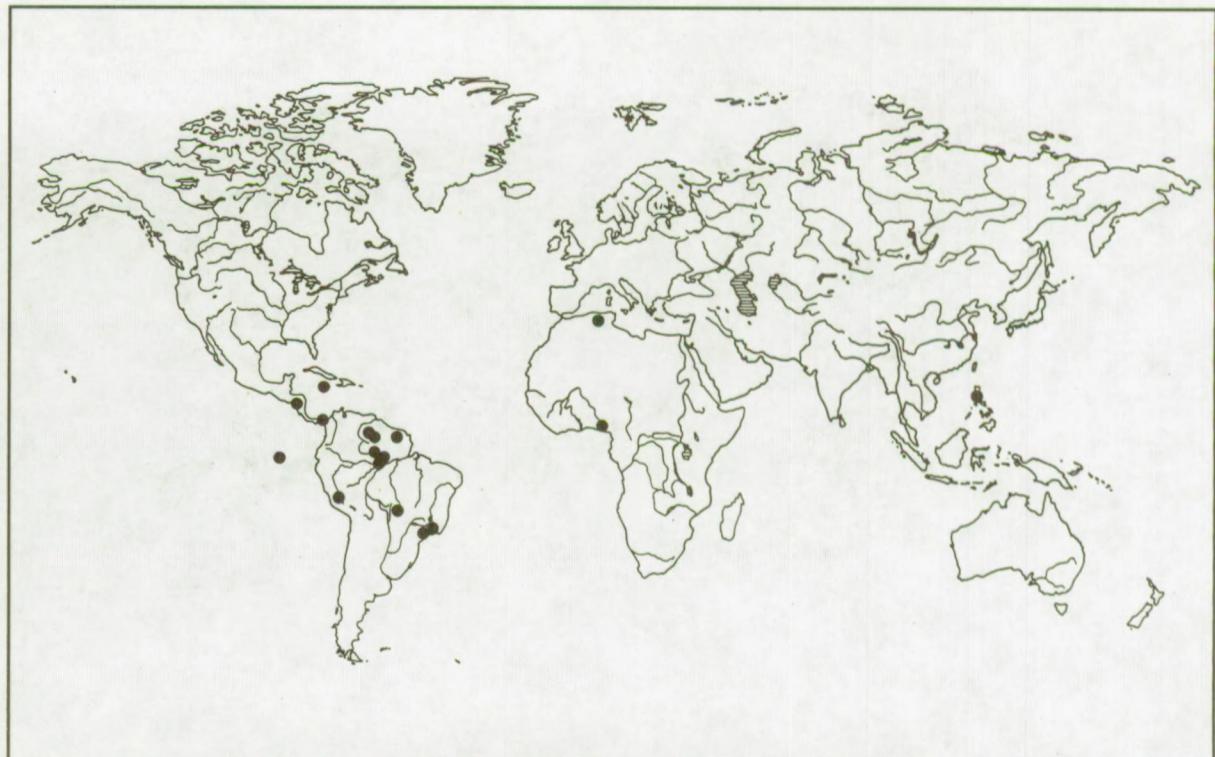
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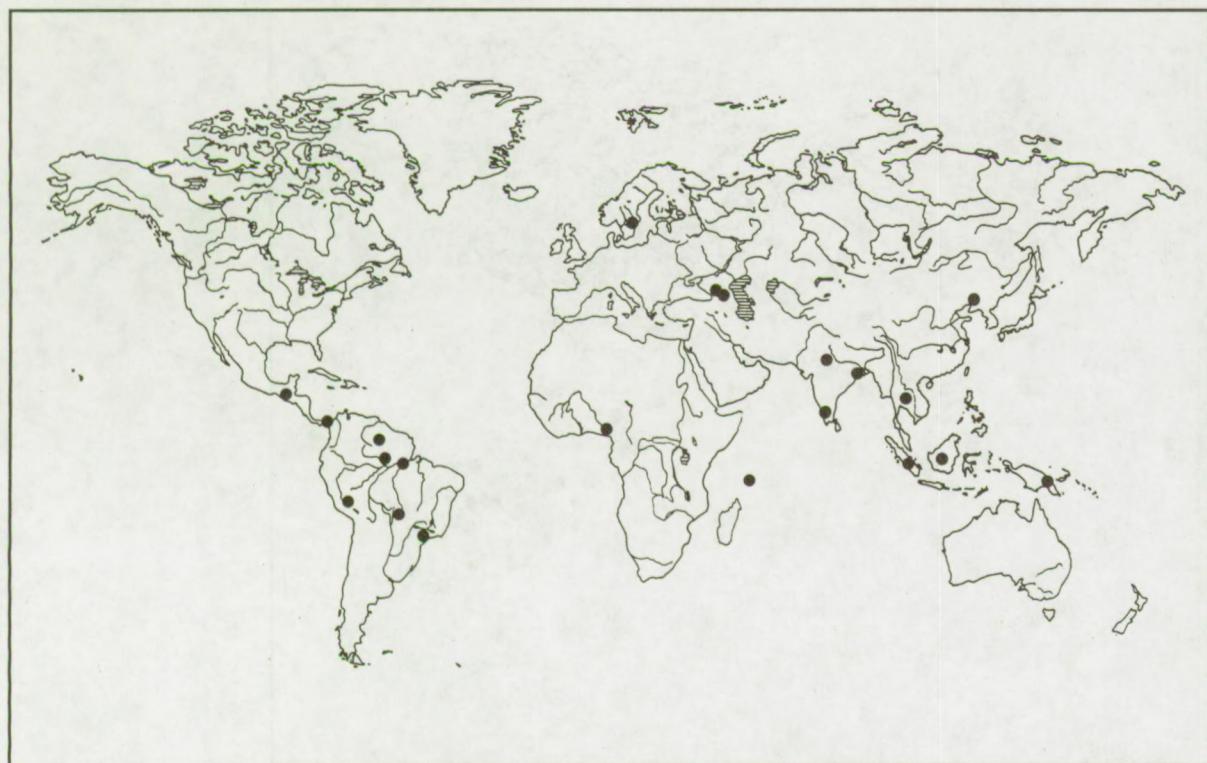
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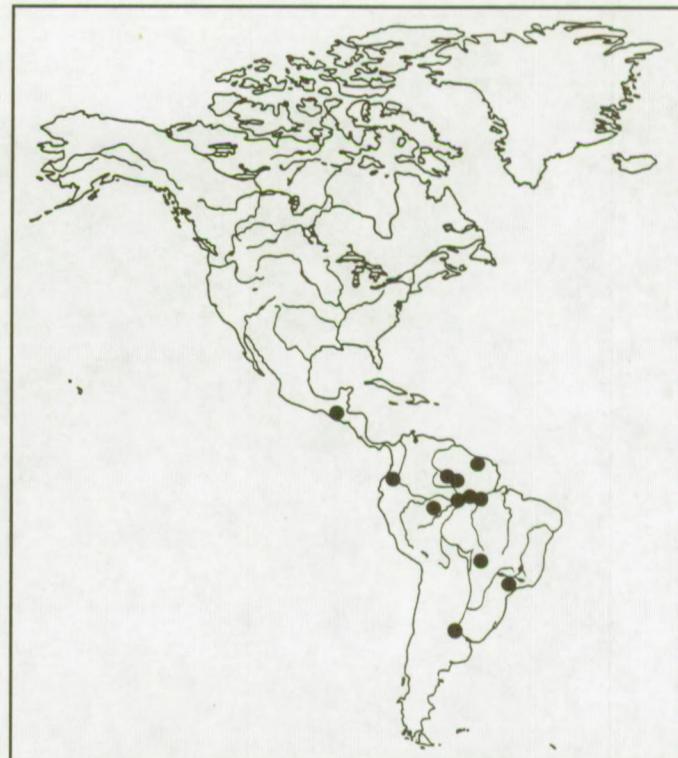
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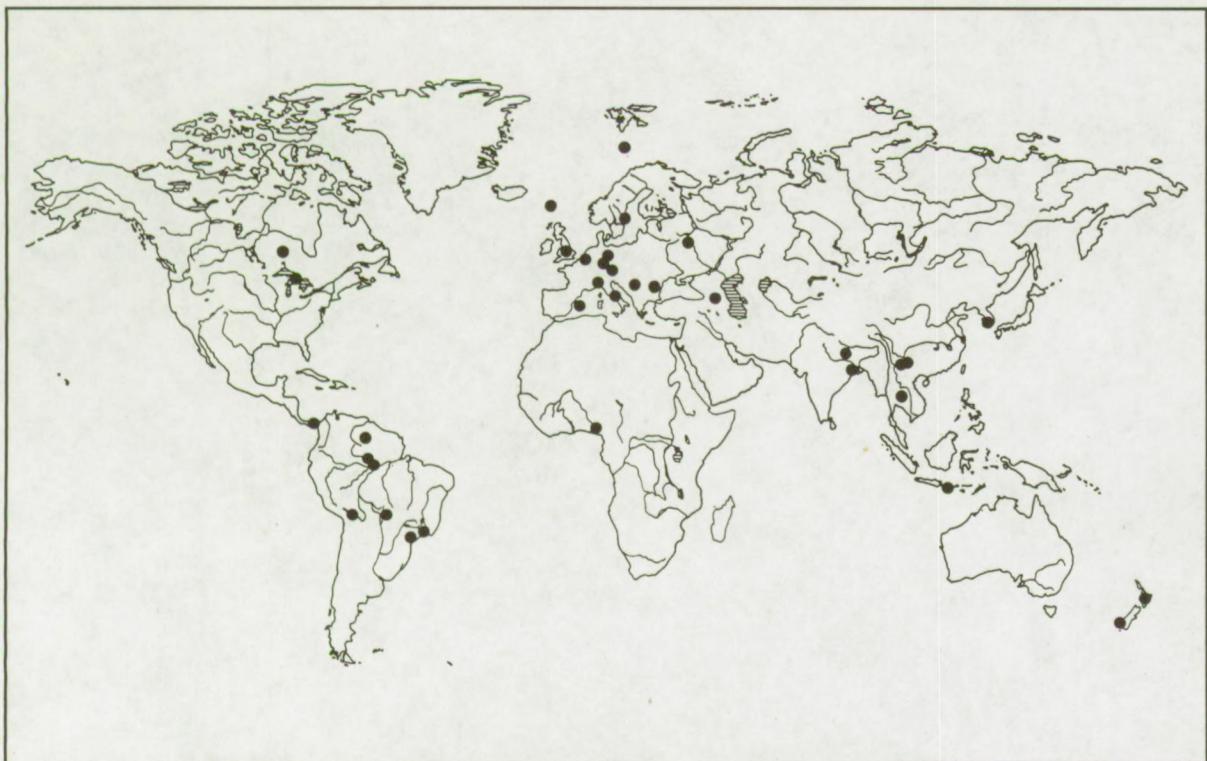
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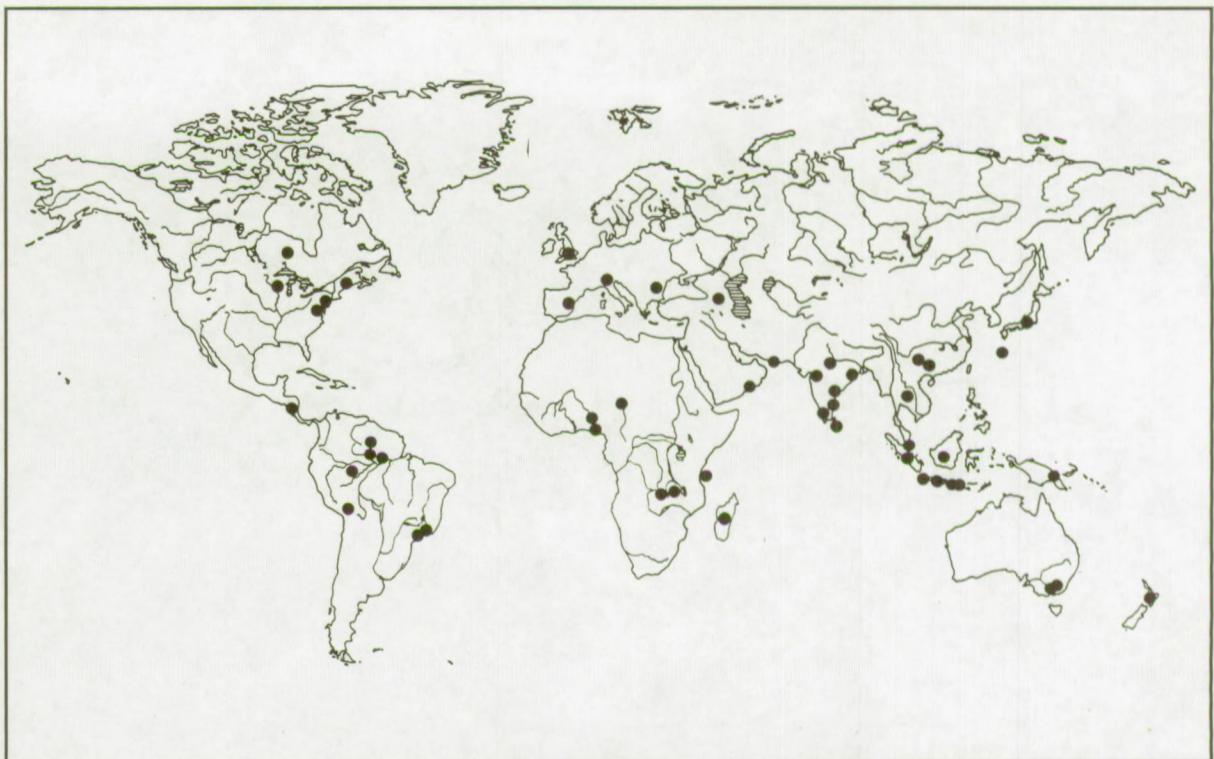
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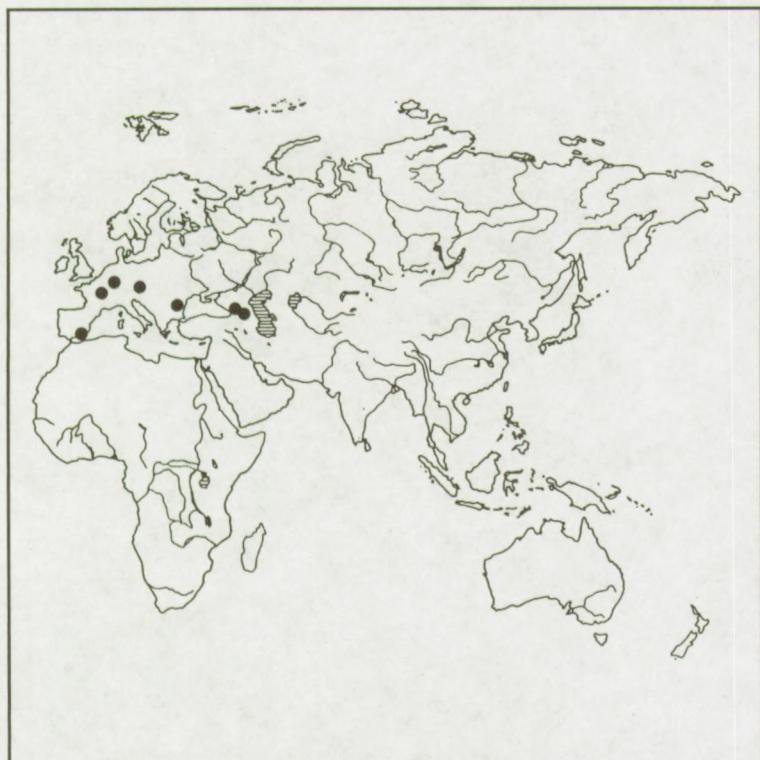
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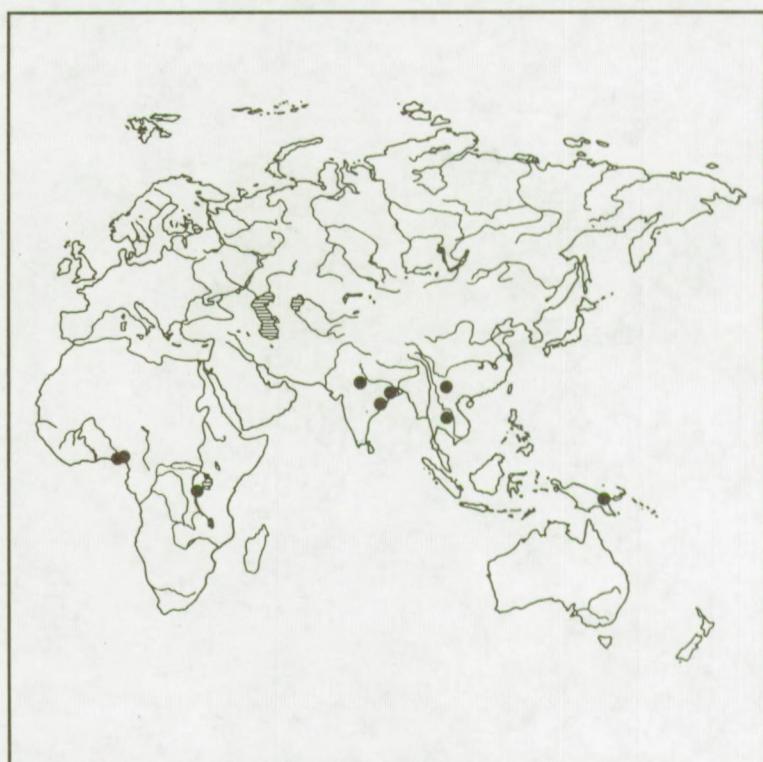
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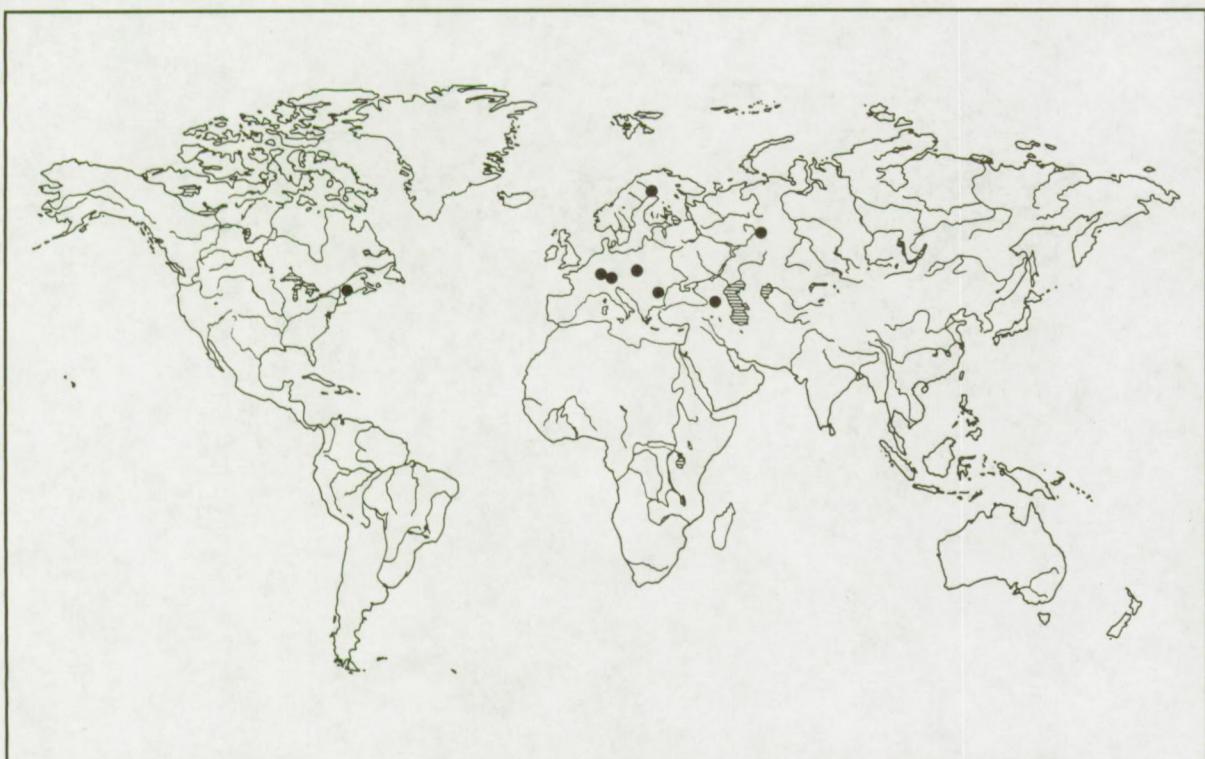
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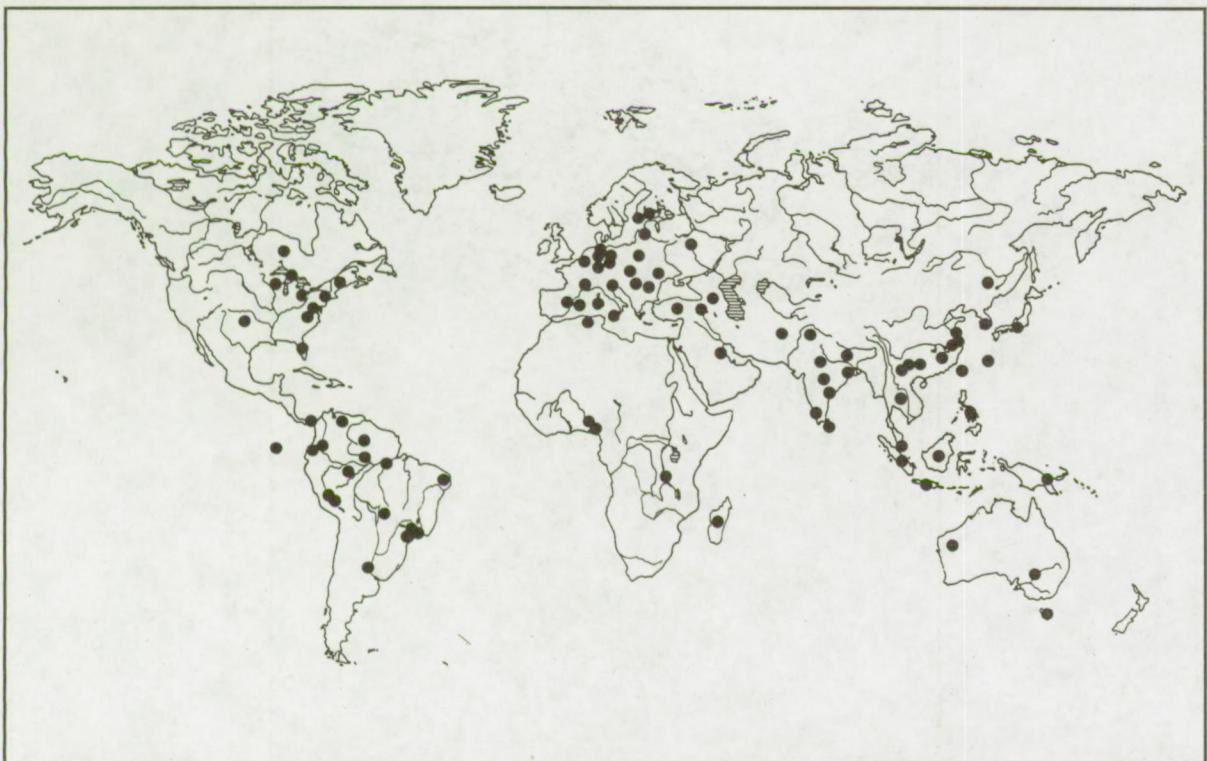
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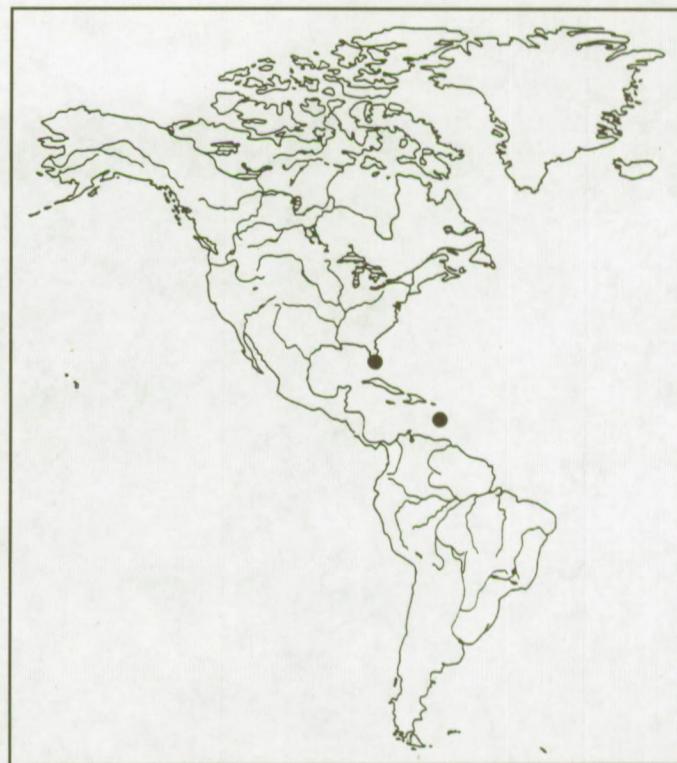
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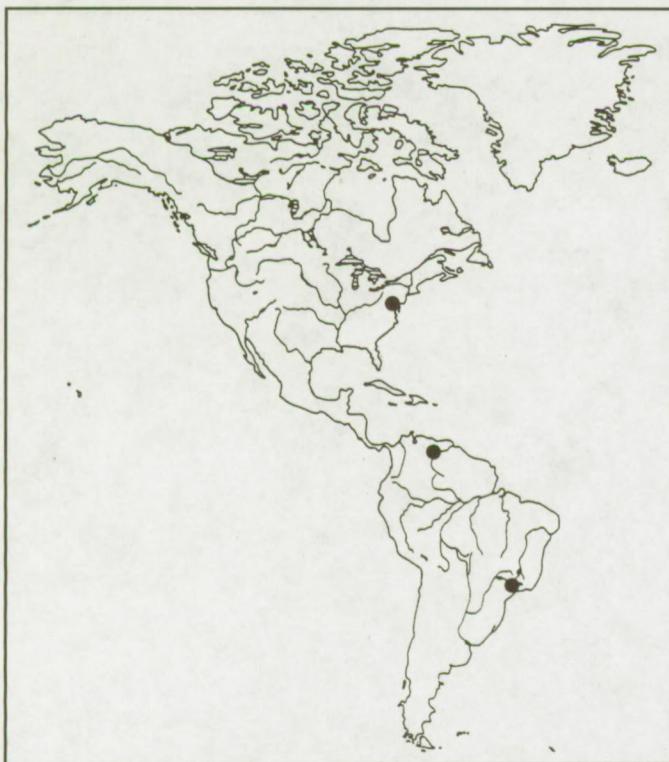
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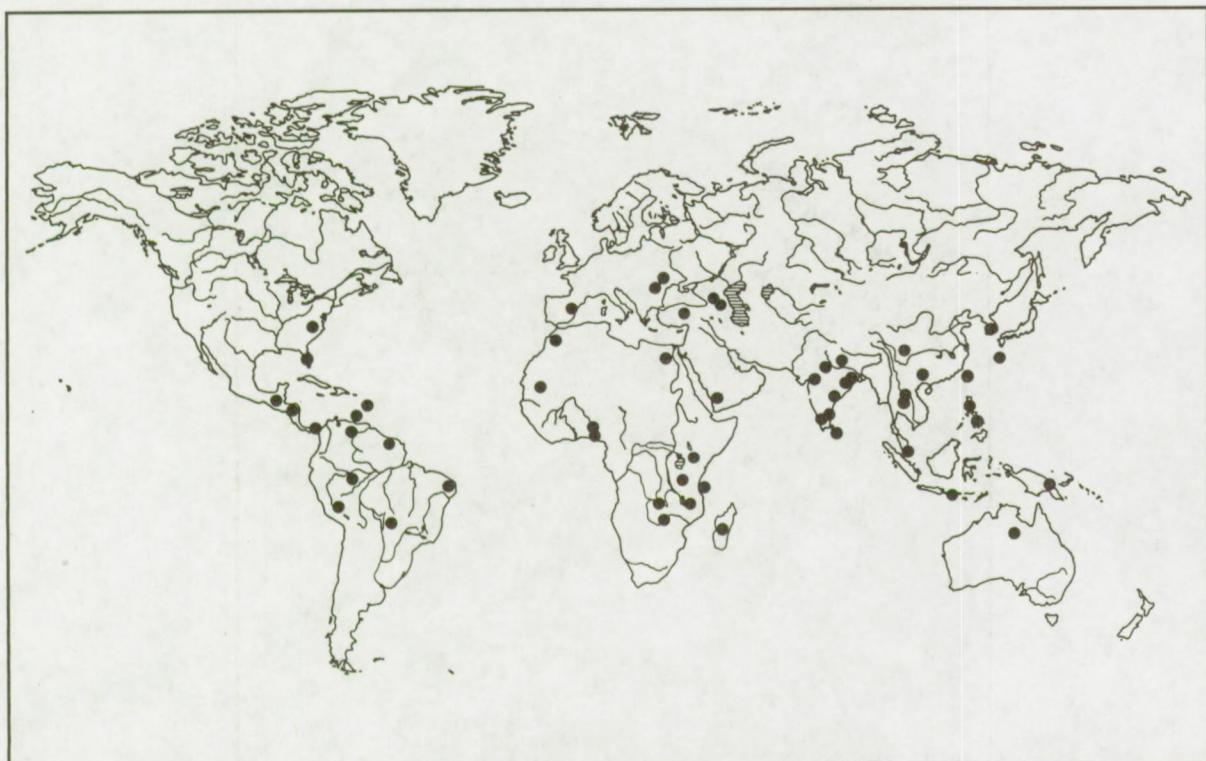
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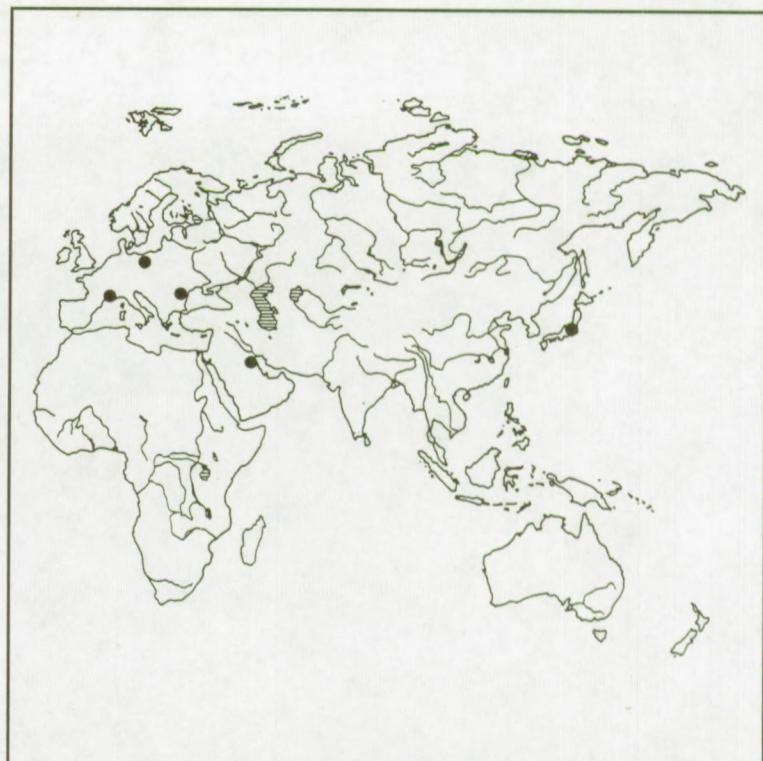
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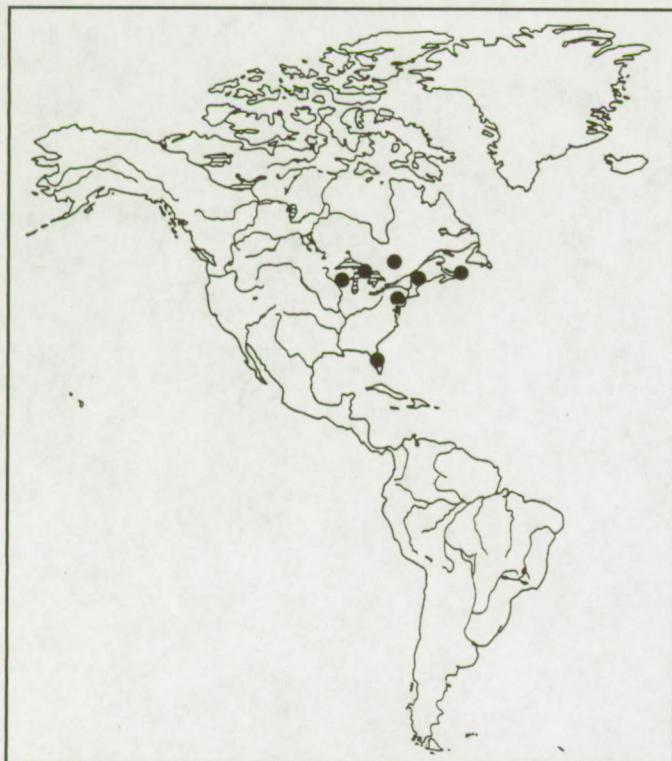
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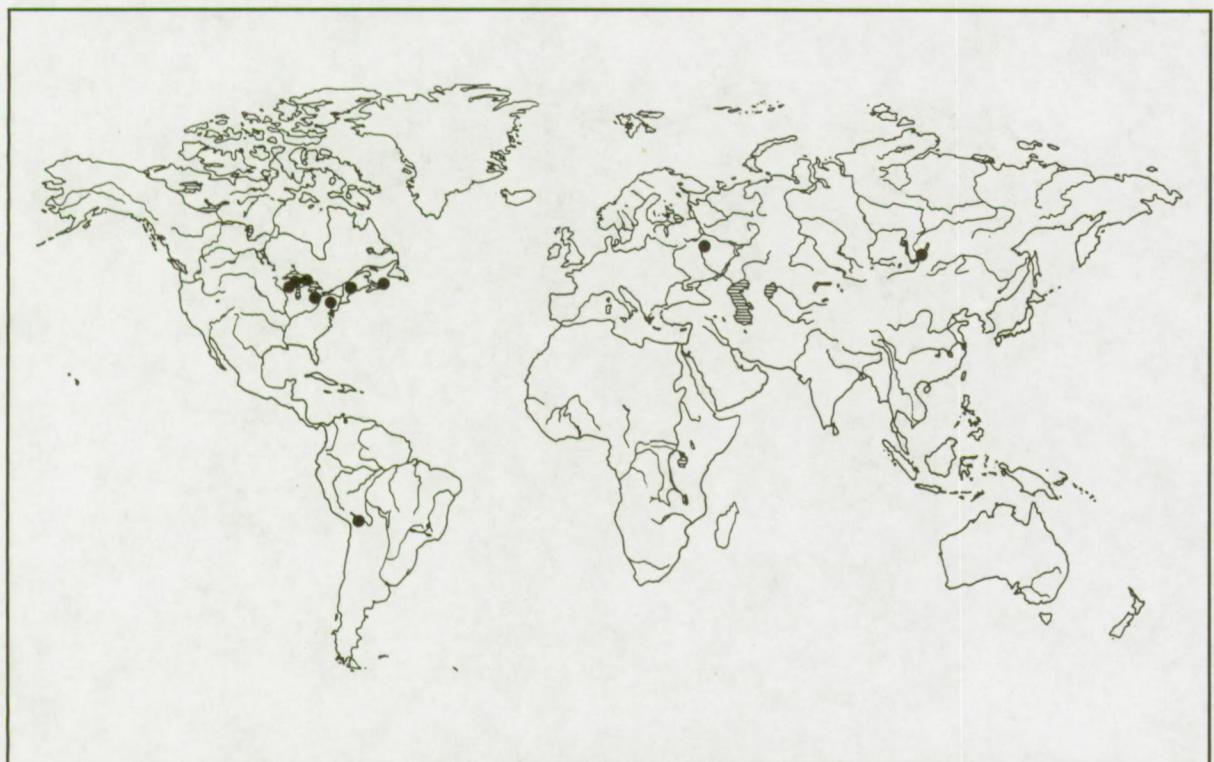
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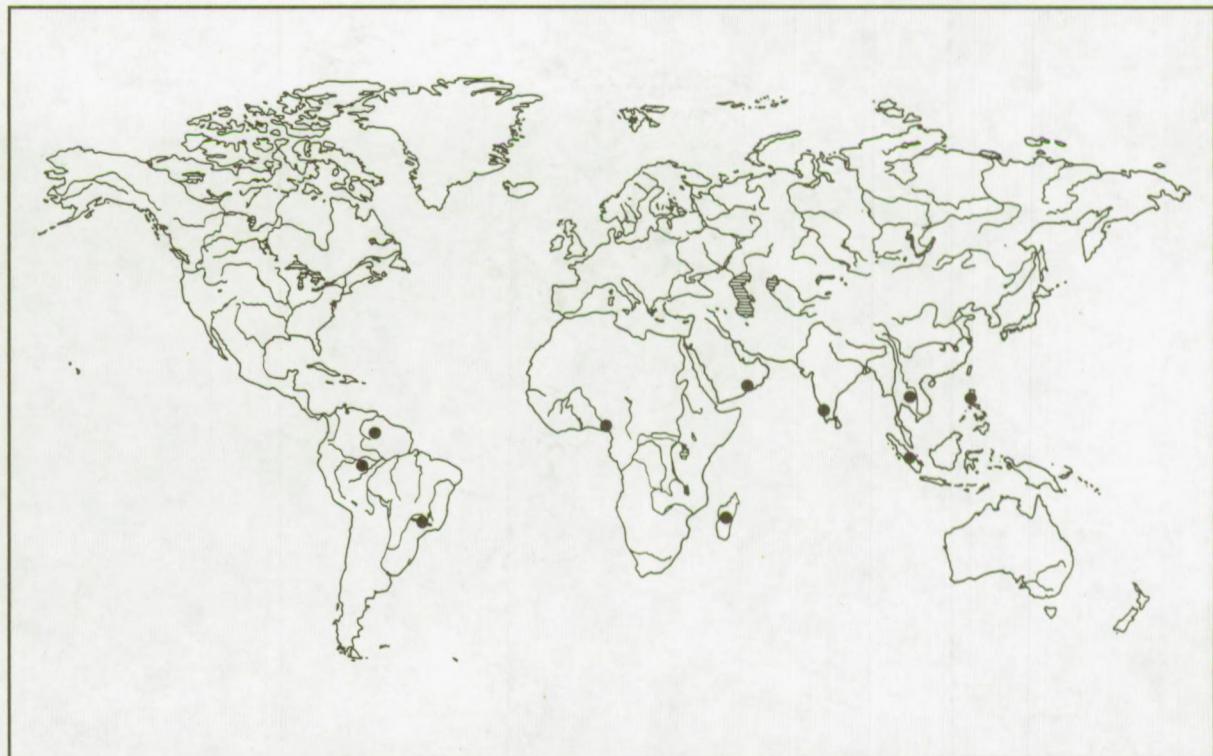
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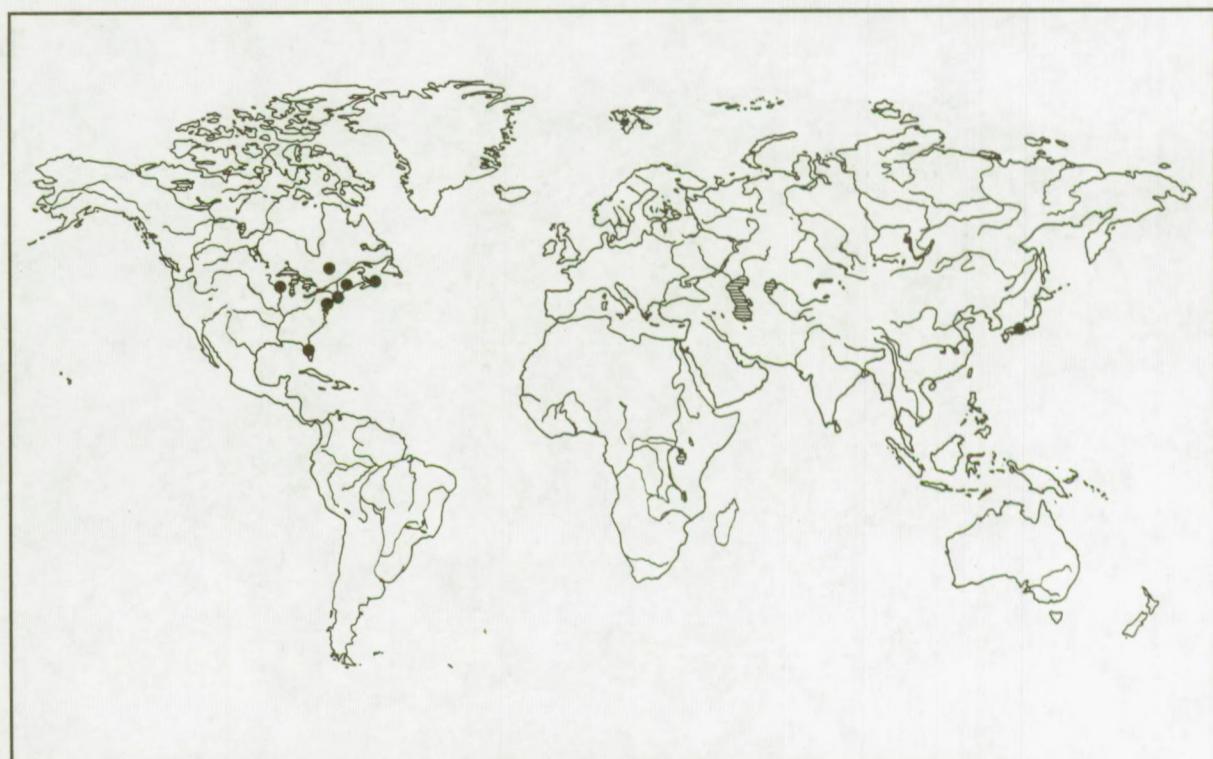
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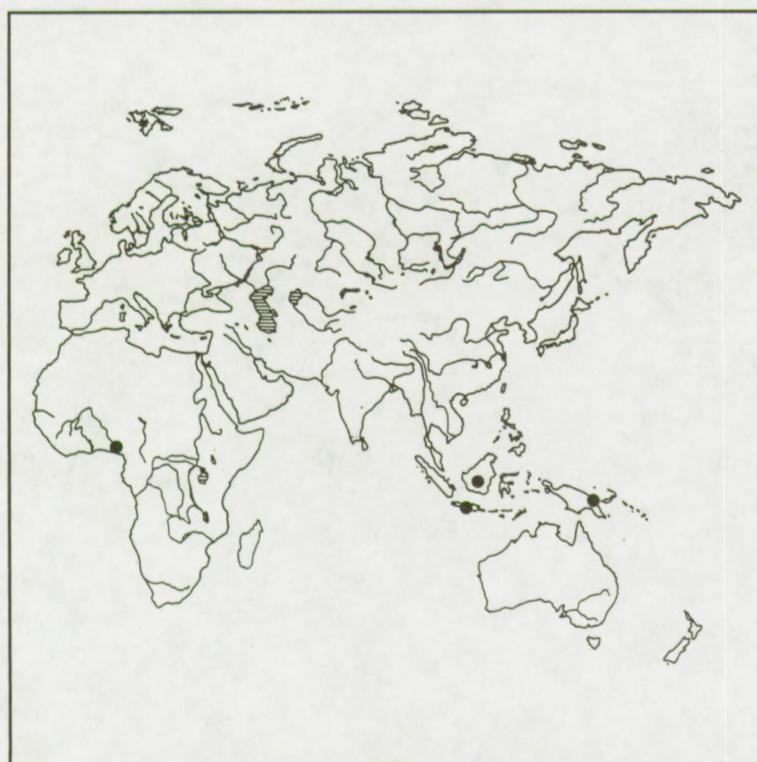
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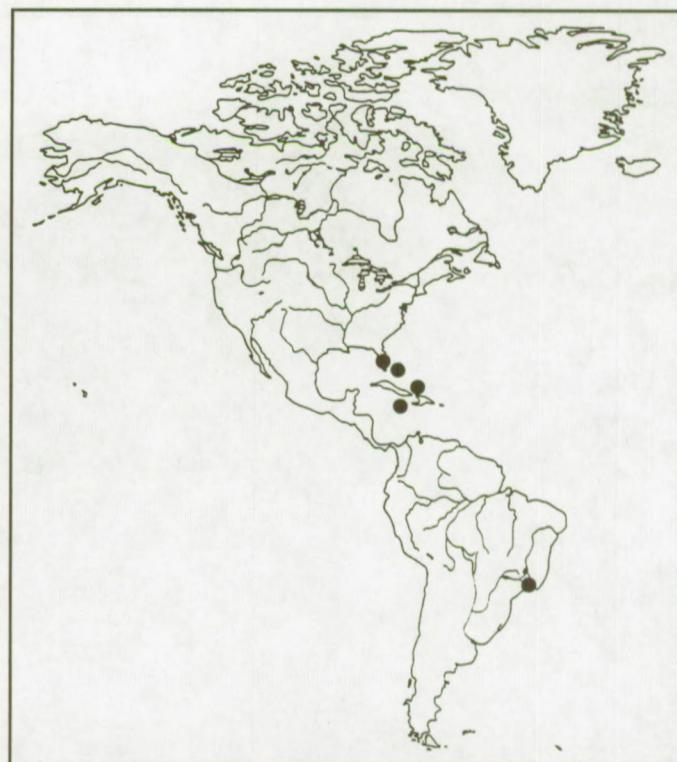
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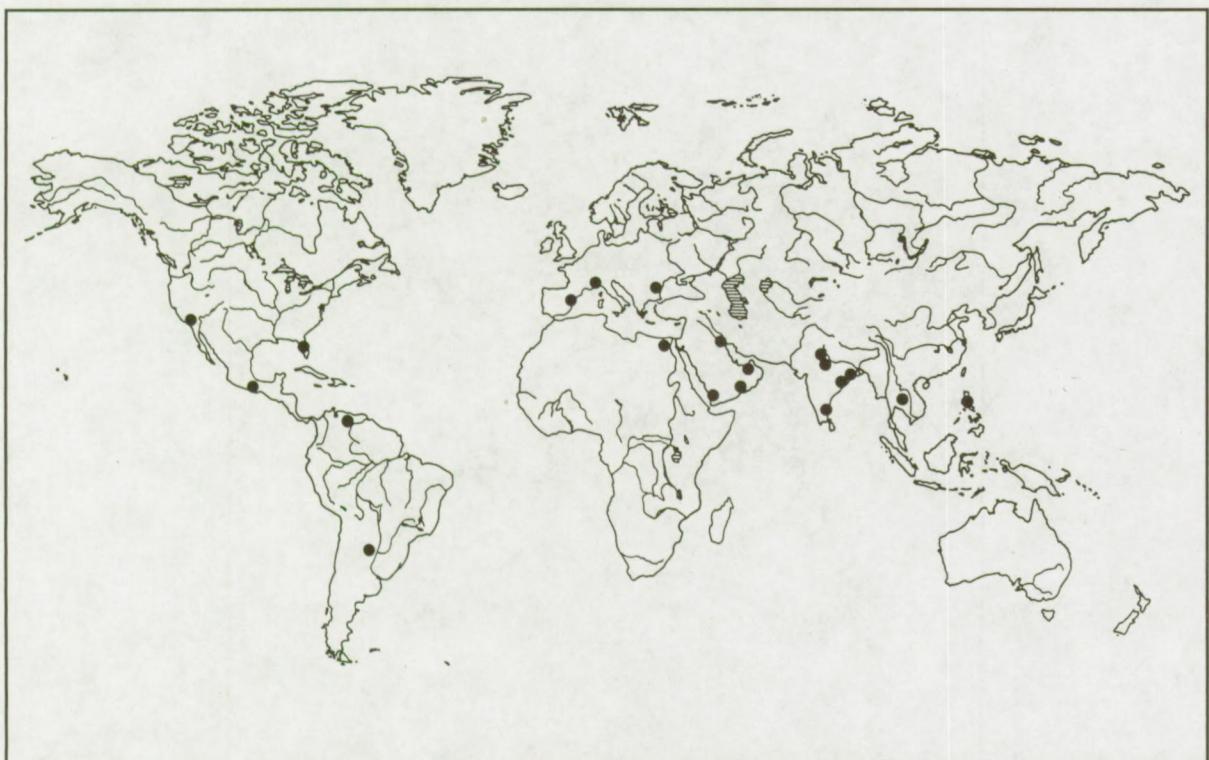
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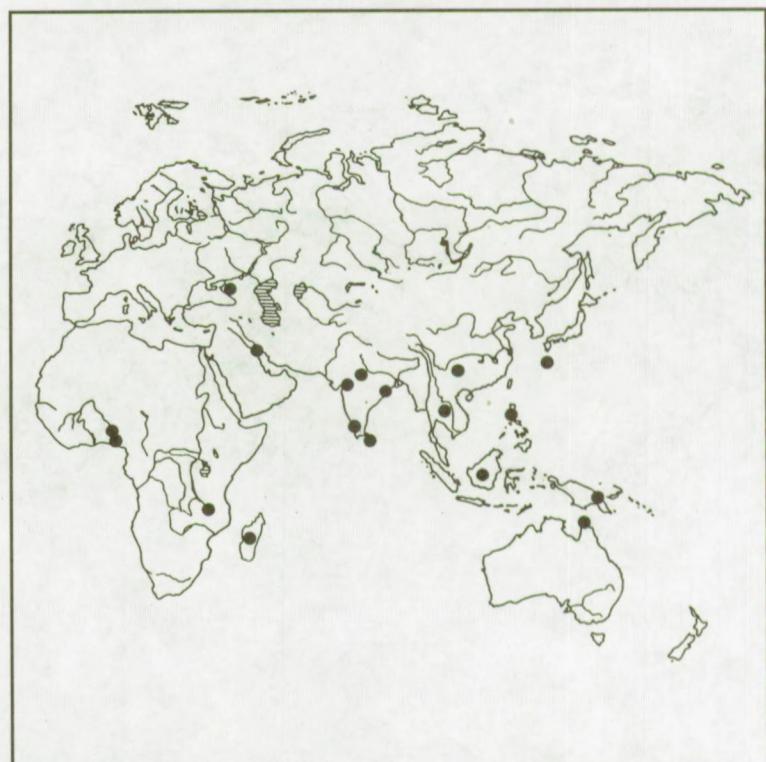
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