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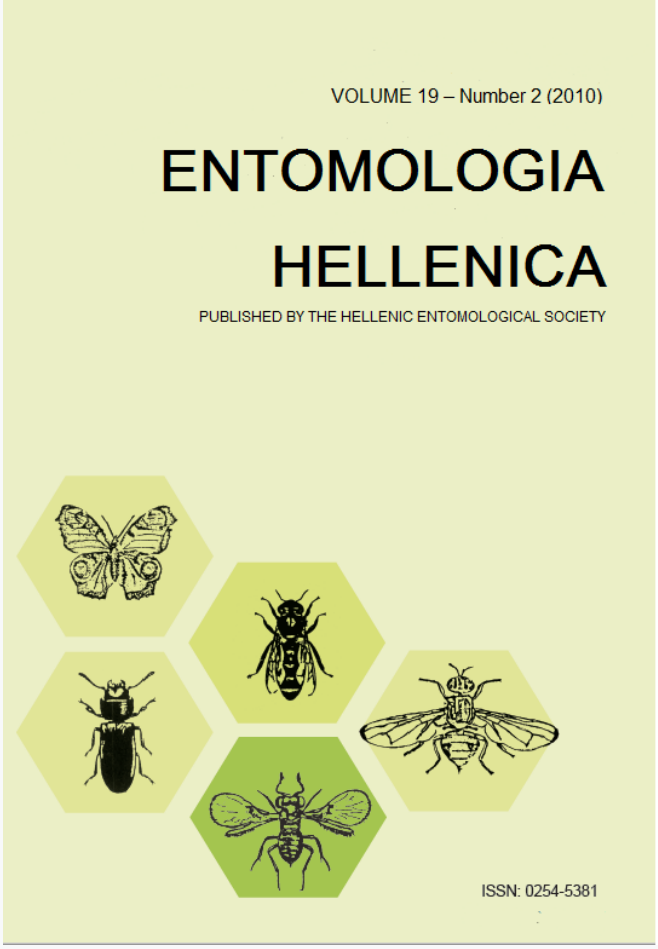

A checklist of scale insects of Slovenia

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A checklist of scale insects of Slovenia

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ABSTRACT

The last list of scale insects of Slovenia was compiled by Franc Janežič (1954) and included 44 species. On the basis of data gathered from the literature and from our own faunistic researches, a new list of scale insects recorded from or found in the territory of Slovenia is presented. Altogether 101 species from 9 families are listed here: Ortheziidae (1 species), Margarodidae (1 species), Pseudococcidae (18 species), Eriococcidae (8 species), Asterolecaniidae (2 species), Coccidae (26 species), Kermesidae (1 species), Cerococcidae (1 species) and Diaspididae (43 species). Eighteen are new to the fauna of Slovenia.

KEYWORDS: Hemiptera, Coccoidea, checklist, Slovenia.

Introduction

In Slovenia the scale insect fauna has not been systematically studied so far. In addition, older records on scale insects with reference to Austro-Hungarian monarchy and partly also to former Yugoslavia, of which Slovenia was part, have to be applied with care due to the immense geopolitical changes in the last 100 years. Faunistic data are usually greatly generalized in these works and the exact distribution range delimitation may be quite unreliable or even impossible. To avoid unnecessary mistakes, a more conservative approach is followed in this work. Only those records considered to unambiguously refer to the territory of present-day Slovenia are included. Lindinger (1912) e.g. recorded only one such species, that is *Parthenolecanium corni.*

The most comprehensive overview of the scale insect fauna of Slovenia was produced by Franc Janežič (1954) who listed 44 species. Unfortunately, the collection from which this list was made does not exist. Either it was not prepared by the author or has since been lost. A particularly important contribution to the knowledge of scale insect fauna of Slovenia was later made by Ferenc Kozár (1983). In his work on scale insects of the former Yugoslavia, he recorded 40 species that were collected in the territory of Slovenia. Twenty-two of these were new to the fauna of Slovenia at that time and two were even new to the science. This later list is also well documented in the collection of the Plant Protection Institute in Budapest - Hungary (PPIB) (Kozár 1983). In addition, Bachmann (1955) described a new Diaspididae species, *Diaspidiotus slovenicus*, from the present territory of Slovenia, but this proved to be a junior synonym of *D. distinctus* (Leonardi, 1900) (Danzig and Pellizzari 1998). The type locality of this species, "Opatje selo", is situated near the Slovene-Italian border and was erroneously interpreted by Danzig and Pellizzari (1998) as

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Opatija, which is, however, a village at the Adriatic coast in Croatia.

In papers of some earlier scale insect researchers from the former Yugoslavia, such as Bachmann (1953), Schmidt (1956 and 1976) and Žak-Ogaza (1967), there are no records from the territory of Slovenia. Records in Kosztarab and Kozár (1988) with reference to former Yugoslavia cannot be applied to the coccid fauna of Slovenia, because only generalized faunistic data are given. Nevertheless, these records give a good indication of what scale insect diversity might be expected in this territory.

Recently, much attention has been paid to the alien scale insects that have been introduced or have spread into Slovenia in recent times (Seljak 1995, Jančar et al. 1999, Seljak 2001, Seljak 2007). However, a complete check list of scale insects known to occur in Slovenia has not been published so far.

Materials and Methods

The list of scale insects of Slovenia given below is based on records from the available literature (Lindinger 1912, Janežič 1954, Kozár 1983, Janežič 1989, Seljak 2007) and our own faunistic studies in the previous decade. For species collected or studied by the author, permanent slides mounted in Canada balsam were prepared. Permanent slides are deposited in the collection of Agricultural and Forestry Service Nova Gorica, Slovenia (SIC-GO). Nomenclature and taxonomy of scale insects in this work follows the ScaleNet database updated on December 1, 2009 (Ben-Dov et al. 2009), except the genus *Pulvinaria* s.l., where the genus concept in Hodgson (1994) has been followed. In the list of species, only those host plants are listed on which the associated scale insect species were found or recorded in Slovenia.

Results and Discussion

Currently a total of 101 scale insect species are known to occur in the territory of Slovenia (Table 1). They belong to 61 genera and 9 families: Ortheziidae (1 species), Margarodidae (1 species), Pseudococcidae (18 species), Eriococcidae (8 species), Asterolecaniidae (2 species), Coccidae (26 species), Kermesidae (1 species), Cerococcidae (1 species) and Diaspididae (43 species). Eighteen are new to the fauna of Slovenia and their occurrence in Slovenia has not been previously published. One third of the listed species can be considered as alien species, hence introduced or spread by man's activities into Slovenia in the past. Some of them (e.g. *Diaspidiotus perniciosus, Pseudaulacaspis pentagona, Ceroplastes japonicus, Neopulvinaria innumerabilis, Eupulvinaria hydrangea* and *Saissetia oleae*) have become serious pests of cultivated plants and have had an important impact on the national agriculture economy (Seljak 2007, Seljak and Žežlina 2007). Half of the species listed below belong to the indigenous coccid fauna. More or less they are widely distributed throughout Central Europe as well. Nevertheless, at least sixteen of the listed species have temperate distribution and are true members of Mediterranean coccid fauna (Pseudococcidae: *Antonina purpurea*, *Chaetococcus phragmitis, Planococcus ficus, Trionymus cynodontis*; Eriococcidae: *Eriococcus cynodontis, E. evelinae, E. istriensis*; Coccidae: *Filippia follicularis, Saissetia oleae;* Diaspididae: *Aonidia lauri, Aspidiotus nerii, Diaspidiotus distinctus, D. labiatarum, Epidiaspis gennadii, Lepidosaphes flava, Parlatoria oleae*). The distribution range of almost all of these species is limited to the southwestern submediterranean region of Slovenia. This area belongs in the northern most

TABLE 1. List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
ORTHEZIIDAE	*Orthezia urticae* (Linnaeus 1758)	*Artemisia alba, Euphorbia* sp.	Kozár 1983 /PPIB, SIC-GO
MARGARODIDAE	*Icerya purchasi* Maskell 1878	*Acacia dealbata, Citrus* spp., *Laurus nobilis, Pittosporum tobira, Rosmarinus officinalis*	Janežič 1954, Kozár 1983 /PPIB, SIC-GO
PSEUDOCOCCIDAE	*Antonina purpurea* Signoret 1875	*Elymus repens*	Kozár 1983
	Atrococcus achilleae (Kiritshenko 1936)	*Inula* sp.	Kozár 1983 /PPIB
	**Chaetococcus phragmitis* (Marchal 1909)	*Phragmites australis*	Seljak (2003, unpublished) /SIC-GO
	Dysmicoccus brevipes (Cockerell 1893)	*Ananas comosus* (on imported fruits)	Seljak 2007 /SIC-GO
	Dysmicoccus walkeri (Newstead 1891)	*Elymus repens*	Kozár 1983 /PPIB
	Phenacoccus aceris (Signoret 1875)	*Carpinus betulus, Fraxinus excelsior, Ostrya carpinifolia*	Janežič 1954
	Phenacoccus piceae (Low 1883)	*Picea abies*	Kozár 1983 /PPIB, SIC-GO
	Planococcus citri (Risso 1813)	*Aphelandra squarrosa, Areca* sp., *Begonia* sp., *Citrus limon, Codiaeum* sp., *Ficus benjamina,* *Ficus* sp., *Phalaenopsis* sp., *Rhododendron* sp., *Saintpaulia ionantha, Schefflera arboricola*	Janežič 1954 /SIC-GO

[1]Species new to the fauna of Slovenia are marked with asterisks (*); [2]PPIB - Collection of Plant Protection Institute in Budapest - Hungary (Kozár 1983); SIC-GO - Scale insect collection of Agricultural and Forestry Service Nova Gorica, Slovenia.

TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	Planococcus ficus (Signoret 1875)	*Ficus elastica, Vitis vinifera*	Seljak 2007 /SIC-GO
	**Planococcus vovae* (Nasonov 1908)	*Juniperus* sp., *Thuja orientalis*	Seljak 2003 (unpublished) /SIC-GO
	**Pseudococcus calceolariae* (Maskell 1879)	*Laburnum anagyroides, Pittosporum tobira*	Seljak (2006, unpublished) /SIC-GO
	Pseudococcus longispinus (Targioni Tozzetti 1867)	polyphagous: Cacteaceae, *Codiaeum* sp., *Cycas revoluta, Dicksonia antarctica, Dracaena marginata, Ficus elastica, Monstera deliciosa, Phalaenopsis* sp., *Trachycarpus fortunei, Washingtonia* sp.	Janežič 1954, Seljak 2007 /SIC-GO
PSEUDOCOCCIDAE	*Pseudococcus viburni* (Signoret 1875)	Polyphagous: *Acer campestre, Aptenia cordifolia,* Cactaceae, *Crassula* sp., *Fatsia japonica, Dizygotheca elegantissima, Echinocactus* sp., *Ficus elastica, Gerbera jamesonii, Heuchera sanguinea, Kalanchoe blossfeldiana, Laburnum anagyroides, Nerium oleander, Pelargonium zonale, Philodendron* sp., *Taxus baccata, Viburnum tinus*	Kozár 1983 /PPIB; Seljak 2007 /SIC-GO
	Puto pilosellae (Šulc 1898)	*Thymus* sp.	Kozár 1983 /PPIB
	Ripersiella ficaria (Williams 2004)	*Ligustrum sinense* (on imported bonsai plants)	Seljak 2007 /SIC-GO

[1]Species new to the fauna of Slovenia are marked with asterisks (*); [2]PPIB - Collection of Plant Protection Institute in Budapest - Hungary (Kozár 1983); SIC-GO - Scale insect collection of Agricultural and Forestry Service Nova Gorica, Slovenia.

TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
PSEUDOCOCCIDAE	*Spilococcus mamillariae* (Bouché 1844)	Cactaceae	Seljak 2007 /SIC-GO
	Trionymus cynodontis (Kiritshenko 1932)	*Poa pratensis*	Kozár 1983 (as *Balanococcus mediterraneus*) /PPIB
	Trionymus perrisii (Signoret 1875)	Poaceae	Kozár 1983 /PPIB
ERIOCOCCIDAE	*Acanthococcus aceris Signoret 1875*	*Acer pseudoplatanus*	Janežič 1954
	Cryptococcus fagisuga Lindinger 1936	*Fagus sylvatica*	Janežič 1954
	Eriococcus cynodontis Kiritshenko 1940	*Elymus* sp.	Kozár 1983 /PPIB
	Eriococcus evelinae (Kozár 1983)	*Bromus* sp.	Kozár 1983 (as *Rhizococcus evelinae*) /PPIB; type data
	Eriococcus istriensis (Kozár 1983)	Poaceae	Kozár 1983 (as *Gregoporia istriensis*) /PPIB; type data
	Eriococcus pseudinsignis (Green 1921)	*Elymus* sp.	Kozár 1983 /PPIB
	Eriococcus spurius (Modeer 1778)	*Ulmus glabra, U. minor*	Janežič 1954 /SIC-GO
	Pseudochermes fraxini (Kaltenbach 1860)	*Fraxinus ornus*	Kozár 1983 /PPIB
ASTEROLECANIIDAE	*Asterodiaspis variolosum* (Ratzeburg1870)	*Quercus* sp., *Q. pubescens*	Janežič 1954, Janežič 1989 /SIC-GO
	Planchonia fimbriata (Boyer de Fonscolombe,1834)	*Coronilla emerus, Hedera helix*	Janežič 1989

[1]Species new to the fauna of Slovenia are marked with asterisks (*); [2]PPIB - Collection of Plant Protection Institute in Budapest - Hungary (Kozár 1983); SIC-GO - Scale insect collection of Agricultural and Forestry Service Nova Gorica, Slovenia.

TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	Ceroplastes japonicus Green 1921	*Actinidia chinesis, Aralia* sp., *Chaenomeles japonica, Diospyros kaki, Hedera helix, Ilex aquifolium, Laurus nobilis, Malus domestica, Magnolia* sp., *Morus nigra, Prunus armeniaca, P. avium, Pyracantha coccinea, Salix caprea*, *Taxus baccata*	Jančar et al. 1999, Seljak 2007 /SIC-GO
	Chloropulvinaria floccifera (Westwood 1870)	*Camellia japonica, Euonymus japonica, Ilex aquifolium, Jasminum officinale, Laurus nobilis, Pittosporum tobira, Taxus baccata, Trachelospermum jasminoides*	Kozár 1983, PPIB, Seljak 2007 /SIC-GO
COCCIDAE	*Coccus hesperidum* Linnaeus 1758	polyphagous: 21 plant species	Janežič 1954 Kozár 1983 /PPIB, SIC-GO
	Coccus pseudomagnoliarum (Kuwana 1914)	*Poncirus trifoliata, Zanthoxylum simulans*	Seljak 2007 /SIC-GO
	Eriopeltis festucae Fonscolombe 1834	*Brachypodium rupestre, Dactylis glomerata, Festuca pratensis, Stipa* sp.	Kozár 1983 /PPIB, SIC-GO
	Eulecanium tiliae (Linnaeus 1758)	*Aesculus hippocastanum, Juglans nigra, Tilia cordata*	Janežič 1954
	Eupulvinaria hydrangeae Steinweden 1946	*Acer palmatum, A. platanoides, A. pseudoplatanus, Actinidia chinesis, Cornus*	Seljak 2001, Seljak 2007 /SIC-GO
	Exaeretopus formiceticola Newstead 1894	*Thymus* sp.	Kozár 1983 /PPIB

[1]Species new to the fauna of Slovenia are marked with asterisks (*); [2]PPIB - Collection of Plant Protection Institute in Budapest - Hungary (Kozár 1983); SIC-GO - Scale insect collection of Agricultural and Forestry Service Nova Gorica, Slovenia.

TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	**Filippia follicularis* (Targioni Tozzetti 1867)	*Olea europaea*	Seljak (2001, unpublished) /SIC-GO
	Lecanopsis turcica Bodenheimer 1951	*Elymus* sp.	Kozár 1983 /PPIB (as *L. porifera*)
	**Lichtensia viburni* Signoret 1873	*Olea europaea*	Seljak (2001, unpublished)
	Neopulvinaria innumerabilis (Rathvon 1854)	*Diospyros kaki, Juglans regia, Vitis vinifera*	Seljak 1995, Seljak 2007 /SIC-GO
	Palaeolecanium bituberculatum (Signoret 1873)	*Crataegus monogyna, Malus domestica*	Janežič 1954, Kozár 1983 /PPIB
	Parafairmairia gracilis Green 1916	*Carex* sp.	Kozár 1983 /PPIB
COCCIDAE	*Parthenolecanium corni* (Bouché 1844)	polyphagous: *Betula pendula, Castanea sativa, Diospyros kaki, Malus domestica, Prunus domestica, P. instititia, Pyrus communis, Robinia pseudoacacia, Rubus caesius, Vaccinum corymbosum, Viburnum tinus, Vitis vinifera*	Lindinger 1912, Janežič 1954 /SIC-GO
	Parthenolecanium fletcheri (Cockerell 1893)	*Thuja occidentalis*	Janežič 1954
	Parthenolecanium persicae (Fabricius 1776)	*Prunus persica, Clematis vitalba, Vaccinium corymbosum*	Janežič 1954, Kozár 1983 /PPIB
	**Parthenolecanium pomeranicum* (Kawecki 1954)	*Taxus baccata*	Seljak (2001, unpublished)

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TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
COCCIDAE	*Parthenolecanium rufulum* (Cockerell 1903)	*Castanea sativa, Corylus avellana, Quercus petraea, Q. pubescens, Q. robur*	Janežič 1954, Kozár 1983 /PPIB, SIC-GO
	Physokermes hemicryphus (Dalman 1826)	*Picea abies*	Kozár 1983 /PPIB
	Physokermes piceae (Schrank 1801)	*Picea abies*	Janežič 1954
	Pulvinariella mesembryanthemi (Vallot 1829)	*Carpobrotus acinaciforme*	Seljak 2007 /SIC-GO
	Pulvinaria vitis (Linnaeus 1758)	*Ostrya carpinifolia, Populus alba, Sorbus aucuparia, Salix glabra, Vitis vinifera*	Janežič 1954 /SIC-GO
	Saissetia coffeae (Walker 1852)	*Cycas revoluta, Nephrolepis* sp., *Phalaenopsis* sp., *Polypodium* sp.,	Seljak 2007 /SIC-GO
	Saissetia oleae (Olivier 1791)	*Argyranthemum frutescens, Laurus nobilis, Nerium oleander, Olea europaea, Phillyrea latifolia*	Janežič 1954, Kozár 1983 /PPIB, SIC-GO
	**Sphaerolecanium prunastri* (Boyer de Fonscolombe 1834)	*Prunus domestica, Prunus persica*	Seljak (2001, unpublished) /SIC-GO
KERMESIDAE	*Kermes quercus* (Linnaeus 1758)	*Quercus robur*	Janežič 1954
CEROCOCCIDAE	*Cerococcus cycliger* Goux,1932	*Thymus pulegioides*	Kozár 198 /PPIB
DIASPIDIDAE	*Abgrallaspis cyanophylli* (Signoret 1869)	*Opuntia* sp.	Janežič 1954
	Aonidia lauri (Bouché 1833)	*Laurus nobilis*	Janežič 1954 /SIC-GO

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TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	Aonidiella aurantii (Maskell 1879)	*Citrus* sp.	Seljak 2007 /SIC-GO
	**Aspidiotus destructor* Signoret 1869	*Dracaena marginata*	Benko et al. 2009 /SIC-GO
	Aspidiotus nerii Bouché 1833	Polyphagous: *Arbutus unedo, Asparagus plumosus, Aucuba japonica, Ceratonia siliqua,Chamaerops humilis, Cycas revoluta, Cymbidium* sp., *Dracaena draco, D. marginata, Guzmania* sp., *Hedera helix, Magnolia grandiflora, Nerium oleander, Olea europaea, Phoenix canariensis, Yucca filamentosa*	Janežič 1954, Kozár 1983 /PPIB, SIC-GO
DIASPIDIDAE	*Aulacaspis rosae* (Bouché 1833)	*Rosa* sp., *R. canina, Rubus caesius, R. fruticosus* s.l.	Janežič 1954, Kozár 1983 /PPIB, SIC-GO
	**Aulacaspis yasumatsui* Takagi 1977	*Cycas revoluta* (on imported plants)	Seljak (2007, unpublished) /SIC-GO
	Carulaspis juniperi (Bouché 1851)	*Cupressus arizonica, Juniperus communis, J. virginiana, Thuja* sp.	Janežič 1954, Kozár 1983 /PPIB; Janežič 1989/SIC-GO
	Carulaspis minima (Signoret 1869)	*Chamaecyparis lawsoniana, Cupressus arizonica, C. sempervirens, Juniperus horizontalis, J. virginiana, Thuja occidentalis*	Kozár 1983 /PPIB, SIC-GO
	Chionaspis salicis (Linnaeus 1758)	*Acer campestre, A. pseudoplatanus, Alnus viridis, Fraxinus excelsior, Rhamnus fallax, Vaccinium myrtillus.*	Janežič 1954, Janežič 1989 /SIC-GO

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TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	**Chrysomphalus aonidum* (Linnaeus 1758)	*Dracaena marginata*	Benko et al. 2009 /SIC-GO
	Chrysomphalus dictyospermi (Morgan 1889)	*Aucuba japonica, Chamaerops humilis, Dracaena draco, Hedera helix* ssp. *ca-*	Janežič 1954 /SIC-GO
	Diaspidiotus distinctus (Leonardi 1900)	*Quercus pubescens*	Bachmann 1955 (as *D. slovenicus* n. sp.)
	Diaspidiotus gigas (Thiem & Gerneck 1934)	*Populus alba*	Janežič 1954, Bachmann 1955
	Diaspidiotus labiatarum (Marchal 1909)	*Thymus pulegioides*	Kozár 1983 /PPIB
	Diaspidiotus ostreaeformis (Curtis 1843)	*Prunus domestica, Ulmus canescens*	Janežič 1954, Kozár 1983 /PPIB
DIASPIDIDAE	*Diaspidiotus perniciosus* (Comstock 1881)	*Corylus avellana, Malus domestica, Pyrus communis, Tamarix parviflora*	Janežič 1951, Janežič 1954 /SIC-GO
	Diaspidiotus pyri (Lichtenstein 1881)	*Malus domestica*	Janežič 1954
	**Diaspidiotus sulci* (Balachowsky 1950)	*Genista sericea*	Seljak (2008, unpublished) /SIC-GO
	**Diaspidiotus zonatus* (Fauenfeld 1868)	*Quercus pubescens*	Seljak (2006, unpublished) /SIC-GO
	Diaspis boisduvalii Signoret 1869	*Cymbidium* sp., *Cypripedium* sp.	Janežič 1954 /SIC-GO
	**Diaspis coccois* Lichtenstein 1882	*Butia capitata, Trachycarpus fortunei*	Seljak (2008, unpublished)
	Diaspis echinocacti (Bouché 1833)	Cacteaceae	Janežič 1954 /SIC-GO

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TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	Dynaspidiotus abietis (Schrank 1776)	*Picea abies, Pinus sylvestris*	Janežič 1954
	Dynaspidiotus britannicus (Newstead 1898)	*Laurus nobilis, Hedera helix*	Janežič 1954 /SIC-GO
	**Epidiaspis gennadii* (Leonardi 1898)	*Pistacia terebinthus*	Seljak (2008, unpublished) /SIC-GO
	Epidiaspis leperii (Signoret 1869)	*Aesculus hippocastanum, Juglans regia, Malus domestica, Ostrya carpinifolia, Prunus domestica, Pyrus communis*	Janežič 1954, Kozár 1983 /PPIB; Janežič 1989/SIC-GO
	**Furchadaspis zamiae* (Morgan 1890)	*Strelitzia reginae*	Seljak (2009, unpublished) /SIC-GO
DIASPIDIDAE	*Kuwanaspis pseudoleucaspis* (Kuwana 1923)	*Phyllostachys bambusoides*	Seljak 2007 /SIC-GO
	Lepidosaphes conchiformis (Gmelin 1790)	*Ulmus minor*	Janežič 1954
	**Lepidosaphes flava* (Signoret 1907)	*Olea europaea*	Seljak (2010, unpublished) /SIC-GO
	Lepidosaphes ulmi (Linnaeus 1758)	*Malus domestica, Clematis vitalba*	Janežič 1954, Kozár 1983 /PPIB, /SIC-GO
	Leucaspis loewi Colvée 1882	*Pinus nigra, P. sylvestris*	Janežič 1954, Bachman 1955 /SIC-GO
	**Leucaspis pini* (Hartig 1839)	*Pinus nigra*	Seljak (2006, unpublished) /SIC-GO

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TABLE 1 (continued). List of scale insects of Slovenia.

Family	Species[1]	Host plant(s)	References/Collections[2]
	Leucaspis signoreti Signoret 1869	*Pinus nigra, P. sylvestris*	Janežič 1954
	Oceanaspidiotus spinosus (Comstock 1883)	*Iris* sp., *Phoenix* sp.	Janežič 1954
	**Parlatoria oleae* (Colvée 1880)	*Olea europaea*	Seljak (2004, unpublished)
	Pinnaspis aspidistrae (Signoret 1869)	*Aspidistra* sp.	Janežič 1954
DIASPIDIDAE	*Pinnaspis strachani* (Cooley 1899)	*Areca* sp., *Dracena marginata*	Seljak 2007 /SIC-GO
	Pseudaulacaspis cockerelli (Cooley 1897)	*Areca* sp.	Seljak 2007
	Pseudaulacaspis pentagona (Targioni Tozzetti 1886)	*Actinidia chinesis, Aesculus hippocastanum, Caryopteris* sp., *Cornus* sp., *Juglans regia, Morus alba, M. nigra, Olea europaea, Prunus laurocerasus, P. persica, Ribes rubrum, Salix alba, Sedum reflexum, Syringa vulgaris*	Janežič 1951, Janežič 1954, Kozár 1983 /PPIB, SIC-GO
	Unaspis euonymi (Comstock 1881)	*Euonymus europaeaus, E. japonicus, E. latifolia*	Janežič 1954, Kozár 1983 /PPIB, SIC-GO

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part of the east Adriatic zoogeographical eco-zone, which is well-known to be particularly rich in endemic species. *Eriococcus evelinae* and *E. istriensis* are two representatives of this richness. Even more, so far *E. istriensis* is only known from the type locality Lipica a village in South-west Slovenia.

Our knowledge of scale-insect fauna of Slovenia is still very fragmentary. Species inhabiting trees, shrubs and ornamental plants have been studied quite a lot, but those living on wild herbaceous plants and especially on its hypogeal parts remain almost unexplored. These species have been little collected and studied so far.

The number of species known to occur in Slovenia is considerably lower than in the surrounding countries, except in Austria: Italy - 360, Austria - 78, Hungary - 204 species (source: ScaleNet statistics) and Croatia - 132 species (Masten Milek and Šimala 2008). This is in part the result of unequal study intensity of scale insect fauna in these countries, and in part because of the increasing species richness and diversity toward the South- and South-east Europe. Slovenia is a transitional country, where at least four main phyto- and zoo-geographical regions with specific flora and fauna meet - the alpine, dinnaric, submediterranean and pannonian region. This amazing heterogeneity in a restricted area of about 20,000 square kilometres promises a variegated diversity of scale insect fauna as well, which, however, in a great part needs still to be explored.

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Κατάλογος κοκκοειδών εντόμων που απαντώνται στην Σλοβενία

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ΠΕΡΙΛΗΨΗ

Η τελευταία φορά που παρουσιάστηκε ένας κατάλογος κοκκοειδών εντόμων που απαντώνται στη Σλοβενία ήταν από τον Franc Janežič (1954) και περιελάμβανε 44 είδη. Με βάση τα στοιχεία που συλλέχθηκαν από τη βιβλιογραφία και από δικές μας έρευνες, παρουσιάζεται ένας νέος ενημερωμένος κατάλογος κοκκοειδών εντόμων που απαντώνται στην Σλοβενία. Συνολικά 101 είδη από 9 οικογένειες παρουσιάζονται στον νέο κατάλογο: Ortheziidae (1 είδος), Margarodidae (1 είδος), Pseudococcidae (18 είδη), Eriococcidae (8 είδη), Asterolecaniidae (2 είδη), Coccidae (26 είδη), Kermesidae (1 είδος), Cerococcidae (1 είδος) and Diaspididae (43 είδη). Δεκαοχτώ είδη είναι νέα για την εντομολογική πανίδα της Σλοβενίας.