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A CHECKLIST OF THE SCALE INSECTS (HEMIPTERA COCCOMORPHA) IN LUXEMBOURG ⁽¹⁾

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Gertsson C.A. – A checklist of the scale insects (Hemiptera Coccoomorpha) in Luxembourg.

A list of the scale insects recorded by the author in Luxembourg is reported. The list reports 34 species belonging to 25 genera in 7 families. Of these, 21 species are new records for the country. The recorded species show mainly Cosmopolitan and Palaearctic distribution. Most numerous families are the Coccidae, Diaspididae and Pseudococcidae.

KEY WORDS: Hemiptera, scale insects, checklist, Luxembourg.

INTRODUCTION

The scale insect fauna of Luxembourg has received scant attention. GARCIA *et al.*, (2016) records only six species; another four species are listed in SCHNEIDER & TANSON (2003); while only two species are recorded in CABI (1999) and DAISIE (2015).

This list should be considered as a starting point for future investigations. Given that around two hundred species of scale insects have been recorded in the fauna of neighbouring Germany (GARCIA; *et al.*; 2016, KÖHLER & KELY, 2011; KÖHLER & KOZÁR, 2009; SCHMUTTERER, 2000) it is safe to assume that many more new discoveries of scale insect species will be made in Luxembourg.

RESULTS AND DISCUSSION

This list shows that currently, a total of 34 scale insect species are known in Luxembourg (Table 1). They belong to 26 genera and 7 families: Asterolecaniidae (1 species), Coccidae (11 species), Diaspididae (10 species), Eriococcidae (2 species), Margarodidae (1 species), Ortheziidae (3 species) and Pseudococcidae (6 species). A total of 21 species are new to the fauna of Luxembourg and their occurrence has not been previously published. Of these species 47 % have a Cosmopolitan distribution, while the next most prevalent species (38 %) have a Palaearctic distribution.

Leucaspis fulchironiae (Boisduval) has been recorded only in Luxembourg. While LINDINGER (1935) treated this species as a junior synonym of *L. cockerelli* (now *Lopholeucaspis cockerelli* (Grandpré & Charmoy)). Borchsenius (1966) treated it as an *incertae sedis* species. Unfortunately, the type material for the latter is presumed lost (GARCIA *et al.*, 2016).

Significantly, eight of the recorded species, namely *Coccus hesperidum*, *Pulvinaria floccifera*, *Phydrangeae*, *P. regalis*, *Diaspis echinocacti*, *Kuwanaspis pseudoleucaspis*, *Planococcus citri* and *Pseudococcus longispinus* are alien invasive species in Europe. The records of *Eulecanium sericeum*, *Matsucoccus pini* and *Fonscolombia europaea*, so far recorded only in some European countries, add new data to their known distributional range.

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Table 1 – Species list of scale insects in Luxembourg. Species marked with an asterisk are new to the Luxembourg fauna.

Family/Species	Host plant	References/collections
Asterolecaniidae		
1. <i>Asterodiaspis variolosa</i> (Ratzeburg)*	<i>Quercus</i> sp.	26.9 2011, City center
Coccidae		
2. <i>Coccus hesperidum</i> (Linnaeus)*	<i>Hedera helix</i> , <i>Ficus benjamina</i> , <i>Nerium oleander</i>	Nat Hist Mus. Garden, 13.06 2014. Grevenmacher, 1.06 2015. Parc Merveilleux, Bettembourg, 29.08 2015
3. <i>Eulecanium sericeum</i> (Lindinger)*	<i>Abies</i> sp.	L-Bonnevoie 2009
4. <i>Parthenolecanium corni</i> . (Bouché)		CABI, 1999
5. <i>Parthenolecanium persicae</i> (Fabricius)*	<i>Acer campestre</i>	Bamboesch, 30.05 2015.
6. <i>Parthenolecanium pomeranicum</i> (Kawecki) *	<i>Taxus baccata</i>	Hesperange, 24.09 2011.
7. <i>Parthenolecanium rufulum</i> (Cockerell) *	<i>Quercus</i> sp <i>Q. rubra</i>	Hesperange, 25.09 2011 Fentange, 01.11 2014
8. <i>Physokermes hemicryphus</i> (Dalman)*	<i>Picea glauca</i> var. <i>conica</i> <i>Picea abies</i>	Hesperange, 17.02 2012 Hesperange, 12.06 2014 Hesperange, Howald, 06.09 2015
9. <i>Pulvinaria floccifera</i> (Westwood)	<i>Ilex aquifolium</i> , <i>Taxus baccata</i>	Bull. Soc. Nat. Luxembourg 2003
10. <i>P. hydrangeae</i> Steinweden	<i>Acer</i> , <i>Aesculus</i> , <i>Catalpa</i> , <i>Carpinus</i> , <i>Fagus</i> , <i>Fraxinus</i> , <i>Magnolia</i> , <i>Platanus</i> , <i>Prunus</i> , <i>Quercus</i> , <i>Sorbus</i> , <i>Tilia</i>	Schneider & Tanson 2003
11. <i>P. regalis</i> Canard	<i>Acer</i> , <i>Aesculus</i> , <i>Fagus</i> , <i>Magnolia</i> , <i>Platanus</i> , <i>Tilia</i> , <i>Ulmus</i>	Schneider & Tanson 2003
12. <i>P. vitis</i> (L.)	<i>Alnus glutinosa</i> , <i>Carpinus betulus</i>	Schneider & Tanson 2003
Diaspididae		
13. <i>Carulaspis juniperi</i> (Bouché) *	<i>Chamaecyparis</i> sp. <i>Juniperus communis</i>	Hesperange, 22.09 2011 Parc Merveilleux, Bettembourg, 24.09 2011 Livange, 4. 9 2015,
14. <i>Chionaspis salicis</i> (L.)	<i>Salix</i> sp.	García et al., 2016 Klosegrännchen, 01.06 2015
15. <i>Diaspis echinocacti</i> (Bouché)		DAISIE
16. <i>Diaspidiotus zonatus</i> (Fauenfeld) *	<i>Quercus</i> sp.	Bamboesch, 30.05 2015 Klosegrännchen, 01.06 2015
17. <i>Hemiberlesia rapax</i> (Comstock)		Kozár 1998
18. <i>Kuwanaspis pseudoleucaspis</i> (Kuwana)*	<i>Bambusa</i> sp.	Kirchberg, 03.11 2014
19. <i>Lepidosaphes ulmi</i> (L.)*	<i>Quercus robur fastigiata</i>	Kirchberg 02.04 2013
20. <i>Leucaspis fulchironiae</i> ? (Boisduval)		Garcia et al., 2016
21. <i>Leucaspis pini</i> (Hartig)*	<i>Pinus</i> sp	Lux. Golf-course, Grand Ducal, 21.05 2012
22. <i>Dynaspidiotus abietis</i> (Schrank)*	<i>Abies</i> sp. <i>Picea abietis</i>	Hesperange, 22.09 2011 Hesperange, Howald, 6.9.2015
Eriococcidae		
23. <i>Cryptococcus fagisuga</i> (Baerensprung)*	<i>Fagus sylvatica</i>	2 km N Godbrange, 29.9.2011
24. <i>Pseudochermes fraxini</i> (Kaltenbach)		Garcia et al., 2016
Margarodidae		
25. <i>Matsucoccus pini</i> . Green*	<i>Pinus nigra</i>	Fentange, churchyard, 02.22 2014

(continued)

Continued Table 1

Family/Species	Host plant	References/-collections
Eriococcidae		
23. <i>Cryptococcus fagisuga</i> (Baerensprung)*	<i>Fagus sylvatica</i>	2 km N Godbrange, 29.9.2011
24. <i>Pseudochermes fraxini</i> (Kaltenbach)		Garcia et al., 2016
Margarodidae		
25. <i>Matsucoccus pini</i> . Green*	<i>Pinus nigra</i>	Fentange, churchyard, 02.22 2014
Ortheziidae		
26. <i>Newsteadia floccosa</i> De Geer*	<i>In litter</i>	2 km S. Vianden. In litter. 27.09 2011
27. <i>Orthezia urticae</i> L.		Kozár 1998
28. <i>Ortheziola vej dovskyi</i> (Sulc)		Garcia et al., 2016
Pseudococcidae		
29. <i>Fonscolombia europaea</i> (Newstead)	<i>Hieracium pilosella</i>	Garcia et al., 2016 Rumerlange, 05.09 2015
30. <i>Phenacoccus aceris</i> . (Signoret)*	<i>Fagus sylvatica</i> <i>Herdera helix</i>	Hesperange, 25.09 2011 Nat.Hist Mus., garden, 13.06 2
31. <i>Phenacoccus piceae</i> Löw*	<i>Abies</i> sp. <i>Picea abies</i>	Hesperange, 07. 03 2014 Bamboesch, 30. 05 2015
32. <i>Planococcus citri</i> (Risso)*	<i>Cleodendrum</i> sp.	Gréiwemaacher (Greenhouse), 01. 06 2015
33. <i>Planococcus vovae</i> (Nasonov)*	<i>Juniperus communis</i>	Klosegrännchen, 28. 07.2013
34. <i>Pseudococcus longispinus</i> (Targioni-Tozzetti)*	<i>Cleodendrum</i> sp	Gréiwemaacher (Greenhouse), 01.06.2015

