

MEMORIE DELLA SOCIETÀ ENTOMOLOGICA ITALIANA

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SOCIETÀ ENTOMOLOGICA ITALIANA via Brigata Liguria 9 Genova

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I macrolepidotteri notturni di un oliveto a conduzione biologica della Stretta di Catanzaro, Italia meridionale (Insecta Lepidoptera)

Riassunto: In questo lavoro vengono riportati i risultati del monitoraggio della fauna dei macrolepidotteri notturni di una azienda olivicola a conduzione biologica condotto da luglio 2018 a giugno 2019. L'area di studio è posta nella Stretta di Catanzaro e precisamente nel comune di Marcellinara, a circa 200 metri di quota. Sono state utilizzate 8 trappole luminose collocate all'interno dell'oliveto e ai suoi margini, dove è ancora presente una vegetazione seminaturale sottoposta ad un grado di disturbo variabile. Il monitoraggio, effettuato con cadenza mensile, ha permesso la raccolta di 7.569 esemplari appartenenti a 332 specie, fra le quali le più abbondanti sono state *Eilema caniola*, *Peribatodes rhomboidaria*, *Dysauxes famula* e *Spodoptera exigua*. Queste specie da una parte sottolineano la natura antropica dell'ambiente indagato e dall'altra il suo carattere mediterraneo. Oltre all'interessante rinvenimento di alcune specie solitamente rinvenute a quote più elevate, vanno evidenziate le presenze di *Agrotis lata*, definitivamente confermata in Italia continentale e segnalata per la prima volta in Calabria, e *Rhodostrophia pudorata*, per la quale questo è il rinvenimento più settentrionale in Italia. Entrambe le specie sono piuttosto frequenti in Sicilia e la loro presenza nella penisola è stata segnalata molto di rado. Inoltre, si riporta il primo rinvenimento di *Eilema rungsi* in Calabria.

Abstract: Macro-moth fauna of an organic olive grove of the Stretta di Catanzaro area, southern Italy (Insecta Lepidoptera).

In this paper we reported the results of a macro-moth sampling carried out from July 2018 to June 2019 in an organic olive grove of the Stretta di Catanzaro area, municipality of Marcellinara, southern Italy. Eight light traps were positioned in the olive grove and at its borders, where a semi-natural vegetation grows. Sampling sessions were carried out monthly. We collected 7,569 specimens belonging to 332 species, among which most abundant were *Eilema caniola*, *Peribatodes rhomboidaria*, *Dysauxes famula*, and *Spodoptera exigua*. These species underline the anthropic perturbation of investigated sites and their Mediterranean affinity. We found some species usually present at higher altitude, but most interesting findings concerned *Agrotis lata*, definitively confirmed for peninsular Italy and found for the first time in Calabria region so far, *Rhodostrophia pudorata*, for which the study area represents the northernmost Italian record, and *Eilema rungsi*, new to the fauna of Calabria region so far.

Key words: Organic olive grove, seminatural habitats, biodiversity, Calabria.

INTRODUZIONE

L'oliveto è certamente una delle coltivazioni più antiche e più diffuse nel Bacino del Mediterraneo e occupa solo in Italia una superficie di circa 1.170.000 ettari. La conoscenza della biodiversità ospitata dalle aree dedicate alla coltivazione dell'ulivo ha un particolare interesse vista la sua grande diffusione a quote collinari e planiziali, proprio dove storicamente l'impatto dell'uomo sugli ambienti naturali è stato più forte. L'oliveto può essere di grande importanza per il sostentamento di una elevata biodiversità in territori molto antropizzati sia per i relativamente limitati input chimici che per le poche

operazioni meccaniche del terreno che necessita. Inoltre, questo tipo di coltura, soprattutto in aree collinari nelle quali la totale meccanizzazione delle operazioni colturali non è possibile, è compatibile anche con la conservazione di lembi di vegetazione seminaturale, soprattutto a macchia mediterranea, che possono rappresentare delle aree rifugio per la fauna. Studi dedicati alla conoscenza dei Lepidotteri presenti in aree olivetate della Calabria hanno già fornito evidenze di questo (Scalercio *et al.*, 2007, 2012), dimostrando che le faune non sono molto semplificate dall'antropizzazione e che variano a seconda dell'ambito geografico. In questo studio è stata indagata la fauna dei macro-

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lepidotteri notturni di un'area olivetata della Stretta di Catanzaro, Calabria.

MATERIALI E METODI

L'area di studio è posta nel comune di Marcellinara (CZ), in contrada Licari ad una quota media di circa 200 metri (Fig. 1). Il fondo olivetato è gestito "in biologico" da 3 anni e non è soggetto ad alcuna operazione di lavorazione meccanica del terreno che viene tenuto pulito solo con una o due trinciature annuali. Gli unici agrochimici utilizzati sono il rame per il controllo delle fitopatie e il boro per stimolare la fioritura. Il campo sperimentale è delimitato ad est dal Fosso Riato, tendenzialmente più arido del piccolo fosso che lo delimita ad ovest in cui scorre

acqua per buona parte dell'anno. Lungo il Fosso Riato si sviluppa una vegetazione seminaturale rappresentata da piccoli lembi di *Quercus virgiliana* (Ten.) Ten. dominante e da una macchia piuttosto alterata composta in prevalenza da *Quercus virgiliana*, *Quercus ilex* L., *Robinia pseudoacacia* L., *Pistacia lentiscus* L. e *Cistus* sp.pl. alle quali si associano *Spartium junceum* L., *Calicotome spinosa* (L.) Link, *Smilax aspera* L. e *Asparagus albus* L. Lungo i margini ovest si sviluppa una vegetazione più igrofila dominata da *Pteridium aquilinum* (L.) Kuhn nelle aree aperte, composta nello strato arboreo prevalentemente da *Quercus virgiliana*, *Robinia pseudoacacia* e *Populus alba* L. e nello strato arbustivo da *Sambucus nigra* L., *Ficus carica* L., *Rubus* sp. e *Clematis vitalba* L.

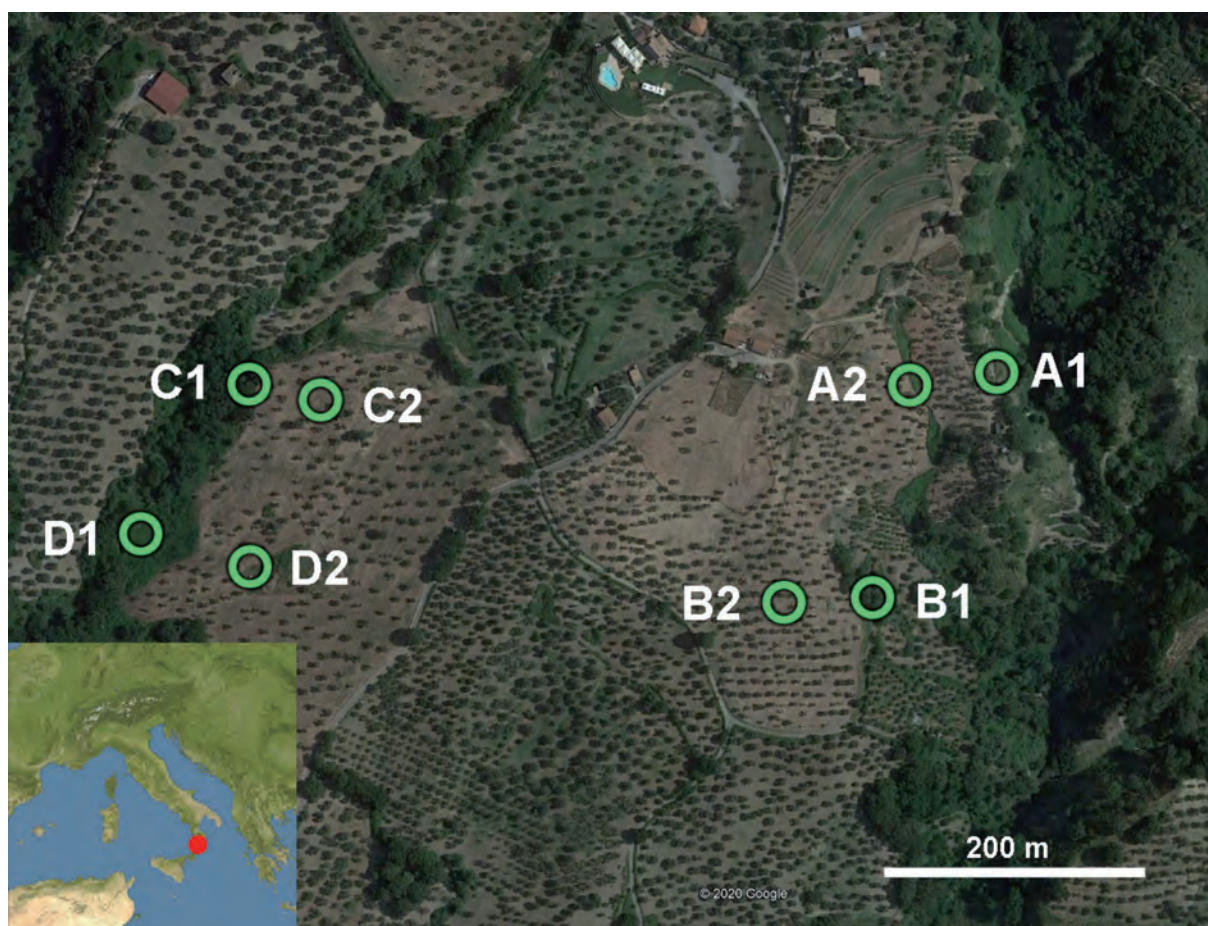


Fig. 1. Posizione dell'area di studio (punto rosso) e siti di disposizione delle trappole luminose nell'azienda (cerchi verdi).

Dal luglio 2018 a giugno 2019 sono state collocate mensilmente 8 trappole luminose a LED UV (Infusino *et al.*, 2017) in periodi di luna nuova o vicini ad essa, con poco vento, con temperature non inferiori alle medie del periodo e senza precipitazioni. Le trappole sono state poste in modo da coprire al meglio le diverse tipologie di ambienti presenti. Pertanto sono state posizionate a coppie in modo che una potesse campionare un'area seminaturale e l'altra il contiguo oliveto (Figg. 1-3). Due coppie sono state collocate nella porzione più arida dell'oliveto (siti A1, A2, B1 e B2) e altre due nella porzione più umida (siti C1, C2, D1 e D2). I siti B1 e C1 hanno una copertura arborea superiore al 75%, mentre i siti A1 e D1 non hanno alcuna copertura arborea.

Le trappole sono state collocate prima dell'imbrunire e sono state smontate il mattino seguente. Il materiale raccolto è stato studiato in laboratorio dove alcuni esemplari sono stati preparati e incorporati nella collezione scientifica del Centro di Ricerca Foreste e Legno di Rende. Il restante materiale è stato conservato a secco in bustine di carta pergamina. Per l'identificazione di alcune specie è stato necessario estrarre le armature genitali e procedere al loro studio comparativo.

Di seguito si riporta la lista delle specie raccolte fornendo per ognuna di esse il sito di campionamento individuato da un codice alfanumerico e la data di rinvenimento seguita in parentesi dal numero di individui raccolti in quella data. La nomenclatura, così come l'ordine delle famiglie e delle sottofamiglie, segue Karsholt & Nieuken (2013), mentre per le specie raggruppate nel taxon di rango superiore si segue l'ordine alfabetico.

RISULTATI

Sono stati raccolti 7.569 esemplari appartenenti a 332 specie di seguito elencate.

Limacodidae

1. *Apoda limacodes* (Hufnagel, 1766) – **A1**: 10.VI (1) – **B1**: 10.VI (3) – **D1**: 10.VI (1) – **D2**: 10.VI (1).

Cossidae

2. *Cossus cossus* (Linnaeus, 1758) – **B1**: 18.VII (1).
3. *Parahypopta caestrum* (Hübner, 1808) – **B1**: 10.VI (1).

Lasiocampidae

4. *Eriogaster rimicola* (Denis & Schiffermüller, 1775) – **A1**: 12.XI (1).
5. *Lasiocampa quercus* (Linnaeus, 1758) – **C1**: 10.X (1).
6. *Lasiocampa trifolii* (Denis & Schiffermüller, 1775) – **C1**: 10.X (1).
7. *Odonestis pruni* (Linnaeus, 1758) – **A2**: 8.VIII (1).
8. *Poecilocampa alpina* (Frey & Wulschlegel, 1874) – **A1**: 17.I (1) – **C1**: 17.I (2) – **D1**: 17.I (1).

Saturniidae

0. *Saturnia pavoniella* (Scopoli, 1763) – **B2**: 5.III (1).

Brahmaeidae

10. *Lemonia taraxaci* (Denis & Schiffermüller, 1775) – **C2**: 10.X (1).

Sphingidae

11. *Laothoe populi* (Linnaeus, 1758) – **A2**: 5.IX (1) – **C1**: 2.IV (1), 8.VIII (1) – **D1**: 2.V (2), 18.VII (1), 5.IX (2).

Drepanidae

12. *Cilix glaucata* (Scopoli, 1763) – **A1**: 18.VII (1), 8.VIII (1), 10.X (1).
13. *Watsonalla binaria* (Hufnagel, 1767) – **A1**: 10.VI (2), 10.X (2) – **A2**: 10.X (1) – **B1**: 2.V (1) – **B2**: 8.VIII (2) – **C1**: 2.IV (1) – **C2**: 18.VII (1) – **D1**: 10.X (1).
14. *Watsonalla uncinula* (Borkhausen, 1790) – **A1**: 2.II (1), 2.IV (3), 2.V (1), 10.VI (1), 8.VIII (4), 5.IX (2), 10.X (1) – **B1**: 2.II (2) – **B2**: 8.VIII (1) – **C1**: 8.VIII (1) – **C2**: 12.XI (1) – **D1**: 2.V (1), 18.VII (1), 5.IX (1).
15. *Cymatophorina diluta* (Denis & Schiffermüller, 1775) – **A1**: 12.XI (1).
16. *Habrosyne pyritoides* (Hufnagel, 1766) – **A1**: 8.VIII (1), 5.IX (1), 10.X (3) – **B1**: 10.X (1) – **C1**: 10.X (1) – **D1**: 10.X (1).
17. *Polyplocia ridens* (Fabricius, 1787) – **B1**: 2.IV (2).
18. *Tethea ocularis* (Linnaeus, 1767) – **A1**: 2.IV (1).
19. *Thyatira batis* (Linnaeus, 1758) – **A1**: 2.IV (1), 5.IX (2), 10.X (2) – **A2**: 2.V (1) – **B1**: 2.V (1) – **C1**: 2.V (1), 10.VI (1) – **D1**: 21.IV (1), 5.IX (1).



Fig. 2. Siti seminaturali di posizionamento delle trappole.



Fig. 3. Siti di posizionamento delle trappole nell'oliveto.

Geometridae

Ennominae

20. *Agriopis leucophaearia* (Denis & Schiffermüller, 1775) – **A2**: 5.III (2) – **B1**: 5.III (2) – **D1**: 5.III (1).
21. *Agriopis marginaria* (Fabricius, 1776) – **B1**: 5.III (4).
22. *Apochima flabellaria* (Heeger, 1838) – **A1**: 4.XII (1), 17.I (1), 2.II (1) – **A2**: 5.III (1) – **B1**: 4.XII (1), 17.I (1), 2.II (1), 5.III (1) – **B2**: 4.XII (1), 17.I (5), 2.II (3), 2.IV (1) – **C1**: 5.III (1) – **C2**: 4.XII (1), 17.I (1), 2.II (2), 2.IV (1) – **D2**: 4.XII (1), 2.II (1), 5.III (1).
23. *Ascotis selenaria* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (1), 8.VIII (7), 5.IX (2) – **B1**: 8.VIII (5), 5.IX (1) – **C1**: 18.VII (1), 8.VIII (1), 5.IX (1).
24. *Aspitates ochrearia* (Rossi, 1794) – **A1**: 2.IV (1) – **A2**: 2.IV (1), 1.X (1) – **B1**: 2.V (1) – **B2**: 5.IX (1) – **C1**: 2.V (1), 5.IX (1) – **C2**: 2.IV (2), 2.V (1), 5.IX (2) – **D1**: 2.V (1) – **D2**: 2.V (1).
25. *Biston strataria* (Hufnagel, 1767) – **A1**: 5.III (1) – **A2**: 2.IV (1).
26. *Cabera pusaria* (Linnaeus, 1758) – **B1**: 2.V (1).
27. *Campaea honoraria* (Denis & Schiffermüller, 1775) – **A1**: 10.VI (1), 10.X (1), 12.XI (1) – **A2**: 10.X (1) – **B1**: 2.V (8), 10.VI (8), 10.X (2) – **B2**: 10.X (3) – **C1**: 2.IV (1), 2.V (2), 10.X (4), 4.XII (1) – **C2**: 10.VI (1), 10.X (2) – **D1**: 2.IV (2), 2.V (2), 10.X (3), 12.XI (1) – **D2**: 10.VI (1).
28. *Charissa obscurata* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (1).
29. *Charissa variegata* (Duponchel, 1830) – **A1**: 18.VII 2. (4), 5.IX (1), 10.X (2), 12.XI (1).
30. *Charissa onustaria* (Herrich-Schäffer, 1852) – **A1**: 2.IV (2), 10.X (1) – **A2**: 2.IV (1) – **B1**: 2.IV (3).
31. *Chemerina caliginearia* (Rambur, 1833) – **A1**: 17.I (3), 2.II (7), 5.III (1) – **A2**: 2.IV (1) – **B1**: 2.II (1) – **B2**: 17.I (1) – **C1**: 2.II (1).
32. *Chiasmia aestimaria* (Hübner, 1809) – **A1**: 5.IX (1).
33. *Chiasmia clathrata* (Linnaeus, 1758) – **C1**: 2.V (1).
34. *Cleorodes lichenaria* (Hufnagel, 1767) – **A1**: 10.VI (1).
35. *Colotois pennaria* (Linnaeus, 1761) – **B2**: 4.XII (1) – **D1**: 4.XII (1).
36. *Crocallis elinguarina* (Linnaeus, 1758) – **A1**: 8.VIII (1), 5.IX (1), 10.X (1) – **B1**: 5.IX (1) – **C1**: 8.VIII (2), 5.IX (1) – **D1**: 8.VIII (1), 5.IX (1).
37. *Crocallis tusciaria* (Borkhausen, 1793) – **A1**: 12.XI (3), 4.XII (2) – **A2**: 12.XI (1) – **C1**: 12.XI (1) – **D1**: 12.XI (2) – **D2**: 12.XI (1).
38. *Dyscia innocentaria* (Christoph, 1885) – **A1**: 10.VI (2), 10.X (2) – **A2**: 5.IX (1) – **B1**: 10.VI (1), 5.IX (1), 10.X (1) – **D1**: 10.X (1).
39. *Ennomos quercaria* (Hübner, 1813) – **D1**: 8.VIII (1).
40. *Fagivorina arenaria* (Hufnagel, 1767) – **A1**: 10.VI (1) – **B1**: 2.V (2), 10.X (1) – **C1**: 2.V (1), 5.IX (1).
41. *Gnophos sartata* (Treitschke, 1827) – **A1**: 10.VI (6), 5.IX (5) – **B1**: 10.VI (1) – **C1**: 10.X (1).
42. *Hypomecis roboraria* (Denis & Schiffermüller, 1775) – **A2**: 5.IX (1).
43. *Isturgia arenacearia* (Denis & Schiffermüller, 1775) – **A2**: 18.VII (1) – **D1**: 5.IX (1).
44. *Isturgia spodiaria* (Lefèbvre, 1832) – **B1**: 5.IX (1), 10.X (2) – **D2**: 2.IV (1).
45. *Ligdia adustata* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (1) – **B1**: 18.VII (1), 8.VIII (1) – **C1**: 18.VII (1), 8.VIII (1), 5.IX (1), 10.X (1) – **C2**: 10.X (1) – **D1**: 18.VII (1).
46. *Lycia florentina* (Stefanelli, 1882) – **A1**: 5.III (1) – **B1**: 5.III (1) – **B2**: (2.IV (1) – **D2**: 5.III (1).
47. *Lycia hirtaria* (Clerck, 1759) – **A1**: 2.II (4), 5.III (2) – **A2**: 5.III (1) – **B1**: 5.III (6) – **C1**: 2.II (1), 5.III (6) – **C2**: 5.III (3) – **D1**: 5.III (1) – **D2**: 5.III (1), 2.IV (1).
48. *Megalycinia serraria* (A. Costa, 1882) – **A1**: 10.X (2).
49. *Menophra abruptaria* (Thunberg, 1792) – **A1**: 17.I (1), 2.II (4), 5.III (5), 2.IV (2), 10.VI (2), 8.VIII (2), 4.XII (2) – **A2**: 2.II (1) – **B1**: 2.II (2), 5.III (4), 2.IV (2), 2.V (1), 10.VI (1), 10.X (1) – **B2**: 2.IV (1) – **C1**: 5.III (1), 2.IV (1), 2.V (1), 10.VI (2), 8.VIII (3), 5.IX (1), 10.X (4), 12.XI (1) – **C2**: 2.II (4), 2.V (1), 10.X (1), 4.XII (1) – **D1**: 2.IV (3), 2.V (1), 10.VI (1), 8.VIII (1) – **D2**: 2.II (1).
50. *Menophra japygiaria* (O. Costa, 1849) – **A1**: 17.I (1), 2.II (2), 5.III (2), 10.VI (5), 8.VIII (3), 10.X (1) – **A2**: 5.III (1), 10.X (1) – **B1**: 2.IV (1), 10.VI (2), 8.VIII (1), 5.IX (1) – **B2**: 2.II (2) – **C1**: 2.II (1), 8.VIII (1) – **C2**: 2.II (1) – **D1**: 5.III (1), 10.VII (2), 18.VII (1), 8.VIII (1) – **D2**: 2.II (1), 5.III (1), 10.VI (1).

51. *Nychiodes ragusaria* Millière, 1884 – **A1**: 5.IX (2) – **B2**: 10.VI (1), 5.IX (2) – **C1**: 10.VI (1), 5.IX (3) – **D1**: 10.VI (1), 8.VIII (1), 5.IX (1).
 52. *Opisthograptis luteolata* (Linnaeus, 1758) – **A1**: 10.X (1).
 53. *Pachycnemia hippocastanaria* (Hübner, 1799) – **A1**: 2.II (1), 5.III (1), 2.IV (1), 8.VIII (2), 5.IX (2) – **B1**: 2.II (1), 2.IV (3), 10.X (1), 12.XI (1) – **B2**: 2.II (1), 8.VIII (1).
 54. *Peribatodes rhomboidaria* (Denis & Schiffermüller, 1775) – **A1**: 2.V (9), 10.VI (28), 18.VII (2), 8.VIII (2), 5.IX (6), 10.X (47), 12.XI (1) – **A2**: 2.V (1), 10.VI (6), 5.IX (2), 10.X (7) – **B1**: 2.V (12), 10.VI (18), 18.VII (1), 5.IX (5), 10.X (27) – **B2**: 2.V (1), 10.VI (5), 5.IX (1), 10.X (6) – **C1**: 2.IV (1), 2.V (16), 10.VI (51), 18.VII (16), 8.VIII (13), 5.IX (43), 10.X (32) – **C2**: 10.VI (6), 10.X (5) – **D1**: 2.V (12), 10.VI (35), 18.VII (3), 8.VIII (2), 5.IX (10), 10.X (9) – **D2**: 2.IV (1), 2.V (2), 10.VI (5), 8.VIII (1), 10.X (2).
 55. *Peribatodes umbraria* (Hübner, 1809) – **A1**: 10.VI (8), 10.X (1) – **A2**: 10.VI (3) – **B1**: 10.VI (2), 10.X (3) – **B2**: 10.VI (6) – **C1**: 10.VI (8), 10.X (2) – **C2**: 10.X (1) – **D1**: 10.VI (2), 10.X (1).
 56. *Petrophora chlorosata* (Scopoli, 1763) – **A1**: 2.IV (3) – **C1**: 2.IV (2).
 57. *Rhoptria asperaria* (Hübner, 1817) – **A1**: 2.IV (1), 2.V (1), 18.VII (5), 8.VIII (1), 5.IX (7) – **B1**: 5.III (1), 8.VIII (1) – **C1**: 10.X (1) – **D1**: 18.VII (1), 8.VIII (1).
 58. *Selenia lunularia* (Hübner, 1788) – **A2**: 5.IX (1) – **C1**: 8.VIII (1).
 59. *Stegania trimaculata* (Villers, 1789) – **B1**: 18.VII (1), 8.VIII (1) – **B2**: 10.VI (1) – **C2**: 10.X (1) – **D1**: 8.VIII (1).
 60. *Synopsia sociaria* (Hübner, 1799) – **A1**: 5.IX (1) – **B1**: 2.V (1), 18.VII (2), 5.IX (1).
 61. *Tephronia sepiaria* (Hufnagel, 1767) – **A1**: 18.VII (1), 10.X (1) – **A2**: 10.X (2) – **B1**: 10.X (1) – **C1**: 10.X (1) – **D1**: 10.VI (1), 10.X (1).
 62. *Tephronia sicula* (Wehrli, 1933) – **A1**: 5.IX (2) – **C1**: 8.VIII (1).
 63. *Tephronia theophilaria* Hausmann, 2019 – **A1**: 10.VI (9), 18.VII (1) – **B1**: 10.VI (16) – **B2**: 10.VI (4) – **C1**: 10.VI (39), 18.VII (1), 8.VIII (1), 5.IX (5), 10.X (1) – **C2**: 10.VI (1) – **D1**: 10.VI (3), 5.IX (1).
- Geometrinae
64. *Comibaena bajularia* (Denis & Schiffermüller, 1775) – **C1**: 10.VI (1).
 65. *Geometra papilionaria* (Linnaeus, 1758) – **A2**: 5.IX (1).
 66. *Hemistola siciliana* Prout, 1935 – **A1**: 8.VIII (1) – **C1**: 10.VI (3), 8.VIII (1), 5.IX (1) – **D1**: 10.VI (1).
 67. *Phaiogramma etruscaria* (Zeller, 1849) – **A1**: 2.V (1), 10.VI (5), 18.VII (6), 8.VIII (17), 5.IX (19) – **A2**: 8.VIII (1) – **B1**: 18.VII (1) – **B2**: 10.VI (1), 8.VIII (1) – **C1**: 10.VI (2), 18.VII (1), 8.VIII (5), 5.IX (8) – **D1**: 2.V (1), 8.VIII (1) – **D2**: 8.VIII (2).
 68. *Pseudoterpna coronillaria* (Hübner, 1817) – **A1**: 2.V (1), 10.VI (3), 8.VIII (2), 5.IX (4), 10.X (3) – **B1**: 10.VI (2), 18.VII (1), 10.X (1) – **B2**: 10.VI (2) – **C1**: 10.X (1) – **C2**: 10.X (1).
 69. *Thalera fimbrialis* (Scopoli, 1763) – **A2**: 5.IX (1).
 70. *Thetidia smaragdaria* (Fabricius, 1787) – **A1**: 8.VIII (2) – **A2**: 10.VI (1) – **C2**: 10.VI (1).
- Larentiinae
71. *Aplocera plagiata* (Linnaeus, 1758) – **A2**: 12.XI (1) – **B1**: 12.XI (1).
 72. *Camptogramma bilineata* (Linnaeus, 1758) – **A1**: 10.X (1) – **B1**: 10.X (3) – **C1**: 10.X (1) – **D2**: 10.X (1).
 73. *Catarhoe basochesiata* (Duponchel, 1831) – **A1**: 10.X (1) – **A2**: 2.IV (1) – **B1**: 10.X (2), 12.XI (3), 4.XII (3), 17.I (1), 2.II (1), 5.III (5), 2.IV (1) – **C1**: 2.II (2), 2.IV (1) – **D2**: 12.XI (1).
 74. *Chesias capriata* Prout, 1904 – **A1**: 12.XI (3) – **C1**: 12.XI (1).
 75. *Chloroclystis v-ata* (Haworth, 1809) – **A1**: 2.IV (1), 10.VI (3), 18.VII (1), 8.VIII (2), 5.IX (8), 10.X (1) – **A2**: 5.IX (1) – **B1**: 2.IV (1), 2.V (1), 10.VI (2), 8.VIII (1), 5.IX (2) – **B2**: 10.VI (1), 8.VIII (1) – **C1**: 10.VI (1), 5.IX (1), 10.X (1) – **C2**: 5.IX (1) – **D1**: 10.VI (1), 8.VIII (2), 5.IX (2), 10.X (1) – **D2**: 2.V (1), 10.VI (2), 8.VIII (1), 5.IX (2).
 76. *Coenotephria ablutaria* (Boisduval, 1840) – **A1**: 2.II (1), 5.III (5), 2.IV (1), 10.X (2) – **A2**: 12.XI (1) – **B1**: 5.III (7), 2.IV (2), 2.V (1), 10.X (2), 12.XI (2) – **C1**: 5.III (1), 2.IV (1), 10.X (2) – **C2**: 12.XI (1) – **D1**: 5.III (4), 2.IV (3).
 77. *Colostygia sericeata* (Schwingenschuss, 1926) – **A1**: 4.XII (16) – **B1**: 44.XII (5).

78. *Costaconvexa polygrammata* (Borkhausen, 1794) – **B1**: 4.XII (1).
 79. *Earophila badiata* (Denis & Schiffermüller, 1775) – **A1**: 2.II (1), 5.III (7), 2.IV (1) – **A2**: 5.III (1) – **B1**: 5.III (6) – **C1**: 2.II (1), 5.III (2) – **D1**: 5.III (1), 2.IV (1).
 80. *Ecliptopera silaceata* (Denis & Schiffermüller, 1775) – **A1**: 10.X (1).
 81. *Epirrhoe alternata* (Müller, 1764) – **A1**: 2.IV (1), 2.V (1), 10.VI (1), 10.X (1) – **A2**: 10.X (1) – **B1**: 2.V (1) – **C1**: 5.IX (1), 10.X (5) – **D1**: 10.VI (1).
 82. *Epirrhoe galiata* (Denis & Schiffermüller, 1775) – **A1**: 2.V (1), 10.VIII (8), 12.XI (1) – **A2**: 10.X (1) – **B1**: 2.V (1), 5.IX (1), 10.X (2), 12.XI (2) – **C1**: 8.VIII (1) – **D1**: 5.IX (1).
 83. *Eupithecia abbreviata* Stephens, 1831 – **A1**: 2.IV (1) – **B1**: 2.IV (1) – **D1**: 2.IV (1).
 84. *Eupithecia centaureata* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (2), 10.VI (2), 18.VII (1), 5.IX (3), 10.X (1) – **A2**: 10.X (1) – **B1**: 18.VII (1), 10.X (1) – **B2**: 10.VI (1) – **C1**: 10.VI (1), 5.IX (3), 10.X (1) – **D2**: 10.X (2).
 85. *Eupithecia dodoneata* Guenée, 1857 – **A1**: 2.IV (8), 10.VI (1) – **B1**: 2.IV (5) – **C1**: 2.IV (3).
 86. *Eupithecia innotata* (Hufnagel, 1767) – **A1**: 10.VI (1).
 87. *Eupithecia semigraphata* Bruand, 1850 – **A2**: 10.X (1) – **B1**: 5.IX (1) – **C1**: 5.IX (11) – **D1**: 5.IX (5) – **D2**: 10.X (1).
 88. *Gymnoscelis rufifasciata* (Haworth, 1809) – **A1**: 2.II (1), 5.III (7), 10.VI (1), 18.VII (3), 8.VIII (3), 4.XII (1) – **A2**: 18.VII (1), 8.VIII (1), 5.IX (1) – **B1**: 2.II (1), 5.III (1), 18.VII (2), 12.XI (1) – **B2**: 10.VI (1), 5.IX (1) – **C1**: 10.VI (3) – **C2**: 10.VI (1) – **D1**: 2.IV (1), 10.VI (1) – **D2**: 5.III (1), 10.VI (2).
 89. *Horisme radicularia* (de La Harpe, 1855) – **A1**: 10.X (1) – **A2**: 5.IX (1), 10.X (1) – **B1**: 2.IV (1) – **C1**: 18.VII (3), 8.VIII (1), 5.IX (3), 10.X (4) – **D1**: 5.III (1), 18.VII (1), 5.IX (1).
 90. *Nycterosea obstipata* (Fabricius, 1794) – **A1**: 5.III (1), 10.VI (4) – **B1**: 10.VI (1) – **C1**: 10.VI (1) – **D1**: 10.VI (1) – **D2**: 10.VI (2).
 91. *Perizoma flavofasciata* (Thunberg, 1792) – **A2**: 2.IV (1) – **D1**: 2.IV (1).
 92. *Thera cupressata* (Geyer, 1831) – **C1**: 2.IV (1).
 93. *Xanthorhoe disjunctaria* (La Harpe, 1860) – **A1**: 5.III (1), 5.IX (2) – **B1**: 17.I (2), 10.X (4) – **C1**: 2.II (1), 8.VIII (1), 5.IX (1), 10.X (5).
- Sterrhinae
94. *Cyclophora porata* (Linnaeus, 1767) – **A1**: 5.IX (1) – **C1**: 2.V (1) – **D1**: 5.IX (1).
 95. *Cyclophora punctaria* (Linnaeus, 1758) – **C1**: 10.VI (1).
 96. *Cyclophora puppillaria* (Hübner, 1799) – **A1**: 2.II (1), 5.III (1), 2.IV (4), 2.V (1), 18.VII (9), 8.VIII (27), 5.IX (14), 10.X (3) – **A2**: 2.IV (1), 18.VII (2), 8.VIII (5), 5.IX (2), 10.X (1), 4.XII (1) – **B1**: 5.III (1), 2.V (1), 18.VII (2), 8.VIII (8), 5.IX (7), 10.X (4), 12.XI (1), 4.XII (1) – **B2**: 8.VIII (2), 5.IX (2) – **C1**: 2.V (1), 10.VI (1), 18.VII (4), 8.VIII (29), 5.IX (3), 10.X (2), 4.XII (2) – **C2**: 18.VII (1) – **D1**: 2.IV (1), 18.VII (2), 8.VIII (2), 10.X (1) – **D2**: 10.VI (1), 8.VIII (2), 5.IX (1), 4.XII (2).
 97. *Cyclophora ruficiliaria* (Herrich-Schäffer, 1855) – **A1**: 5.IX (3) – **B1**: 5.IX (4).
 98. *Cyclophora suppunctaria* (Zeller, 1847) – **A1**: 2.IV (4), 2.V (1), 10.VI (1), 18.VII (1), 8.VIII (4), 5.IX (3) – **A2**: 8.VIII (1), 10.X (1) – **B1**: 2.IV (9), 2.V (11), 18.VII (1), 8.VIII (3), 5.IX (4), 10.X (4) – **B2**: 10.VI (1), 5.IX (1) – **C1**: 2.IV (1), 2.V (3), 10.VI (1), 18.VII (1), 5.IX (5), 10.X (6) – **C2**: 2.IV (1) – **D1**: 2.IV (1), 10.VI (1).
 99. *Idaea aversata* (Linnaeus, 1758) – **A1**: 10.VI (2), 8.VIII (1), 5.IX (1) – **A2**: 5.IX (1) – **B1**: 10.VI (1) – **C1**: 10.VI (10), 8.VIII (4), 5.IX (1), 10.X (1) – **D1**: 10.VI (2).
 100. *Idaea consanguinaria* (Lederer, 1853) – **B1**: 18.VII (1).
 101. *Idaea degeneraria* (Hübner, 1799) – **A1**: 10.VI (3), 5.IX (15) – **A2**: 5.IX (1) – **B1**: 2.V (1), 10.VI (1), 5.IX (8) – **B2**: 5.IX (1), 10.X (1) – **C1**: 10.VI (6), 5.IX (4) – **D1**: 5.IX (1).
 102. *Idaea dimidiata* (Hufnagel, 1767) – **A1**: 10.VI (1) – **B1**: 18.VII (1), 5.IX (1) – **C1**: 10.VI (3), 18.VII (2), 8.VIII (4), 5.IX (3), 10.X (1) – **C2**: 10.VI (1) – **D1**: 10.VI (1), 18.VII (2), 8.VIII (1), 5.IX (2) – **D2**: 10.VI (1).
 103. *Idaea distinctaria* (Boisduval, 1840) – **A1**: 10.VI (1), 18.VII (2), 8.VIII (3) – **A2**: 18.VII (1) – **B1**: 18.VII (1), 8.VIII (1) – **C1**: 18.VII (2), 8.VIII (1).
 104. *Idaea elongaria* (Rambur, 1833) – **A1**: 10.VI (1), 18.VII (4), 8.VIII (8) – **A2**: 8.VIII (2), 5.IX (1) – **B1**: 10.VI (2), 18.VII (5), 8.VIII (10) – **B2**: 18.VII (1), 8.VIII (2) – **C1**: 10.VI (1), 18.VII (4), 8.VIII (15), 5.IX (4) – **C2**: 18.VII (1), 8.VIII (1),

- 5.IX (2) – **D1**: 18.VII (1), 8.VIII (1), 5.IX (2) – **D2**: 18.VII (1), 8.VIII (7), 5.IX (3).
105. *Idaea filicata* (Hübner, 1799) – **A1**: 2.V (2), 18.VII (1), 8.VIII (6), 5.IX (16), 10.X (1) – **A2**: 8.VIII (2), 5.IX (3) – **B1**: 2.V (1), 10.VI (1), 18.VII (4), 8.VIII (9), 5.IX (9) – **B2**: 8.VIII (4), 5.IX (1) – **C1**: 10.VI (1), 8.VIII (1), 5.IX (2) – **D1**: 8.VIII (3), 5.IX (2) – **D2**: 10.VI (2), 8.VIII (2), 5.IX (2).
106. *Idaea infirmaria* (Rambur, 1833) – **A1**: 18.VII (2), 8.VIII (1) – **B1**: 18.VII (3) – **C1**: 18.VII (1) – **D1**: 8.VIII (1).
107. *Idaea inquinata* (Scopoli, 1763) – **B1**: 5.IX (1).
108. *Idaea leipnitz* Hausmann, 2004 – **A1**: 18.VII (2) – **A2**: 18.VII (1) – **B1**: 18.VII (3).
109. *Idaea mutilata* (Staudinger, 1876) – **A1**: 18.VII (1) – **C2**: 8.VIII (2).
110. *Idaea obsoletaria* (Rambur, 1833) – **A1**: 18.VII (2), 8.VIII (12), 5.IX (2) – **A2**: 18.VII (1), 8.VIII (3) – **B1**: 18.VII (8), 8.VIII (10), 5.IX (3), 10.X (2) – **B2**: 8.VIII (3) – **C1**: 18.VII (2), 8.VIII (4), 5.IX (3) – **D1**: 18.VII (2) – **D2**: 18.VII (2), 8.VIII (3).
111. *Idaea ostrinaria* (Hübner, 1813) – **A1**: 10.VI (1).
112. *Idaea rubraria* (Staudinger, 1901) – **A1**: 18.VII (1), 8.VIII (5) – **A2**: 8.VIII (1) – **B1**: 18.VII (6), 8.VIII (3) – **B2**: 8.VIII (1) – **C1**: 8.VIII (12) – **D1**: 8.VIII (1).
113. *Idaea rusticata* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (5), 8.VIII (1) – **A2**: 18.VII (1) – **B1**: 18.VII (1) – **C1**: 18.VII (8) – **C2**: 18.VII (1).
114. *Idaea seriata* (Schränk, 1802) – **A1**: 10.VI (2), 18.VII (10), 8.VIII (5), 5.IX (1), 10.X (1) – **B1**: 2.V (2), 10.VI (4), 18.VII (5), 8.VIII (3), 5.IX (4), 10.X (2) – **C1**: 2.IV (2), 10.VI (2), 18.VII (20), 8.VIII (14), 5.IX (16), 10.X (1) – **D1**: 18.VII (2), 8.VIII (3).
115. *Idaea subsericeata* (Haworth, 1809) – **A1**: 2.V (1), 10.VI (1), 18.VII (5), 8.VIII (5), 5.IX (3) – **A2**: 18.VII (1), 8.VIII (1) – **B1**: 2.V (1), 10.VI (1), 18.VII (14), 8.VIII (10), 5.IX (2) – **B2**: 8.VIII (1), 5.IX (1), 10.X (1) – **C1**: 8.VIII (3), 5.IX (5) – **C2**: 5.IX (1) – **D2**: 10.VI (1), 5.IX (5).
116. *Idaea trigeminata* (Haworth, 1809) – **A1**: 18.VII (2), 5.IX (2) – **A2**: 8.VIII (1) – **B1**: 2.V (3), 18.VII (15), 8.VIII (7), 5.IX (1) – **C1**: 2.V (6), 10.VI (5), 18.VII (17), 8.VIII (25), 5.IX (23) – **C2**: 18.VII (2) – **D1**: 18.VII (7), 8.VIII (3), 5.IX (2).
117. *Rhodometra sacraria* (Linnaeus, 1767) – **A1**: 10.VI (1), 18.VII (7), 8.VIII (22), 5.IX (7) – **A2**: 18.VII (6), 8.VIII (2), 5.IX (6), 10.X (1) – **B1**: 18.VII (1), 8.VIII (1) – **B2**: 18.VII (1), 8.VIII (4), 5.IX (3) – **C1**: 18.VII (2), 5.IX (1) – **D2**: 5.IX (1), 10.X (3).
118. *Rhodostrophia calabra* (Petagna, 1786) – **A1**: 10.VI (7) – **B1**: 10.VI (1).
119. *Rhodostrophia pudorata* (Fabricius, 1794) – **A1**: 10.VI (4).
120. *Scopula imitaria* (Hübner, 1799) – **A1**: 2.V (2), 18.VII (6), 8.VIII (2), 5.IX (2), 10.X (1) – **A2**: 2.IV (1), 2.V (1) – **B1**: 2.V (1), 18.VII (1), 8.VIII (1), 5.IX (1), 10.X (3) – **C1**: 2.IV (1), 2.V (2), 18.VII (2), 8.VIII (2), 5.IX (3), 10.X (1) – **D1**: 2.V (1), 18.VII (2), 5.IX (2), 10.X (1) – **D2**: 5.IX (1).
121. *Scopula marginepunctata* (Goeze, 1781) – **A1**: 2.IV (1), 10.VI (2), 18.VII (1), 8.VIII (13), 5.IX (1) – **A2**: 2.IV (1), 8.VIII (3), 5.IX (6), 10.X (1) – **B1**: 2.IV (1), 18.VII (3), 8.VIII (3), 5.IX (1), 10.X (2) – **B2**: 18.VII (1), 8.VIII (2), 5.IX (1), 10.X (1) – **C1**: 18.VII (2), 8.VIII (12) – **C2**: 8.VIII (1), 5.IX (1) – **D1**: 8.VIII (1), 5.IX (1) – **D2**: 18.VII (3), 8.VIII (2), 5.IX (5), 10.X (1).
122. *Scopula minorata* (Boisduval, 1833) – **A1**: 18.VII (3), 8.VIII (9), 5.IX (7), 10.X (3) – **A2**: 18.VII (1), 8.VIII (1), 5.IX (1) – **B1**: 18.VII (15), 5.IX (4) – **C1**: 5.IX (1), 10.X (2), 12.XI (1) – **D1**: 8.VIII (3), 5.IX (2) – **D2**: 5.IX (1), 10.X (2).
123. *Scopula nigropunctata* (Hufnagel, 1767) – **A1**: 10.VI (1).
124. *Scopula ornata* (Scopoli, 1763) – **A1**: 2.V (1), 18.VII (4), 8.VIII (10), 5.IX (1) – **A2**: 2.V (1), 18.VII (1), 8.VIII (2), 5.IX (3) – **B1**: 18.VII (3), 10.X (1) – **B2**: 8.VIII (1), 5.IX (1) – **C1**: 8.VIII (2), 5.IX (1) – **C2**: 18.VII (2), 8.VIII (1) – **D1**: 8.VIII (1) – **D2**: 18.VII (3), 8.VIII (2), 5.IX (3), 10.X (1).
125. *Scopula rubiginata* (Hufnagel, 1767) – **A1**: 10.VI (1) – **A2**: 18.VII (1), 8.VIII (1) – **B2**: 18.VII (1), 5.IX (1) – **D2**: 5.IX (1).
126. *Scopula turbulentaria* (Staudinger, 1870) – **A1**: 8.VIII (5) – **A2**: 8.VIII (1), 5.IX (2) – **B1**: 5.IX (1) – **B2**: 5.IX (7) – **C1**: 8.VIII (1) – **C2**: 18.VII (1), 8.VIII (1) – **D2**: 8.VIII (1).
127. *Scopula vigilata* (Sohn-Rethel, 1929) – **A1**: 10.VI (1), 18.VII (3), 8.VIII (1), 5.IX (5), 10.X (1) – **A2**: 18.VII (1), 8.VIII (1) – **B1**: 18.VII (3), 5.IX (1) – **B2**: 5.IX (1) – **D1**: 5.IX (1).

128. *Timandra comae* A. Schmidt, 1931 – **A1**: 18.VII (1), 8.VIII (6), 5.IX (2), 10.X (4) – **A2**: 18.VII (1), 8.VIII (3), 10.X (2) – **B1**: 18.VII (1), 5.IX (1), 10.X (2) – **B2**: 10.X (1) – **C1**: 10.VI (2), 18.VII (1), 8.VIII (4), 5.IX (1), 10.X (4) – **C2**: 5.IX (1) – **D1**: 8.VIII (1), 10.X (1).

Notodontidae

129. *Drymonia dodonaea* (Denis & Schiffermüller, 1775) – **D1**: 2.V (1).
130. *Drymonia querna* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (3) – **C1**: 10.VI (1).
131. *Drymonia velitaris* (Hufnagel, 1766) – **A2**: 18.VII (1).
132. *Pterostoma palpina* (Clerck, 1759) – **A1**: 8.VIII (1) – **A2**: 5.IX (1) – **B2**: 10.VI (1) – **C1**: 5.III (1), 8.VIII (1), 5.IX (1) – **D1**: 8.VIII (2), 5.IX (2) – **D2**: 2.IV (1), 10.VI (1).
133. *Peridea anceps* (Goeze, 1781) – **A1**: 2.IV (2), 2.V (2) – **C2**: 2.IV (1).
134. *Phalera bucephala* (Linnaeus, 1758) – **A1**: 2.V (1) – **B1**: 5.IX (1) – **C1**: 2.V (1), 10.VI (2), 8.VIII (1), 5.IX (2).
135. *Clostera curtula* (Linnaeus, 1758) – **A1**: 5.IX (1) – **B2**: 2.IV (1) – **D1**: 2.IV (1).
136. *Clostera pigra* (Hufnagel, 1766) – **D1**: 5.IX (1) – **D2**: 2.IV (1).
137. *Thaumetopoea processionea* (Linnaeus, 1758) – **B2**: 5.IX (1).

Noctuidae

Acontiinae

138. *Acontia lucida* (Hufnagel, 1766) – **A1**: 8.VIII (1), 5.IX (2) – **C2**: 8.VIII (1) – **D2**: 5.IX (1).
139. *Acontia trabealis* (Scopoli, 1763) – **A1**: 10.VI (6), 18.VII (1), 8.VIII (1), 5.IX (4) – **A2**: 10.VI (1), 18.VII (3), 8.VIII (3), 5.IX (17) – **B1**: 18.VII (1), 8.VIII (5), 5.IX (9) – **B2**: 10.VI (6), 18.VII (2), 8.VIII (11), 5.IX (12) – **C1**: 10.VI (1), 5.IX (2) – **C2**: 10.VI (10), 8.VIII (6), 5.IX (10) – **D1**: 5.IX (1) – **D2**: 10.VI (6), 18.VII (2), 8.VIII (8), 5.IX (52).
140. *Aedia leucomelas* (Linnaeus, 1758) – **A1**: 18.VII (1), 5.IX (1).

Acronictinae

141. *Acronicta rumicis* (Linnaeus, 1758) – **A1**: 2.V (1), 10.VI (1), 18.VII (1), 5.IX (1), 10.X (1) –

A2: 10.VI (2), 10.X (1) – **B1**: 2.V (1), 10.X (4) – **C1**: 10.VI (1), 10.X (1).

142. *Craniophora ligustri* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (3) – **B1**: 5.IX (1) – **C1**: 2.V (1), 5.IX (1) – **D1**: 5.IX (1) – **D2**: 2.V (1).

Amphipyridae

143. *Allophytes corsica* (Spuler, 1905) – **B1**: 12.XI (1) – **C1**: 12.XI (1), 4.XII (10) – **D1**: 12.XI (1), 4.XII (1) – **D2**: 12.XI (1), 4.XII (1).
144. *Amphipyra pyramidea* (Linnaeus, 1758) – **B1**: 10.X (1).

Bryophilinae

145. *Bryophila raptricula* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (1).
146. *Cryphia algae* (Fabricius, 1775) – **A1**: 18.VII (1), 8.VIII (1), 5.IX (2) – **B1**: 18.VII (2), 8.VIII (2), 5.IX (1) – **B2**: 8.VIII (1) – **D1**: 18.VII (1).
147. *Cryphia ochsi* (Boursin, 1940) – **A1**: 18.VII (4), 8.VIII (11), 5.IX (2) – **A2**: 18.VII (2), 8.VIII (1) – **B1**: 18.VII (7), 8.VIII (7), 5.IX (3) – **B2**: 8.VIII (6), 5.IX (1) – **C1**: 18.VII (2), 8.VIII (4), 5.IX (2) – **D1**: 18.VII (2), 8.VIII (2) – **D2**: 8.VIII (4).
148. *Nyctobrya muralis* (Forster, 1771) – **A1**: 8.VIII (1), 5.IX (3) – **B1**: 5.IX (1) – **C1**: 8.VIII (3) – **D1**: 8.VIII (1) – **D2**: 5.IX (1).

Condicinae

149. *Condica viscosa* (Freyer, 1831) – **A1**: 18.VII (1), 8.VIII (3), 5.IX (4) – **A2**: 5.IX (1), 10.X (1) – **B1**: 8.VIII (2), 5.IX (3), 10.X (1).

Cucullinae

150. *Cucullia chamomillae* (Denis & Schiffermüller, 1775) – **B1**: 12.XI (1).
151. *Cucullia lanceolata* (Villers, 1789) – **A1**: 2.V (1).

Eriopinae

152. *Callopietria juvenina* (Stoll, 1782) – **A1**: 10.VI (2), 18.VII (2), 8.VIII (3), 5.IX (4), 10.X (1) – **A2**: 10.VI (2), 18.VII (3), 8.VIII (2), 5.IX (4) – **B1**: 2.V (1), 10.VI (4), 18.VII (1), 8.VIII (3), 5.IX (3), 10.X (1) – **B2**: 10.VI (1) – **C2**: 10.VI (1) – **D1**: 18.VII (1) – **D2**: 8.VIII (1), 5.IX (1).
153. *Callopietria latreillei* (Duponchel, 1827) – **A1**: 18.VII (1), 5.IX (2), 10.X (4), 4.XII (1) – **A2**: 5.IX (2) – **B1**: 10.X (2) – 4.XII (1) – **B2**: 10.X (1) – **C1**: 5.IX (1).

Eustrotiinae

154. *Deltote pygarga* (Hufnagel, 1766) – **A1**: 10.VI (5), 18.VII (4), 8.VIII (9), 5.IX (5), 10.X (3) – **A2**: 18.VII (1) – **B1**: 2.V (5), 10.VI (4), 18.VII (5), 8.VIII (2), 5.IX (2) – **C1**: 10.VI (4), 18.VII (5), 8.VIII (4), 5.IX (2), 10.X (1) – **D1**: 8.VIII (2) – **D2**: 5.IX (1).
155. *Pseudozarba bipartita* (Herrich-Schäffer, 1850) – **A1**: 8.VIII (1).

Heliothinae

156. *Helicoverpa armigera* (Hübner, 1808) – **B1**: 10.X (1) – **C2**: 8.VIII (1).
157. *Heliothis nubigera* Herrich-Schäffer, 1851 – **C1**: 2.II (1).
158. *Heliothis peltigera* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (1), 5.IX (1) – **A2**: 5.IX (1) – **B2**: 18.VII (1), 8.VIII (1) – **C2**: 18.VII (2) – **D2**: 10.VI (1), 18.VII (3), 8.VIII (2).
159. *Heliothis virescens* (Hufnagel, 1766) – **A1**: 10.VI (3) – **C2**: 18.VII (1).

Metoponiinae

160. *Aegle semicana* (Esper, 1798) – **A1**: 8.VIII (3) – **A2**: 8.VIII (1) – **B1**: 8.VIII (1) – **C1**: 5.IX (1).
161. *Synthymia fixa* (Fabricius, 1787) – **A1**: 10.VI (25) – **A2**: 10.VI (4) – **B1**: 10.VI (11) – **B2**: 10.VI (1) – **C2**: 10.VI (1) – **D1**: 10.VI (5) – **D2**: 10.VI (5).
162. *Tyta luctuosa* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (2), 8.VIII (5), 5.IX (1) – **A2**: 18.VII (4), 8.VIII (6), 5.IX (9) – **B1**: 18.VII (9), 8.VIII (3), 5.IX (1) – **B2**: 10.VI (1), 18.VII (9), 8.VIII (8), 5.IX (5) – **C1**: 18.VII (2) – **C2**: 18.VII (1), 8.VIII (3), 5.IX (6) – **D1**: 5.IX (1) – **D2**: 18.VII (6), 8.VIII (4), 5.IX (5).

Noctuinae

163. *Agrochola blidaensis* (Stertz, 1915) – **C2**: 4.XII (1).
164. *Agrochola lota* (Clerck, 1759) – **A1**: 17.I (1) – **B2**: 4.XII (1) – **D1**: 17.I (1).
165. *Agrochola lychnidis* (Denis & Schiffermüller, 1775) – **A1**: 12.XI (4), 4.XII (4), 2.II (2) – **A2**: 4.XII (1) – **B1**: 10.X (1), 12.XI (4), 2.II (3) – **B2**: 12.XI (4), 17.I (1), 2.II (1) – **C1**: 4.XII (2), 2.II (1) – **C2**: 12.XI (1), 2.II (2) – **D2**: 4.XII (2).
166. *Agrotis bigramma* (Esper, 1790) – **A1**: 5.IX (2) – **B1**: 5.IX (2) – **B2**: 5.IX (1).

167. *Agrotis catalaunensis* (Millière, 1873) – **A1**: 2.IV (1) – **A2**: 2.IV (1) – **B1**: 2.IV (1) – **B2**: 5.III (1).
168. *Agrotis exclamatoris* (Linnaeus, 1758) – **A1**: 10.VI (1), 18.VII (1) – **B1**: 2.V (2).
169. *Agrotis ipsilon* (Hufnagel, 1766) – **A1**: 2.IV (1), 8.VIII (9), 5.IX (8), 10.X (29), 12.XI (1) – **A2**: 8.VIII (1) – **B1**: 2.II (1), 2.IV (1), 8.VIII (4), 10.X (2), 4.XII (1) – **B2**: 2.IV (1), 8.VIII (1), 5.IX (1).
170. *Agrotis lata* Treitschke, 1835 – **B1**: 5.IX (2) – **B2**: 5.IX (5) – **C2**: 5.IX (4) – **D2**: 5.IX (2).
171. *Agrotis puta* (Hübner, 1803) – **A1**: 2.IV (2), 5.IX (3), 10.X (23) – **A2**: 5.IX (2), 10.X (1) – **B1**: 2.IV (7), 2.V (1), 5.IX (2), 10.X (12) – **B2**: 2.IV (1), 2.V (1), 10.X (1) – **C2**: 5.IX (1) – **D2**: 5.III (1), 2.IV (2).
172. *Agrotis segetum* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (1), 10.VI (1), 18.VII (2), 8.VIII (3), 5.IX (6), 10.X (3), 12.XI (1), 4.XII (2) – **A2**: 5.IX (2) – **B1**: 5.III (1), 8.VIII (2), 5.IX (1), 10.X (1), 12.XI (2) – **B2**: 8.VIII (3), 5.IX (3) – **C1**: 18.VII (1), 5.IX (1) – **D2**: 10.VI (1), 8.VIII (1), 5.IX (1).
173. *Agrotis spinifera* (Hübner, 1808) – **A1**: 5.IX (2), 10.X (13), 12.XI (1) – **A2**: 5.IX (1), 10.X (2) – **B1**: 10.X (9), 12.XI (2), 4.XII (1) – **B2**: 5.IX (3), 10.X (6), 12.XI (1), 4.XII (1) – **C1**: 10.X (1) – **C2**: 5.IX (1), 10.X (2) – **D2**: 18.VII (1), 10.X (1).
174. *Agrotis trux* (Hübner, 1824) – **A1**: 10.X (3) – **B1**: 10.X (7).
175. *Ammoconia senex* (Geyer, 1828) – **A1**: 12.XI (3).
176. *Anarta trifolii* (Hufnagel, 1766) – **A1**: 18.VII (1).
177. *Aporophyla australis* (Boisduval, 1829) – **A2**: 12.XI (8) – **B1**: 12.XI (11), 4.XII (2) – **B2**: 12.XI (6) – **C2**: 12.XI (1).
178. *Aporophyla canescens* (Duponchel, 1826) – **B1**: 10.X (1).
179. *Aporophyla nigra* (Haworth, 1809) – **A1**: 12.XI (3) – **B1**: 12.XI (4), 4.XII (2) – **B2**: 12.XI (1).
180. *Athetis hospes* (Freyer, 1831) – **A1**: 10.VI (27), 18.VII (4), 5.IX (4), 10.X (3) – **A2**: 2.V (3), 10.VI (6), 18.VII (1), 8.VIII (1), 10.X (2) – **B1**: 2.IV (1), 10.VI (6), 18.VII (2), 8.VIII (1), 5.IX (8), 10.X (4) – **B2**: 2.V (1), 10.VI (2), 8.VIII (1), 5.IX (1), 10.X (6) – **C1**: 2.V (2), 10.VI (3), 5.IX (1) – **C2**: 10.VI (1), 10.X (1) – **D1**: 10.VI (8) – **D2**: 10.VI (3), 10.X (1).
181. *Atypha pulmonaris* (Esper, 1790) – **D1**: 10.VI (1).

182. *Axylia putris* (Linnaeus, 1761) – **A1**: 2.V (4), 5.IX (11), 10.X (1) – **B1**: 2.V (1), 10.VI (1), 5.IX (8), 10.X (1).
183. *Caradrina clavipalpis* Scopoli, 1763 – **A1**: 18.VII (5) – **B1**: 2.V (1), 18.VII (1) – **C1**: 18.VII (1).
184. *Caradrina flavirena* Guenée, 1852 – **A1**: 2.IV (4), 2.V (5), 8.VIII (1), 5.IX (19), 10.X (13) – **A2**: 2.IV (1), 5.IX (1), 10.X (3) – **B1**: 2.IV (1), 2.V (2), 18.VII (4), 5.IX (10), 10.X (12) – **B2**: 8.VIII (1), 5.IX (1), 10.X (6) – **C1**: 2.V (2), 10.VI (1), 8.VIII (1), 5.IX (5) – **C2**: 5.IX (1), 10.X (2) – **D1**: 5.IX (1), 10.X (1) – **D2**: 2.IV (1), 10.VI (1), 5.IX (1), 10.X (1).
185. *Caradrina kadenii* Freyer, 1836 – **A1**: 5.IX (7), 10.X (2) – **C1**: 5.IX (4) – **D1**: 10.VI (1), 5.IX (1).
186. *Cerastis faceta* (Treitschke, 1835) – **A1**: 2.II (16), 5.III (9), 2.IV (2) – **A2**: 17.I (1), 2.II (8), 2.IV (1) – **B1**: 2.II (5), 5.III (5), 2.IV (2) – **B2**: 17.I (1) – **C1**: 2.II (4), 5.III (10), 2.IV (1) – **D1**: 2.II (2), 5.III (6) – **D2**: 5.III (1).
187. *Charanyca trigrammica* (Hufnagel, 1766) – **A1**: 2.V (1) – **B1**: 2.V (3) – **D1**: 10.VI (1).
188. *Clemathada calberlai* (Staudinger, 1883) – **A1**: 2.V (1), 5.IX (2) – **A2**: 18.VII (2), 5.IX (3) – **B1**: 18.VII (2) – **C1**: 2.IV (1), 18.VII (13), 5.IX (10) – **C2**: 2.V (1) – **D1**: 2.V (1), 18.VII (6), 8.VIII (1), 5.IX (1).
189. *Conisania luteago* (Denis & Schiffermüller, 1775) – **A1**: 2.V (1), 5.IX (2) – **D1**: 2.V (1).
190. *Conistra erythrocephala* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (2) – **B1**: 2.II (1), 2.IV (1).
191. *Conistra rubiginea* (Denis & Schiffermüller, 1775) – **C1**: 2.IV (1).
192. *Conistra vaccinii* (Linnaeus, 1761) – **C1**: 2.IV (1).
193. *Conistra veronicae* (Hübner, 1813) – **A1**: 2.III (1), 2.IV (1) – **B1**: 2.II (2) – **B2**: 2.IV (1) – **C1**: 2.II (2).
194. *Dichonia aeruginea* (Hübner, 1808) – **C1**: 4.XII (1).
195. *Dryobotodes monochroma* (Esper, 1790) – **A1**: 10.X (1).
196. *Dypterygia scabriuscula* (Linnaeus, 1758) – **A1**: 5.IX (3).
197. *Egira conspicillaris* (Linnaeus, 1758) – **A1**: 2.IV (13) – **A2**: 2.IV (2) – **B1**: 2.IV (5) – **B2**: 2.IV (2) – **C1**: 2.IV (3) – **D1**: 2.IV (1).
198. *Elaphria venustula* (Hübner, 1790) – **A1**: 10.VI (2), 18.VII (1), 8.VIII (2) – **C2**: 10.VI (1) – **D1**: 2.V (1) – **D2**: 10.VI (1), 18.VII (1).
199. *Euplexia lucipara* (Linnaeus, 1758) – **A1**: 18.VII (1), 5.IX (2), 10.X (1) – **A2**: 2.V (1) – **B1**: 5.IX (1).
200. *Gortyna flavago* (Denis & Schiffermüller, 1775) – **A1**: 10.X (1).
201. *Hadena bicruris* (Hufnagel, 1766) – **A1**: 2.V (1) – **D1**: 2.V (1).
202. *Hadena confusa* (Hufnagel, 1766) – **A1**: 2.V (2), 10.VI (1) – **B1**: 2.V (1).
203. *Hadena perplexa* (Denis & Schiffermüller, 1775) – **A1**: 2.V (1), 10.VI (1) – **A2**: 2.IV (1), 10.VI (1) – **B2**: 10.VI (1) – **D1**: 2.V (1).
204. *Hecatera bicolorata* (Hufnagel, 1766) – **A1**: 8.VIII (1).
205. *Hecatera dysodea* (Denis & Schiffermüller, 1775) – **D2**: 5.IX (1).
206. *Hoplodrina ambigua* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (9), 10.X (1) – **A2**: 2.V (1) – **B1**: 10.VI (5), 5.IX (1), 10.X (1) – **C1**: 5.IX (3) – **D2**: 5.IX (2).
207. *Ipimorpha subtusa* (Denis & Schiffermüller, 1775) – **A2**: 5.IX (1) – **B1**: 5.IX (1).
208. *Jodia croceago* (Denis & Schiffermüller, 1775) – **B1**: 2.V (1).
209. *Lacanobia oleracea* (Linnaeus, 1758) – **A1**: 2.IV (1), 18.VII (2), 8.VIII (1), 5.IX (1), 10.X (1) – **C1**: 5.IX (1).
210. *Leucania joannisi* Boursin & Rungs, 1952 – **A1**: 8.VIII (3), 5.IX (13), 10.X (1) – **A2**: 10.VI (1), 5.IX (2), 10.X (1) – **B1**: 10.VI (1), 5.IX (3), 10.X (1) – **C1**: 10.VI (2), 8.VIII (1), 5.IX (1), 10.X (1), 12.XI (1) – **D1**: 10.VI (9), 5.IX (4) – **D2**: 10.VI (3), 5.IX (2).
211. *Leucania putrescens* (Hübner, 1824) – **A1**: 8.VIII (1), 5.IX (42), 10.X (1) – **A2**: 5.IX (2) – **B1**: 5.IX (6), 10.X (2) – **B2**: 5.IX (3), 10.X (1) – **C1**: 5.IX (11), 10.X (1) – **D1**: 5.IX (10) – **D2**: 5.IX (1).
212. *Luperina dumerilii* (Duponchel, 1826) – **A1**: 10.X (1) – **A2**: 10.X (1) – **B1**: 10.X (2) – **B2**: 10.X (1).
213. *Luperina testacea* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (1).
214. *Mesapamea secalella* Remm, 1983 – **A2**: 5.IX (1).
215. *Mesapamea secalis* (Linnaeus, 1758) – **A1**: 45.IX (1), 10.X (1) – **B1**: 8.VIII (1), 10.X (1).

216. *Mniotype solieri* (Boisduval, 1840) – **A1**: 5.IX (1), 10.X (37), 12.XI (61), 4.XII (5) – **A2**: 10.X (4), 12.XI (13) – **B1**: 10.X (12), 12.XI (16), 4.XII (1) – **B2**: 12.XI (7) – **C1**: 10.X (7), 12.XI (1) – **C2**: 12.XI (2) – **D1**: 10.X (1), 4.XII (1) – **D2**: 10.X (1).
217. *Mythimna albipuncta* (Denis & Schiffermüller, 1775) – **A1**: 2.V (1), 5.IX (4) – **B1**: 18.VII (1) – **C1**: 2.V (1), 5.IX (1) – **C2**: 18.VII (1).
218. *Mythimna congrua* (Hübner, 1817) – **A1**: 10.VI (2), 8.VIII (4), 5.IX (8) – **B2**: 10.VI (1) – **C1**: 10.VI (3), 8.VIII (2), 5.IX (5) – **D1**: 18.VII (1), 5.IX (2) – **D2**: 8.VIII (1).
219. *Mythimna ferrago* (Fabricius, 1787) – **A1**: 18.VII (6), 8.VIII (3), 5.IX (22) – **A2**: 18.VII (1), 5.IX (3) – **B1**: 5.IX (6) – **B2**: 5.IX (1) – **C1**: 8.VIII (1), 5.IX (5) – **D2**: 8.VIII (1).
220. *Mythimna l-album* (Linnaeus, 1767) – **A1**: 2.II (1), 18.VII (3), 8.VIII (4), 5.IX (3), 10.X (6), 12.XI (3) – **A2**: 18.VII (1), 8.VIII (1), 5.IX (2), 10.X (1) – **B1**: 10.X (3), 12.XI (1) – **B2**: 10.X (1), 4.XII (1) – **C1**: 18.VII (5), 8.VIII (1), 5.IX (2), 10.X (4) – **C2**: 12.XI (1) – **D1**: 18.VII (4), 8.VIII (2), 5.IX (1) – **D2**: 18.VII (1), 8.VIII (1).
221. *Mythimna languida* (Walker, 1858) – **A1**: 5.IX (1), 10.X (2), 12.XI (3), 4.XII (1) – **B1**: 10.X (5), 12.XI (5).
222. *Mythimna prominens* (Walker, 1856) – **A1**: 5.IX (3), 10.X (2) – **A2**: 8.VIII (1) – **B2**: 8.VIII (1) – **D2**: 8.VIII (1).
223. *Mythimna riparia* (Rambur, 1829) – **A1**: 10.VI (15), 5.IX (5) – **A2**: 10.VI (2) – **B1**: 10.VI (2), 8.VIII (1), 5.IX (2) – **B2**: 10.VI (1) – **D2**: 10.VI (1), 5.IX (1), 10.X (1).
224. *Mythimna sicula* (Treitschke, 1835) – **A1**: 2.IV (2), 18.VII (2), 5.IX (4) – **B1**: 5.IX (1) – **B2**: 5.IX (2) – **C1**: 5.IX (1) – **C2**: 5.IX (2) – **D2**: 2.V (1), 5.IX (1).
225. *Mythimna unipuncta* (Haworth, 1809) – **A1**: 2.II (2), 10.VI (1), 8.VIII (5), 5.IX (1), 10.X (14), 12.XI (6), 4.XII (1) – **A2**: 8.VIII (1), 10.X (3), 12.XI (2) – **B1**: 17.I (1), 2.II (1), 8.VIII (1), 12.XI (5), 4.XII (1) – **B2**: 10.VI (1), 8.VIII (1), 10.X (3), 12.XI (1) – **C1**: 5.III (1) – **D2**: 2.IV (1), 10.X (2).
226. *Mythimna vitellina* (Hübner, 1808) – **A2**: 2.V (1) – **C1**: 2.V (1).
227. *Noctua comes* Hübner, 1813 – **A1**: 10.VI (3), 8.VIII (1), 5.IX (1), 10.X (13) – **A2**: 18.VII (1), 5.IX (1) – **B1**: 10.VI (1), 10.X (7) – **B2**: 10.VI (1), 10.X (1) – **C1**: 10.X (1) – **C2**: 10.X (1) – **D1**: 10.VI (1), 10.X (1) – **D2**: 5.IX (3).
228. *Noctua interjecta* Hübner, 1803 – **A1**: 18.VII (3) – **A2**: 18.VII (1) – **B1**: 10.X (1) – **B2**: 10.X (1) – **D2**: 5.IX (1).
229. *Noctua janthina* (Denis & Schiffermüller, 1775) – **A1**: 10.VI (1), 18.VII (3), 8.VIII (1), 5.IX (3), 10.X (2) – **A2**: 10.VI (1) – **B1**: 18.VII (2), 10.X (2) – **C1**: 10.X (5) – **D2**: 5.IX (1).
230. *Noctua pronuba* Linnaeus, 1758 – **A1**: 10.VI (1), 18.VII (1), 8.VIII (1), 5.IX (1), 10.X (13) – **A2**: 10.X (2), 12.XI (1) – **B1**: 18.VII (1), 10.X (9), 12.XI (2) – **B2**: 10.X (1), 12.XI (1) – **C1**: 10.X (2) – **C2**: 10.X (1) – **D1**: 5.IX (1) – **D2**: 8.VIII (1).
231. *Noctua tirrenica* Biebinger, Speidel & Hanigk, 1983 – **A1**: 8.VIII (1), 5.IX (1), 10.X (1) – **B1**: 5.IX (2), 10.X (1) – **D1**: 5.IX (1).
232. *Ochropleura leucogaster* (Freyer, 1831) – **A1**: 10.VI (7), 8.VIII (1) – **D2**: 10.X (1).
233. *Ochropleura plecta* (Linnaeus, 1761) – **A1**: 10.VI (1).
234. *Orthosia cerasi* (Fabricius, 1775) – **A1**: 5.III (6), 2.IV (5) – **A2**: 5.III (1) – **B1**: 5.III (2), 2.IV (2) – **B2**: 5.III (1) – **C1**: 2.IV (2) – **C2**: 5.III (2).
235. *Orthosia cruda* (Denis & Schiffermüller, 1775) – **A1**: 5.III (6), 2.IV (5) – **B1**: 5.III (2), 2.IV (3) – **C1**: 5.III (2) – **D1**: 5.III (1).
236. *Orthosia gothica* (Linnaeus, 1758) – **A1**: 17.I (1), 2.II (3), 5.III (8), 2.IV (3) – **A2**: 2.II (1), 5.III (1), 2.IV (1) – **B1**: 2.II (1), 5.III (4) – **B2**: 17.I (1), 2.II (2) – **C1**: 2.II (2), 5.III (8), 2.IV (1) – **D1**: 5.III (4), 2.IV (1) – **D2**: 5.III (1), 2.IV (1).
237. *Orthosia gracilis* (Denis & Schiffermüller, 1775) – **A1**: 2.IV (1).
238. *Orthosia incerta* (Hufnagel, 1766) – **C1**: 5.III (1) – **D1**: 5.III (1).
239. *Orthosia miniosa* (Denis & Schiffermüller, 1775) – **A1**: 2.III (1), 5.III (1), 2.IV (4) – **A2**: 5.III (1).
240. *Peridroma saucia* (Hübner, 1808) – **A1**: 5.III (1), 2.IV (1), 2.V (1), 10.VI (1), 8.VIII (1), 5.IX (3), 10.X (2), 4.XII (2) – **A2**: 17.I (1) – **B1**: 17.I (1), 5.IX (1), 10.X (1) – **B2**: 12.XI (1) – **C1**: 18.VII (1), 5.IX (1).
241. *Phragmatiphila nexa* (Hübner, 1808) – **B1**: 10.X (1).
242. *Polymixis rufocincta* (Geyer, 1828) – **A1**:

- 4.XII (5).
243. *Polymixis serpentina* (Treitschke, 1825) – **A1**: 12.XI (2) – **B1**: 12.XI (1).
244. *Scotochrosta pulla* (Denis & Schiffermüller, 1775) – **A1**: 10.X (10) – **B1**: 10.X (4) – **C1**: 10.X (1) – **C2**: 10.X (1).
245. *Sesamia nonagrioides* (Lefèbvre, 1827) – **A2**: 5.IX (2) – **B2**: 18.VII (1) – **C2**: 18.VII (1), 10.X (1).
246. *Spodoptera cilium* (Guenée, 1852) – **A1**: 10.X (1) – **A2**: 5.IX (1) – **B1**: 12.XI (1) – **B2**: 10.X (2) – **C1**: 10.X (1).
247. *Spodoptera exigua* (Hübner, 1808) – **A1**: 10.VI (4), 18.VII (9), 8.VIII (59), 5.IX (9), 10.X (4) – **A2**: 18.VII (3), 8.VIII (23), 5.IX (3), 10.X (1) – **B1**: 2.II (3), 18.VII (11), 8.VIII (36), 5.IX (15), 10.X (3) – **B2**: 10.VI (1), 18.VII (5), 8.VIII (63), 5.IX (12), 10.X (2) – **C1**: 18.VII (1) – **C2**: 10.VI (2), 18.VII (2), 8.VIII (2), 5.IX (1), 10.X (1) – **D1**: 8.VIII (1), 12.XI (1) – **D2**: 8.VIII (8).
248. *Spodoptera littoralis* (Boisduval, 1833) – **A1**: 8.VIII (1), 10.X (3) – **A2**: 10.X (1) – **B1**: 5.IX (1), 12.XI (1) – **B2**: 8.VIII (1) – **D2**: 10.X (1).
249. *Tiliacea sulphurago* (Denis & Schiffermüller, 1775) – **A1**: 10.X (1).
250. *Trigonophora flammea* (Esper, 1785) – **A1**: 12.XI (3), 4.XII (1) – **B1**: 12.XI (1), 4.XII (1) – **B2**: 12.XI (1) – **C1**: 12.XI (1), 4.XII (6) – **D2**: 12.XI (2).
251. *Xanthia ruticilla* (Esper, 1791) – **A1**: 5.III (2), 2.IV (2) – **A2**: 5.III (1) – **B1**: 5.III (4) – **B2**: 5.III (1) – **C1**: 2.II (2), 5.III (5) – **C2**: 5.III (1) – **D1**: 2.IV (1) – **D2**: 5.III (4), 2.IV (1).
252. *Xestia c-nigrum* (Linnaeus, 1758) – **A1**: 8.VIII (1), 10.X (3) – **B1**: 2.IV (1), 18.VII (1), 10.X (2), 12.XI (1) – **C1**: 2.V (1).
253. *Xestia cohaesa* (Herrich-Schäffer, 1849) – **A1**: 10.X (1) – **B1**: 10.X (2) – **B2**: 10.X (1) – **C2**: 10.X (1).
254. *Xestia xanthographa* (Denis & Schiffermüller, 1775) – **A1**: 10.X (2) – **B1**: 10.X (1) – **C1**: 10.X (1).
- Oncocnemidinae
255. *Calophasia platyptera* (Esper, 1788) – **A1**: 18.VII (1) – **B1**: 10.VI (1).
256. *Omphalophana anatolica* (Lederer, 1857) – **A1**: 2.V (1) – **A2**: 2.V (1) – **B1**: 2.V (2).
257. *Stilbia faillae* Püngeler, 1918 – **A1**: 10.X (2) – **B1**: 10.X (1) – **B2**: 10.X (1) – **D1**: 10.X (1).
258. *Xylocampa mustapha* (Oberthür, 1920) – **A1**: 17.I (1), 2.II (1), 5.III (1) – **B1**: 4.XII (1), 2.II (1) – **B2**: 2.II (1).
- Pantheinae
259. *Colocasia coryli* (Linnaeus, 1758) – **A1**: 5.IX (1).
- Plusiinae
260. *Abrostola agnorista* Dufay, 1956 – **A1**: 10.X (1) – **A2**: 2.IV (1) – **B1**: 2.V (1) – **C1**: 2.IV (1), 5.IX (3), 10.X (1).
261. *Abrostola triplasia* (Linnaeus, 1758) – **A1**: 18.VII (1), 5.IX (1).
262. *Autographa gamma* (Linnaeus, 1758) – **A1**: 2.V (1), 5.IX (1) – **B1**: 18.VII (1) – **C1**: 2.V (1) – **D2**: 5.IX (1).
263. *Chrysodeixis chalcites* (Esper, 1789) – **A1**: 10.X (1).
264. *Ctenoplusia accentifera* (Lefèbvre, 1827) – **A1**: 5.IX (1).
265. *Macdunnoughia confusa* (Stephens, 1850) – **A1**: 18.VI (1) – **A2**: 10.X (1) – **B2**: 10.X (1) – **D2**: 10.X (1).
266. *Thysanoplusia circumscripta* (Freyer, 1831) – **A1**: 2.V (1), 18.VII (1), 10.X (3), 12.XI (1), 4.XII (1) – **A2**: 10.X (1) – **C1**: 10.X (1).
267. *Thysanoplusia daubei* (Boisduval, 1840) – **A1**: 8.VIII (2).
268. *Thysanoplusia orichalcea* (Fabricius, 1775) – **A1**: 2.IV (1) – **B2**: 5.IX (1) – **D2**: 5.IX (1).
269. *Trichoplusia ni* (Hübner, 1803) – **A1**: 10.VI (1), 18.VII (1), 8.VIII (2) – **A2**: 18.VII (1), 8.VIII (1) – **B1**: 18.VII (1) – **B2**: 18.VII (1) – **C2**: 18.VII (1) – **D2**: 18.VII (1), 8.VIII (1), 10.X (1).
- Erebidae
- Arctiinae
270. *Arctia villica* (Linnaeus, 1758) – **A1**: 2.V (1) – **A2**: 2.V (1) – **B1**: 2.V (3) – **C1**: 2.V (1) – **C2**: 2.V (1) – **D1**: 10.VI (1) – **D2**: 2.V (1).
271. *Coscinia striata* (Linnaeus, 1758) – **A2**: 8.VIII (1) – **C2**: 8.VIII (1).
272. *Cymbalophora pudica* (Esper, 1784) – **A1**: 10.X (4) – **A2**: 10.X (3) – **B1**: 10.X (4) – **B2**: 10.X (2) – **C1**: 10.X (6) – **C2**: 10.X (7) – **D2**: 10.X (2).
273. *Diaphora mendica* (Clerck, 1759) – **A1**: 2.IV (7), 2.V (3) – **A2**: 2.IV (3) – **B1**: 2.IV (5) –

- B2:** 2.IV (1), 2.V (1) – **C1:** 2.V (4) – **C2:** 2.IV (2) – **D1:** 2.IV (5), 2.V (2) – **D2:** 2.IV (4), 2.V (1).
274. *Dysauxes famula* (Freyer, 1836) – **A1:** 10.VI (9), 18.VII (1), 8.VIII (37), 5.IX (10), 10.X (2) – **A2:** 10.VI (1), 8.VIII (17), 5.IX (9), 10.X (3) – **B1:** 10.VI (4), 18.VII (2), 8.VIII (68), 10.X (3) – **B2:** 10.VI (1) – 8.VIII (29), 5.IX (1), 10.X (13) – **C1:** 10.VI (2), 18.VII (1), 8.VIII (50), 5.IX (14), 10.X (6) – **C2:** 10.VI (8), 8.VIII (12), 5.IX (2), 10.X (8) – **D1:** 18.VII (2), 8.VIII (25), 5.IX (4), 10.X (2) – **D2:** 10.VI (1), 8.VIII (23), 5.IX (5), 10.X (2).
275. *Eilema caniola* (Hübner, 1808) – **A1:** 10.VI (47), 18.VII (3), 8.VIII (23), 5.IX (61), 10.X (39), 12.XI (3) – **A2:** 10.VI (4), 8.VIII (1), 5.IX (6), 10.X (3), 12.XI (1) – **B1:** 10.VI (12), 18.VII (3), 8.VIII (9), 5.IX (29), 10.X (17), 12.XI (1) – **B2:** 10.VI (9), 8.VIII (5), 5.IX (4), 10.X (1) – **C1:** 2.V (1), 10.VI (19), 8.VIII (7), 5.IX (87), 10.X (3), 4.XII (1) – **C2:** 5.IX (2), 10.X (1) – **D1:** 10.VI (8), 18.VII (2), 8.VIII (7), 5.IX (16), 10.X (2) – **D2:** 10.VI (7), 8.VIII (1), 5.IX (9), 4.XII (1).
276. *Eilema complana* (Linnaeus, 1758) – **B1:** 5.IX (1).
277. *Eilema depressa* (Esper, 1787) – **A1:** 10.VI (2), 5.IX (11), 10.X (1) – **A2:** 10.VI (1), 5.IX (2), 10.X (1), 12.XI (1) – **B1:** 5.IX (2), 10.X (2) – **C1:** 10.VI (1), 5.IX (1) – **D1:** 5.IX (1).
278. *Eilema rungsi* (Toulgoët, 1960) – **A1:** 8.VIII (1) – **C1:** 18.VII (1), 5.IX (1) – **D1:** 5.IX (3), 10.X (1) – **D2:** 5.IX (2).
279. *Euplagia quadripunctaria* (Poda, 1761) – **A1:** 5.IX (3) – **B1:** 5.IX (2) – **C2:** 5.IX (1).
280. *Lithosia quadra* (Linnaeus, 1758) – **B1:** 10.VI (1).
281. *Pelosia muscerda* (Hufnagel, 1766) – **A1:** 10.VI (4), 5.IX (1) – **B1:** 5.IX (3) – **C1:** 10.VI (1), 5.IX (1) – **D1:** 10.VI (1), 5.IX (3).
282. *Phragmatobia fuliginosa* (Linnaeus, 1758) – **A1:** 5.III (1), 2.V (2), 10.VI (3), 18.VII (3), 8.VIII (1), 5.IX (12), 10.X (8) – **A2:** 2.IV (1), 2.V (5), 10.VI (3), 18.VII (1), 8.VIII (2), 5.IX (5), 10.X (1) – **B1:** 2.IV (2), 2.V (2), 8.VIII (3), 5.IX (5), 10.X (3) – **B2:** 2.IV (1), 2.V (1), 10.VI (1), 5.IX (2), 10.X (3) – **C1:** 2.IV (1), 2.V (1), 10.VI (1) – **C2:** 2.V (1), 18.VII (1), 5.IX (2) – **D1:** 10.VI (1), 18.VII (1), 8.VIII (1), 5.IX (4) – **D2:** 2.IV (2), 2.V (2), 10.VI (1), 18.VII (4), 8.VIII (1), 5.IX (4), 10.X (2).
283. *Spilosoma lutea* (Hufnagel, 1766) – **A1:** 10.VI (1) – **B1:** 5.IX (1) – **C1:** 10.VI (2).
- Boletobiinae**
284. *Parascotia nissenii* (Turati, 1905) – **C1:** 10.VI (1), 5.IX (1) – **C2:** 10.VI (1) – **D2:** 5.IX (2).
- Erebinae**
285. *Araeopteron ecphaea* (Hampson, 1914) – **A1:** 18.VII (1), 10.X (1) – **B1:** 18.VII (1) – **C1:** 18.VII (3), 5.IX (10) – **D1:** 10.VI (1), 5.IX (1).
286. *Catephia alchymista* (Denis & Schifferrmüller, 1775) – **A1:** 18.VII (1), 8.VIII (1) – **B1:** 10.VI (1).
287. *Catocala elocata* (Esper, 1787) – **A1:** 8.VIII (1), 5.IX (1), 10.X (1) – **B1:** 10.X (2).
288. *Catocala nymphagoga* (Esper, 1787) – **A1:** 18.VII (4) – **B1:** 18.VII (3) – **B2:** 18.VII (2) – **D1:** 18.VII (1).
289. *Clytie illunaris* (Hübner, 1813) – **A1:** 8.VIII (2), 5.IX (1) – **B2:** 18.VII (1) – **D2:** 18.VII (1).
290. *Dysgonia algira* (Linnaeus, 1767) – **A1:** 10.VI (5), 18.VII (10), 8.VIII (17), 5.IX (20), 10.X (1) – **A2:** 10.VI (1), 18.VII (1), 5.IX (3) – **B1:** 10.VI (4), 18.VII (8), 8.VIII (8), 5.IX (8) – **B2:** 18.VII (1) – **C1:** 10.VI (3), 18.VII (3), 8.VIII (5), 5.IX (4) – **D1:** 18.VII (2), 5.IX (1) – **D2:** 8.VIII (2).
291. *Grammodes bifasciata* (Petagna, 1787) – **A1:** 10.VI (1), 18.VII (3), 8.VIII (1), 5.IX (6), 10.X (3) – **B1:** 18.VII (2), 5.IX (4), 10.X (1) – **D2:** 8.VIII (1).
292. *Grammodes stolidia* (Fabricius, 1775) – **A1:** 8.VIII (3), 5.IX (6) – **A2:** 18.VII (1), 8.VIII (2), 5.IX (6) – **B1:** 18.VII (2), 5.IX (2) – **B2:** 5.IX (5) – **D2:** 5.IX (3), 10.X (1).
293. *Lygephila cracca* (Denis & Schifferrmüller, 1775) – **A1:** 2.IV (1), 2.V (3), 10.VI (27), 18.VII (4), 8.VIII (3), 5.IX (1), 10.X (16), 12.XI (3) – **A2:** 10.VI (1), 18.VII (1), 10.X (1) – **B1:** 10.VI (6), 10.X (2) – **B2:** 8.VIII (1) – **C1:** 10.VI (3) – **C2:** 10.VI (1) – **D2:** 10.VI (2).
294. *Lygephila procax* (Hübner, 1813) – **A1:** 18.VII (2), 8.VIII (1), 5.IX (1) – **B1:** 18.VII (1) – **C1:** 10.X (1).

Eublemininae

295. *Eublemma amoena* (Hübner, 1803) – **A1**: 10.X (1).
296. *Eublemma ostrina* (Hübner, 1808) – **A1**: 10.VI (6), 18.VII (8), 8.VIII (12), 5.IX (6), 10.X (33), 12.XI (2) – **A2**: 5.III (1), 2.V (1), 18.VII (3), 8.VIII (3), 5.IX (8), 10.X (13), 12.XI (1) – **B1**: 5.IX (2), 10.X (14), 12.XI (1) – **B2**: 10.VI (2), 8.VIII (2), 5.IX (1), 10.X (12), 12.XI (4) – **C1**: 10.X (1) – **C2**: 5.IX (1), 10.X (11) – **D1**: 10.X (1) – **D2**: 10.VI (1), 8.VIII (1), 5.IX (2), 10.X (11), 12.XI (1).
297. *Eublemma parva* (Hübner, 1808) – **A1**: 10.VI (8), 18.VII (5), 8.VIII (1) – **A2**: 10.VI (4) – **B1**: 10.VI (3), 18.VII (4), 8.VIII (1), 5.IX (1) – **B2**: 10.VI (1), 18.VII (1), 8.VIII (4) – **C1**: 10.VI (2), 8.VIII (1) – **C2**: 10.VI (1), 8.VIII (4) – **D1**: 18.VII (2) – **D2**: 10.VI (1), 18.VII (1), 8.VIII (3), 5.IX (1).
298. *Eublemma purpurina* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (3), 8.VIII (2), 5.IX (6) – **A2**: 8.VIII (1), 5.IX (4) – **B1**: 10.VI (1), 5.IX (1) – **B2**: 5.IX (1) – **C1**: 5.IX (1), 10.X (1) – **D1**: 5.IX (2) – **D2**: 5.IX (1).
299. *Eublemma scitula* Rambur, 1833 – **A1**: 10.VI (2), 8.VIII (1), 5.IX (1) – **A2**: 18.VII (1), 5.IX (1) – **B1**: 10.VI (2), 5.IX (2) – **B2**: 10.VI (1), 18.VII (1), 8.VIII (1) – **C1**: 5.IX (2) – **D1**: 5.IX (1) – **D2**: 5.IX (1).
300. *Eublemma viridula* (Guenée, 1841) – **A1**: 10.VI (1), 8.VIII (1).
301. *Metachrostis velox* (Hübner, 1813) – **A1**: 18.VII (3), 5.IX (2) – **C1**: 5.IX (2).
302. *Odice suava* (Hübner, 1813) – **B1**: 18.VII (1).

Herminiinae

303. *Herminia grisealis* (Denis & Schiffermüller, 1775) – **A1**: 10.X (1) – **A2**: 10.VI (1), 10.X (4) – **B1**: 10.X (1) – **C1**: 2.V (2), 10.VI (1), 8.VIII (1), 10.X (6) – **C2**: 10.X (1) – **D1**: 2.V (1), 10.VI (1), 18.VII (1), 10.X (2).
304. *Herminia tarsicrinalis* (Knoch, 1782) – **D1**: 10.VI (3).
305. *Herminia tarsipennalis* Treitschke, 1835 – **C1**: 10.VI (3), 5.IX (1), 10.X (2) – **D1**: 10.VI (4), 5.IX (1).
306. *Idia calvaria* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (1), 10.X (1) – **B1**: 10.VI (1), 10.X (2) – **B2**: 10.VI (1) – **D1**: 10.X (1).

307. *Nodaria nodosalis* (Herrich-Schäffer, 1851) – **A1**: 18.VII (1), 5.IX (9), 10.X (11), 12.XI (1) – **A2**: 5.IX (4), 10.X (7), 12.XI (2) – **B1**: 5.IX (1), 10.X (1), 12.XI (1) – **B2**: 5.IX (1), 10.X (4) – **C1**: 18.VII (3), 8.VIII (2), 12.XI (1) – **C2**: 8.VIII (1) – **D1**: 18.VII (1), 10.X (1) – **D2**: 10.X (1), 12.XI (1).
308. *Paracolax tristalis* (Fabricius, 1794) – **A1**: 8.VIII (1) – **B1**: 18.VII (1), 10.X (1) – **C1**: 8.VIII (1) – **D2**: 5.IX (1).
309. *Pechipogo plumigeralis* (Hübner, 1825) – **B1**: 10.VI (1) – **C1**: 10.VI (2), 8.VIII (1).

Hypeninae

310. *Hypena lividalis* (Hübner, 1796) – **A1**: 2.II (3), 8.VIII (1), 4.XII (1) – **C1**: 18.VII (2) – **D1**: 18.VII (2).
311. *Hypena obsitalis* (Hübner, 1813) – **D1**: 5.III (1).
312. *Hypena proboscidalis* (Linnaeus, 1758) – **C1**: 10.VI (1).

Hypenodinae

313. *Schrankia costaestrigalis* (Stephens, 1834) – **A2**: 10.X (2) – **B1**: 8.VIII (1) – **C1**: 8.VIII (1), 10.X (1) – **D1**: 10.X (1).

Lymantriinae

314. *Lymantria dispar* (Linnaeus, 1758) – **B1**: 18.VII (1) – **D1**: 18.VII (1).
315. *Ocneria rubea* (Denis & Schiffermüller, 1775) – **A1**: 5.IX (2) – **C1**: 10.X (1) – **D1**: 10.VI (2).
316. *Orgyia antiqua* (Linnaeus, 1758) – **D1**: 10.VI (1).

Phytometrinae

317. *Phytometra viridaria* (Clerck, 1759) – **A2**: 5.IX (1).

Rivulinae

318. *Rivula sericealis* (Scopoli, 1763) – **A2**: 10.X (1), 12.XI (1) – **B1**: 2.V (1) – **C1**: 2.V (1).
319. *Zebeeba falsalis* (Herrich-Schäffer, 1839) – **A1**: 18.VII (3), 8.VIII (1), 5.IX (3), 10.X (1) – **A2**: 5.IX (1) – **B1**: 2.V (6), 18.VII (8), 8.VIII (1), 5.IX (4), 10.X (1) – **C1**: 2.V (1), 10.VI (1), 18.VII (6), 8.VIII (13), 5.IX (10) – **D1**: 10.VI (1), 18.VII (2), 8.VIII (8) – **D2**: 18.VII (2), 8.VIII (1).

Scoliopteryginae

320. *Scoliopteryx libatrix* (Linnaeus, 1758) – **C1**: 10.VI (1).

Euteliidae

321. *Eutelia adulatrix* (Hübner, 1813) – **A1**: 10.VI (2), 18.VII (1), 5.IX (1) – **B1**: 18.VII (1).

Nolidae

Chloephorinae

322. *Bena bicolorana* (Fuessly, 1775) – **A1**: 8.VIII (1) – **B1**: 5.IX (1), 10.X (1) – **B2**: 8.VIII (1) – **C2**: 8.VIII (1).
323. *Earias clorana* (Linnaeus, 1761) – **A1**: 10.VI (1), 18.VII (4), 8.VIII (3) – **B1**: 8.VIII (2) – **D2**: 8.VIII (1).
324. *Earias vernana* (Fabricius, 1787) – **A1**: 10.VI (3).
325. *Nycteola asiatica* (Krulikovsky, 1904) – **A1**: 8.VIII (1).
326. *Nycteola revayana* (Scopoli, 1772) – **B2**: 10.VI (1), 8.VIII (1).
327. *Nycteola siculana* (Fuchs, 1899) – **B2**: 10.VI (1).

Noliniinae

328. *Meganola albula* (Denis & Schiffermüller, 1775) – **A1**: 10.VI (2), 8.VIII (3) – **A2**: 10.VI (4) – **B1**: 18.VII (3), 8.VIII (1) – **C1**: 10.VI (5), 8.VIII (1), 10.X (2) – **C2**: 10.VI (2), 10.X (2) – **D1**: 10.VI (15), 18.VII (1), 8.VIII (11), 5.IX (2), 10.X (1) – **D2**: 10.VI (4), 5.IX (1), 10.X (1).
329. *Meganola strigula* (Denis & Schiffermüller, 1775) – **A1**: 18.VII (1), 5.IX (3) – **A2**: 18.VII (1) – **B1**: 10.VI (1), 18.VII (1), 18.VII (2), 5.IX (2) – **B2**: 10.X (1) – **C1**: 10.VI (2), 18.VII (1), 5.IX (1), – **C2**: 18.VII (2).
330. *Meganola togatulalis* (Hübner, 1798) – **A1**: 10.VI (1), 18.VII (1), 5.IX (2) – **C1**: 5.IX (1).
331. *Nola chlamitulalis* (Hübner, 1813) – **A1**: 10.VI (1), 8.VIII (4), 5.IX (3) – **A2**: 2.V (1) – **B1**: 18.VII (2), 5.IX (1) – **B2**: 5.IX (1) – **C1**: 8.VIII (1), 5.IX (8) – **D1**: 5.IX (1) – **D2**: 5.IX (1).
332. *Nola subchlamydule* Staudinger, 1871 – **A1**: 8.VIII (1), 5.IX (1) – **B1**: 5.IX (1) – **C1**: 8.VIII (2), 5.IX (2) – **D1**: 5.IX (2).

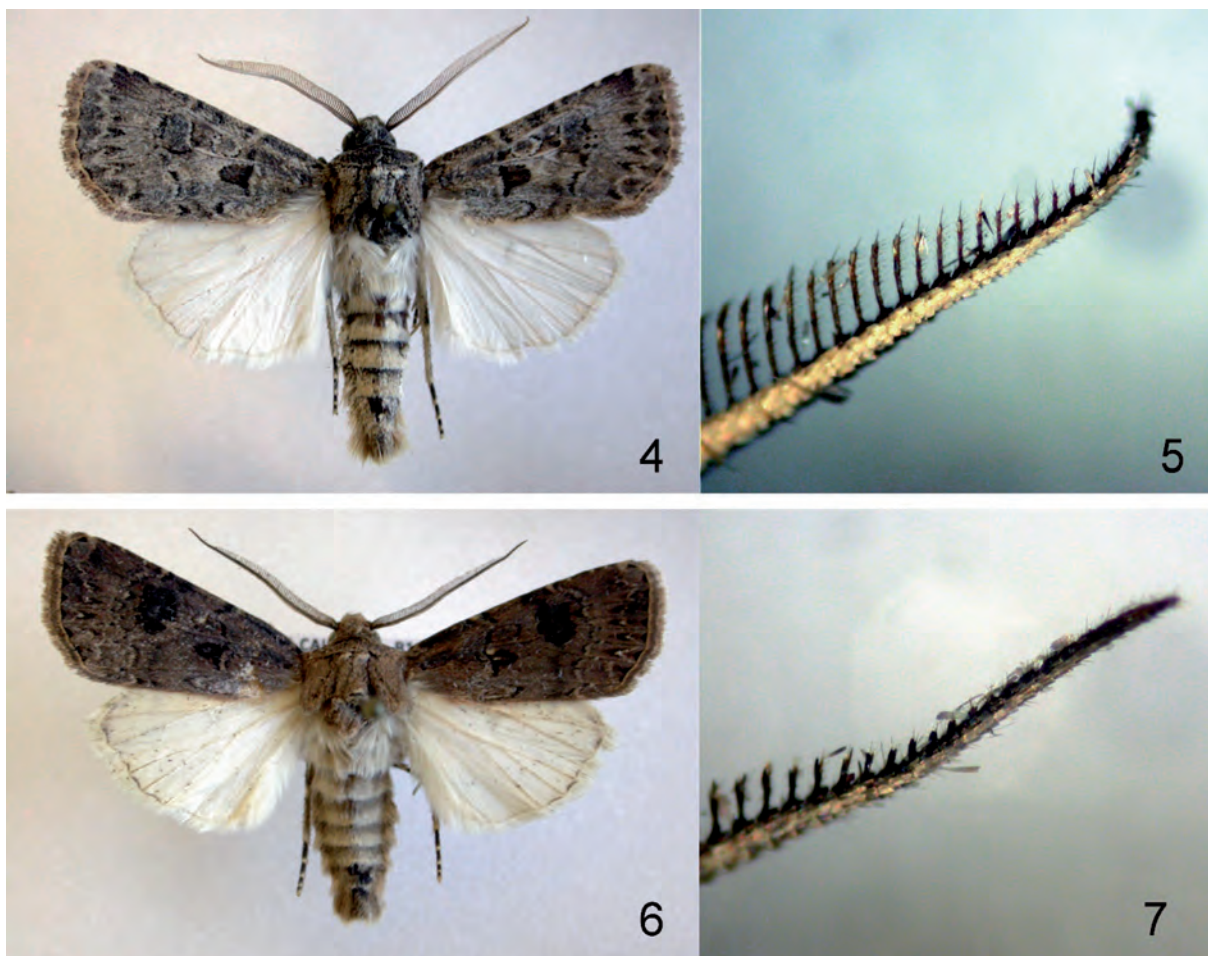
DISCUSSIONE

Nonostante l'area indagata sia fortemente antropizzata sono state raccolte 332 specie, un numero decisamente elevato se si pensa che, utilizzando le stesse trappole, in un'area Rete Natura 2000 del Parco Nazionale del Pollino sono state raccolte 371 specie in 10 siti (Greco *et al.*, 2019) invece che in 8 come in questo studio.

Le specie più abbondanti sono state *Eilema caniola* (n=455), *Peribatodes rhomboidaria* (n=452), *Dysauxes famula* (391) e *Spodoptera exigua* (n=285). Tutte queste sono costantemente rinvenute tra quelle più abbondanti in ambienti mediterranei anche a moderata (Infusino *et al.*, 2018) e a elevata naturalità (Scalercio & Infusino, 2003, 2006). Tuttavia, negli ambienti meglio conservati accanto a queste sono altrettanto comuni specie stenotopiche come ad esempio *Paracolax tristalis* nei castagneti in cui è abbondante il detrito vegetale di cui si nutrono le larve (Infusino *et al.*, 2018), la igrofila *Pelusia muscerda* in ambienti umidi planiziali (Scalercio & Infusino, 2003), o *Clytie illunaris* in ambienti aridi sabbiosi con boschetti di tamerici (Scalercio & Infusino, 2006).

L'elevata ricchezza di specie registrata può essere in parte spiegata dalla maggiore diversità propria delle fasce altitudinali collinari dove è possibile rinvenire sia specie montane al loro limite inferiore di distribuzione che specie più tipicamente mediterranee al loro limite superiore. Fra le prime sono certamente da annoverare i rinvenimenti di *Megalycinia serraria*, *Charissa obscurata* ed *Ecliptopera silaceata* che in Calabria non sono mai state trovate a quote così modeste, insieme a *Fagivorina arenaria* che è decisamente più abbondante nelle faggete (Infusino & Scalercio, 2018). Fra le seconde sono di assoluto interesse i rinvenimenti di *Agrotis lata* (Fig. 4) e *Rhodostrophia pudorata* (Fig. 5), specie distribuite in Italia solo in Sicilia e in pochissime stazioni dell'Italia meridionale.

Agrotis lata è nota con certezza per Algeria, Egitto, Libia, Marocco, Tunisia, Portogallo, Spagna, Sardegna, Sicilia e Malta. È stata segnalata anche per il meridione d'Italia (Parenzan, 2002; Parenzan *et al.*, 2006), ma l'eccezionalità dei reperti e la difficile separazione da *Agrotis bigramma*, unitamente alla mancata pubblicazione di iconografia a sostegno di queste segnalazioni, hanno fatto ritenere la presenza della specie sulla penisola meritevole di conferma (Zilli A., com. pers.). In questa ricerca abbiamo avuto la pos-



Figg. 4-7. Confronto del pattern alare e dell'apice delle antenne dei maschi di *Agrotis lata* e *A. bigramma*: 4 – habitus di *Agrotis lata*, apertura alare 40mm, Marcellinara (CZ); 5 – idem, particolare dell'antenna; 6 – habitus di *Agrotis bigramma*, apertura alare 39mm, Marcellinara (CZ); 7 – idem, particolare dell'antenna.



Figg. 8-9. Specie di particolare interesse faunistico: 8 – *Rhodostrophia pudorata*, apertura alare 33mm, 10.VI.2019, sito A1, Marcellinara (CZ); 9 – *Eilema rungsi*, apertura alare 17mm, 5.IX.2018, sito D1, Marcellinara (CZ).

sibilità di fare un confronto immediato fra *lata* e *bigramma* in quanto entrambe sono state raccolte la stessa notte e nelle stesse trappole. È stata immediatamente evidente la differenza fra esse, in particolare nella bipettinatura delle antenne dei maschi che, come già evidenziato da Zilli (1992), in *A. lata* arriva vicino agli ultimi antennumeri e in *A. bigramma* si ferma decisamente prima (Figg. 4-7).

Rhodostrophia pudorata (Fig. 8) ha una distribuzione molto simile ad *Agrotis lata*, essendo conosciuta per Spagna, Marocco, Libia, Tunisia, Sicilia e Italia continentale (Hausmann, 2004). Le uniche segnalazioni di *Rhodostrophia pudorata* per la penisola italiana sono tutte per la provincia di Reggio Calabria (Stauder, 1915-1916; Stauder, 1925; Parenzan, 1994; Raineri, 1996) e quindi la popolazione rinvenuta in questa ricerca è certamente la più settentrionale d'Italia.

Oltre che alla già citata favorevole posizione altitudinale dell'area di ricerca, la grande diversità osservata è da attribuire anche alla presenza di aree con una umidità ambientale differenziata che favorisce la presenza di specie con esigenze ecologiche diverse, e alla gestione biologica dell'oliveto che prevede scarse lavorazioni meccaniche del terreno permettendo una maggiore sopravvivenza degli stadi preimmaginali e degli adulti. Infatti, alcune specie xerotermofile come *A. lata*, *Scopula turbulentaria*, *Acontia trabealis*, *Tyta luctuosa* e *Sesamia nonagrioides* hanno il loro baricentro di distribuzione nelle aree olivetate, mentre nelle aree seminaturali non sono state rinvenute affatto o lo sono state con pochissimi individui.

Di particolare interesse biogeografico è anche il rinvenimento di *Eilema rungsi* (Fig. 9), nota in Marocco, Portogallo, Spagna, Italia e Grecia (Karsholt & Nieukerken, 2013), finora segnalata in Italia solo per pochissime località di Puglia e Sicilia (Parenzan & Porcelli, 2007). Questa è infatti la

prima segnalazione della specie in Calabria, rinvenuta anche in altre due località (Santa Maria, Serra San Bruno (VV), 860m, 3.VIII.2016, 1 maschio, leg. Scalercio S. & Infusino M.; contrada Li Rocchi, Rende (CS), 201m, 31.X-3.XI.2019, 1 maschio, leg. Scalercio S.). La quasi totalità degli individui sono stati rinvenuti nella parte dell'azienda con maggiore umidità dove sono presenti ambienti più idonei a questa specie tendenzialmente igrofila (Bertaccini *et al.*, 1995).

CONCLUSIONI

In definitiva, da questo studio emerge come anche in ambienti agrari antropizzati, pur mancando le specie stenotopiche tra le quelle più abbondanti, sia possibile preservare una elevata biodiversità quando siano presenti aree seminaturali e che una gestione biologica dell'oliveto, unitamente alla riduzione della lavorazione meccanica del terreno, facciano dell'oliveto un habitat idoneo per una porzione importante della fauna dei lepidotteri notturni.

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A contribution to the knowledge of Melyridae Dasytinae and Rhadalidae of Cyprus (Coleoptera, Cleroidea)

Riassunto: *Un contributo alla conoscenza di Melyridae Dasytinae e Rhadalidae di Cipro (Coleoptera, Cleroidea)*

Lo studio di Melyridae Dasytinae e Rhadalidae di Cipro è stato reso possibile dalla disponibilità di un sufficiente quantitativo di materiali, provenienti da numerose collezioni, senza trascurare lo studio della letteratura esistente (scarsa e talvolta obsoleta). In totale, sull'Isola abitano 9 generi e 18 specie: per quasi tutte queste ultime sono riportati fotografie e/o disegni ed è proposta una tabella dicotomica per la loro determinazione. Sono descritte 3 nuove specie: *Dasytidius valdelatus* n. sp., *Dasytiscus anaticus* n. sp. e *Aplocnemus (Diplambe) constantini* n. sp. Sono proposte tre variazioni di stato, sotto forma di anticipazione (da giustificare pienamente in una prossima pubblicazione), poiché necessarie alla discussione: *Dasytidius virescens* (Baudi di Selve, 1873) e *Dasytidius funebris* Majer, 1989, già buone specie, vengono considerate sottospecie di *Dasytidius indutus* (Kiesenwetter, 1859); *Dasytidius similis* (Schilsky, 1896), già sottospecie di *D. indutus*, viene elevato a buona specie. Viene proposta una nuova sinonimia: *Danacea brevipennis* Pic 1932 = *Danacea cypria* Schilsky, 1897. *Dasytes xanthocnemus* var. *cyprius* Baudi di Selve, 1873 non è sinonimo di *Dasytes xanthocnemus* Kolenati, 1846 ma di *Dasytes moniliatus* Kiesenwetter, 1863. È discussa e illustrata la variabilità di 3 specie (perché necessaria alla loro definizione): *Dasytes (Mesodasytes) aeneiventris* Küster, 1850, *Dasytidius inchoatus* Majer, 1991 e *Aplocnemus (Ischnopalpus) syriacus* Schilsky, 1894. Viene descritto il ♂ di *Trichocele testaceipes* Pic, 1921, specie fino ad ora nota soltanto attraverso alcune ♀♀. È stata infine azzardata una breve analisi faunistica, incluso un sintetico confronto con altre grandi isole Mediterranee.

Abstract: Melyridae Dasytinae and Rhadalidae of Cyprus have been studied, based on rather abundant materials from several collections and on the scarce (often obsolete) literature existing. A total of 9 genera and 18 species have been found to live on the Island: photographs or drawings of nearly all of them are provided and a determination key is proposed. Three new species are described: *Dasytidius valdelatus* n. sp., *Dasytiscus anaticus* n. sp. and *Aplocnemus (Diplambe) constantini* n. sp. Three status changes are proposed, as a necessary anticipation (to be fully justified in a next paper): *Dasytidius virescens* (Baudi di Selve, 1873) and *Dasytidius funebris* Majer, 1989, previously good species, are considered subspecies of *Dasytidius indutus* (Kiesenwetter, 1859); *Dasytidius similis* (Schilsky, 1896), formerly subspecies of *D. indutus*, is elevated to good species. One new synonymy is proposed: *Danacea brevipennis* Pic 1932 = *Danacea cypria* Schilsky, 1897. *Dasytes xanthocnemus* var. *cyprius* Baudi di Selve, 1873 is not a synonym of *Dasytes xanthocnemus* Kolenati, 1846 but of *Dasytes moniliatus* Kiesenwetter, 1863. The variability of 3 species: *Dasytes (Mesodasytes) aeneiventris* Küster, 1850, *Dasytidius inchoatus* Majer, 1991 and *Aplocnemus (Ischnopalpus) syriacus* Schilsky, 1894 is discussed as relevant to their definition. The ♂ of *Trichocele testaceipes* Pic, 1921 until now only known through ♀♀, is described. A short distributional analysis, including a rough comparison with the other large Mediterranean island has been attempted.

Key words: *Danacea*, *Dasytes*, *Dasytidius*, *Dasytiscus*, *Dolichophron*, *Dolichosoma*, *Schilskyana*, *Aplocnemus*, *Trichocele*, new species, insularity, Turkey, near East.

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INTRODUCTION

Following Gimmel *et al.* (2019) the former Dasytidae family has been split in Melyridae Dasytinae (including, in Europe, 16 genera: *Allotarso-dasytes*, *Allotarsus*, *Amauronia*, *Danacea*, *Dasytes*, *Dasytidius*, *Dasytiscus*, *Divales*, *Dolichophron*, *Dolichosoma*, *Enicopus*, *Graellsinus*, *Schilskyana*, *Mauroania*, *Pseudamauronia*, *Psilothrix*) and Rhadalidae (including, in Europe, 2 genera: *Aplocnemus*, *Tri-*

chocele). Out of all these, 9 genera have been recorded for Cyprus: *Danacea*, *Dasytes*, *Dasytidius*, *Dasytiscus*, *Dolichophron*, *Dolichosoma*, *Schilskyana*, *Aplocnemus*, *Trichocele*, as detailed in the text.

Melyridae Dasytinae and Rhadalidae of Cyprus Island have been the subject of a paper by Baudi di Selve, issued in 1873 (147 years ago), now rather obsolete. Since then Cyprus has been ground of investigations by several entomologists, new in-

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formation is available and the related fauna need an update.

The Cyprus Cleroidea species here studied appear to be related to those living in Turkey - Mersin and Adana area - and in the Near East - Lebanon and Israel. Problem is that Cleroidea of both these areas are really poorly known: many species of this group have been described in excess of 100 (or 150) years ago and need to be better defined (when not obscure). As explained in the text, doubts can be raised indeed both on determinations of certain known species and on identification of "new" ones. The writer hopes that the availability of a paper on this subject would stimulate further studies and, eventually, lead to a deeper knowledge of both Cyprus and eastern Mediterranean Cleroidea.

MATERIALS AND METHODS

The materials studied come from several public and private collections, below listed with their abbreviations. The total number of specimens analysed is well in excess of 2000.

Dissections have been carried out, working in a water drop under a stereomicroscope at variable magnification (usually 15 to 30 x), with the thinnest micro-pins found on the market (0.1 mm) suitably hooked at the sharp extremity and fitted with a wooden handle at the other. The insects, when dried, have been softened by immersion in a solution of ethyl-alcohol in water (5-10%) for many hours (12 to 48) and the abdomen carefully detached. Afterwards the abdomen was further softened by a few minutes (less than 5) boiling in diluted potassium hydroxide solution (2-3%), its dorsal integument opened, the whole content (including both last sternite and tergite) drawn out and boiled again for 1-2 minutes in the same KOH solution (the empty abdomen was glued on the insect cardboard). Eventually the sclerotized genitalia component - namely median lobe of aedeagus with its internal sac, tegmen, spicular fork, pygidium and last sternite - were separated from each other and mounted in DMHF (see Liberti 2005 for further details on this procedure) on a small transparent cellulose acetate label pinned under the insect cardboard.

This rather long procedure has been felt necessary to avoid damages to the insect and - most important - to allow the very fragile internal sac (of median lobe) to remain unbroken and well visible after mount-

ing (internal sac structure is important in all genera and paramount at least in *Dasytidius* and *Dasytes* species).

All drawings were made with the aid of a grid 10x eyepiece, at variable magnifications (for median lobes mostly 50 x).

Photographs are original and have been taken by means of a camera (Tucsen ISH500) mounted on the microscope and - to extend the focusing depth - combined with a suitable software (Helicon Focus 6).

Notes to discussion of the species

Several species, among those below listed, are either new or poorly known for anatomy or distribution (or both). For these a full description with genitalia drawing has been supplied. Species deemed to be better known or clearly recognizable, either by original description or because a recent re-description is available, have been only shortly discussed.

When listing the materials studied, dates are usually shown as collecting year only, except for a few early or late appearance species where both month and year are reported when available.

The species bibliographies are often incomplete; usually only papers reputed meaningful either for systematic, historical or distributional aspects have been reported and, for species recently redescribed only papers recently appeared have been included. Catalogues (Pic 1937, Mayor 2007 and Fauna Europaea checklist "fauna-eu.org", last access May 2020) have been omitted (note however that catalog entries for Mayor 2007 have been included when relevant for synonymies).

Locality names spelling has sometimes been a source of doubts, indeed different maps often give different spellings for the same locality (as for example Lachi, or Lakki, or Latsi for a place located a few kilometres west of Polis). When in doubts, the spellings of the "Insight Flexi Map" scale 1:220.000 (text copyright 2013 by APA Publications Ltd, UK) have been adopted.

Notes on anatomy

Abdomen structure: in the groups here studied actual abdominal segments are 8 but visible sternites are 6 (1° and 2° abdominal segments can be revealed by dissection, as membranous tergites, hidden between wings and metasternum). That is why the last sternite (which is the 6th visible)

is sometimes referred to as “Sternite VIII” and last tergite (pygidium) as “Tergite VIII”.

Internal sac: the membranous structure inside the median lobe, of variable length, usually dangling out of its base and often carrier of important diagnostic characters (see for example Figs. 28, 31, 34). It is particularly important in *Dasytes* and *Dasytidius* where, to ease description, two zones can be identified: basal - the one inside the median lobe - and apical - outside it. Often, in internal sacs, more or less sclerotized parts can be visible as spines, spinules aggregates, dull membranes and similar.

Distal spine: at times (mainly, not only, in *Danacea* of the “*marginata*” group) the internal sac may end with a sclerotized small organ named *distal spine* (Liberti 2017: 7) which, within a species, may take different shapes depending on population or on geographical locality (Fig. 20).

Last sternite: in nearly all genera the last sternite shows, in the middle of its anterior side, a thin rod-like process (Figs. 32, 41, 45) here named “last sternite central process” which, at times, may be lacking (genera *Dasytiscus* and *Schilskyana*) or can be rudimentary (as in *Aplocnemus* subg. *Ischnopalpus*: Fig. 37).

Ratios width/length: to ease descriptions, the following three words have been often used:

- balanced: meaning that width and length are (approximately) equal;
- elongate: meaning longer than wide;
- transverse: meaning wider than long.

Note on measurements

Measuring has always been done by means of a calibrated micrometer built-in the microscope ocular. For all redescribed known species, size has been simply reported as a total length (TL) span on at least 5 measures. For new species, 5 parameters (TL, PL, PW, EL, EW) are reported, as average values plus/minus a confidence interval; the latter evaluated by t-test at 95% probability calculated measuring 5 specimens (unless differently stated).

Note on chorotypes

Defining chorotypes of species always is a difficult exercise, mainly because the detailed distribution ranges are not known with the desired precision.

Furthermore the presence, in neighbouring territories, of similar or very similar species (or subspecies, if applicable) raises the question of which range would be correct to consider in that particular instance. Having said that, the chorotypes, here proposed for the species present on Cyprus, follow the ones proposed by Vigna Taglianti *et al.* (1999).

Depositories

- CAI = collection Roland Allemand (†), housed at the Centre d’Étude et de Conservation des Collections, Musée des Confluences, Lyon (France)
- CAN = collection Fernando Angelini, housed at MFi
- CBv = collection Cosimo Baviera, Messina (Italy)
- CCo = collection Robert Constantin, Saint Lô (France)
- CFz = collection Dirk Frenzel, Sonneberg (Germany)
- CGz = collection Thomas Gazourek, Warsaw (Poland)
- CKo = collection Andreas Kopetz, Wachsenburg (Germany)
- CKn = collection Ondrej Konvička, Zlín, (Czech Republic)
- CLi = collection Gianfranco Liberti, Uboldo (Italy)
- CLk = collection Andreas Link, Haid bei Ansfelden (Austria)
- CMg = collection Enrico Migliaccio, Rome (Italy)
- CMi = collection Vladyslav Mirutenko, Uzhhorod (Ukraine)
- CMk = collection Zdenek Malinka, Opava (Czech Republic)
- CMT = collection Marion Mantič, Bobrovniky near Hlučín (Czech Republic)
- CMo = collection Riccardo Monguzzi, Milan (Italy)
- CPI = collection Isidor Plonski, Wien (Austria)
- CPn = collection Philippe Ponel, Pourcieux near Aix-en-Provence (France)
- CRb = collection Rolf Rober, Hasselby (Sweden)
- CSa = collection Lucio Saltini, Sassuolo (Italy)
- CSt = collection Pavel Stepanek, Kladno near Prague (Czech Republic)
- CTd = collection Michele Tedeschi, Milan (Italy)
- CZi = collection Wolfgang Ziegler, Rondeshagen (Germany)
- MBa = Naturhistorisches Museum Basel (Switzerland)
- MBe = Museum für Naturkunde, Humboldt Universität, Berlin (Germany)
- MBp = Hungarian Natural History Museum, Budapest (Hungary)

MEr = Naturkunde Museum, Stadtverwaltung Erfurt (Germany)
 MFi = Natural History Museum, Zoological Department “La Specola”, Florence (Italy)
 MGe = Museo civico di Storia Naturale “G. Doria”, Genova (Italy)
 MLu = Museum of Zoology, Lund University, Lund (Sweden)
 MMi = Museo di Storia Naturale, Milano (Italy)
 MPr = Museum of Natural History, Praha (Czech Republic)
 MSt = Museum für Naturkunde, Stuttgart (Germany)
 MTo = Museo Regionale di Scienze Naturali, Turin (Italy)

Abbreviations used in labels transcriptions

pr. = printed
 prr. = printed on red paper
 hw. = handwritten
 / = line break
 up. = unpublished (with reference to certain type designations never published and deemed to be invalid)

Other abbreviations [the * means that a descriptive scheme can be found in Liberti (2009: 112, Fig. 73)]

ad = antennal distance*
 AL = antennal length
 EL = elytral length
 EW = elytral width
 eyl = eye length*
 eyd = transversal eye diameter
 hl = head length
 hw = head width
 id = inter-ocular distance
 loc. typ. = typical locality
 PL = pronotum length
 PW = pronotum width
 sl = snout length*
 TL = total length
 F = females only (for some species, determinations may not be 100% reliable).

CHECKLIST

Here below 18 species are listed, either personally collected on, or deemed to be reliably coming from Cyprus island:

Melyridae Dasytinae: 12 species
Danacea cypria Schilsky, 1897
 = *Danacea brevipennis* Pic, 1932 (**syn. n.**)
Danacea reitteri Prochazka, 1894
Dasytes timidus Baudi di Selve, 1873
Dasytes moniliatus Kiesenwetter, 1863
 = *Dasytes xanthocnemus* var. *cyprius* Baudi di Selve, 1873
Dasytes aeneiventris Küster, 1850
Dolichophron cylindromorphum Kiesenwetter 1867
Dolichosoma simile (Brullé, 1832)
Dasytidius indutus virescens (Baudi di Selve, 1873) (**n. stat.**)
Dasytidius inchoatus Majer, 1991
Dasytidius valdelatus **sp. n.**
Schilskyana subtilis (Reitter, 1885)
 = *Haplothrix subtilis* (Reitter, 1885)
Dasytiscus anatolicus **sp. n.**

Rhadalidae: 6 species
Aplocnemus (Diplambe) constantini **sp. n.**
Aplocnemus (A.) pertusus Kiesenwetter, 1859
Aplocnemus (A.) marginatus Rottenberg, 1871
Aplocnemus (Ischnopalpus) syriacus Schilsky, 1894
Trichocele kuprija Liberti, 2012
Trichocele testaceipes Pic, 1921

The following 2 species have been reported for the island by Baudi di Selve (1873): although not personally studied for Cyprus, their presence is well possible (or even probable) but needs to be confirmed. For this reason, they have been omitted from the list. However, both have been recently discussed and redescribed, drawings are available and, if found on Cyprus, their identification should not pose any problem.

Dasytes nigroaeneus Küster, 1850 (description and drawings in Liberti 2004: 318) has been reported for Cyprus by Baudi di Selve (1873: 318). This species is widespread all over the Mediterranean area but there are two reasons for doubts:

- it has never been seen from the island by the writer and
- confusion is possible with the similar *D. aeneiventris* Küster, which is actually present: the latter being very common and not listed by Baudi di Selve in his paper.

Aplocnemus (Aplocnemus) basalis (Küster, 1849) (description and drawings in Liberti 2019: 13) has been listed by Baudi di Selve (1873: 319) for Cyprus. *A. basalis* is spread over a rather wide area including, at least, the southern part of the Balkan peninsula and Turkey (Liberti 2018: 14) and its presence on Cyprus cannot be excluded. However doubts are possible: Baudi di Selve gave an “extensive” interpretation of the name *basalis* as shown by his comment (when comparing pronotal punctuations) “...quam in pedemontanis et sardois specimenibus...” but *A. basalis* is absent both from Piedmont and Sardinia. Furthermore, at MGe one ♀ of *Aplocnemus cribricollis* Mulsant & Rey, 1868 is kept, collected by Gestro in Sardinia (1872, at San Vito near Cagliari) bearing a label “H[aplocnemus]. basalis” handwritten by Baudi di Selve: as a consequence, *A. basalis* was mistakenly reported for Sardinia in the Catalogue of the Genoa Museum collections (Baudi di Selve 1874: 249) [Details on the publication year of the journal issue where this Catalogue appeared are explained in Poggi (2010)]. Given the similarity between *A. basalis* and *A. pertusus* and taking into account the Baudi di Selve comments on both anatomical features and frequency of the two species (including his doubts on his *A. pertusus* determination, as shown by the question mark placed after this name) the writer thinks quite possible that the report of *A. basalis* by Baudi di Selve would refer to *A. pertusus* and the report of *A. pertusus* would refer to *A. (Ischnopalpus) syriacus* Schilsky, 1894, both very common on the island.

The following 11 species have been reported for the island but their presence is unlikely (for the reasons below explained) and, for the time being, should be considered absent.

Dasytidius indutus (Kiesenwetter, 1859) and ***Dasytidius similis*** (Schilsky, 1896)

Baudi di Selve (1873: 320) reports *D. indutus* from Cyprus (as rather rare): it is a determination mistake, as appeared studying one ♀ specimen of *Dasytidius inchoatus* Majer (a species with yellow tibiae) kept at MGe and bearing a

Baudi di Selve handwritten label “*Dasytidius / indutus* / Ksw. Cypro / Baudi”: he, understandably, misinterpreted the yellow tibiae species of Cyprus: it must be noted indeed that *D. indutus* from mainland Greece has yellow tibiae too - a character that can be read in the Kiesenwetter original description.

Majer (1989a: 153) reports about 100 specimens of *D. similis* (here considered as a subspecies of *D. indutus*) from 5-6 localities on Cyprus, namely very common: but the writer believes that a confusion between *D. similis* and *D. indutus virescens* might have taken place. Reasons are:

- a) *Dasytidius similis* is very similar to *D. virescens* Baudi di Selve (as will be dealt with in a future paper on genus *Dasytidius*),
- b) *D. virescens* was (reasonably) still unknown to Majer in 1989: he indeed redescribed it two years later (1991: 10, after receiving on loan materials from the Regional Zoological Museum of Turin) and
- c) although the large amount of *D. virescens* studied by the writer, no *D. similis* has been seen (yet) from Cyprus.

Dasytidius syriacus (Reitter, 1885)

Majer (1991: 6) reports, for *D. syriacus* (a species with yellow legs) just one Cyprus locality (Karavas); in the same paper (Majer 1991: 5) the description of *D. inchoatus* - here considered as the valid name for the yellow legs species - can be found. Having studied a rather large amount of Cyprus *Dasytidius* with yellow legs, all belonging to the same species, the writer believes that all reports of *D. syriacus* (Reitter) for Cyprus would refer to *D. inchoatus*. It should be noted indeed that the latter species appears both rather variable and very similar to *D. syriacus* so that confusion between the two would be perfectly understandable.

Dasytidius nigripes (Pic, 1984)

Dasytidius nigripes, reported of Cyprus by Mayor (2007: 390), should be considered absent from the island: here again, on this island a *Dasytidius* species similar to - but (reputed) different from - *D. nigripes* is rather common;

this species is here below described under the name *D. valdelatus* n. sp.

Dasytiscus squamatus Baudi di Selve, 1873 (not Kiesenwetter, 1871)

The name *Dasytiscus squamatus* Kiesenwetter is listed in the Baudi di Selve paper on Cyprus (1873: 320) as “*parum freq[ens]*”, perhaps referring to *D. valdelatus* n. sp. Here again a misunderstanding of the Kiesenwetter’s species seems to be very likely: *Dasytiscus squamatus* Kiesenwetter was described from Algeria and was synonymized (Majer 1990: 42) with *Dasytidius medius* Rottenberg: a Sicilian and north-African species rather different from all others present on Cyprus.

Dasytiscus praecox Küster, 1851

Baudi di Selve reports (1873: 320) for the island this species, whose typical locality is Izmir (ancient Smirne) in Turkey. Following Majer (1988: 137, Figs. 85, 86) it may be rather similar as body appearance to - but clearly different (at least for median lobe shape) from - *Dasytiscus anatolicus* n. sp. and *Schilskyana subtilis* Reitter, 1885 both present on Cyprus. The Baudi di Selve report possibly refers to the latter: please consider indeed that also Schilsky (1896: n° 82), 23 years later, placed *D. puberulus* Bourgeois, 1885 (now a synonym of *Schilskyana subtilis*) as a variety of *D. praecox*. As a second possibility, maybe Baudi di Selve determined as *D. praecox* the yellow, small *Dasytiscus anatolicus* n. sp.

Danacea hypoleuca Kiesenwetter, 1859

This species has been reported by Baudi di Selve (1873: 320) for Cyprus because of a wrong determination, as detailed in Liberti (2009: 52). *D. hypoleuca* Baudi (not Kiesenwetter) was recognized as a new species by Schilsky and described under the name *D. cypria* (see here below) 24 years later.

Danacea nana Kiesenwetter, 1863

The small *Danacea* rather frequent on Cyprus island, wrongly named *D. nana* by Baudi di Selve, actually is *Danacea reitteri* Prochazka,

as below detailed. The true *D. nana* Kiesenwetter is a similar Spanish species.

Dasytes xanthocnemus* var. *cyprius Baudi di Selve, 1873

As Baudi di Selve himself advanced in his paper (1873: 317) the 8 ♀♀ under his eyes, by him named *D. xanthocnemus* var. *cyprius*, are supposed to be *D. moniliatus* Kiesenwetter, a species actually present on Cyprus and perfectly corresponding to his description. *Dasytes xanthocnemus* Kolenati, 1846, on the other hand, is a Caucasian species (deemed to be) absent from the island: as a consequence, var. *cyprius* Baudi di Selve is here synonymized with *D. moniliatus* (not a synonym of *D. xanthocnemus*, as listed in Mayor 2007: 403).

Aplocnemus (Diplambe) abietum Kiesenwetter, 1859

Listed by Baudi di Selve (1873: 319). A wrong determination of the Cyprus endemics here below considered as a new species and described under the name *Aplocnemus (Diplambe) constantini*. *A. (Diplambe) abietum* is a Balkan species (Liberti 2018: 12) very likely absent from the island.

Trichocele arbustorum Kiesenwetter, 1859

Here again a misinterpretation of a Kiesenwetter species. *Trichocele arbustorum* Baudi di Selve (not Kiesenwetter) is a Cyprus beetle recently described, by Liberti (2012: 224), under the name *T. kuprija* (see below) The true *T. arbustorum* Kiesenwetter is a Greek species (Liberti 2012: 204) very likely absent from Cyprus.

DETERMINATION KEY FOR RHADALIDAE AND MELYRIDAE DASYTINAE

Key to genera

- 1 Last tarsal segment of all legs fitted with 2 claws and 2 evident pulvilla (membranous appendages apparently not connected with claws).....*Aplocnemus*
- Last tarsal segment of all legs fitted with 1 or 2 claws, without evident pulvilla2
- 2 Eyes with setae, short but (usually) rather evident*Trichocele*
- Eyes without setae3
- 3 Last tarsal segment with 1 claw only, the second

- one modified in a tiny, squat appendage. Body surface without erect setae but entirely covered with short, scale-like, pale pubescence hiding the integuments to a good extent.....*Danacea*
- Last tarsal segment with 2 claws. Body surface with erect setae, at least on head and elytral apex (but often abundant all over the body).....4
 - 4 Pronotum longer than wide or, at most, as long as wide (ratio PL/PW > or =1). Presence of a few isolated black, erect setae on head, elytral apex and, at times, on pronotum borders; the whole dorsal surface covered with sparse, short and adpressed pubescence (not very evident). Size: TL > 3 mm.....5
 - Pronotum clearly transverse (PL/PW < 1). The whole body densely covered with setae, either black, pale or both, always evident; presence of both erect and recumbent setae. Size: TL > 2 mm.....6
 - 5 Pronotum sub-rectangular, narrow, much longer than wide (PL/PW > 1.2), habitus very narrow, integuments grey-green. Dorsal punctuation light, dorsal surface sparsely covered with a (nearly) scale-like pale pubescence. Presence of black, erect setae on head, pronotum lateral borders and elytral apex*Dolichosoma*
Pronotum ovate, only slightly longer than wide or as long as wide (PL/PW ≈ 1), habitus narrow, integuments blackish-blue, dorsal punctuation strong, covered with a loose, very short whitish pubescence. Presence of only a few black, erect setae on head and elytral apex*Dolichophron*
 - 6 Pubescence abundant and entirely pale (greenish or yellowish to grey). Absence of black setae
.....*Dasytidius* and *Schilskyana*
 - Presence of black setae at least on pronotum7
 - 7 A few black, erect setae only on head and pronotum. Size: TL 2.0-2.5 mm.....*Dasytiscus*
 - The whole body covered with many erect, black setae. Size: TL > 3 mm.....*Dasytes*

Key to the species of genus *Aplocnemus* (4 species):

- 1 Lateral border of elytra, at least in its basal part, appearing double in lateral view (Fig. 16).....
.....*A. (Diplambe) constantini*
- Lateral border of elytra simple in lateral view.....2
- 2 Teguments deep black, strongly punctuate on

- pronotum, entirely covered, dorsally, with long black setae.....*A. (Ischnopalpus) syriacus*
- Teguments dark brown with reddish or greenish reflexes, punctuation on pronotum lighter, covered with setae that, at least in part, are pale3
- 3 Pronotum on lateral sides narrowly bordered. Legs yellowish with femora more or less darkened. Dorsally dark green with bronze or bluish reflexes....
.....*A. (Aplocnemus) pertusus*
- Pronotum on lateral sides widely bordered: this border reddish. Legs entirely yellowish to reddish, Dorsally reddish brown rather dark
.....*A. (Aplocnemus) marginatus*

Note: *A. (Aplocnemus) basalis* (whose presence on Cyprus would not be surprising) would fall, in the determination key, together with *A. pertusus* (pronotum lateral sides narrowly bordered): the former has completely pale brown legs, size smaller, colour brown and strongly dentate or pectinate male antenna.

Key to the species of genus *Trichocele* (2 species):

- 1 Dorsal integuments black with bluish reflexes, dorsal pubescence black, legs and antennae blackish (Fig. 19)*kuprija*
- Dorsal integuments brown to dark brown, dorsal pubescence brown to blackish, legs pale brown and antennae brown with basal articles paler (Fig. 18)*testaceipes*

Key to the species of genus *Danacea* (2 species):

- 1 Pronotal setae more or less parallel, directed ahead (Fig. 1). Dorsal integuments entirely dark greenish. Size slightly larger: TL = 3.0-4.5 mm.....*cypria*
- Pronotal setae converging towards a point in the middle of the disk. At least a reddish apical border on elytra. Size smaller: TL = 2.5-3.2 mm.....
.....*reitteri*

Genus *Dolichosoma*: here only 1 species, namely *Dolichosoma simile*.

Genus *Dolichophron*: here only 1 species, namely *Dolichophron cylindromorphum*.

Key to the species of genus *Dasytidius* (including *Schilskyana*) (4 species):

- 1 Legs entirely black (except tarsi, whose articles can be more or less reddish in part)2
- At least tibia yellowish3

- 2 Antennae black; pronotum weakly transverse (PW/PL $\approx$ 1.2), clearly narrowed basally (Fig. 12)*indutus virescens*
 - Antennal articles 2-5 (or 2-7) reddish; pronotum very transverse (PW/PL $\approx$ 1.4), regularly rounded on lateral borders (Fig. 13).....*valdelatus*
- 3 Tibiae yellowish, femora greenish. Dorsal colour grey-greenish. Size larger: TL $\approx$ 3 mm*inchoatus*
 - Both tibiae and femora pale brown. Dorsal colour brownish. Size smaller: TL $\approx$ 2.5 mm.....*Schilskyana subtilis*

Genus *Dasytiscus*: here only 1 species, *Dasytiscus anatolicus*, yellowish and very small: TL $\approx$ 2.0–2.3 mm.

Key to the species of genus *Dasytes*: (3 species):

- 1 Pronotum balanced (approximately as long as large: PW/PL $\approx$ 1, as in Fig. 6)2
 - Pronotum clearly transverse (larger than long: PW/PL $>$ 1.3, as in Fig. 9)3
- 2 Eyes big and bulging (Fig. 6), antennae longer
*D. (Mesodasytes) aeneiventris* ♂
 - Eyes normal, antennae shorter
*D. (Mesodasytes) aeneiventris* ♀
- 3 Entirely black, including legs and antennae (except tarsal articles).....4
 - Tibiae and (at least) antennal articles 2–4 yellowish (Fig. 8).....*moniliatus*
- 4 Antennae long, rather strong, clearly serrate (Fig. 9)*timidus* ♂
 - Antennae short, all articles compressed, shorter than wide (Fig. 10).....*timidus* ♀

DISCUSSION OF THE SPECIES

Family Melyridae, sub-family Dasytinae

Danacea cypria Schilsky, 1897 (Figs. 1, 2, 21)

Danacaea cypria Schilsky, 1897a: n° 3 [*cypria*] and 33G [*cyprica*], loc. typ. Cyprus Island; Pic 1910: 41.

= *Danacea hypoleuca* Baudi di Selve, 1873 (not Kiesenwetter, 1859) [synonymized by Schilsky 1897a: n° 3, confirmed by Liberti 2009a: 52].

- = *Danacea cypria* var. *livadiensis* Pic, 1910: 41 (synonymized by Mayor 2007: 59)
 = *Danacea cypria* var. *lineatithorax* Pic 1910: 41 (synonymized by Mayor 2007: 59)
 = *Danacea cypria* var. *maculaticeps* Pic 1910: 41 (synonymized by Mayor 2007: 59)
 = *Danacea brevipennis* Pic, 1932: 29 (**syn. n.**)

Types

Two syntypes, ♀♀, of *D. cypria* Schilsky have been found at MGe, labelled:

“D. hypoleuca Kiesw. / Cipro” hw. by Baudi; “Danacea / cypria Schilsky” hw. by Schilsky; “Syntypus” hwr. by R. Poggi.

(these syntypes are further discussed under Notes).

Four syntypes of *D. brevipennis* Pic have been found in collection Pic (box “Danacaea IV”) at MPa, as follows:

- 1 ♂ labelled “Cypern / M^t Armenien [see Liberti (2012: 235) for hypothesis on this locality]” pr.; “Syntype” red, hw. by R. Constantin.
 1 ♂ and 2 ♀♀ labelled: “Chypre / Hicker” hw. by Pic; “Danacea / brevipennis n. sp.” hw. by Pic and “Syntype” red, hw. by R. Constantin.

No doubt they belong to the same species already named *D. cypria* by Schilsky.

Description

Size small to medium, rather variable; length in mm: ♂ 3.0–4.0; ♀ 3.6–4.4. Immediately recognizable for elytral shape rather short, strongly bordered and widened in apical half (Fig. 1).

♂. Head balanced (or just elongate: hl/hw = 1.0–1.1), as wide as - and longer than (hl/PL = 1.1–1.2) - pronotum. Eyes rather bulging, but variable, snout regular or long (sl/eyl = 1.35–1.45), clypeus regular (ad/eyl = 1.2–1.3). Antennae rather short, gradually and regularly widened from article 3 to 11, article 5 wider (more expanded on internal side) than 4 and 6; articles 6–8 rounded, smaller than 5 and 9–11. Pronotum convex, approximately cylindrical, slightly transverse (PW/PL = 1.10–1.15), necked forwards, maximum width in the middle or just behind, lateral expansions moderate, rounded, anterior edge slightly longer than posterior (looking at the insect from above), lateral margins feebly crenulated.

Elytra rather flattened, widened in apical half and evidently bordered: the border basally narrow and apically wider; apices moderately divergent at the suture, looking widely and nearly jointly rounded. Apical angle well defined, rectangular to just obtuse.

Abdomen penultimate sternite depressed and clearly emarginated on rear edge (Fig. 2, where the last segment cannot be seen because dissected away).

Pronotal setae all parallel and directed towards the head (Group 1: see Liberti 2009: 25). Dorsal setae short and not very thick (usually), with colour variable from yellow to grey-green; integuments dark olive-green, bright; overall colour olive-green. Legs entirely reddish-yellow with tarsal articles tips darkened. Antennae reddish with articles 1-2 variably darkened and 5-11 increasingly darkened. Mouth parts dark-reddish to brown.

Median lobe as in Fig. 21. Internal sac apparently short with membranous shades hardly visible inside the median lobe (without any clearly detectable structure) and one small distal spine not always apparent. Pygidium anterior side heavily and widely concave.

♀. As the male but head narrower and slightly narrower than pronotum; eyes less developed; antennae shorter and thinner, with articles more compressed; elytra more widened and more convex in apical half, apical angle rectangular.

Materials studied

CYPRUS SOUTH

Paphos distr.: Agios Georgios* (Frenzel, 2018, CFz); Cape Arnaoutis* (Fritzlar, 2018, MER); Latsi (Ziegler, 1996, CZi; Kadlec, 2000, MPr); Lyso (Ziegler, 1996, CZi; Fritzlar*, 2018, MER); Neo Chorio* (Fritzlar, 2018, MER); Pegeia* (Pütz, 2016, MER); Pelathousa* (Fritzlar, 2018, MER); Polemi (Kopetz, 2019, CLi); Polis (Kopetz, 2019, CLi); Pomos (Brustel, 2009, CLi); Prastio (Kopetz, 2019, CKo and CLi); Statos (Kopetz, 2019, CLi); Steni (Ziegler, 1996, CZi); Theletra* (Kopetz, 2019, CKo); Tsada (Brustel, 2009, CLi).
Lemesos distr.: Akrounta (Kopetz, 2019, CLi); Eptagonia (Kadlec, 2000, MPr); Germasogeia (Kadlec, 2000, MPr; Kopetz, 2019, CKo); Kelefos Bridge (Kladec, 2000, MPr); Monagri (Brustel, 2009,

CLi); Pentakomo (Miessen, 2014, CLi); Troodos Olympos (Osten, 1988, MSt); Troodos village 1710 m (Liberti, 2018, CLi).

Lefkosia distr.: Mathiatis (Kopetz, 2019, CKo).

Larnaka distr.: Chirokoitia (Miessen, 2014, CLi); Odou (Kopetz, 2019, CKo); Skarinou (Miessen, 2014, CLi; Kopetz, 2019, CKo); Zygi (Lisa, 1996, CBv).

CYPRUS NORTH

Güzelyurt distr.: Kalkanli near Morphou (Kopetz, 2015, CLi).

Girne distr.: Bahçeli (Kopetz, 2015, CLi); Besparmak (Kopetz, 2015, CLi); Catalköy (Kopetz, 2015, CLi); Esentepe (Kopetz, 2015, CLi); Girne (Palm, 1962, MLu); Karaman (Kopetz, 2015, CLi); Kar-siyaca (Kopetz, 2015, CLi); Koruçam (Kopetz, 2015, CLi); Lapta (Kopetz, 2015, CLi); Saint Hilarion Castle (Kopetz, 2015, CLi); Tepebasi, 6 Km SW of Çamlıbel (Kopetz, 2015, CLi).

Gazimagusa distr.: Cape Greco* (Kopetz, 2019, CKo); Kaplica (Kopetz, 2015, CLi); Tatlisu (Kopetz, 2015, CLi).

* = populations with an apparently naked zone on pronotum (a wide longitudinal band) often extended on vertex (see comments here below).

Further materials

The following localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin:

CYPRUS SOUTH

Paphos distr.: Agia, river Argatikis (Constantin, 1999, CCo); Cape Akamas near Neo Chorio (Constantin, 1999, CCo); Lysos (Constantin, 1999, CCo); Polis 10 km W (Constantin, 1999, CCo); Polis, Selladitis Aftoullinas (Constantin, 1999, CCo); Stavros (Constantin, 1999, CCo).

Lemesos distr.: Agios Georgios (Constantin, 1999, CCo); Akrounta (Kopetz, 2012, CCo); Alassa (Kopetz, 2012, CCo); Kantou (Constantin, 1999, CCo); Kato Mylos (Kopetz, 2012, CCo); Kato Polemidia (? , 1939, CCo); Mandria (Constantin, 1999, CCo); Marathasa Mts. (Burtscher, 1994, CCo); Melini (Frenzel, 2012, CCo); Pano Platres (Constantin, CCo); Pissouri (Constantin, 1999, CCo).

Larnaka distr.: Lefkara Dam (Fritzlar, 2012, CCo); Lympia (Fritzlar, 2012, CCo); Odou (Mühle, 2006,

CCo); Tochni, Plateau Kalavassos (Fritzlar, 2012, CCo).

Notes

The types of *Danacea cypria*, in collection Schilsky, have not been seen but at MGe, the 2 above referred syntypes have been retrieved, studied by this Author and mentioned in his original description as follows: "...Im Museo Civico Genova steckten 2 ♀♀ als *D. hypoleuca* Kiesw.....Baudi bezieht irrthümlich [*sic*!] diese Art auf *hypoleuca*..." [an easily explainable mistake: Baudi di Selve probably studied male specimens too and was deceived by the emarginated penultimate sternite (Fig. 2): a character put well in evidence by Kiesenwetter for his *D. hypoleuca*]. These specimens must be considered syntypi because certainly under the Schilsky's eyes when describing it; they also witness the Baudi di Selve incorrect determination.

On the other hand, on Cyprus just one *Danacea* species (out of the two present) perfectly corresponds to the Schilsky description and is very common, so no misunderstanding is possible.

Danacea cypria appears rather similar to *D. sequensi* Reitter, 1901 of southern central Turkey (Liberti 2017: 34, Figs. 39-41, 97), is endemic of the Island and very common all over. The main differences between the two are summarized in Tab. 1.

Worth noting are several population samples, both from Paphos and Gazimagusa districts, showing an apparently naked (in reality covered with thin, dark setae), wide longitudinal band on pronotum more or less extending on head. No further meaningful differences with other populations have been detected. In genus *Danacea* other examples too are known of ap-

parently naked zones on elytra and pronotum appearing in certain populations as, for example, in *D. vitticollis* Schilsky, 1897 (Liberti 2009, 96) and in *D. satanas* Prochazka, 1894 (Liberti 2017: 34). In the case of *D. cypria* such a setae pattern oddity may not be linked to geography as it seems for the other mentioned species.

***Danacea reitteri* Prochazka, 1894 (Fig. 20)**

Danacea reitteri Prochazka, 1894: 17, 33; Schilsky 1897a: 47b [synonymized with *D. marginata* (Küster, 1850)]; Liberti 2009: 68 [synonym of *D. marginata*]; Liberti 2017: 32, loc. typ. Caucasus [resurrected as good species, lectotypus defined].

= *Danacea nana* Baudi di Selve, 1873 (not Kiesenwetter, 1863) [an incorrect determination].

Types

This species has been resurrected and redescribed recently with selection of the lectotypus (Liberti 2017: 32).

Materials studied

Only the known Cyprus localities are here reported. Please refer to Liberti (2017: 33) for other localities in Turkey, Georgia and Caucasian Russia.

CYPRUS SOUTH

Paphos distr.: Dora (Kopetz, 2019, CLi); Latsi (Kadlec, 2000, MPr); Lyso (Ziegler, 1996, CZi; Kopetz, 2019, CKo).

Lemesos distr.: Akrounta (Kopetz, 2019, CLi); Dierona (Kopetz, 2019, CLi); Kelefos Bridge (Kladec, 2000, MPr); Troodos (Ziegler, 1996, CZi)*.

CYPRUS NORTH

Girne distr.: Bahçeli (Kopetz, 2015, CLi); Esentepe

Tab. 1. Main differences between *Danacea cypria* and *Danacea sequensi*.

	<i>Danacea cypria</i>	<i>Danacea sequensi</i>
Head: snout and clypeus	Snout shorter (sl/eyl = 1.35-1.45); clypeus narrower (ad/eyl = 1.2-1.3)	Snout longer (sl/eyl = 1.4-1.6); clypeus wider (ad/eyl = 1.3-1.6.)
Antennae...	Shorter, with article 5 visibly wider (more expanded on internal side) than 4 and 6	Longer, with article 5 not clearly wider than 4 and 6
Pronotum lateral margins...	Feebly crenulated	Smooth or very feebly crenulated
Penultimate sternite...	Heavily emarginated on posterior border	Moderately emarginated in the middle of posterior border
Median lobe...	Slender, rather straight (Fig. 21)	Thicker, more sinuate (Liberti 2017: Figs. 39, 40)
Pygidium anterior border...	Widely and deeply concave	Normally concave

(Kopetz, 2015, CLi); Karaman (Kopetz, 2015, CLi); Karavas (Pfeffer, 1969, MPr); Lapta (Kopetz, 2015, CLi).

Gazimagusa distr.: Kaplica (Kopetz, 2015, CLi).

* = record already reported in Liberti (2009: 71) as *D. marginata*.

Further materials

The following localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin:

CYPRUS SOUTH

Paphos distr.: Agia, river Argatikis (Constantin, 1999, CCo); cape Akamas near Neo Chorio (Constantin, 1999, CCo); Polis, Paphos forest, Selladi tis Aftoullinas (Constantin, 1999, CCo); Stavros (Constantin, 1999, CCo).

Lemesos distr.: Mandria (Constantin, 1999, CCo); Melin (Kopetz, 2012, CCo); Pano Platres (Constantin, 1999, CCo).

Larnaka distr.: Odou (Mühle, 2006, CCo; Kopetz 2012, CCo).

Notes

Before its recognition as a good species it was confused with the similar *D. marginata* (Liberti 2017: 32).

D. reitteri is spread all over Turkey and the Caucasian region and its different populations apparently (slightly) differ from one another for the distal spine shape (Liberti 2017: Figs. 75, 80-83). The Cyprus population, as expected, conforms to the rule and shows a distal spine different from all other known ones, shaped as bent ribbon (Fig. 20).

Records of *D. marginata* (erroneously) reported by Liberti (2009: 71) for Cyprus are to be re-assigned to *D. reitteri* (Liberti 2017: 33).

Apparently not uncommon on Cyprus and of early appearance (March and April).

***Dasytes (Dasytes) moniliatus* Kiesenwetter (Figs. 8, 23)**

Dasytes moniliatus Kiesenwetter, 1863: 633 Note 2, loc. typ. Crete Island; Kiesenwetter 1864: 389, Pl. IV Fig. 11; Schilsky 1894a: n° 30; Schilsky 1897b: 34N; Pic 1927: 375; Luigioni 1929: 629; Porta 1929: 119; Wittmer 1935: 255; Majer 1986: 123; Kolibač *et al.* 2005: 160, Tab. XI Fig. 5, Tab. XIII Fig. 1.

= *Dasytes moniliatus* var. *a. luteicornis* [a colour variation] Schilsky 1894a: n° 30 [listed as a synonym by Mayor 2007: 402].

= *Dasytes xanthocnemus* v. *cypricus* Baudi di Selve, 1873 [not a synonym of *D. xanthocnemus* Kolenati, 1846 as listed in Mayor 2007: 403].

Types

Possibly lost. See below (under Notes) a comment on this species identification.

Description

A small to very small species with reduced sexual dimorphism; entirely black, often (not always) with yellow tibiae, tarsi and (in part) antennae*; bright; covered with erect black setae and laid-down, flat pubescence which is paler, very thin and hardly visible; pronotum convex; without lateral furrows although the pronotal area close to anterior angles is more rough than the remaining surface. Punctuation on pronotum coarse, rather superficial, intervals between points well greater than points diameter; on elytra rougher, particularly along the suture.

♂. Length 2.6-3.4 mm; antennal article 1 black; articles 2-11 increasingly darker towards apex (often at least 2-4 entirely yellowish). Head with rather small eyes: distance between eyes about 3 times greater than transversal eye diameter. Antennae rather long (ratio AL/TL = 0.40-0.45); serrate; articles 3-10 triangular, 3-5 compressed and transverse, 8-10 elongate. Pronotum transverse (PW/PL = 1.3-1.4); anterior edge straight and posterior widely rounded in a regular curve. Elytra long (EL/PL = 3.5-3.6; EL/EW = 1.8-2.0); clearly widened in apical half; apices divergent, separately rounded; apical angle rounded off, hardly detectable. Abdomen with visible sternites 1-5 simple, at most the penultimate one (sternite 5) shows, at times, a moderate depression in the middle of posterior edge.

Median lobe as in Fig. 23. Internal sac short, simple, free (or nearly so) of any visible structure.

♀. Slightly larger: length 3.2-3.8 mm, antennae shorter and thinner than in ♂♂, body more convex, elytra more widened and more convex in apical half, elytral length more variable (EL/PL = 3.5-4.1).

* = colour is subject to variations: a population sample from Erdemli (Turkey, Mersin prov.) is completely black, including legs and antennae.

Materials studied

CROATIA

Starigrad Paklenica (Popp, 20.VII.1990, MSt); Tucepi (Monguzzi, 14.VII.1990, CMo)^F.

BULGARIA

Achtopol (Arnold, 20.VII.1984, MBe); Madzarovo (Chobanov, VII.2005, CMg); Plovdiv (Arnold, 25.VII.1984, MBe).

GREECE

Pieria prov.: Katerini (Ziegler, 10.VII.2010, CZi).

Thessaloniki prov.: Stavros (Malinka, 5.VII.1993, CMk).

Halkidiki prov.: Amouliani island near Mount Athos (Fancello, 7.VIII.2007, CLi); Kalandra (Mirutenko, 2013, CMi); Paliouri on Kassandra peninsula (Berra, 20.VII.2006, CLi)^F.

Kavála prov.: Krisi Ammoudia on Thasos island (Malinka, 2.VII.1993, CMk).

Làrissa prov.: Stomio (Ziegler, 10.VII.2002; CZi).

Magnissia prov.: Agios Ioannis near Tsangarada (Liberti, 28.VII.1981, CLi).

Hanià prov. (Crete): Georgioupoli (Mirutenko, 22.VI.2013, CMi).

Lesvos prov.: Milopotamos river near Arisvi, on Lesvos island (Berra, 13.VII.1999, CLi).

Kyklades prov.: Egiali, Amorgos (Ponel, 2017, CPn).

Dodekanissa prov.: Ialysos on Rhodes (Mucsková, 30.VI.2017, CKo); Monolithos on Rhodes (Kopetz, 1.IV.2018, CKo); Fileremo on Rhodes (Machi, 5.VII.1933, MMi); Meyisti island (Schatzmayr, 14.V.1932, MMi).

CRIMEA peninsula

Peschanoë on Alma river (Bialt, 28.VIII.2001, CLi); Vilino on Alma river (Bialt, 25.VII.2001, CLi).

CYPRUS SOUTH

Paphos distr.: Avgas Gorge (Liberti, 2018, CLi); River Diarizos near Kidasi (Liberti, 2018, CLi).

TURKEY

Tekirdag prov.: Daveci (Angelini, 22.VI.2009, CAn); Yenice (Angelini, 21.VI.2009, CAn).

Istanbul prov.: Istanbul (Allemand, 14.VII.1997, CAI).

Çanakkale prov.: Yenice (Angelini, 1.VII.2010, CAn).

Balikesir prov.: Balya (Angelini, 1.VII.2010, CAn); Düvertepe (Angelini, 2.VII.2010, CLi).

Bursa prov.: Gölyazi (Rozner, 15.VI.1989, MBp).

Antalya prov.: Aspendos (Angelini, 29.V.2011, CAn); Kemer (Gillerfors, 31.V.1991, MLu); Side (Gillerfors, 27.V.1989, MLu).

Mersin prov.: Erdemli (Malinka, 1996, CMk; Liberti, 29.V.2011, CLi).

Adana prov.: Karatepe (Pierotti & Peressinotto, 29.VI.1965, MMi).

LEBANON

Rayfoun (Reuter, 30.III.2017, CKo).

Notes

Genus *Dasytes* is rather poorly known except in Italy, France and central Europe, whose species have been rather recently revised (Kolibač *et al.* 2005, Liberti 2004, Constantin & Liberti 2011). No wonder that even the identity of a common and widespread species like *D. moniliatus* would give raise to (a few) doubts: the Kiesenwetter types of this species have been indeed (most probably) lost in the second world war; a few specimens studied by the writer from the typical locality Crete might belong to, maybe, two species - both corresponding to the Kiesenwetter description. After the original description, Kiesenwetter (1864: 389) also reported Dalmatia as additional locality; for this reason too it is wise – for the time being – to stick to the current (and shared) interpretation of the name *moniliatus* and apply it to the species here discussed.

Baudi di Selve reports to have studied 8 females from Cyprus, similar to *D. moniliatus* (Baudi di Selve 1873: 317, note), described under the name “*D. xanthocnemus* var. *cyprius*”. As above discussed *D. xanthocnemus* Kolenati, 1846 is reputed absent from the island and, taking into account that *D. moniliatus* is actually present on Cyprus, the Baudi di Selve name is deemed to be a junior synonym of the latter.

D. moniliatus is a common species whose range includes the central and eastern Mediterranean regions, often of late appearance (both sexes can be found until June or July). The two small population samples found on Cyprus by the writer have been collected on umbelliferon (*Daucus* sp.) flowers together with *Dasytidius valdelatus*, *D. indutus virescens* and *Dasytiscus anatolicus*.

Dasytes (Dasytes) timidus Baudi di Selve, 1873 (Figs. 9, 10, 22)

Dasytes timidus Baudi di Selve, 1873: 318, loc. typ. Cyprus Island.

Types

Four syntypi of this species are at MTo, collectively

labelled “*D. timidus* Baudi di Selve” hw. on the box-floor, as follows:

- 1 ♂, dissected and re-mounted by Majer, “*Dasytes / timidus* Baudi / Lectotypus” hw. by Majer, up.; “*Dasytes* ♂ / *timidus* Baudi / K. Majer det” [pr.] 1990 / Lectotypus [pr.] “Museo di Zoologia / della Università di / Torino, Italia” pr. which has, over-handwritten “6.5 / 6”.
- 1 ♀, re-mounted by Majer “*Dasytes / timidus* Baudi / Paralectotypus” hw. by Majer, up.; “*Dasytes* ♀ / *timidus* Baudi / K. Majer det” [pr.] 1990 / Paralectotypus [pr.] “Museo di Zoologia / della Università di / Torino, Italia” pr. which has, over-handwritten “6.5 / 6”.
- 1 ♂, only bearing a “♂” label, directly mounted on a thin pin and in very bad conditions: only the abdomen remains.
- 1 ♀, with no labels, directly pinned, apparently in better conditions.

Description

A small to medium sized species, entirely black included legs and antennae. Sexual dimorphism evident for antennal length, body size and structure. Convex, bright, covered with black, erect setae and laid-down pubescence. Absence of pronotal lateral furrows. Pronotum punctuation coarse, rather shallow, intervals between points larger than points diameter, pronotum lateral sides more roughly punctuated than on disc.

♂. Rather small: TL = 3.2-4.1 mm. Head clearly narrower than pronotum; with small eyes: distance between eyes about 3 times greater than transversal eye diameter. Antennae long (ratio AL/TL = 0.43-0.50); strongly serrate; articles 3-4 short and compressed, 7-10 larger, balanced to elongate. Pronotum sub-rectangular with posterior edge rounded; transverse (PW/PL = 1.50-1.58). Elytra long (EL/PL = 3.7-4.2; EL/EW = 1.90-1.97); clearly widened in apical half; their overall appearance grey due to the visible laid-down pubescence (often taking the appearance of striae); apices more or less jointly rounded; apical angle rectangular, feebly rounded.

Abdomen with visible sternites 1-5 simple. Median lobe as in Fig. 22. Internal sac with 12-18 small pale brown spines and 3-4 larger, pale brown, disposed in a row.

♀. Larger than male: TL = 4.2-5.0 mm. Antennae much shorter and less evidently serrate than in ♂,

with all articles transverse and compressed. Overall appearance of elytra deep black with hardly visible laid down pubescence. Body structure more convex than in ♂, with elytra more widened in apical half.

Materials studied

CYPRUS SOUTH

Paphos distr.: Melandra (Konvička, 2008, CKn & CLi).

Lemesos distr.: Lemesos (Ziegler, 2010, CZi & CLi); Parekkklisia (Ziegler, 2010, CZi & CLi); Pano Platres 1090 m (Ziegler, 2010, CZi; Liberti, 2018, CLi).

Lefkosia distr.: Kakopetria 885 m (Liberti, 2018, CLi); Motoullas 1030 m (Liberti, 2018, CLi); Saranti 1210 m (Liberti, 2018, CLi); Cedar Valley (Ziegler, 2010, CZi; Miessen, 2016, CLi).

Larnaka distr.: Kofinou (Ziegler, 2010, CZi); Vavatsinia (Ziegler, 2010, CZi).

Notes

Although no doubts could be raised on *D. timidus*, it has been here redescribed to ease the comparison with the other two *Dasytes* species living on Cyprus.

Similar to *D. moniliatus* both in body structure and genitalia, it is easily recognizable, at first sight, for bigger size, longer male antenna and black tibiae. Differences with *D. aeneiventris*, well evident in males (*D. timidus* has black tibiae, more transverse pronotum, shorter body and smaller eyes) are rather obvious in females too (*D. timidus* has black tibiae, more transverse pronotum, wider body, antennal article all transverse).

It is common and endemic of the Island. The writer collected it repeatedly on blossoming *Cistus* sp. bushes.

Dasytes aeneiventris Küster, 1850 (Figs. 6, 7)

Dasytes aeneiventris Küster, 1850: n° 6, loc. typ. Italy [without better precision]; Constantin 1991: 405, Fig. 7; Liberti 2004: 315, Fig. 39; Constantin & Liberti 2011: 46, 54, 131, Pl. 14, Fig. 90.

Types

The types of this species have been probably lost, however there is agreement on the interpretation given by all recent Authors and no doubt can be raised on it.

Description of variability

D. aeneiventris has been recently redescribed (Liberti 2004: 315) however, being this species very variable as external appearance, it is important to give a short account of it.

The Cyprus populations look homogeneous, characterized by ♂♂ with very large eyes and very long antennae (possibly a “founder effect”); the aedeagus being however reasonably identical to all other populations.

On the other hand *D. aeneiventris* has a wide range, including western and central Mediterranean areas (Spain, Morocco, southern France, all the Tyrrhenian Islands, the whole of Italy, Algeria and Tunisia), Greece (with the Kikladhes) and Cyprus: over such a large area this species exhibits important variability which is apparent in male eyes size, male antennal length and tibiae colour (other characters too, less apparent - as for example the laid-down pubescence - offer variability).

No doubts linked to geography, such variability shows no clear-cut trends except, perhaps, for tibiae colour (which are yellow in Algeria, Morocco and a few other localities). Just to give an idea of it, a few specimens have been compared, taken from population samples from Cyprus, the Kikladhes (1 specimen only, from Andros), southern Italy, Sardinia and Morocco. The results are summarized in Tab. 2.

As can be seen, eyes size is prone to great variability: in Cyprus population eyes are big and bulging: the inter-ocular distance, consequently, becomes very small: only a small fraction ($\approx 20\%$) of the eye diameter. On the other hand, in populations from Sardinia, eyes are small with inter-ocular distance far greater ($\approx 170\%$) than eye diameter (compare Figs. 6 and 7).

Also population samples from Morocco show rather big eyes.

As for the tibiae colour, populations from Spain, Balearic Islands, south-east Sicily and north Africa have reddish to yellowish tibiae while in all other European populations are completely black.

Materials studied

Only “eastern” localities (Greece and Cyprus) are here reported. Many localities in other Countries can be found in Constantin (1991: 405) and Liberti (2004: 315).

GREECE

Drama prov.: Livadero (Malinka, 2011, CMk).

Ioannina prov.: Pedini (Liberti, 2005, CLi)^F.

Larissa prov.: Spilià (Malinka, 2011, CMk).

Etolia Akarnania prov.: Plagià (Angelini, 2005, CAn)^F.

Ahaia prov.: Flampoura (Liberti, 1998, CLi)^F; Kalavrita (Angelini, 1999, CAn); Kalogria (Angelini, 1999, CAn; Stepanek, 2004, CLi); Krioneri (Migliaccio, 1996, CMg); Skepastò (Brustel, 2004, CLi)^F; Tripotama (Liberti, 1998, CLi)^F.

Korinthia prov.: Stenò (Angelini, 1999, CAn)^F.

Arkadia prov.: Dirrahi (Angelini, 2004, CAn); Stavrodromio (Angelini, 1999, CAn).

Lakonia prov.: Alepohori (Konvička, 2009, CKn).

Hania prov. (Crete): Lakki (Gillerfors, 1993, MLu)^F; Nea Roumala (Gillerfors, 1993, MLu); Omalos (Ziegler, 2003, CZi; Saltini, 2018, CLi)^F.

Lassithi prov. (Crete): Agios Nikolaos (Ziegler, 2000, CZi); Kritsa (Ziegler, 2000, CZi).

Kikladhes prov.: Vourkoti on Andros Island (Liberti, 2007, CLi).

CYPRUS SOUTH

Paphos distr.: Amargeti (Ziegler, 2008, CZi); Archiman-

Tab. 2. *Dasytes aeneiventris*: variability of certain characters in a few Mediterranean populations.

	Cyprus	Kikladhes	Southern Italy	Sardinia	Morocco
Antennal ratio (♂) AL/TL (antennae...)	0.66-0.73 (long)	0.56 (rather short)	0.51-0.54 (rather short)	0.44-0.50 (short)	0.63-0.66 (intermediate)
Eye ratio (♂) id/eyd (eyes...)	0.18-0.27 (big)	0.88 (intermediate)	0.88-1.30 (intermediate)	1.60-1.83 (small)	0.50-0.66 (rather big)
Tibiae colour...	Black although brown in a few specimens	Black	Black	Black	Yellow

drita (Kopetz, 2012, CKo); Dora (Kopetz, 2019, CLi); Kathikas (Frenzel, 2018, CFz); Latsi (Kopetz, 2019, CKo); Lysos (Frenzel, 2018, CFz; Kopetz, 2019, CLi); Polemi (Kopetz, 2019, CLi); Polis (Frenzel & Fritzlar, 2018, CFz); Pomos (Brustel, 2009, CLi; Frenzel, 2018, CFz); Prastio (Kopetz, 2019, CLi); Souskiou (Kopetz, 2012, CKo); Stalos (Kopetz, 2019, CLi); Theletra (Frenzel, 2018, CFz; Kopetz, 2019, CLi); Tsada (Brustel, 2009, CLi; Frenzel, 2016, CFz; Kopetz, 2019, CLi).

Lefkosia distr.: Cedar Valley (Brustel, 2009, CLi); Mathiatis (Kopetz, 2019, CLi).

Lemesos distr.: Akrounta (Kopetz, 2012 and 2019, CKo and CLi); Alassa (Kopetz, 2012, CKo); Epitagonia (Kopetz, 2012, CKo); Louvaras (Kopetz, 2012, CKo); Pissouri (Ziegler, 2008, CZi).

Larnaka distr.: Odou (Kopetz, 2019, CLi).

CYPRUS NORTH

Girne distr.: Bahçeli (Kopetz, 2015, CLi; Frenzel, 2015, CFz); Catalköy (Frenzel, 2015, CFz); Esentepe (Kopetz, 2015, CLi); Lapta (Kopetz, 2015, CLi; Frenzel, 2015, CFz); Karsiyaca (Kopetz, 2015, CLi; Frenzel, 2015, CFz); Saint Hilarion Castle (Kopetz, 2015, CLi; Frenzel, 2015, CFz).

Gazimagusa distr.: Tatlisu (Frenzel, 2015, CFz); Kaplica (Frenzel, 2015, CFz).

Further Materials

The following localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin :

CYPRUS SOUTH

Paphos distr.: Akamas peninsula (Frenzel, 2012, CCo); Souskiou (Frenzel, 2012, CCo).

Lemesos distr.: Lefkara (Constantin, 1999, CCo); Louvaras (Kopetz, 2012, CCo).

Notes

A species not reported by Baudi di Selve (1873) for Cyprus, possibly because confused with the similar *D. nigroaeneus* Küster, 1850 which in turn, although listed by Baudi di Selve (1873: 318), has not been seen from the Island by the writer (as above discussed).

Very common in western Mediterranean Countries (Spain, Morocco, southern Italy, Sardinia, Sicily), it becomes less frequent in the Balkans. On Cyprus, the easternmost locality of its known distribution, it is apparently common in early spring (April and early May) to disappear afterwards.

Dolichophron cylindromorphum (Kiesenwetter 1867) (Fig. 3)

Dolichosoma (Dolichophron) cylindromorphum Kiesenwetter, 1867: 138 (♂), Pl. 1, Fig. 8, loc. typ. Syria; Baudi di Selve 1873: 318; Schilsky 1898: n° 4; Mayor 2007: 407.

A species already reported by Baudi di Selve (1873:18). Known only from original description, it does not pose any systematic problem.

Materials studied

SYRIA

Crac des Chevaliers (Stepanek, 2008, CSt); Safita (Stepanek, 2008, CSt).

ISRAEL

Atlit near Haifa, sea level (Giusto, 2014, CLi); Be'er Tzelim (Ziegler, 2018, CZi); Beit She'Am (Ziegler, 2018, CZi); Gadot (Göllner, 1996, MBe); Goren near Eilon (Giusto, 2014, CLi); Gvulot, Negev (Tedeschi, 2008, CTd); Hadera (Drees, 2010, MBe); Haifa 20 Km S (Göllner, 1996, MBe); Ha Sharon near Netanya (Ziegler, 2018, CZi); Kiryath Anawim (Koch, 1933, MMi); Maidal e-Shams on Mount Hermon, m 1160 (Giusto, 2014, CLi); Mount Hermon, m 1000 (Sama, 1996, CLi); Mount Karmel (Schatzmayr, 1933, MMi; Göllner, 1996, MBe); Ofaquim 12 Km SW (Wrase, 2008, MBe); Tel Aviv (Koch, 1933, MMi).

JORDAN

Wadi Jabis (Ziegler, 2015, CZi).

CYPRUS NORTH

Girne distr.: Bahaceli 100 m (Frenzel, IV.2015, CFz).

Gazimagusa distr.: Cape Greco (Kopetz, 2019, CKo).

Further materials

The following localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin :

CYPRUS SOUTH

Lemesos distr.: Akrotiri south of Lemesos, (Wesiak, 2017, CCo).

Lamaka distr.: Hala Sultan Tekke Mosque (Wesiak, 2017, CCo).

CYPRUS NORTH

Gazimagusa distr.: Kouklia, Ydatodexamani (Starke, 2011, CCo); Protaras (Ziegler, 2010, CCo).

Notes

A clearly recognizable species described from “Syria” without better precision (please note that, when described, Syria borders were much more inclusive than today), listed by Baudi di Selve (1873:18) from Cyprus and reported by Mayor (2007: 407) from Syria, Lebanon, Israel and Cyprus.

This species, which looks like a small, blue *Psilothrix*, appears rather uncommon on Cyprus.

Dolichosoma simile (Brullé, 1832)

Dasytes similis Brullé, 1832: 154, loc. typ. Greece; Baudi di Selve 1873: 318; Kolibač *et al.* 2005: 157, Tab. XII Fig. 22; Liberti 2009b: 364, Figs. 20, 30; Constantin & Liberti 2011: 40, Pl. 5 Fig. 19.

This species was listed by Baudi di Selve (1873: 318) for Cyprus and has been discussed recently by Kolibač *et al.* (2005: 157), Liberti (2009b: 364) and Constantin & Liberti (2011: 40). It cannot be confused with any other and it is only shortly considered here.

Materials studied

Only the Cyprus localities are listed (an inclusive list of all localities studied for this species would be too long to be reported here).

CYPRUS SOUTH

Paphos distr.: Giolou (Konvička, 2008, CKn); Kathikas (Frenzel, IV.2018, CFz); Peristerona (Frenzel, IV.2018, CFz); Polis (Kopetz, IV.2019, CLi); Theletra (Frenzel, IV.2018, CFz; Kopetz, 2019, CKo); Tsada (Frenzel, IV.2018, CFz).

Lemesos distr.: Parekklesia (Frenzel, IV.2018, CFz);

CYPRUS NORTH

Gazimagusa distr.: Tatlisou 4 Km NE 45 m (Frenzel, IV.2015, CFz).

Girne distr.: Bahçeli 100-450 m (Frenzel, IV.2015, CFz; Kopetz, 2015, CLi); Camlibel 175 m (Frenzel, IV.2015, CFz); Karsiyaca 90 m (Frenzel, IV.2015, CFz).

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin (RC) and Isidor Plonski (IP):

CYPRUS SOUTH

Paphos distr.: Choli (Link, 2014, CLk) IP; Coral Bay near Pegeia (Mantič, 2012, CMt) IP; Lara Beach 6 Km N of Agios Georgios (Mantič, 2012, CMt)

IP; Neo Chorio (Mantič, 2012, CMt: IP; Constantin, 1999, CCo: RC); Simou (Constantin, 1999, CCo) RC.

Lemesos distr.: Lefkara (Constantin, 1999, CCo) RC

Notes

D. simile has an eastern Mediterranean range and replaces, to the south, the similar species *D. lineare*: the two have been at times found mixed up where their ranges overlap.

The writer has studied many specimens of *D. simile* (reporting all localities in full would result too long) from the following Countries: France (only the south-east: Bouches-du-Rhône and Var), peninsular Italy (islands included), Croatia, Bulgaria, Greece (Crete included), Turkey. There are also meaningful indications of its presence in the Caucasian region.

Dasytidius indutus ssp. *virescens* (Baudi di Selve, 1873) **n. stat.** (Figs. 11, 12, 28-30)

Dasytiscus virescens Baudi di Selve, 1873: 319, locality indicated: Cyprus Island. Majer 1991: 10, Figs. 15, 43, 59, 78, 94 [lectotypus definition] loc. typ. Cyprus Island; Majer 1996: 160.

Dasytidius indutus is a polytypical species whose overall structure will be discussed in a future paper. It must be anticipated here, however, that 5 subspecies can be recognized within its distribution range:

D. indutus aegaeicus Liberti, 1986: Crete, Aegean islands, Rhodes and Turkey (only the Antalya region)

D. indutus dalmatinus Majer, 1989: Adriatic coast of Croatia

D. indutus funebris Majer, 1989: Turkey (except the Antalya region) (**n. stat.**)

D. indutus indutus Kiesenwetter, 1859: continental Greece (Peloponnesus included)

D. indutus virescens Baudi di Selve, 1873: endemics of Cyprus (**n. stat.**)

It is here also anticipated that, on the other hand, *Dasytidius similis* (Schilsky, 1896) is considered as a good species (**n. stat.**), not a subspecies of *D. indutus* as proposed by Majer (1989, 153) (a change of status that will be discussed and justified in a future paper on genus *Dasytidius*).

Types

Lectotypus and paralectotypus of ssp. *virescens*, both

♀, defined by Majer (1991: 11) are in collection Baudi di Selve (box Dasytidae III) at MTo, both dissected and re-mounted by Majer, plus a third ♀ specimen directly mounted on a thin pin.

Materials studied

CYPRUS SOUTH

Paphos distr.: Avgas Gorge (Liberti, 2018, CLi); Kato Arodes (Miessen, 2016, CLi); Kidasi on river Diarizos (Berra, 1998, CLi; Liberti, 2018, CLi); Miliou (Miessen, 2014, CLi); Nikokleia (Konvička, 2008, CKn; Liberti, 2018, CLi); Paphos (Feller, 1994, CCo); Pegeia (Liberti, 2018, CLi); Pomos (Mühle, 2006, CCo; Frank, 2016, CKn).

Lemesos distr.: Alassa (Liberti, 2018, CLi); Korfi (Mühle, 2006, CCo); Lemesos (Mavromoustakis, 1928, MGe; Köstlin, 1977, CCo); Pano Platres (Liberti, 2018, CLi); Parekklesia (Mühle, 2006, CCo); Tochni (Liebenow, 2014, MBe).

Lefkosia distr.: Galata (Liberti, 2018, CLi); Motoullas (Liberti, 2018, CLi); Vyzakia (Liberti, 2018, CLi).

Larnaka distr.: Odou (Liberti, 2018, CLi); Ora (Konvička, 2008, CKn).

CYPRUS NORTH

Girne distr.: Karavas (Pfeffer, 1969, CCo).

Notes

The different subspecies can be recognized from one another mainly for internal sac characters and sometimes, to a lesser extent, for the median lobe apical shape. Exception is ssp. *virescens*: to the scope of the present paper it is sufficient to note the peculiar shape of its pronotum, evidently narrowed in basal half (Fig. 12; see also Majer 1991: Fig. 15), which allows an easy recognition.

Very common all over the Island from mid-spring to early summer, mainly at lower altitudes, on flowers (as, for example, umbelliferous) often mixed up with *Dasytidius valdelatus* n. sp.

Dasytidius inchoatus Majer, 1991 (Figs. 14, 34)

Dasytidius inchoatus Majer 1991: 5, Figs. 10, 36, 53, 87; loc. typ. Kythrea (about 12 Km NE of Lefkosia, Cyprus) [1 ♂ only]; Majer 1996: 162, Fig. 5 [♀ only, from Crete (sic ! probably a *lapsus calami* for Cyprus)]. ? = *Dasytiscus indutus* Baudi di Selve (not Kiesenwetter), 1873: 320 [a possible determination mistake due to the yellow tibiae].

? = *Dasytidius syriacus* (pars) Majer (not Reitter), 1991: 6.

Types

Not retrieved (see Notes here below).

Description

♂. Body parallel, small, thin, convex, length 2.9-3.2 mm.

Dorsal integuments olive-green, rather bright, punctuated with dense and shallow punctures; femora dark, tibiae yellow, tarsi yellow with article tips darkened. Antennae blackish with articles 2-4 variably yellow. Pubescence golden green-yellowish, rather sparse, double (laid-down and erect setae of the same colour), long, without a clear lateral fringe except close to elytral apex. Antennae rather short, moniliate; articles small, 4-10 transverse, approximately globular; internal angle more visible in 4-6 than in 7-10.

Pronotum clearly transverse (PW/PL = 1.32-1.41), slightly narrower than elytral base, sub-rectangular: anterior border straight, lateral sides rounded and crenulated, posterior border widely rounded, maximum width just behind the middle.

Elytra convex, jointly rounded apically with apical angle rectangular.

Median lobe as in Fig. 34. Internal sac finely granulose in its basal part, fitted with an intermediate, rather long aggregate of very small spinules (which often appears divided in two parts) and a variable number of apical spines, from 3 to 14. Last sternite median process basally forked. Spicular fork with branches approximately as long as the basal, undivided part.

♀. As the ♂ but size slightly larger (TL = 3.2-4.6 mm), antennae slightly shorter, body more convex with elytra moderately widened in apical half.

Materials studied

Cyprus (Pfizer, 1972, CCo).

CYPRUS SOUTH

Paphos distr.: Agios Georgios (Frenzel, 2018, CFz); Emmes, Paphos forest (Makris, 2006, CCo); Episkopi (Ziegler, 1998, MSt); Kidasi on Diarizos river, 250 m (Berra, 1998, CLi^F; Liberti, 2018; CLi); Loutra tis Aphroditis near Polis (Constantin, 1999, CCo); Neo Chorio near Polis (Constantin, 1999, CCo); Pegeia (Mühle, 2006, CCo); Polis (Constantin, 1999, CCo; Mühle, 2006, CCo; Frank, 2014, CKn); Pomos (Frank, 2014, CKn).

Lemosos distr.: Akrounta (Kopetz, 2012, CCo & CKo); Alassa 250 m (Kopetz, 2012, CKo)^F, Kantou (Constantin, 1999, CCo); Lemosos (Köstlin, 1977, CCo; Kopetz, 2012, CCo and CKo; Frenzel, 2016, CFz); Pano Platres 1090 m (Liberti, 2018, CLi); Pissouri (Constantin, 1999, CCo); Prodromos 1357 m (Mühle, 2006, CCo; Liberti, 2018, CLi); Skarinou (Kopetz, 2019, CKo); Troodos village 1710 m (Liberti, 2018, CLi).

Lefkosia distr.: Asinou Church 470 m (Liberti, 2018, CLi); Kakopetria 885 m (Liberti, 2018, CLi); Motoullas 1030 m (Liberti, 2018, CLi); Saranti 1210 m (Liberti, 2018, CLi); Cedar Valley (Frank, 2014, CKn; Miessen, 2016, CLi).

CYPRUS NORTH

Girne distr.: Koruçam (Frenzel, 2015, CFz).

Gazimagusa distr.: Cape Greco (Kopetz, 2019, CKo).

Notes

In his first paper on the *Dasytidius* species of near and middle East Majer (1991: 5, 6) reports *Dasytidius syriacus* from Cyprus (p. 6) and describes *D. inchoatus*, from the same island, on one ♂ specimen (p. 5): both have yellow tibiae and are reported to be very similar. The description of *D. inchoatus* includes a very accurate comparison with *D. syriacus*: the Author remarks indeed differences in internal sac, median lobe, tegmen and pronotum shape.

The type (holotypus) of *D. inchoatus* has not been studied however the writer found a couple of specimens that, after dissection and mounting, show a median lobe - moderately shrunk dorsally probably due to the inclusion, in the transparent medium DMHF, of insufficiently sclerotized integuments - identical to the

(altogether excellent) drawing supplied in the Majer description (1991: Fig. 87): that is why, in the writer's opinion, such median lobe drawing may not be entirely meaningful. Furthermore the internal sac of the holotypus appears to be "at the extremity" of the species variability range, with only three small spines in it (as witnessed by the drawing). Easy to believe that "normal" specimens (with more spines in internal sac and fully sclerotized median lobe) might have been confused with *D. syriacus*, the very similar taxon which is here deemed to be absent from the island.

Indeed, from the study of abundant materials, only 3 *Dasytidius* species appear to be present on Cyprus and, out of them, one species only has yellow tibiae, namely *D. inchoatus*, although rather variable. This species can be identified by the presence, in its internal sac, of a well detectable aggregate of very small spinules (Majer 1991: Fig. 87; see also Fig. 34) which lacks in *D. syriacus* (see table below): a tiny but constant character.

Dasytidius inchoatus, endemic of Cyprus and common all over from April to June, is very close to *D. syriacus* living in the Near East (Lebanon, Israel, Jordan). The main differences between the two species are summarized in Tab. 3.

The number of distal spines in the internal sac of *D. inchoatus* depends on populations. As a loose rule, this number decreases going up in altitude (although with exceptions) so that, in populations collected close to the sea level, 7-14 distal spines can be found, against 3-5 in populations collected above 1500 m.

D. inchoatus is here (provisionally) considered as a good species, rather than a subspecies of *D. syriacus*, mainly because the latter species variability still is insufficiently known to justify a well-advised choice.

Tab. 3. Main differences between *Dasytidius inchoatus* and *Dasytidius syriacus*.

	<i>Dasytidius inchoatus</i>	<i>Dasytidius syriacus</i>
Dorsal integuments colour...	Dark olive-green	Blackish
Antennal articles 4-6...	Just transverse, internal angle more pronounced	Clearly transverse, internal angle rather smooth
Pronotum shape...	Very transverse (PW/PL = 1.30-1.40)	Moderately transverse (PW/PL = 1.20-1.30)
Median lobe shape...	As in Fig. 34.	As in Fig. 34 but more sinuous in apical half
Internal sac spinules...	Variable from 3 to 14. Presence of an intermediate aggregate of very small spines, its size being variable, often divided in two parts	Usually 9-10. Absence of aggregates of very small spines

***Dasytidius valdelatus* sp. n.** (Figs. 13, 31-33)

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? *Dasytiscus squamatus* Baudi di Selve, 1873 (not Kiesenwetter, 1871); *Dasytidius nigripes* Mayor (not Pic, in part) 2007: 390.

Types

Holotypus (♂: MMi), Allotypus (♀: MMi), 71 paratypes (3 ♂♂, 3 ♀♀: MBa; 3 ♂♂, 2 ♀♀: MMi; 3 ♂♂, 3 ♀♀: MGe; 3 ♂♂, 3 ♀♀: CZi; 2 ♂♂, 2 ♀♀: CPI; 24 ♂♂, 24 ♀♀: CLi): “CY, Paphos (north) / Pegeia 2 Km N / 34°53.6’N, 32°21.8’E / 343 m, 3.VI.2018, Liberti”.

26 paratypes (11 ♂♂, 15 ♀♀: CLi): “CY, north of Lemesos / south of Alassa / 34°44.7’N, 32°58.8’E / 220 m, 30.V.2018, Liberti”.

7 paratypes (5 ♂♂, 2 ♀♀: CLi): “CY, Troodos / Pano Platres 1 Km S / 34°53.1’N, 32°52.5’E / 1090 m, 30.V.2018, Liberti”.

9 paratypes (9 ♂♂: CLi): “CY, Vyzakia, 270 m / 13 Km NE of Kakopetria / 35°04.5’N, 33°00.7’E / 1.VI.2018, Liberti”.

31 paratypes (15 ♂♂, 16 ♀♀: CLi): “CY, Troodos vers. N / Kakopetria 4 Km SW / 34°58.6’N, 32°51.8’E / 885 m, 1.VI.2018, Liberti”.

61 paratypes (3 ♂♂, 3 ♀♀: CFz; 27 ♂♂, 28 ♀♀: CLi): “CY, Paphos (north) / Avgas Gorge, 35 m / 34°55.3’N, 32°20.3’E / 3.VI.2018, Liberti”.

1 paratype (1 ♀: CLi): “CY, Paphos (east) / Nikokleia 70 m / 34°43.2’N, 32°33.5’E / 4.VI.2018, Liberti”.

1 paratype (1 ♂: CLi): “CY, Kidasi (Paphos) / river Diarizos, 257 m / 34°47.8’N, 32°42.1’E / 4.VI.2018, Liberti”.

41 paratypes (3 ♂♂, 3 ♀♀: CCo; 3 ♂♂, 3 ♀♀: CKo; 3 ♂♂, 3 ♀♀: CPn; 11 ♂♂, 12 ♀♀, CLi): “CY, Troodos (east) / Odou 3 Km E, 600 m / 34°52.6’N, 33°09.7’E / 6.VI.2018, Liberti”.

1 paratype (1 ♀: CLi): “Cyprus, 150 m / Diarizos Valley / Maronas / 9.VI.1998 Berra M.”.

16 paratypes (11 ♂♂, 5 ♀♀: CLi): “Cyprus, Paphos distr. / Diarizos Valley / Kidasi 300 m / 10.VI.1998 Berra M.”.

1 paratype (1 ♂: CLi): “Cyprus, Paphos distr. / 800 m, Panayia / Kryssorroyiatissa / 15.VI.1998 Berra M.”.

2 paratypes (2 ♂♂: CAL): “Ile de Chypre / 20.VII.1992 / F. Fleury”.

1 paratype (1 ♂: CLi): “Cyprus (Pafos distr.) / Miliou / 18-22.V.2014 / lg. G. Miessen”.

1 paratype (1 ♀: CLi): “Cyprus (Pafos distr.) / Miliou / 20.V.2016 / lg. G. Miessen”.

1 paratype (1 ♂: CLi): “Cyprus (Pafos distr.) / Kato Arodes, Ineia / 10.VI.2016 / lg. G. Miessen”.

3 paratypes (3 ♂♂: CLi): “Cyprus (Pafos distr.) / Miliou (piège à vin) / 23-30.V.2016 / lg. G. Miessen”.

1 paratype (1 ♀: CLi): “Cyprus (Pafos distr.) / Miliou env. / 1-8.VI.2014, Miessen / piège pit fall + vin”.

3 paratypes (2 ♂♂, 1 ♀: MEr): “Zypern, Reg. Paphos / 1 Km NNW Loukrounou / Strauchflur, 02.VIII.2015 / 34°57’33”N, 32°57’28” E / 4140 m [sic] üNN. 02”; “collection / Naturkunde / Museum Erfurt” pr. yellow.

1 paratype (1 ♂: MEr): “Zypern, Reg. Larnaka / Ug Kalavassos, tr. Kraut- / u. Strachflur, 01-16.VIII / 2015, 34°46’19”N, 33°17’ / 49” E, 98 m üNN, 001”; “collection / Naturkunde / Museum Erfurt” pr. yellow.

1 paratype (1 ♂: CCo): “CY, Paphos / Paphos forest, Emnes / 20.VII.2006 / leg. Ch. Makris”; “*Dasytidius latus* n. sp. det. G. Liberti, II.2019”; “*Dasytidius valdelatus* n. sp. det. G. Liberti, 2020”.

All types bear a further label: “Holotypus [or Allotypus, or Paratype where applicable] / *Dasytidius / valdelatus* / Liberti, III. 2020” prr.

Diagnosis

A large, rather wide, black *Dasytidius* species, similar to *D. nigripes* Pic and *D. latissimus* Majer, recognizable by the characters reported in the table below, the most important one being the spinules and related sclerotized structures of the internal sac. Typical locality is Pegeia, north of Paphos. The name is composed by the two Latin words *valde* (meaning “quite”) and *latus* (meaning “wide”).

Description

Dimensions in mm:

♂♂: TL = 3.52±0.38; PL = 0.78±0.12; PW = 1.06±0.11; EL = 2.20±0.16; EW = 1.24±0.15; AL = 0.99±0.11.

♀♀: TL = 4.26±0.17; PL = 0.84±0.05; PW = 1.17±0.03; EL = 2.71±0.10; EW = 1.58±0.07; AL = 0.94±0.05.

♂. Body parallel, convex, TL = 3.1-4.0 mm.

Dorsal integuments black, bright, slightly punctured on pronotum and nearly smooth on elytra; legs black with, at times, tarsi just paler; antennae black with articles 2-6 variably yellowish (or paler). Pubescence whitish, thin, long, rather sparse, double (laid-down

and upright of the same colour), lateral fringe visible on both pronotum and elytra.

Antennae short, moniliate, compressed, articles 4-10 transverse, short; 4-6 triangular with visible internal angle, 7-10 globular.

Pronotum convex, sub-rectangular, transverse (PW/PL = 1.32-1.46); as wide as elytra; nearly straight on both anterior and posterior borders; slightly curved, and crenulated, on lateral sides.

Elytra basally convex and moderately flattened apically, apices more or less jointly truncated (but a variable character), apical angle rectangular to obtuse.

Median lobe as in Fig. 31. Internal sac basal part with many small, brown spinules followed by a long, cylindrical “patchwork” zone (a constant and apparently sound character); distal part with a group of 5-6 larger spines (close to each other, the first one smaller) followed by 2-3 smaller ones. Last sternite median process basally forked (Fig. 32). Spicular fork with branches approximately as long as the basal, undivided part (Fig. 33).

♀. As the ♂ but slightly larger: TL = 4.0-4.4 mm; antennae thinner and slightly shorter; body more convex; elytra slightly widened in apical half.

Notes

D. valdelatus, very close to both *D. nigripes* Pic and *D. latissimus* Majer, might possibly be considered as a subspecies (probably of *D. latissimus*). On the other hand, these two latter species actually are very similar to each other. The few differences between them are summarized in Tab. 4.

Here *D. valdelatus* has been (provisionally) consid-

ered as a good species, not a subspecies of *D. latissimus*, mainly because insufficient knowledge is available on variability of these forms to allow a well-advised belief. As can be seen from the table, *D. latissimus* and *D. valdelatus* look similar but also the relationship they have with *D. nigripes* is not crystal clear: this matter will be further discussed in a future paper on genus *Dasytidius*.

Very common on Cyprus, rather surprisingly it is not much represented in collections. Undoubtedly it has been confused with *D. nigripes*: the latter has been indeed reported from Cyprus by Mayor (2007: 390, see discussion above). Very common from mid-May to mid-June all over the island on umbelliferous (*Daucus* sp.) flowers, usually together with *D. indutus virescens*.

Dasytiscus anatolicus sp. n. (Figs. 5, 26)

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Types

Holotypus (♂: MMi), Allotypus (♀: MMi), 36 paratypes (2 ♀♀: MMi; 2 ♂♂: CCo; 2 ♀♀: CFz; 2 ♂♂, 2 ♀♀: CPL; 17 ♂♂, 9 ♀♀: CLi): “CY, Paphos (north) / Avgas Gorge, 35 m / 34°55.3'N, 32°20.3'E / 3.VI.2018, Liberti”

14 paratype (3 ♂♂, 11 ♀♀: CLi): “CY, Kidasi (Paphos) / river Diarizos, 257 m / 34°47.8'N, 32°42.1'E / 4.VI.2018 Liberti”

59 paratype (3 ♂♂, 3 ♀♀: MBa; 3 ♂♂, 3 ♀♀: MGe; 3 ♂♂: MMi; 3 ♀♀: CCo; 6 ♀♀: CKo; 11 ♂♂, 24 ♀♀:

Tab. 4. Main differences between *Dasytidius latissimus*, *D. valdelatus* and *D. nigripes*.

	<i>D. latissimus</i>	<i>D. valdelatus</i>	<i>D. nigripes</i>
Body size, ♂	Larger: TL = 3.2-3.9 mm	Larger: TL = 3.4-3.8 mm	Smaller: TL = 2.7-3.3 mm
Pronotum shape...	Very transverse: PW/PL = 1.45-1.55	Clearly transverse: PW/PL = 1.32-1.46	Moderately transverse: PW/PL = 1.20-1.30.
Median lobe...	Thicker and shorter, apical branch wider	Thicker and shorter, apical branch wider (Fig. 31)	Slender, apical branch thinner
Internal sac...	Absence of a clear basal structure (before the apical spines). 8-12 apical spines rather small (apart from one), all together	Presence of a basal structure: a tubular, “patchwork” set of small spinules (before the apical spines). 7-9 apical spines in two groups, out of which 5-6 are larger	Presence of a basal structure: a thin ribbon of closely packed spinules (before the apical spines). 10-15 small apical spines, conical, often broken in two groups

CLi): “Cyprus, Paphos distr. / Dhiarizos valley / Kisdasi, 300 m / 10.VI.1998, M. Berra”

7 paratypi (2 ♂♂, 5 ♀♀: CLi): “W. Cyprus / Pano Akurdaleia / (Pafos distr.), 22.V.2016 / lg. G. Miessen”

9 paratypi (2 ♂♂: CZi; 2 ♂♂, 5 ♀♀: CLi): “W. Cyprus / Kato Akurdaleia env. / (Pafos distr.), 24.V.2016 / lg. G. Miessen”

4 paratypi (2 ♂♂, 2 ♀♀: CLi): “W. Cyprus / Miliou (Pafos distr.) / 19.VI.2016 / lg. G. Miessen”

6 paratypi (2 ♂♂, 3 ♀♀: CKn; 1 ♂: CMt): “Cyprus / Avakas gorge / 18.5.2008 / lgt. O. Konvička”

1 paratypus (♀, CKn): “Cyprus / Dhypotamos dam / 25.5.2008 / lgt. O. Konvička

1 paratypus (♀, CKn): “Cyprus / Nikokleia / 20.5.2008 / lgt. O. Konvička

All types bear a further label: “Holotypus [or Allotypus, or Paratypus where applicable] / *Dasytiscus anatolicus* / Liberti, III. 2020” prr.

Diagnosis

A small, yellowish *Dasytiscus* very similar to *D. flaveolus* Reitter, 1889 (Fig. 25, known of Rhodes island only) and to *D. pallens* Majer, 1988 [Fig. 24, known of Iran (Tehran) and Armenia (Erevan)] for general appearance, median lobe shape (compare Figs. 24, 25 with 26) and simple internal sac (entirely membranous: free from any visible - sclerotized - structures). Typical locality is Avgas Gorge, Paphos province, north of Agios Georgios. The species name refers to Anatolia, a former name of Turkey.

Tab. 5. Main differences between three similar *Dasytiscus* species: *D. flaveolus*, *D. pallens* and *D. anatolicus*.

	<i>D. flaveolus</i> : studied on one population sample: >20 specimens from Feraklos, on Rhodes island	<i>D. pallens</i> : studied on two population samples: *1♂: Jrvezh [forest park, eastern] Erevan, Armenia. 1♂, 2♀♀: paratypi from Gholhak [gardens], northern Tehran, Iran	<i>D. anatolicus</i> : the types (abundant materials with population samples from at least four localities)
Black, erect setae on head and pronotum.	Presence of a few ones (but in a small number of ♀♀ are absent)	Absent at all	Presence on head (a few) and pronotum (several) on all specimens studied
Pronotum punctuation...	Strong: points larger with distance slightly larger than diameter	Weak, points small and shallow with distance in excess of twice the diameter	Intermediate between the two, although more similar to <i>D. pallens</i> than to <i>D. flaveolus</i>
Elytra punctuation...	Strong, points deep and large	Weak, points shallow although rather large	Intermediate between the two, although more similar to <i>D. pallens</i> than to <i>D. flaveolus</i>
Overall colour...	Pale brownish (slightly darker than the other two species)	Pale yellowish	Yellowish (at times pale brown)
Body shape...	More convex, pronotum slightly less transverse, in ♂♂ eyes less bulging, temples shorter	Less convex, pronotum slightly more transverse, in ♂♂ eyes and temples similar to <i>D. flaveolus</i>	As in <i>D. pallens</i> (both body and pronotum) but in ♂♂ eyes more bulging and temples longer
Elytral apices...	Smooth	Crenulated	Crenulated
Median lobe...	Slightly widened and moderately bent in apical third; apex sharp (Fig. 25)	Moderately bent in apical third; apex rather sharp (Fig. 24)	Clearly bent in apical third; apex rounded (Fig. 26)

*the label, written in cyrillic, has been read by Michael Geiser assisted by Matthias Bohrer. This ♂ specimen, compared with the ♂ paratypus, looks very similar (if not identical).

Description

Dimensions in mm:

♂♂: TL = 2.05 ± 0.02 ; PL = 0.45 ± 0.03 ; PW = 0.56 ± 0.05 ; EL = 1.29 ± 0.05 ; EW = 0.75 ± 0.04 ; AL = 0.57 ± 0.03 .

♀♀: TL = 2.24 ± 0.19 ; PL = 0.47 ± 0.04 ; PW = 0.60 ± 0.05 ; EL = 1.46 ± 0.11 ; EW = 0.85 ± 0.05 ; AL = 0.57 ± 0.02 .

Very small: TL = 2.0-2.4 mm; body colour entirely yellowish except eyes and mandibles (and often epistoma) black; antennal apical half and tarsal articles extremities variably darkened.

Head covered with adpressed pale grey setae and a few black, upright ones usually placed close to the eye internal border. Antennae short: article 5 larger than 3, 4 and 6; article 7 larger than 6 and 8; articles 9-11 larger than 3-8, forming a loose club.

Pronotum transverse (PW/PL = 1.25-1.30); rather convex; covered with pale grey adpressed pubescence; lateral sides strongly crenulated and fitted with about 10 (but a variable number) black, strong and upright setae on each side; weakly punctured with small points rather apart from each other (distance between points approximately twice their diameter), surface between points bright.

Elytra without black setae, covered with pale grey double pubescence: short adpressed and long, erect setae: these more abundant (and more visible) close to the lateral borders. Elytral punctuation stronger than on pronotum, with larger and closer points. Elytral apices finely crenulated.

♂. Body appearance more parallel; size smaller: 2.0-2.1 mm; eyes rather big and more bulging; elytral apical angle slightly obtuse. Median lobe (Fig. 26) bent (at approximately right angle) in apical third, apex rounded (not as sharp as it is in the two similar species, Figs. 24, 25); last dorsal segment of abdomen (pygidium) fitted with a few blackish setae.

♀. Elytra slightly widened in apical half, size slightly larger: body size 2.1-2.4 mm; eyes less bulging; elytral apical angle approximately right.

Other materials studied

TURKEY

Mersin prov.: Erdemli (Malinka, 1996, CMk); Guzeloluk (Malinka, 1996, CMk); Silifke (Malinka, 1996, CMk).

Notes

Dasytiscus anatolicus is not Cyprus endemics: it has also been found on mainland Turkey, Mersin province (by Z. Malinka) as above reported under "Other materials studied". However, given the abundant materials available from Cyprus, it has been felt sensible to limit the typical series to specimens from this island. *D. anatolicus* is a small species living on Cyprus and in Turkey (Mersin province), rather similar to *D. flaveolus* Reitter, 1889 from Rhodes and to *D. pallens* Majer, 1988, from Iran, Tehran region. In Tab. 5 the main differences between the three similar *Dasytiscus* species are here below summarized.

D. anatolicus was collected on Cyprus, by the writer, on umbelliferous flowers (*Daucus* sp.) feeding on pollen, together with *Dasytes moniliatus*, *Dasytidius indutus virescens* and *D. valdelatus*.

Schilskyana subtilis (Reitter, 1885) (Figs. 4, 27)

Dasytiscus subtilis Reitter, 1885: 241 (note 2), 244, 245; loc. typ. Crete, Smirne (now Izmir, Turkey); Bourgeois 1885: 271 [remained unknown]; Schilsky 1896: n° 84 and 32 N [subgenus *Dasytidius*]; Liberti 1986: 191, Figs. 20, 21 [types examination, description]; Majer 1989b: 32, 38, Figs. 55, 56 [*Haplothrix*; types examination, description]; Plonski 2017: 746 [*Schilskyana*].

= *Dasytiscus puberulus* Bourgeois, 1885: 255, 262, loc. typ. Lebanon (synonymized by Majer 1988: 138); Schilsky 1896: n° 82 [*Dasytiscus* (*Dasytidius*) *prae-cox* var. *puberulus*].

Types

The types of *Schilskyana subtilis* have been reported and redescribed by Liberti (1986: 192) and Majer (1989b: 39) rather recently, no doubts can be raised on its identification and further anatomical discussion of this species does not appear necessary.

Materials studied

GREECE

Kikladhes islands: Amorgos (Ponel, VII.2017, CPn).

Lesvos island: Arisvi on Milopotamos river (Berra, 14.VII.1999, CLi); Kalloni (Berra, 9.VII.1999, CLi).

Rhodes island: Embonas (Küssner, 4-13.VII.2018, CKo); Laerma (Monguzzi C. & Vincenzini, 29.VI-8.VII.2006, CLi).

TURKEY

Tekirdag prov.: Deveci (Angelini, 22.VI.2009, CAn).

Bursa prov.: Yaliciftlik (Mahunca & Vilagi, 26.VI.2002, MBp).

Çanakkale prov.: Kirazli, 28 Km SE of Çanakkale (Angelini, 30.VI.2010, CLi).

Notes

This is the only one species not personally studied by the writer from the Island. It has been reported of Cyprus by Majer (1989b: 38) from just one locality: "Platus Krios R., 4000 ft., 4.VII.1967, G. A. Mavromoustakis leg." [sic ! - that probably means river Kryos at Pano Platres, 1320 m altitude].

It was described from Crete and Izmir, it is known to the writer from a few east-Mediterranean localities (above listed) and its presence on Cyprus does not pose any doubt. Of late appearance (second half of June, first half of July), it might easily go undetected to collecting entomologists.

Haplothrix Schilsky, 1896 (first time spelling *Haplothryx*, probably due to a printing mistake because, later in the same paper, Schilsky uses the "more correct" spelling) was introduced as a subgenus of *Dasytiscus* and raised to good genus by Majer (1989). Recently (Plonski 2017: 745) replaced this name with *Schilskyana* due to homonymy with *Haplothrix* Gahan, 1888, a Cerambycidae genus.

It is characterized by:

- absence of the "last sternite central process" as in *Dasytiscus* (difference from *Dasytidius*) and
- tegmen apex sclerotized and fitted with setae, as in *Dasytidius* (difference from *Dasytiscus*, where the tegmen apex is membranous).

Baudi di Selve (1873: 320) reporting his *Dasytiscus praecox* from the island, details a few characters of the Cyprus population (colour, punctuation, pubescence) - the most meaningful being "...variat sordide flavus..." [...variably yellowish...] - which are compatible with both *D. anatolicus* and *S. subtilis*. However, as witnessed by Majer (1988: 137), *D. praecox* Küster, 1851 should be a different species, living in Turkey (Izmir region) and never seen from Cyprus by the writer.

Family Rhadalidae

Aplocnemus (Diplambe) constantini sp. n. (Figs. 15, 16, 39-42)

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997D1508-D389-4513-89B9-A9CF9474AC01

= *Haplocnemus abietum* Baudi di Selve, 1873: 319 (not Kiesenwetter, 1859)

Types

Holotypus (♂: MMi) and 9 paratypes (1 ♂, 8 ♀♀: CCo): "Cyprus S., alt. 1300 m / 7 Km NW Pano Platres / Troodos pine forest / 18.IV.1999, R. Constantin" [coordinates: "34°55'12" N, 32°51'02"E"].

Allotypus (♀: MMi) and 2 paratypes (1 ♂, 1 ♀: CCo): "Cyprus S., alt. 1150 m / 7 Km N Pano Platres / Troodosita [Trooditissa] Monastery / 24.IV.1999, R. Constantin" [coordinates: "34°54'37" N, 32°47'46" E"].

1 paratype (♂, CCo): "Cyprus S., alt. 700 m / 5 km W Mandria / battage arbustes / 18.IV.1999, R. Constantin" [coordinates "34°54'37" N, 32°47'46" E"].

1 paratype (♀: CCo): "Cyprus, Paphos district / 10 km SE Polis / Simou 1 km SE / 34°56'N-32°30'E, 450 m / 22.IV.1999, R. Constantin".

2 paratypes (1 ♂, 1 ♀: CCo): "Cyprus, Paphos district / Paphos pine forest / Selladi tis Aftoullinas / 35°00'E-32°37'E, 900 m / 22.IV.1999, R. Constantin".

1 paratype (♀: CCo): "Cyprus Limassol 120351 / Marathasa mountains / 1500m 1000m 29.IV.1994 / Kescher / leg. Ing. H. Burtscher".

1 paratype (♀: CCo): "CY, Lemesos / Troodos resort / 11.V.2006 / leg. Mühle 14-06".

1 paratype (♀: CCo): "CY, Lemesos / Prodromost / 11.V.2006 / leg. Mühle 15-06".

2 paratypes (2 ♂: CCo): "Cyprus, Distr. Lemesos / Lemesos 20 km N / Kato Milos 1 km S, 800 m NN / 34°53'09" N - 33°00'11"E / 8.IV.2012, leg. D. Frenzel #10"

1 paratype (♀: CLi): "Cyprus, Paphos forest / sopra Pomos m 600 / 19.IV.1992 G. Sama leg.".

1 paratype (♀: CLi): "Cyprus / env. Olympos / (Troodos Mts.) / 9.VI.2016 Miessen".

1 paratype (♀: CLi): "Cyprus, distr. Paphos, Prastio / 1 Km NE, creek valley, Macchia / 34°47'42"N, 32°41'55"E, 250 mNN / 15.IV.2019 leg. A. Kopetz, #88".

1 paratype (♀: CLi): "Cyprus, Distr. Larnaca / Odou 14 Km S, Macchia / 34°51'12"N, 33°13'47"E / 460 mNN, 14.IV.2019 / leg. A. Kopetz, #85".

1 paratype (♂: CLi): "Cyprus, Distr. Larnaca / Odou 15 Km S, macchia / 34°51'21"N, 33°11'57"E / 520 mNN, 16.IV.2019 / leg. A. Kopetz, #90".

1 paratype (♂: CLi): "Cyprus, Distr. Lemessos / Akrounta, N, Dierona, 3 Km SW / ruderal area,

- macchia, 34°49' / 17°N, 33°05'45"E, 705 mNN / 14.IV.2019, leg. A. Kopetz #86".
- 1 paratypus (♀: CLi): "Cyprus, Distr. Paphos / Pentalia 2 Km NE, dry slope, 34°50' / 30"N, 32°36'23"E, 555 mNN / 17.IV.2019, leg. A. Kopetz #95".
- 5 paratypi (1 ♂, 1 ♀: MGe; 2 ♂♂, 1 ♀: CLi): "Cyprus, distr. Paphos / Dora, NW, 34°48'52"N / 32°43'14"E, 290 mNN / 14.IV.2019, leg. A. Kopetz #89".
- 3 paratypi (3 ♂♂: CLi): "Cyprus, distr. Paphos, Lysos / 2 Km SW, field sideline, ruderal / areas, 34°59'16"N, 32°29' / 42"E, 443 mNN, 19.IV.2019 / leg. A- Kopetz #102".
- 2 paratypi (2 ♀♀: CLi): "Cyprus, distr. Paphos / Statos 3 Km SW, street side- / line, ruderal area, 34°54' / 04"N, 32°37'09"E, 875 mNN / 17.IV.2019, leg. A. Kopetz #94".
- 2 paratypi (♀♀: CKn): "Cyprus / Troodos / 16.V.2008 / O. Konvička".
- 4 paratypi (3 ♂♂, 1 ♀: CKn): "CY, Nicosia distr. / Cedar Valley 1200 mnm / oklep Quercus alnifolia / 35°59'36"N, 32°41'13"E / 7.V.2014, leg. David Frank".
- 2 paratypi (1 ♂, 1 ♀: CZi): "CY, Troodos Gebirge / Mt. Olympos 1951 m / W. Ziegler, 31.V.2010".
- 1 paratypus (♂: CZi): "Zypern, GR / Episkopi bei Li-massol / W. Ziegler 3.IV.2008".
- 1 paratypus (♀: CFz): "Cyprus, Odou, N. / Lazanias, SE, Monastery / Machairas 850 mNN / 29.III.2016 / 34°56'26"N, 33°11'21"E / leg. D.+M. Frenzel, n° 57.
- 1 paratypus (♂: CFz): Cyprus, N, Girne, 22 Km E / Karagac, S, olive grove / shep-run, 350 mNN / 35°18'41"N, 33°33'25"E / 29.III.2015, leg. D. Frenzel n° 24".
- 2 paratypi (1 ♂, 1 ♀: CFz): "Cyprus N, Esentepe / 2.5 Km S, pine forest / Macchia 455 mNN / 35°18'51"N, 33°34'52"E / 1.IV.2015 leg. D. Frenzel n° 33".
- 4 paratypi (♂♂: CFz): "Cyprus, Stavros tis / Psokas, Trood. mt. edge / of pine forest 1035 mNN / 35°01'15"N, 32°35'50"E / 4.IV.2018 leg. D.+M. Frenzel".
- 2 paratypi (♂♂: CFz): "Cyprus, Lysos E. / Troodos mountains / pine forest 875 mNN / 35°01'15"N, 32°35'50"E / 4.IV.2018 leg. D.+M. Frenzel".
- 1 paratypus (♀: CKo): Cyprus, distr. Nicosia / Kakopetria 2 Km SW, Agios / Nicolaos, 8.IV.2012 / 34°58'33"N, 32°53'20"E / 810 mNN, leg. A. Kopetz n° 09".
- 1 paratypus (♂: CKo): "N-Cyprus, Çamlıbel 6 Km SW / Tepebasi W, pine forest / Macchia 180 mNN / 35°18'10"N, 33°00'11"E / 30.III.2015, leg. A. Kopetz n°25".
- 1 paratypus (♂: CKo): "Cyprus, distr. Lemesos / Troodos, Prodromos 2 Km SE / 34°56'23"N, 32°50'30"E / 8.IV.2012, 1585 mNN / leg. A. Kopetz n° 08".
- 2 paratypi (♀♀: CKo): "Cyprus, distr. Lemesos / Lemesos 16 Km NW, Alassa W / 34°46'19"N, 32°54'38"E / leg. A. Kopetz n°07".
- 8 paratypi (2 ♂, 1 ♀: CKo; 3 ♂, 2 ♀: CCo): "Cyprus, distr. Lemesos / Lemesos 25 Km NE, Odou NE / 34°54'17"N, 33°10'20"E / 7.IV.2012, 1160 mNN / leg. A. Kopetz n° 05".
- 2 paratypi (♂♂: CKo): "Cyprus, Distr. Lemesos / Lemesos 20 Km N, Kato / Milos 1 Km S, 8.IV.2012 / 34°53'09"N, 33°00'11"E / 800 mNN, leg. A. Kopetz n° 10".
- 1 paratypus (♂: CPI): "CYP Fyti \ N 34 55 40 E 32 33 09 \ 25.3.2014 (11180) \ leg.: Andreas Link".
- 1 paratypus (♂: CPI): "CYP Cedar Valley \ N 34 59 29 E 32 41 19 \ 25.3.2014 (11186) \ leg.: Andreas Link".
- 2 paratypi (1 ♂, 1 ♀): "CYPRUS centr. vic. Pano \ Platres, Trodos Mts. \ 05.IV.2012, 34°53'33"N, \ 32°54'21"E, 700m \ leg.: A. Weigel".
- 1 paratypus (♀: CPI): "CYPRUS or. vic. Famagusta \ Salamis, 20.IV.2010, \ 34°57'44"N, 33°54'15"E, 5m \ leg.: A. Weigel #04".
- 2 paratypi (1 ♂, 1 ♀): "ZYPERN \ Kiti \ leg. W. Hansely 2002".
- All types bear a further label: "Holotypus [or Allotypus, or Paratypus where applicable] / *A. (Diplambe) / constantini* / Liberti, III. 2020" prr.

Diagnosis

A species bearing all typical characters of subgenus *Diplambe* - elytral carina double in basal half (Fig. 16), very convex pronotum, tegmen with fallobase and parameres unconnected (Fig. 39, see Liberti 2019: Tab. 1) - and with reduced sexual dimorphism. Normally sized: TL ♂ = 4.5-5.5; ♀ = 5.0-5.7 mm. Easily recognizable by orange-yellow legs, moderately serrate antennae and median lobe shape (Fig. 39). Typical locality is Pano Platres, Lemesos province.

It is dedicated to Robert Constantin, worldwide known entomologist, for his constant help and support throughout the several decades of friendship.

Description

Dimensions in mm:

♂♂: TL = 5.09 ± 0.17 ; PL = 0.98 ± 0.05 ; PW = 1.63 ± 0.10 ; EL = 3.42 ± 0.17 ; EW = 1.85 ± 0.14 ; AL = 1.66 ± 0.06 .

♀♀: TL = 5.56 ± 0.138 ; PL = 1.12 ± 0.09 ; PW = 1.77 ± 0.15 ; EL = 3.82 ± 0.27 ; EW = 2.24 ± 0.19 ; AL = 1.58 ± 0.18 .

♂. Antennae serrate with articles 4-10 transverse. Integuments blackish-brown with greenish reflexes, rather bright; legs - trochanters, femora, tibiae and tarsi - yellow; antennae entirely dark brown; mouthparts and palpi brown; pubescence brown often slightly paler than integuments (a character usually more noticeable on elytra than on pronotum) with intermingled whitish setae on pronotum rear border. Pronotum strongly transverse (PW/PL = 1.55-1.65); convex with maximum width close to rear border, slightly and sparsely punctured on disc, very finely crenulated on lateral border. Elytra convex; its lateral border double in basal half only; sparsely but strongly punctured, surface between punctures moderately convex; elytral apices jointly rounded, apical angle well defined, rectangular to acute.

Abdomen first and second visible sternites simple (without a circular impression in the middle); fifth visible sternite approximately straight on posterior border; last sternite median process short (Fig. 40). Phallobase and parameres of tegmen not fused together (Fig. 40). Median lobe only slightly sinuate (Fig. 39); moderately curved basally and very feebly apically; appearing, in lateral view, of uniformly thickness (equally thick in basal and apical halves).

♀. Similar to ♂ from which it can be recognized by moderately serrate antennae (just less than in ♂) and, to a lesser extent, for elytra slightly more convex and widened in apical half.

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Isidor Plonski:

CYPRUS SOUTH

Paphos distr.: Agios Neophitos forest 3 Km E of Tala (Mantič, 2012, 1 ♀ in CMt); Stavros 7.5 Km SW

(Plechak Jiri, 2012, 1 ♂ in CLk); Fyti (Link, 2014, 3 ♀♀ in CLk); Zacharia (Link, 2014).

Lemesos distr.: Olympos Mount (Mantič, 2012, 2 ♂♂ in CMt); Pano Platres 700 m (Weigel, 2012, 3 ♂♂ and 6 ♀♀ in MER).

Lefkosia distr.: Cedar Valley (Link, 2014); Tripilos Mount SW of Tsakistra (Mantič, 2012, 2 ♀♀ in CMt); Troodos, Spilia (Fritzlar, 2009, 1 ♀ in MER).

Larnaka distr.: Odou 500 m (Weigel, 2010, 1 ♀ in MER).

Notes

One species only, belonging to subgenus *Diplambe*, can be found on Cyprus. It was wrongly named *abietum* by Baudi di Selve but it is certainly different from *A. (Diplambe) abietum* Kiesenwetter, described from Greece and living in southern Balkans (Liberti 2019: 12) and, probably, in western Turkey.

Subgenus *Diplambe* is "difficult", being the species rather homogeneous, however antennal structure, colour and median lobe shape are thought to be sufficient to recognition.

Unfortunately, the species living in Turkey and in the near East are really poorly known although at least seven have been proposed by Pic and by Schilsky. These are:

A. (Diplambe) akbesianus Pic, 1896: 48, loc. typ. Akbès (described from 1 ♂ only). Redescribed by Schilsky (probably on the same Pic specimen, which should be the holotypus by monotypy), with yellow legs, very large (7.0 mm).

The type of this species has not been found in collection Pic, where only a label was pinned on the box-floor with no specimens close to it. Probably a species different from *A. (D.) constantini*, as can be guessed by the size and because there is a Turkish species (different from the Cypriot one) which better fits the description.

A. (Diplambe) anatolicus Schilsky, 1903: n° 97, loc. typ. Ak-Chehir (described on 1 ♂ only): yellow legs, normal size (5.5 mm length), antennae strongly serrate.

In collection Pic four specimens of this species have been found, labelled:

"Anatolien / Ak-Cheir / 1900 Korb" pr. and "TYPE" prr.

They are either true syntypi or, at least, part of the same population sample of the types. This species looks somewhat different from the Cyprus one (at

least for antennal structure) and corresponds well to another species known from mainland Turkey.

A. (Diplambe) delagrangei Pic, 1902: 32, loc. typ. Akbès; dark legs, small (4.5 mm).

Only two females have been found in collection Pic which, although (probably) not types, were determined by Pic. At least for leg colour and size they do not correspond to the Cyprus species. On the other hand, they may correspond well to a different species which is widespread in Turkey.

A. (Diplambe) geniculatus Schilsky, 1903: n° 98, loc. typ. Ak-Chehir (described on 1 ♂ only), black legs, large (6.5 mm long), antennae strongly serrate. This species remained unknown, but legs colour, size and antennal structure do not correspond to the Cyprus species.

A. (Diplambe) hebraicus Schilsky, 1906: n° 13, loc. typ. Palestina (described on 1 ♂ only): black femora, small (4.0 mm), pectinate antenna.

Here again an unknown species, whose reported characters (femora colour, size and antennal structure) are different from those of the Cyprus species.

A. (Diplambe) latipennis Pic, 1911a: 146, loc. typ. Rechmaya (central Lebanon). No type of this species has been found in collection Pic; from description it should be of rather large size (6 mm), should have clearly serrate antenna and dark reddish legs; it has been reported as close to *akbesianus*.

The same year Pic (1911b: 169) also published *A. (Diplambe) latipennis* ? [sic] var. *rechmayana* ♂ [sic], loc. typ. Rechmaya (the same as the nomino-typical form). In its description it is written: "... Diffère de *latipennis* Pic, qui paraît être une ♀ ..."; that means *A. (D.) latipennis* was probably described on one female only and var. *rechmayana* (type not found as well) might have been considered as the male. This "variety" should have the same size (6 mm) of the nomino-typical form, have reddish leg (but paler) and serrate antenna. Anyway, var. *rechmayana* was listed as a synonym of *A. (D.) latipennis* by Mayor (2007: 413).

Although the two descriptions may not be very meaningful, this species is a suspected synonym of *A. (Diplambe) peyroni* discussed here just below. The Cypriot species might be different for less serrate antenna and paler (orange-yellow) legs.

A. (Diplambe) peyroni Pic. 1899: 259. loc. typ. "région syrienne" (collected by Peyron). Its description reports legs colour "testacé rougeatre" (as for the

Cypriot species) but, unfortunately, antenna are insufficiently described as "...assez longues, relativement grêles...".

However two specimens have been found in collection Pic, the first (♀) certainly being (at least) a syntypus (in the original description no mention has been made of the number of specimens):

1 ♀ labelled: "Syria / (Peyron)" hw.; "Haplocnemus / n° 1097" hw.; "type" hw.; "TYPR" prr.; "peyroni Pic" hw.

1 ♂ labelled: "Acheout [Achkout, a village 8 Km W of Jounieh, NE of Beirut]" hw.; "655" pr. on blue paper; "Haplocnemus / (ex coll. Peyron)" hw.

Both are incorrectly mounted (antennae bent under the body, hardly visible) and partly eaten by insects on sternal side. Although the entirely yellow legs correspond to the Cypriot species, the antennal structure seems different because clearly serrate in the ♀ and strongly serrate if not pectinate in the ♂. As a conclusion, the name *peyroni* applies rather well to a Lebanon species which is different from the Cypriot one.

From this discussion it appears that the attempt (to try) to understand whether the Cyprus species might have been already described from the nearby mainlands did not yield a clear-cut answer. None of the above reported specimens of the Pic collection could be detached from its label or dissected, so that doubts necessarily remain on their real identity. However further *Diplambe* materials (about 50 specimens) from Turkey, Syria and Lebanon (of both the writer's and R. Constantin collections) have been also studied coming to the final conclusion that, with a reasonable probability level, the Cyprus species should be actually endemic of the island and "new to science".

A. (Diplambe) constantini is easily recognizable from *A. (Diplambe) abietum* for serrate antennae (pectinate in *abietum*), entirely yellow legs (brown in *abietum*) and for median lobe shape [compare Fig. 39 with the one in Liberti (2019: 19, Fig. 47)]. Its similarity with *A. (D.) peyroni* has been discussed here above.

Common on Cyprus where it is of rather early appearance.

Aplocnemus (A.) pertusus Kiesenwetter, 1859

Haplocnemus pertusus Kiesenwetter, 1859: 172, loc. typ. Nafplio, Argolida (Greece); Schilsky 1894a: n° 79; Liberti 2019: 20, Figs. 4, 7, 28-31.

This species has been redescribed recently (Liberti 2019: 20) and will not be further discussed here. It lives in the north-east Mediterranean region: Greece (islands included), Turkey, Cyprus.

Materials studied

(Only Cyprus. Localities for Greece and Turkey can be found in Liberti 2019: 21)

CYPRUS SOUTH

Paphos distr.: Agios Georgios (Ziegler, IV.1996, CZi); Latsi (Ziegler, III.1996, CZi); Loutra tis Aphroditis near Polis (Ziegler, III.1996, CZi); Nikokleia (Ziegler, III.2008, CZi); Polis (Ziegler, IV.1996, CZi); Statos (Kopetz, 2019, CLi); Theletra (Kopetz, 2019, CLi).

Lemesos distr.: Kourion near Episkopi (Ziegler, III.2008, CZi); Lemesos 20 Km N 800 m (Kopetz, IV.2010, CKo); Pissouri (Ziegler, IV.2008, CZi); Odou 1155 m (Kopetz, IV.2010, CKo).

Larnaka distr.: Asgata (Kopetz, 2019, CLi); Khirokitia 100 m (Fritslar, III.2012, CKo).

CYPRUS NORTH

Girne distr.: Bahceli 100 m (Frenzel, IV.2015, CFz); Catalköy 5 Km E 100 m (Frenzel, IV.2015, CFz); Esentepe (Frenzel, IV.2015, CFz); Karaagaç (Kopetz, 2015, CKo); Karsiyaca 90 m (Frenzel, IV.2015, CFz); Lapta 5 Km SW 560 m (Frenzel, IV.2015, CFz); Saint Hilarion Castle 500 m (Frenzel, IV.2015, CFz).

Gazimagusa distr.: Cape Greco (Borowski, XII.2001, CGz); Kaplica 150 m (Frenzel, IV.2015, CFz).

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin:

CYPRUS SOUTH

Paphos distr.: Simou (Constantin, 1999, CCo).

Lemesos distr.: Kato Milos (Kopetz, 2012, CCo); Lefkara (Constantin, 1999, CCo); Mandria (Constantin, 1999, CCo); Melini (Kopetz, 2012, CCo); Troodos forest (Burtscher, 1994, CCo).

Larnaka distr.: Odou (Mühle, 2006, CCo; Kopetz, 2012, CCo).

CYPRUS NORTH

Girne distr.: Agia Eirini hills (Mavromoustikis, 1939, CCo).

Notes

Common on Cyprus in early spring. There are indica-

tions that it may complete its metamorphosis in winter, following the same appearance schedule of other *Aplocnemus* species as, for example, *A. (A.) rufomarginatus* Perris (Liberti 2009b: 371, 379 Table 2), *A. (A.) jejunos* Kiesenwetter (Liberti 2009b: 369) and *A. (A.) angelinii* Liberti (Liberti & Zinetti 2009: 46).

Aplocnemus (A.) marginatus Rottenberg, 1871

Haplocnemus marginatus Rottenberg, 1871: 243, loc. typ. Catania, Sicily (Italy); Liberti 1995: 184; Liberti, Zinetti 2009: 49; Liberti 2019: 20.

This species was redescribed rather recently (Liberti 1995: 184) and its range widened, 14 years afterwards, to include Greece (Liberti & Zinetti 2009: 49; Liberti 2019: 20). It is now firstly reported for Cyprus although its presence on the island is, up to now, witnessed by one ♂ specimen only (and should be confirmed).

Materials studied

Cyprus only. Further localities can be found on Liberti (1995: 184) and Liberti, Zinetti (2009: 49).

Only one ♂ specimen (CTd) has been seen from Cyprus, labelled: "CY, Cyprus, Paphos, Cedar / Valey [sic], Tripylos N P / 22.X.2011 M. Sarovec / EX L [ex-larva ?] 5.IV.2012".

Aplocnemus (Ischnopalpus) syriacus Schilsky, 1894 (Figs. 17, 35-38)

Haplocnemus (Ischnopalpus) syriacus Schilsky, 1894a: 63, loc. typ. Haifa, Jerusalem, Morocco [but it is here assumed that the indication "Morocco" would refer to a different species]; Schilsky 1894b: 235; Schilsky 1897b: 34DD; Kocher 1956: 53 [not in Morocco]; Majer 1987: 746, Figs. 204-206, 388.

Types

No types have been studied of this taxon, however in Israel, Syria and Jordan a species can be commonly found which corresponds well to the Schilsky description of *Aplocnemus (Ischnopalpus) syriacus*.

Description

This description has been carried out on specimens from Syria and Israel only.

A species small, black, bright, with moderately serrate

antennae and showing all the characters of subgenus *Ischnopalpus*, namely strongly punctuate dorsal integuments, reduced sexual difference, fusiform palpi (shortly truncated apically), simple elytral lateral border, broad tegmen fully enveloping the median lobe (Liberti 2019: 18, Tab. 1).

♂. Size: TL = 4.4-5.1 mm. Entirely black, legs and antennae included, but tibiae at times dark brown and tarsal articles 1-4 often paler, brownish. Pubescence simple; erect; setae length variable; colour black although often (not always) presence of grey (paler than integuments) setae mingled with the black ones.

Antennae moderately serrate with article 4 small, triangular, balanced; articles 5-10 triangular, slightly larger than 4, moderately transverse to balanced, their inner side straight or just convex, inner angle well visible.

Pronotum strongly transverse (PW/PL = 1.50-1.60), convex, maximum width behind the middle, bordered on lateral sides where it appears nearly smooth or very finely crenulated; punctuation strong and rather variable, usually dense, distance between points mostly larger than point diameters; surface bright (but at times alutaceous).

Elytra convex, punctuation strong (points larger than on pronotum) and dense, surface bright; elytral apices jointly rounded and, at times, moderately divergent; apical angle not always well defined, rectangular to acute. Abdomen first and second visible sternites simple (absence of a round, small depression in the middle); last sternite straight on rear border and central process absent to rudimentary (Fig. 37); last tergite balanced, although variable (Fig. 38).

Tegmen large: on lateral sight its basal half moderately bent ventrally (Fig. 36); fully enveloping the median lobe which is slightly sinuous and narrow (Fig. 39).

♀. Very similar to ♂ although slightly larger: TL = 4.9-5.7; can be (hardly) recognized by less serrate, slightly shorter antenna.

Materials studied

ARMENIA

Ararat prov.: Khosrov, 17 Km NE of Vedi (Maier, 2008, CLi); Mount Khosrovasar near Urcadzor (Ziegler, 2018, CZi); Shaghab (Ziegler, 2018, CZi).

Vayots Dzor prov.: Noravank, S of Areni (Ziegler, 2017, CZi); Vayk Herher Reservoir near Gndevaz (Ziegler, 2017, CZi); Zaritap, near - SE of - Yeghegnadzor, 1600 m (Ziegler, 2017, CZi).

TURKEY

Karaman Maras prov.: Afsin 1200 m (Angelini, 2011, CLi); Gücük (Angelini, 2011, CLi)^F; Yazıköy (Angelini, 2011, CLi)^F.

Gaziantep prov.: Akyokus Gecidi (Angelini, 2011, CLi)^F.

Malatya prov.: Dogansheir (Angelini, 2011, CLi)^F.

Mardin prov.: Haberli (Malinka, 2005, CMk); Hop Gecidi 1115 m (Malinka, 2005, CMk; Angelini, 2011, CLi)^F.

Iskenderum prov.: Topbogazi Gecidi near Belen, 800 m (Malinka, 2005, CMk).

SYRIA

Amman (Wittmer, 1935, MMi); Bludan, west of Damascus, 1800 m (Saltini, 2007, CLi); Daret Izza (Stepanek, 2008, CSt); Rabia (Sarovec, 2009, CTd); Slinfah 800 m (Saltini, 2007, CLi).

LEBANON

Al Batrun (Wittmer, 1935, MMi); Horch Ehden m 1500 (Saltini, 2009, CSa).

ISRAEL

Be'er Sheva, Negev (Tedeschi, 2008 and 2013, CLi); Beit She'an (Ziegler, 2018, CZi); Hazerim (Tedeschi, 2005, CTd); Jerusalem (Koch, 1933, MMi); Jerusalem, Lifta (Zamesov, 2001, CLi); Kibbutz Karmia near Sderot (Tedeschi, 2013, CLi); Tiberias (Koch, 1933, MMi).

JORDAN

Abila archaeological site, N of Irbid (Sama, 2008, CLi); Al Is, 10 Km W of Al Tafilah (Brustel, 2008, CLi); Tafilah (Snizek, 2013, CKo); Wadi Yabis (Ziegler, 2016, CZi).

CYPRUS SOUTH

Paphos distr.: Agia Varvara (Frenzel, 2016, CFz); Agios Georgios (Frenzel, 2018, CFz); Avgas Gorge (Frenzel, 2018, CFz); Choulou (Berra, 1998, CLi); Kato Akurdaleia (Miessen, 2016, CLi); Kidasi (Berra, 1998, CLi); Kouklia (Ziegler, 2008, CZi; Frenzel, 2016, CFz); Latsi (Ziegler, 1996, CRb); Loutra tis Aphroditis near Polis (Miessen, 2016, CLi; Fritzlar, 2018, CFz); Neo Chorio (Constantin, 1992, CCo); Pachiammos (Konvička, 2008, CKn); Pano Akurdaleia (Miessen, 2016, CLi); Paphos (Osten, 1988, CLi; Frenzel, 2018, CFz); Pegeia (Kopetz, 2019, CKo); Peristerona (Frenzel, 2018, CFz); Polis (Osten, 1988, CLi; Keimling, 2011, CKo); Pomos (Frank, 2014, CKn).

Lemesos distr.: Akrounta (Kopetz, 2012, CKo); Alassa (Frenzel, 2016, CFz); Armenochori (Sama, 1992, CLi); Episkopi (Ziegler, 2008, CZi); Eptagonia (Frenzel, 2016, CFz); Germasogeia (Frenzel, 2016, CFz); Kantou (Ziegler, 2010, CZi); Kourion (Ziegler, 2008, CZi); Lemesos (Lisa, 1996, MFi); Parekklesia (Ziegler, 2008, CZi; Frenzel, 2018, CFz); Pissouri (Constantin, 1992, CCo); Pissouri Bay (Brustel, 2009, CLi).

Larnaka distr.: Agios Theodoros, W of Larnaka (Pavel, 2016, CFz); Kiti (Ziegler, 2010, CZi); Mazotos (Miessen, 2014, CLi); Odou (Kopetz, 2019, CLi); Ora (Konvička, 2008, CKn); Skarinou (Miessen, 2014, CLi); Tochni (Liebenow, 2014, MBe).

CYPRUS NORTH

Gazimagusa distr.: Cape Greco (Rober, 2002, CRb).

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Robert Constantin (RC) and Isidor Plonski (IP):

CYPRUS SOUTH

Paphos distr.: Avgas Gorge (Mantič, 2012, CMt) IP; Coral Bay near Pegeia (Mantič, 2012, CMt) IP; Drouseia (Mantič, 2012, CPL) IP; Gialia (Link, 2014, CLk) IP; Lara Beach 4 Km N of Agios Georgios (Mantič, 2012, CMt) IP; Lysos (Constantin, 1999, CCo) RC; Neo Chorio (Constantin, 1999, CCo) RC; Nikokleia (Mühle, 2006, CCo) RC; Pegeia (Mühle, 2006, CCo) RC; Polis, Selladi tis

Aftoullinas (Constantin, 1999, CCo) RC; Pomos (Mühle, 2006, CCo) RC; Vretsia (Saravec, 2014, CLk and CPL) IP.

Lemesos distr.: Parekklesia (Mühle, 2006, CCo) RC; Pissouri (Constantin, 1999, CCo) RC.

Larnaka distr.: Odou (Weigel, 2010, MEr) IP.

Notes

Ischnopalpus Schilsky, 1894 is a “difficult” subgenus (Liberti 2019: 7, 8) in need of a revision. Species are homogeneous and genitalia of many species look (more or less) similar. Median lobe and tegmen, after dissection, are of difficult orientation in the transparent medium droplet (when differently oriented, they cannot be compared with each other) and, even when correctly oriented, median lobe apex is often prone to deformation on dehydration by the medium. External characters too are homogeneous: antennal shape and small differences in general appearance look like the most reliable guidance.

Given these difficulties, it is possible to state that the *Ischnopalpus* form living on Cyprus does not look different from the species – here assumed to be *Aplocnemus* (*Ischnopalpus*) *syriacus* – common in Israel, Syria and Jordan. There are however tiny differences between populations living in the two localities (please see table below). As usual with morphological studies only, it is impossible to know whether these differences would have specific - or sub-specific - value, or would just be part of a “normal” variation inside the species, where individual and population variabilities overlap.

Tab. 6. *A. (Ischnopalpus) syriacus*: variability between populations living in different areas: Near-East, Armenia and Cyprus.

	Near-East (Syria, Israel)	Armenia (only a few specimens studied)	Cyprus
Dorsal integuments...	Rather bright	Rather dull	Bright
Dorsal pubescence...	(Often) with grey setae mingled with the black ones	Entirely black	Entirely black
Antennae...	As in description above	Slightly longer and just more serrate	As in description above
Elytral apical angle...	At times not well defined, more or less rounded	Clearly visible, rectangular	Clearly visible, rectangular
Last tergite...	Rather long, elongate	Shorter, balanced to transverse	Shorter, balanced to transverse
Tegmen...	Basally wider and less bent ventrally	Basally thinner and more bent ventrally	Basally thinner and less bent ventrally

For these reasons, and for the time being, it has been felt wise to:

- a) consider the Cyprus *Ischnopalpus* as belonging to the species *A. (Ischnopalpus) syriacus*,
- b) report, here below, the above-mentioned differences existing between the two sets of populations (Near East and Cyprus).

The same kind of problems applies to *Ischnopalpus* populations living in eastern Turkey and in the Caucasian region, for which the writer has not been able, as well, to find “meaningful” anatomical differences from *A. (Ischnopalpus) syriacus* as defined by Schilsky. That considerably expands the range of this species, now spreading from Jordan to Georgia (distance about 1500 Km) and including Cyprus.

As above stated, population samples from Cyprus and from the Caucasus look slightly different from those of Near East. Tab. 6 summarizes the small differences detected (given the impossibility of a quantitative definition, characters are reported as comparisons).

A very common species on Cyprus, not reported by Baudi di Selve who (possibly) might have confused it with *A. (Aplocnemus) pertusus* Kiesenwetter. The adults appear in spring and can be found on flowers feeding on pollen.

***Trichocele kuprija* Libert, 2012 (Fig. 19)**

Trichocele kuprija Libert 2012: 224, loc. typ. Mount Olympos of Troodos.

= *Julistus arbustorum* Baudi di Selve (not Kiesenwetter), 1873: 319.

Types

The types of this species have been detailed together with the recent original description (Liberti 2012: 224).

Materials studied

LEBANON

Batroun, Smar Jbeil 440 m (Reuter, 2017, CLi).

CYPRUS SOUTH

Paphos distr.: Lysos 875 m (Frenzel, 2018, CFz).

Lemesos distr.: Arsos*; Mount Olympos of Troodos*;

Troodos village 1540-1670 m (Liberti, 2018, CLi).

Lefkosia distr.: Cedar Valley*; Chandria*.

Larnaka distr.: Odou*.

* = localities of types, already reported in Liberti (2012: 224-225).

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Isidor Plonski:

CYPRUS SOUTH

Paphos distr.: Vretsia (Saravec, 2014, CPI).

Lefkosia distr.: Tripilos Mount, SW of Tsakistra (Mantič, 2012, CMt; Schmidt, 1995, CPI).

Notes

This species has already been reported for Cyprus by Baudi di Selve [1873: 319 under the (incorrect) name *T. arbustorum* which has been proven recently to be a Greek endemics (Liberti 2012: 204)].

T. kuprija was thought - when described - to be an endemics of the Island. But the study of further materials (one couple only) from Near East has widened its range because revealed the presence, in Lebanon, of a *Trichocele* species apparently identical to it. It must be noted, however, that *Trichocele* is a difficult genus and several species look very similar to one another. The study of further materials will help to clarify this matter.

T. kuprija has been collected by the writer, near Troodos village, beating the lower branches of *Pinus* sp. (cf. *nigra*) in a loose pine forest.

***Trichocele testaceipes* Pic, 1921 (Figs. 18, 43-46)**

Trichocele testaceipes Pic, 1921: 4, loc. typ. Cyprus Island [described on 1 ♀]; Liberti 2012: 235 [♀♀ only].

Types

The type of this species, a ♀, has been detailed and re-described by Liberti (2012: 235).

Description (♂ only)

♂. Size small: TL = 3.3-4.1 (♀ size is larger: TL = 4.2-4.9 mm), antennae feebly serrate, integuments brown with pubescence of the same colour, yellow legs.

Moderately bright; mouthparts paler than dorsal integument, brownish; legs yellow with tarsal articles tips darkened; antennae brown with articles 1-3 variably yellowish; dorsal pubescence brown (same colour of integuments), long and dense; ventral pubescence partially grey, paler than integuments. Pronotal punctuation thin and sparse; elytra punctuation evidently stronger.

Antennae rather long (1.5-1.8 mm); article 3 elongate,

narrow; 4-7 triangular, balanced; of increasing size (4 much smaller than 7), inner angle sharp, apical edge approximately straight; 8-10 elongate, internal angle sharp, apical edge concave and internal edge convex. Pronotum transverse (PW/PL = 1.48-1.53), narrower than elytral base, maximum width behind the middle, crenulated on lateral borders.

Elytra convex, widened in apical half; finely bordered all along their perimeter (except basally); jointly rounded apically; apical angle well defined, rectangular to acute.

Abdomen fifth visible (penultimate) sternite straight on rear border. Last sternite (Fig. 45) with rear edge more or less straight. Pygidium (last tergite) transverse (Fig. 46), with rear edge regularly and strongly convex. Median lobe as in Fig. 43. Tegmen (Fig. 44) with phallobase thin and short, straight; parameres thin, ribbon like, apically expanded in a sub-triangular shape.

Materials studied

CYPRUS SOUTH

Lemesos prov.: Odou*; Troodos village 1540 m (Liberti, 2018, CLi).

Lefkosa prov.: Cedar Valley*; Cedar Valley near Tsakistra, 1172 m (Kopetz, 2015, MEr)^F [in a cedar forest]; Chandria*; Saranti 1210 m (Liberti, 2018, CLi).

* = localities already reported in Liberti 2012: 236.

Further materials

The following Cyprus localities refer to materials not personally seen by the writer: kindly communicated, and determined, by Isidor Plonski:

CYPRUS SOUTH

Paphos distr.: Pomos (Mantič, 2017, CMt and CPL).

Notes

T. testaceipes, recently redescribed (Liberti 2012: 235), was known up to now on ♀♀ specimens only. The recent finding of a few ♂♂ close to Saranti village, in the Troodos mountains, allows a complete description of this species.

T. testaceipes is close to *T. griseohirta griseohirta* Reitter, 1885 from Crete island for colour and overall appearance but the former is larger, with darker pubescence and with a different median lobe apex [rounded instead of sharp, compare Fig. 43 with the figure in Liberti (2012: 248, Fig. 36)].

An uncommon species, endemic of the Island, found by the writer beating young *Pinus* sp. (cf. *brutia*) trees.

OVERALL DISCUSSION

As far as Melyridae Dasytinae and Rhadalidae are concerned, the Cyprus fauna appears rather poor as to number of species when compared with the other large Mediterranean islands, although the endemics fraction seems to be reasonably high, as can be seen in Tab. 7 (but see discussion below).

Tab. 7. Melyridae Dasytinae and Rhadalidae of the 5 largest Mediterranean islands. A comparison of total - and endemic - species numbers.

Island	Surface (Km ²)	Approximate minimum distance from mainland, in Km	Number of species and subspecies (Melyridae Dasytinae + Rhadalidae)	Endemic species and subspecies (Melyridae Dasytinae + Rhadalidae)
Sicily	25700	Italy: 2 Tunisia: 150	38	9 (24%)
Sardinia	24000	Italy: 200 Tunisia: 185	32	strict: 13 (41%) tyrrhenian:* 4 (12%)
Cyprus	9200	Turkey: 75 Syria: 105	18	7 (39 %)
Corse	8700	Italy Tuscany: 90 (but Elba island in between) west Liguria: 150	33	strict: 8 (24%) tyrrhenian:* 7 (21%)
Crete	8200	Peloponnesus: 95 (but islands in between)	27-30**	10-12 (33-44%)

*Corsica and/or Sardinia and/or Tuscan Archipelago; **Evaluated (not known exactly).

The 7 Cypriot endemics are *Danacea cypria*, *Dasytes timidus*, *Dasytidius indutus virescens*, *Dasytidius inchoatus*, *Dasytidius valdelatus*, *A. (Diplambe) constantini* and *Trichoceble testaceipes*.

Based on current knowledge of distribution ranges, which is certainly not very good, and taking into account the affinities of some endemics with similar mainland species, the 18 forms listed for Cyprus can be tentatively split into 5 groups:

Cypriot well differentiated endemics (of uncertain origin), 2 species (11%):

Dasytes timidus, *Trichoceble testaceipes*.

West- and Central-Mediterranean chorotypes, 2 species (11%):

Dasytes aeneiventris; *Aplocnemus marginatus*.

East-Mediterranean chorotypes, 14 species (78%), further split into:

wide East-Mediterranean distribution, 6 species (33%):

Dasytes moniliatus; *Dolichosoma simile*; *Dasytidius indutus virescens*; *Schilskyana subtilis*; *Aplocnemus pertusus*; *A. (Ischnopalpus) syriacus*; Anatolian (or South-Anatolian) chorotype, 4 species (22%):

Danacea cypria, *Danacea reitteri*; *Dasytidius valdelatus*; *Dasytiscus anatolicus*.

Syro-Palaestian chorotype (Syria, Lebanon, Israel), 4 species (22%):

A. (Diplambe) constantini, *Dolichophron cylindromorphum*, *Dasytidius inchoatus*; *Trichoceble kuprija*.

As can be seen, a large fraction of this fauna – accounting for more than three quarters of the species – would belong to the eastern Mediterranean area where Cyprus is located, as expected. In it two components – from Anatolia and from the Near-East – would be more or less equivalent (22% each). Only 2 species are (supposed to be) of West and Central Mediterranean origin.

Several endemics (5 out of 7) appear very similar to (probably parental) mainland species; the two remaining ones – *Trichoceble testaceipes* and *Dasytes timidus* – apparently better differentiated, might be autochthonous.

It can be added that many of the species listed for the Island should be expected to have a high dis-

persion potential: winged and good flyers, spread on rather wide distribution areas which often include islands and archipelagos, their presence on Cyprus might be easily explained on the ground of (passive) dispersion - with at least two exceptions: *Dolichophron cylindromorphum* is apterous and *Aplocnemus marginatus* (provided its presence will be confirmed) is a rare relic species with a large but widely fragmented range.

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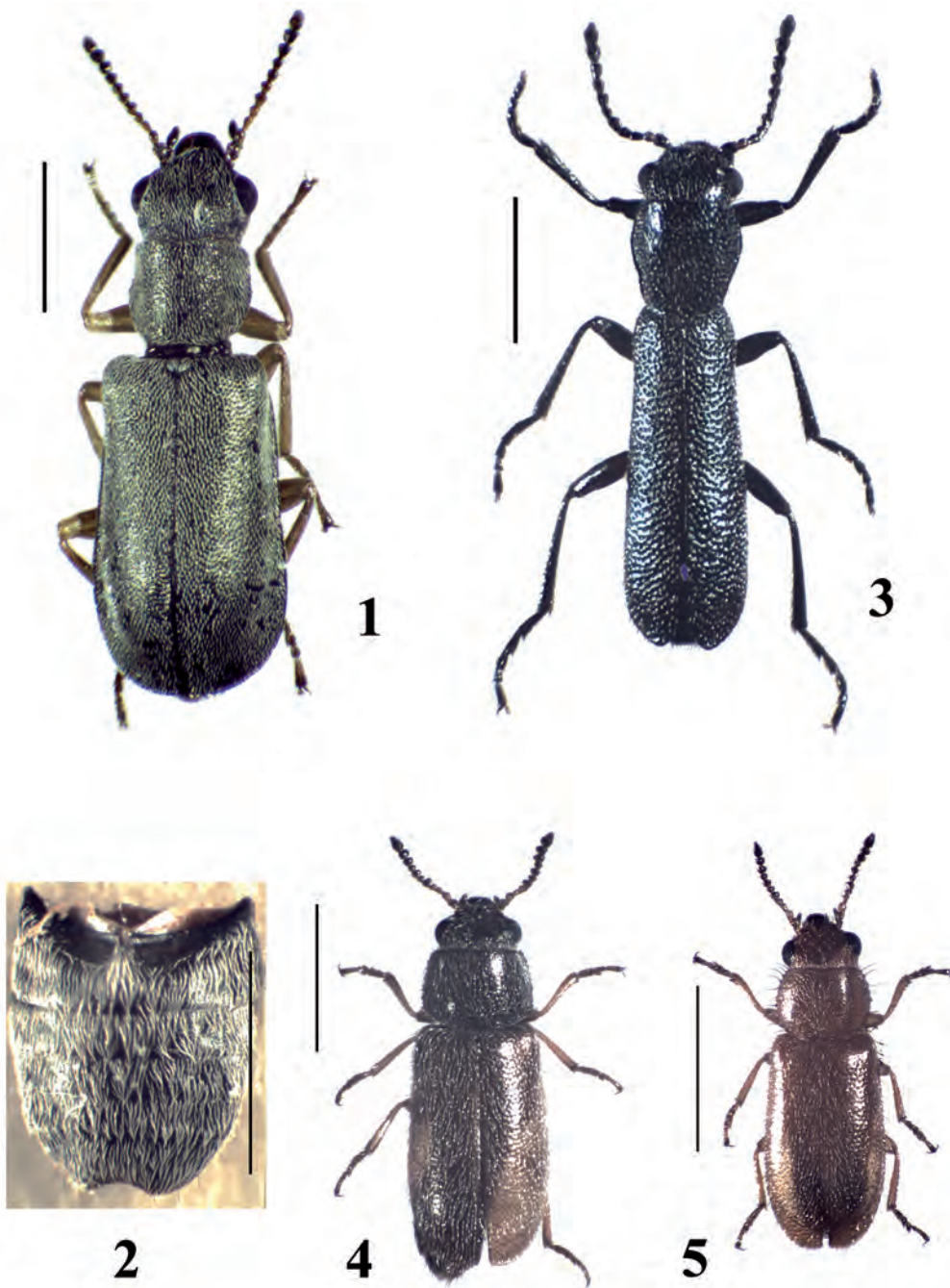
Robert Constantin and Isidor Plonski supplied, for several species, many additional Cyprus localities from their own collection and from the collections of Andreas Link and Marion Mantič.

Matthias Bohrer of the Basel Naturhistorisches Museum allowed the study of the types of a Major species and, together with Michael Geiser, kindly helped in the (successful) attempt to read a difficult label.

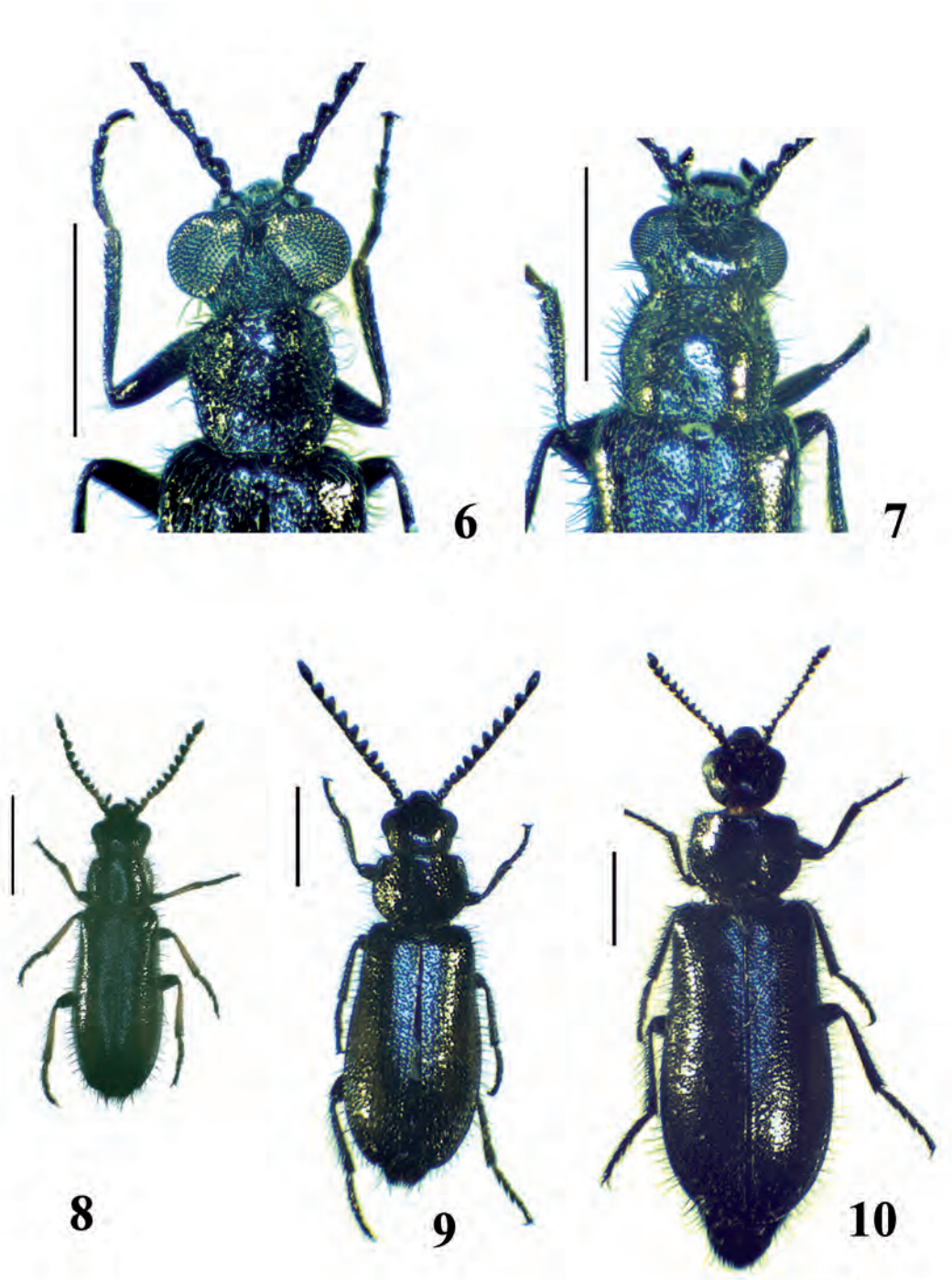
Thierry Deuve and Azadeh Taghavian, of the Museum Nationale d'Histoire Naturelle, Paris, allowed and facilitated the study of the Pic collection.

Roberto Poggi of the Museo Civico di Storia Naturale "G. Doria", Genoa, allowed the study of important historical specimens of Flaminio Baudi di Selve.

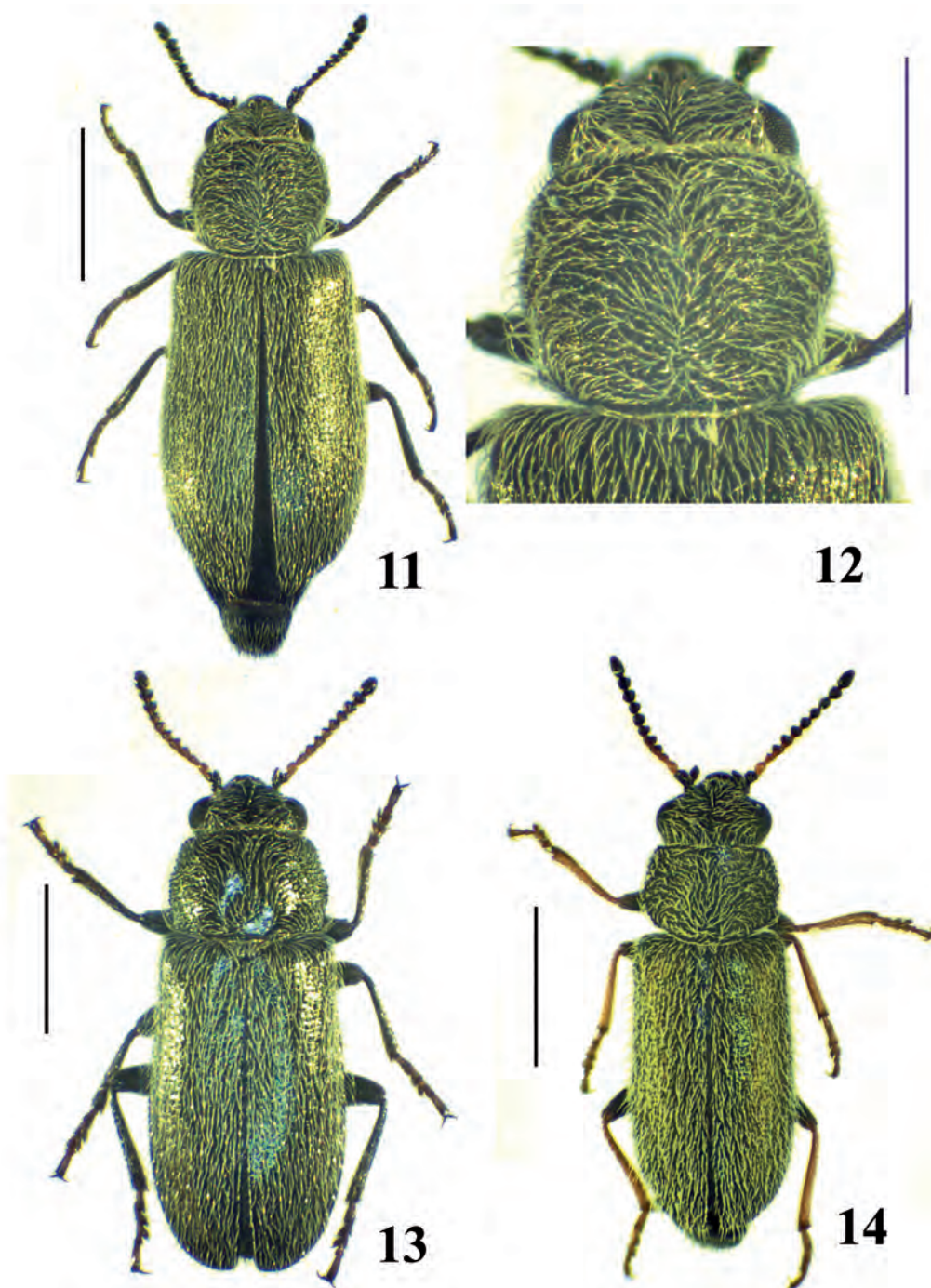
Isidor Plonski double checked the determination key. Robert Constantin, with the usual competence and courtesy, revised the whole text. Adriaen Mayor allowed the consultation of his private (unpublished) bibliographic index.



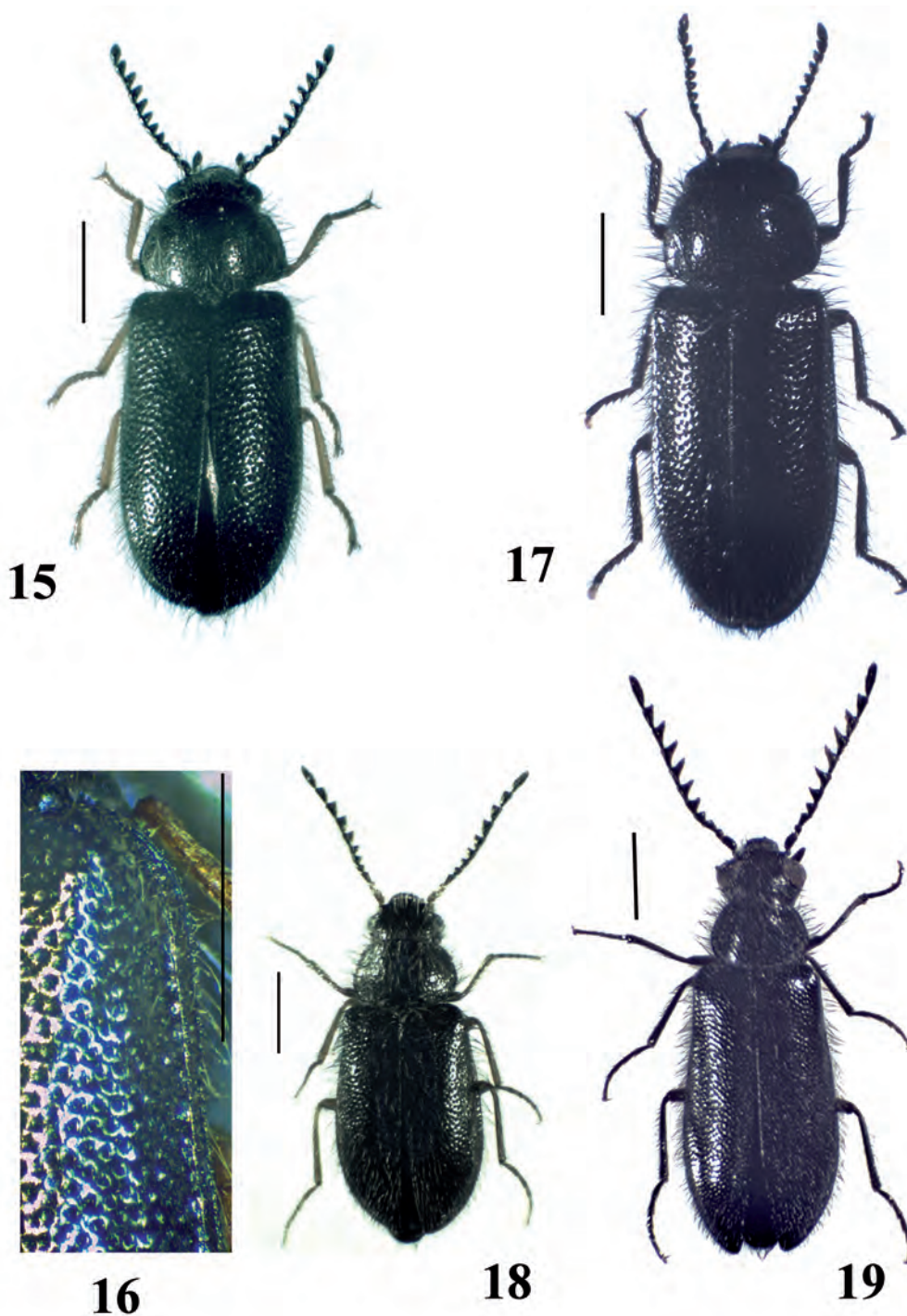
Figs. 1-5. 1, 3-5: habiti. 2: abdomen, sternal view. 1, 2: *Danacea cypria* Schilsky, ♂♂ (1: Çatalkoy, 12 Km E of Girne; 2: same locality, different specimen). 3: *Dolichophron cylindromorphum* Kiesenwetter (♂, Hajdal-e-Shams, Mt. Hermon, Israel). 4: *Schilskyana subtilis* (Reitter) (♂, Lesvos Island, Arisvi, Milopotamos river). 5: *Dasytiscus anatolicus* n. sp. (♂, paratypus from Avgas Gorge, north of Paphos). Scales: 1 mm.



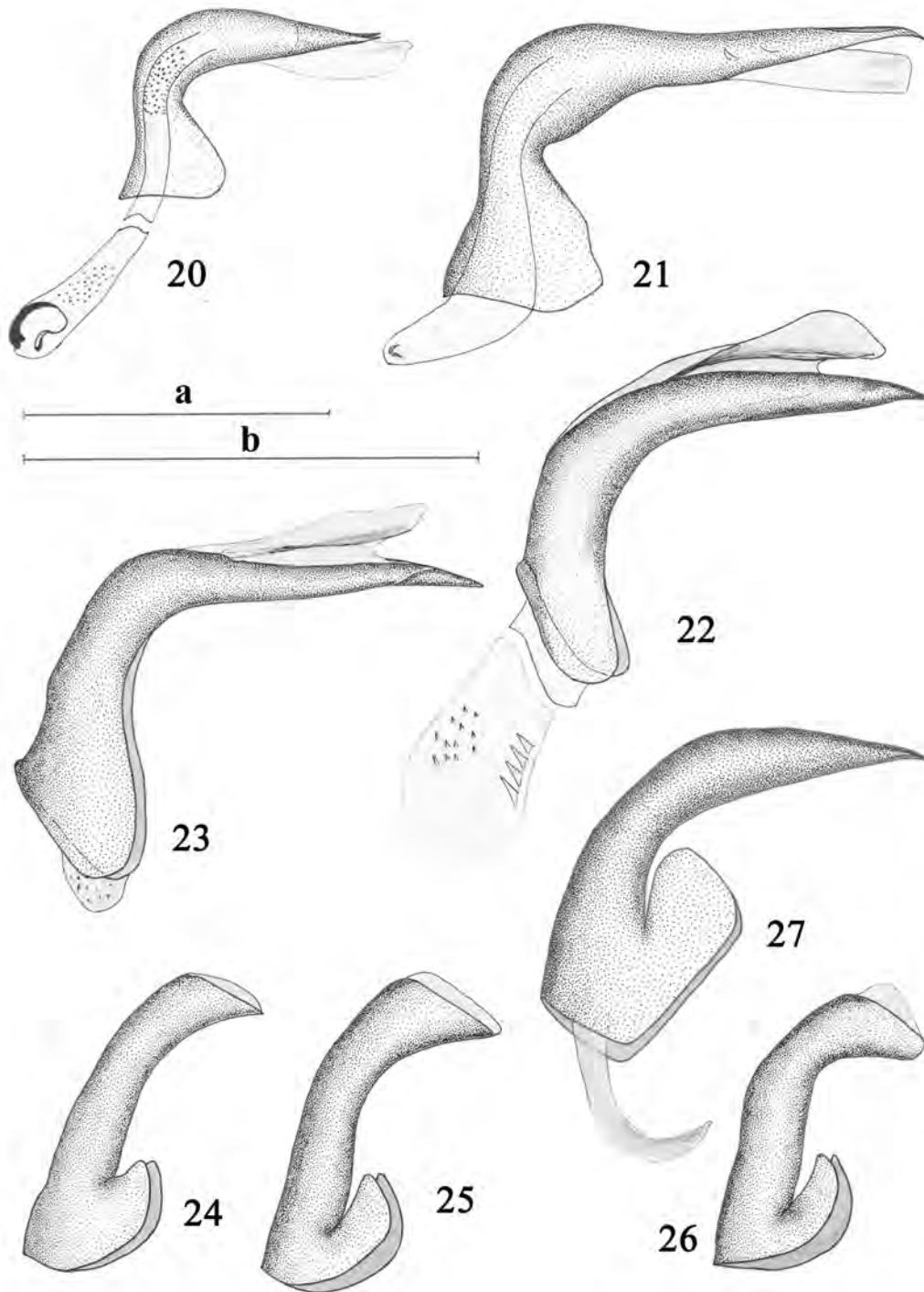
Figs. 6-10. 6, 7: head and pronotum. 8-10: habiti. 6, 7: *Dasytes aeneiventris* Küster, ♂♂ (6: Cyprus, Girne 5 Km S; 7 Sardinia: Mount Spada, Nuoro prov.). 8: *Dasytes moniliatus* Kiesenwetter (♂, Avgas Gorge, north of Paphos). 9, 10: *Dasytes timidus* Baudi di Selve (9: ♂ from Pano Platres, Lemesos distr.; 10: ♀ from Kakopetria, Lefkosia distr.). Scales: 1 mm.



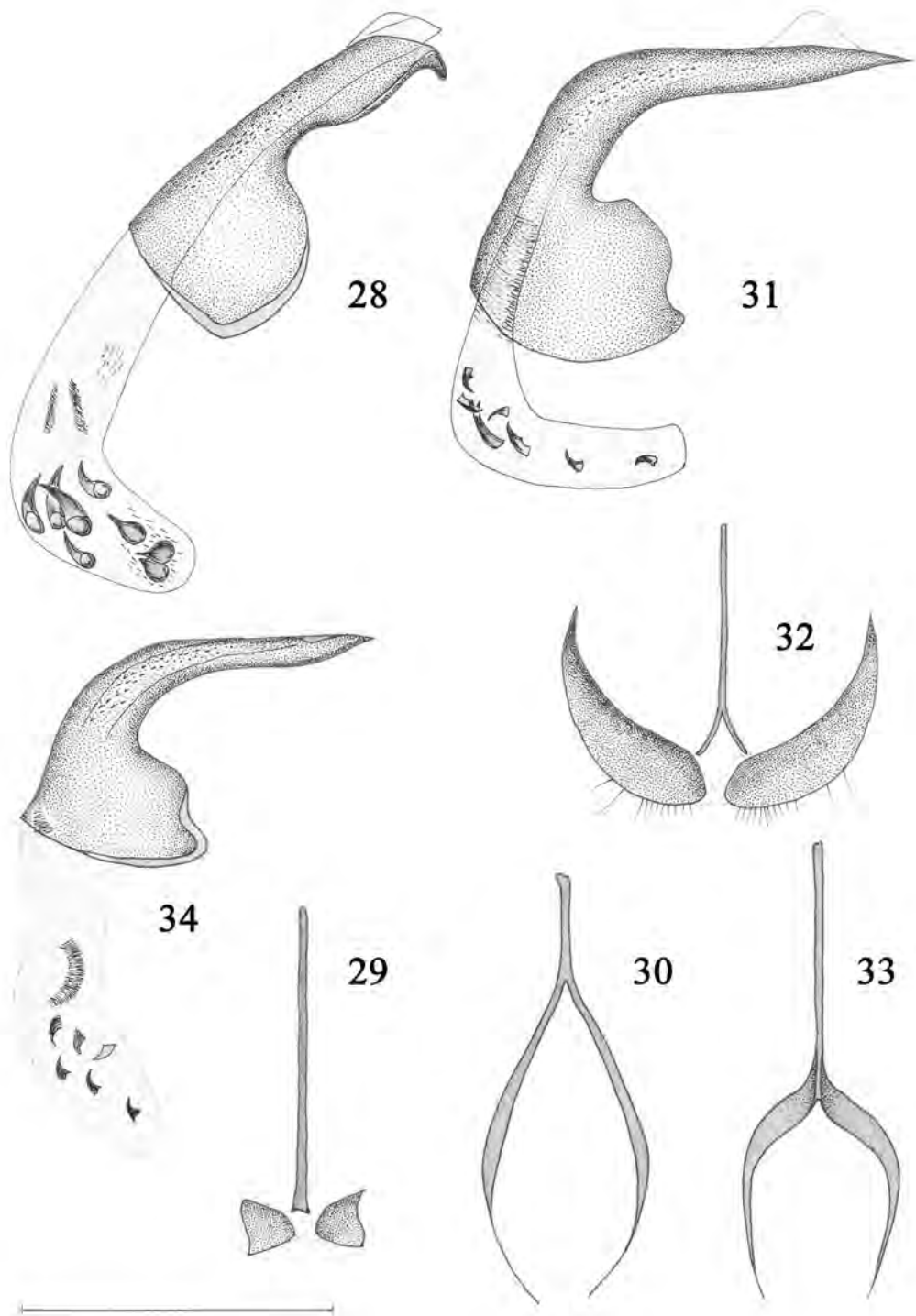
Figs. 11-14. 11, 13, 14: habiti. 12: pronotum. 11, 12: *Dasytidius indutus virescens* Baudi di Selve (♂, Alassa, Lemesos distr., same specimen). 13: *Dasytidius valdelatus* n. sp. (♂, paratypus from Alassa, Lemesos distr.). 14: *Dasytidius inchoatus* Majer (♂, Pano Platres, Lemesos distr.). Scales: 1 mm.



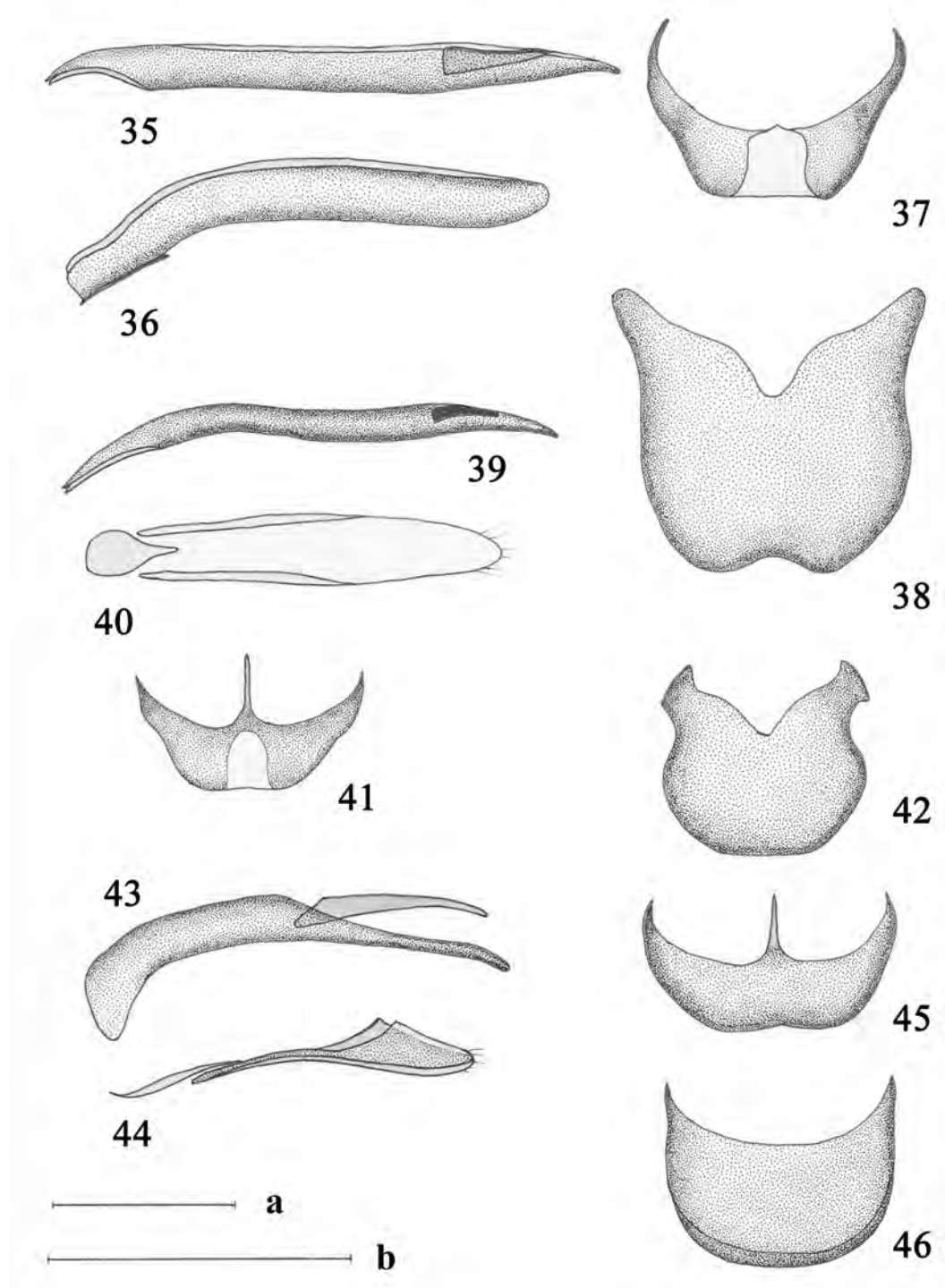
Figs. 15-19. 15, 17-19: habiti. 16: elytral lateral border in basal half. 15, 16: *A. (Diplambe) constantini* n. sp. (15: ♂, paratypus from Dora, Paphos distr.; 16: ♂, paratypus from Lysus, Paphos distr.). 17: *A. (Ischnopalpus) syriacus* Schilsky (♂, Lemesos). 18: *Trichocele testaceipes* Pic (♂, Saranti, Lefkosia distr.). 19: *Trichocele kuprija* Liberti (♂, Troodos village, Lemesos distr.). Scales: 1 mm.



Figs. 20-27; median lobes. 20: *Danacea reitteri* Prochazka (Esentepe, Girne distr.). 21: *Danacea cypria* Schilsky (Kataköy, Girne distr.). 22: *Dasytes timidus* Baudi di Selve (Pano Platres, Lemesos distr.). 23: *Dasytes moniliatus* Kiesenwetter (Avgas Gorges, Paphos distr.). 24: *Dasytiscus pallens* Majer (Jrvezh near Erevan, Armenia). 25: *Dasytiscus flaveolus* Reitter (Feraklos, Rhodes island). 26: *Dasytiscus anaticus* n. sp. (paratypus from Avgas Gorge, Paphos distr.). 27: *Schilskyana subtilis* Reitter (Laerma, Rhodes island). Scales: 0.5 mm (a: 20, 21; b: 22-27).



Figs. 28-34. 28, 31, 34: median lobes. 29: last sternite central process. 30, 33: spicular forks. 32: last sternite. 28-30: *Dasytidius indutus* ssp. *virescens* Baudi di Selve (28: Motoullas, Lefkosia distr.; 29, 30: Alassa, Lemesos distr., same specimen). 31-33: *Dasytidius valdelatus* n. sp. (31: paratypus from Alassa, Lemesos distr.; 32, 33: paratypus from Kakopetria, Lefkosia distr., same specimen). 34: *Dasytidius inchoatus* Majer (Saranti, Lefkosia distr.). Scale: 0.5 mm.



Figs. 35-46. 35, 39, 43: median lobes. 36, 44: tegmen, lateral view. 40: tegmen, sternal view. 37, 41, 45: last sternites. 38, 42, 46: last tergites. 35-38: *A. (Ischnopalpus) syriacus* Schilsky (35, 36: Skarinou, Larnaka distr., same specimen; 37, 38: Kidasi, Paphos distr., same specimen). 39-42: *A. (Diplambe) constantini* n. sp. (paratypus from Odou, Larnaka distr., same specimen). 43-46: *Trichocele testaceipes* Pic (Saranti, Lefkosia distr., same specimen). Scales: 0.5 mm (a: 35-42; b: 43-46).

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Gianni ALLEGRO*

Tabella illustrata di determinazione per le specie del genere *Pterostichus* note in Italia (Coleoptera, Carabidae, Pterostichinae)

Riassunto: Viene presentata una chiave dicotomica per l'identificazione delle specie di *Pterostichus* (Coleoptera, Carabidae) note per il territorio italiano. Viene inoltre illustrato l'habitus di 56 specie.

Abstract: *An illustrated key to the species of Pterostichus recorded from Italy (Coleoptera, Carabidae, Pterostichinae).*

A dichotomous key to all *Pterostichus* species known to occur in Italy is provided. The habitus of 56 species is also illustrated.

Key words: taxonomy, identification key, genus *Pterostichus*, Italy.

INTRODUZIONE

Il genere *Pterostichus* Bonelli, 1810, uno dei più ricchi di specie all'interno della famiglia Carabidae, si è reso protagonista di un formidabile successo evolutivo che ha portato le oltre 1100 specie fino a oggi conosciute (Lorenz, 2005) a popolare pressoché tutti gli ambienti della regione olartica, dalle pianure alle praterie alpine, dagli ambienti umidi e acquitrinosi alle steppe aride o semiaride.

In Italia se ne contano ben 63 specie (Vigna Taglianti, 2005; Magrini *et al.*, 2013), alcune delle quali endemiche del territorio italiano, talvolta con distribuzioni estremamente localizzate di chiaro significato relitto. La struttura quasi sempre slanciata ed elegante del corpo, legata alle loro abitudini di agili predatori, e la loro livrea spesso appariscente per le colorazioni metalliche di molte specie li rendono un oggetto di studio privilegiato per molti appassionati carabidologi.

Personalmente sono stato affascinato dal genere *Pterostichus* sin dall'inizio del mio interesse per i carabidi, che aveva come primo obiettivo il loro impiego come bioindicatori in campo agrario (Allegro & Sciaky, 2003). Da qui nasceva la necessità di poter giungere a una corretta identificazione delle specie censite nel corso dei campionamenti, e uno dei primi generi con cui mi cimentai fu il genere *Pterostichus*, le cui specie costituivano una frazione numerosa di quelle censite. Basandomi sulle chiavi di identifica-

zione allora disponibili in letteratura (Porta, 1923; Schatzmayr, 1929; Trautner & Geigenmüller, 1987), purtroppo scarsamente utilizzabili perché poco aggiornate oppure incomplete per la fauna italiana, avevo compilato una bozza di chiave illustrata per mio uso personale, che mi permettesse un percorso di identificazione il più semplice, rapido e corretto possibile. Nel tempo questa chiave è stata perfezionata in modo da comprendere anche i dati distributivi e i cambiamenti tassonomici (Magistretti, 1965; Casale & Giachino, 1985; Sciaky, 1986; Vigna Taglianti, 2005; Casale *et al.*, 2006), e in qualche caso le preferenze ecologiche delle specie, con lo scopo di consentire un'identificazione più sicura, confermata anche sulla base delle aree geografiche di provenienza degli esemplari e delle caratteristiche ecologiche degli ambienti oggetto di campionamento.

Nel frattempo venivano pubblicate da Casale (2005) la chiave per tutti i generi della famiglia Carabidae e da Pesarini & Monzini (2010, 2011) le chiavi per l'identificazione di tutte le specie di carabidi italiani, comprese quelle del genere *Pterostichus*. Ciò nonostante, in occasione di alcune mie esperienze didattiche che avevano come oggetto la sistematica e l'identificazione dei carabidi, durante le esercitazioni pratiche in laboratorio avevo sentito l'apprezzamento degli studenti per la bozza di chiave illustrata che avevo messo a loro disposizione. Questo mi ha spinto a cercare di migliorarla ulteriormente e infine a pubblicarla, nella

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speranza che possa essere utile a chi abbia la voglia o la necessità di arrivare, con un percorso non troppo difficile, a una corretta identificazione delle specie di *Pterostichus* presenti nel nostro paese. Ovviamente viene richiesta una almeno elementare conoscenza della morfologia esterna degli insetti (e della sua terminologia), non difficile da ottenere con un libro di entomologia generale o con l'aiuto della rete, ed è consigliato l'impiego di una buona lente o, meglio, di uno stereomicroscopio per la valutazione dei caratteri. Solo in pochi casi la comparazione dei genitali maschili con i disegni forniti è raccomandata, al fine di poter confermare il risultato raggiunto, o addirittura si rivela indispensabile, per le pochissime specie non riconoscibili sui caratteri esterni (ad es. *P. nigrita* vs. *P. rhaeticus*). È bene considerare inoltre che il procedimento sarà più agevole e la determinazione più affidabile se si disporrà di almeno una piccola serie di individui, tra cui alcuni maschi, della specie da identificare.

MATERIALI E METODI

La tabella comprende tutte le specie del genere *Pterostichus* attualmente note sul territorio italiano, più alcune altre considerate dubbie (*P. devillei*, *P. transversalis*) oppure non presenti, allo stato attuale delle conoscenze, ma note di aree limitrofe (*P. muehlfeldi*, *P. ambiguus*).

Le figure con i disegni esemplificativi sono tratte dalle seguenti pubblicazioni:

Ferreri (1997): Figg. 7-11 (lobo mediano degli edeagi), 12-15.

Giachino & Casale (1983): Figg. 1-4.

Sciaky (1984): Figg. 7-11 (parameri).

Trautner & Geigenmüller (1987): Figg. 5-6, 16-20.

Le fotografie digitali degli habitus delle specie sono in parte dell'autore (Figg. 23, 36, 41, 42, 57, 59, 69, 70, 71), ottenute per mezzo di una fotocamera Leica DFC295 montata su uno stereomicroscopio Leica M205 C, e in parte (tutte le altre) di Ortwin Bleich, tratte per gentile concessione dal suo sito 'Coleoptera Europaea' (www.eurocarabidae.de). Sono raffigurate in totale 56 delle 63 specie presenti in Italia, il che rende possibile la verifica della determinazione attraverso il confronto con l'habitus; mancano soltanto poche specie che sono peraltro simili ad altre illustrate. Le immagini non hanno una scala unica di riferimento e per le reali dimensioni occorre basarsi sulla tabella di determinazione.

Nei pochi casi in cui siano stati utilizzati, in alcune chiavi dicotomiche, caratteri morfologici di non facile interpretazione o soggetti talvolta a variabilità, con entrambe le scelte della dicotomia è comunque possibile arrivare alla corretta identificazione delle specie.

La nomenclatura adottata e i simboli di distribuzione (N=Nord; S=Sud; Si=Sicilia; Sa=Sardegna) sono quelli utilizzati nella Checklist della Fauna Italiana di Vigna Taglianti (2005) con alcuni aggiornamenti apportati in seguito alle nuove segnalazioni (Magrini *et al.*, 2013) oppure alle variazioni tassonomiche acquisite dopo tale data e riguardanti *P. parnasius* (Bisio, 1994), *P. andreinii* (Degiovanni & Pavesi, 2017), *P. flavofemoratus* e *P. pinguis* (Allegro, in pubblicazione).

CHIAVE DI DETERMINAZIONE DELLE SPECIE DI *PTEROSTICHUS* NOTE PER L'ITALIA

1. Tarsi solcati sia dorsalmente sia lateralmente (Fig. 5)2
 - Tarsi dorsalmente non solcati, al più solcati ai lati4
2. Onichio (quinto tarsomero) inferiormente provvisto di setole; solcatura dei tarsi molto profonda ed evidente; margini laterali del pronoto non sinuati, subrettilinei fino agli angoli posteriori, questi molto brevemente sporgenti in forma di dentino.3
 - Onichio inferiormente privo di setole; solcatura dei tarsi superficiale; margini laterali del pronoto nettamente sinuati davanti agli angoli posteriori. 6,9-7,6 mm (Habitus: Fig. 21). S (Abruzzo)
.....*Pterostichus (Argutor) chameleon*
Motschulsky, 1866
3. Dimensioni minori (6,3-7,3 mm). Elitre non iridescenti, con microscultura distinta (Habitus: Fig. 22). N-S.....
.....*Pterostichus (Argutor) vernalis* (Panzer, 1796)
 - Dimensioni maggiori (7,5-8,7 mm). Elitre di regola fortemente iridescenti, con microscultura quasi nulla. Habitus simile a *P. vernalis* (Fig. 22), ma più grande. N-S-Si-Sa
.....*Pterostichus (Argutor) cursor* (Dejean, 1828)

4. Capo con distinta strozzatura alla base, estesa anche sul lato dorsale. 8-9 mm (Habitus: Fig. 23). N (Alpi Marittime e Liguri)
.....***Pterostichus (Pseudorites) nicaeensis***
(A. Villa & G.B. Villa, 1835)
- Capo non o indistintamente strozzato alla base5
5. Onichio inferiormente provvisto di setole6
- Onichio inferiormente privo di setole48
6. Tutte le strie elitrili interrotte da dense fossette irregolari, che danno alle elitre un aspetto crivellato. Insetto interamente nero. 15-21 mm (Habitus: Fig. 24). N (Alpi Pennine e Lepontine occidentali). Endemico italiano
.....***Pterostichus (Oreophilus) cribratus***
(Dejean, 1828)
- Elitre a strie regolari, lisce o semplicemente punteggiate (talvolta con grossi punti)7
7. Almeno la 3a e la 5a interstria elitrile, e talora anche la 7a, provviste di pori setigeri8
- Solo la 3a interstria provvista di pori setigeri14
8. Pronoto a ciascun lato con la sola fossetta basale interna, l'esterna al più appena accennata; margini laterali non sinuati davanti agli angoli posteriori, che sono ottusi e a vertice smussato. Femori talvolta rossi. 12,5-14,5 mm (Habitus: Fig. 25). N (Alpi centrali e orientali)
.....***Pterostichus (Oreophilus) ziegleri***
(Duftschmid, 1812)
= *obirensis* Schaubberger, 1921;
= *culminicola* Schaubberger, 1921
- Pronoto con 2 distinte fossette basali a ciascun lato; margini laterali più o meno distintamente sinuati davanti agli angoli posteriori, che sono retti, a vertice vivo9
9. Doccia laterale del pronoto nella metà anteriore con 2-3 pori setigeri; vedi *P. fasciatopunctatus* al n° 12 (Fig. 26)
- Doccia laterale del pronoto nella metà anteriore con un solo poro setigero10
10. Corpo dorsalmente di regola distintamente metallico, salvo singoli esemplari melanici11
- Corpo dorsalmente nero12
11. Elitre con un poro ombelicato alla base della 2a stria; vedi *P. externepunctatus* al n° 52 (Fig. 55)
- Elitre prive di poro ombelicato alla base della 2a stria; vedi *P. multipunctatus* al n° 58 (Fig. 60)
12. Specie delle Alpi Orientali. 3a, 5a e 7a interstria provviste di pori setigeri. 13-16 mm (Habitus: Fig. 26). N
.....***Pterostichus (Pterostichus) fasciatopunctatus***
(Creutzer, 1799)
= *seticollis* Ganglbauer, 1900
- Specie delle Alpi Occidentali e degli Appennini ..
.....13
13. Pronoto fortemente trasverso, con solco trasverso prebasale profondo e confluyente con le fossette basali. Strie e interstrie elitrili regolari. Capo molto grande; vedi *P. truncatus* al n° 29 (Fig. 37)
- Pronoto meno trasverso, con solco trasverso prebasale superficiale o assente; fossette basali allungate, più o meno lineari. Interstrie generalmente interrotte da pori e strie confluenti in corrispondenza di questi. Capo di normale grandezza. 12-14,5 mm (Edeago: Fig. 3; Habitus: Fig. 27). N (Alpi Occidentali, dalla Val Germanasca al Colle di Tenda)
.....***Pterostichus (Pterostichus) vagepunctatus***
Heer, 1837
= *valderiensis* Capra, 1940
14. Insetti dorsalmente di colore nero, bruno o piceo, senza traccia di riflesso metallico15
- Insetti dorsalmente più o meno distintamente metallici, talora pressoché neri, ma mai bruni o picei45
15. Dimensioni maggiori (10,5-22 mm)16
- Dimensioni minori (5-9,8 mm)39
16. Doccia laterale del pronoto nella metà anteriore con 2 o più setole. Strie elitrili fini o finissime, la seconda senza poro ombelicato alla base17
- Doccia laterale del pronoto nella metà anteriore con 1 sola setola. Strie elitrili ben evidenti, la seconda con poro ombelicato alla base18
17. Insetto lungo 15-19 mm. Pronoto a lati fortemente sinuati davanti agli angoli posteriori (Habitus: Fig. 28). N (Alpi Orientali)

-*Pterostichus (Parapterostichus) schaschli*
(Marseul, 1880)
= *dolomitanus* Ganglbauer, 1899;
= *venetianus* Schatzmayr, 1929
- Insetto lungo 11-13 mm. Pronoto fortemente ristretto verso la base ma a lati debolmente o per nulla sinuati (Habitus: Fig. 29). N (Alpi Graie e Pennine). Endemico italiano
.....*Pterostichus (Parapterostichus) grajus*
(Dejean, 1828)
= *occidentalis* Pecoud, 1927 *nec* (Dejean, 1828);
= *occusus* Csiki, 1930
18. Femori rossi o giallo-rossicci.....19
- Zampe interamente nere.....20
19. Pronoto non o solo debolmente ristretto verso la base, a lati non sinuati. Femori giallo-rossicci. Epipleure semplici. Habitus normalmente convesso. Alpi Graie, Pennine e Lepontine occidentali; vedi *P. flavofemoratus* e *P. pinguis* al n° 73 (Figg. 69 e 70)
- Pronoto a lati distintamente sinuati e ristretti verso la base. Femori rossi. Epipleure “incrociate” posteriormente (Fig. 6). Habitus allungato e depresso, simile a *P. honoratii* (Fig. 35). 15-16 mm. N? (Alpi Marittime francesi, già presente appena oltre il confine italiano; presenza effettiva nel nostro territorio dubbia)
...*Pterostichus (Pterostichus) devillei* Puel, 1924
20. La terza interstria normalmente con 1-2 pori setigeri, raramente con 3, in questo caso l’anteriore si trova sempre posteriormente al terzo basale delle elitre21
- La terza interstria con più di 2 pori setigeri, di cui l’anteriore si trova nel terzo basale delle elitre ...23
21. Angoli posteriori del pronoto ampiamente arrotondati, a vertice indistinto. Terza interstria delle elitre con un solo poro setigero. 13-17 mm (Habitus: Fig. 30). N (marginale sul confine occidentale; Alta Valle di Susa)
.....*Pterostichus (Steropus) madidus*
(Fabricius, 1775)
- Angoli posteriori del pronoto a vertice marcato. Terza interstria delle elitre con 2 pori setigeri.....22
22. Doccia laterale del pronoto stretta e di larghezza uniforme per tutta la sua lunghezza. Metaepisterni non più lunghi che larghi. Spesso su terreni argillosi e scoperti. 14-18,5 mm (Habitus: Fig. 31). N-S-Si*Pterostichus (Feronidius) melas*
(Creutzer, 1799)
Italia continentale e Sicilia: ssp. *italicus*
(Dejean, 1828)
Carso triestino e Istria: ssp. *depressus*
(Dejean, 1828)
- Doccia laterale del pronoto spianata e allargata verso la base. Metaepisterni molto più lunghi che larghi. In genere su terreni umidi e con copertura arborea almeno parziale. 13,5-17,5 mm (Habitus: Fig. 32). N-S
.....*Pterostichus (Morphnosoma) melanarius*
(Illiger, 1798)
= *vulgaris* auctt. *nec* (Linnaeus, 1758)
23. Pronoto con angoli posteriori ottusi a vertice smussato oppure arrotondati a vertice indistinto; lati non sinuati verso la base24
- Pronoto con angoli posteriori a vertice sempre vivo; lati almeno brevemente sinuati verso la base26
24. Angoli posteriori del pronoto ampiamente arrotondati, a vertice indistinto. Insetto convesso. 11,5-13,0 mm (Habitus: Fig. 33). N (Alpi orientali: Alto Adige e Friuli, marginale presso il confine austriaco).....
.....*Pterostichus (Eosteropus) aethiops*
(Panzer, 1796)
- Angoli posteriori del pronoto ottusi, a vertice smussato. Insetti appiattiti. Specie delle Alpi Centrali e Occidentali.....25
25. Pronoto con 2 fossette basali a ciascun lato. 14-15 mm (Habitus: Fig. 34). N (Valtellina, Alpi e Prealpi Bergamasche). Endemico italiano
.....*Pterostichus (Platypterus) lombardus*
K. Daniel, 1901
- Pronoto con una sola fossetta basale a ciascun lato. N (Alpi Cozie meridionali e Marittime); vedi *P. honoratii* al n° 27 (Fig. 35)
26. Elitre appiattite, strette e allungate27
- Elitre più larghe, ovalari, forma generale meno slanciata28

27. Dimensioni maggiori (16-18 mm). Epipleure semplici (Habitus: Fig. 35). N (dalle Alpi Liguri alle Graie)*Pterostichus (Pterostichus) honnoratii* (Dejean, 1828)
Alpi Cozie settentrionali e Graie: ssp. *honnoratii* (Dejean, 1828)
Alpi Cozie meridionali e Marittime: ssp. *sellae* Stierlin, 1881
- Dimensioni minori (14 mm). Epipleure “incrociate” posteriormente (Fig. 6). Specie non italiana, endemica di Corsica*Pterostichus (Adelopterus) ambiguus* (Fairmaire, 1858)
28. Epipleure semplici29
- Epipleure “incrociate” posteriormente (Fig. 6)...30
29. Pronoto non fortemente trasverso, con solco trasverso prebasale superficiale. 13-14 mm (Habitus: Fig. 36). S (Appennino umbro-marchigiano). Endemico italiano*Pterostichus (Pterostichus) andreinii* Doderò, 1922
= *alzonae* Binaghi, 1935; = *battonii* Straneo, 1959
- Pronoto fortemente trasverso, con solco trasverso prebasale profondo e confluyente con le fossette basali. 13,5-15,5 mm (Habitus: Fig. 37). N (Alpi occidentali).....*Pterostichus (Platypterus) truncatus* (Dejean, 1828)
Alpi Cozie settentrionali (Monviso) e Alpi Graie: ssp. *truncatus* (Dejean, 1828)
Alpi Cozie meridionali e Marittime settentrionali: ssp. *imitator* Deville, 1902
Alpi Marittime meridionali e Liguri: ssp. *dilatatus* A. Villa & G.B. Villa, 1835
30. Specie delle Alpi Orientali31
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- I lati del pronoto arrotondati verso la base. La seconda stria delle elitre alla base in genere con un poro ombelicato. Microscultura delle elitre isodiametrica. In genere 2 interstrie elitrali munite di pori setigeri. Specie presente dalle Alpi Graie alle Liguri; vedi *P. yvanii* al n° 56 (Fig. 58)
- 78. Pronoto a lati regolarmente arrotondati fino agli angoli posteriori, che sono però a vertice vivo (Fig. 35). Fossetta interna del pronoto poco distinta e circa della lunghezza dell'esterna79
- Pronoto a lati distintamente sinuati prima degli angoli posteriori, o per lo meno diritti. Fossetta interna del pronoto più lunga dell'esterna80

79. Paramero destro dell'edeago con bordo esterno soltanto sinuato (Fig. 18). Non distinguibile da *P. rhaeticus* (Fig. 75) sulla base dei caratteri esterni. 9-13 mm. N-S-Si-Sa

.....***Pterostichus (Pseudomaseus) nigrata***
(Paykull, 1790)

- Paramero destro dell'edeago con bordo esterno provvisto di una profonda intaccatura (Fig. 19). 9-13 mm (Habitus: Fig. 75). N-S

.....***Pterostichus (Pseudomaseus) rhaeticus***
Heer, 1837

80. Dimensioni maggiori (10,8-12,8 mm). Addome ai lati più o meno punteggiato. Nella femmina l'apice suturale delle elitre prolungato a forma di spina (Fig. 20) (Habitus: Fig. 76). N-S

.....***Pterostichus (Pseudomaseus) anthracinus***
(Illiger, 1798)

Italia settentrionale e centrale: ssp. ***hespericus***
(Bucciarelli & Sopracordevole, 1958)

Friuli (margine orientale), Puglia e Basilicata:
ssp. ***biimpressus*** (Küster, 1853)

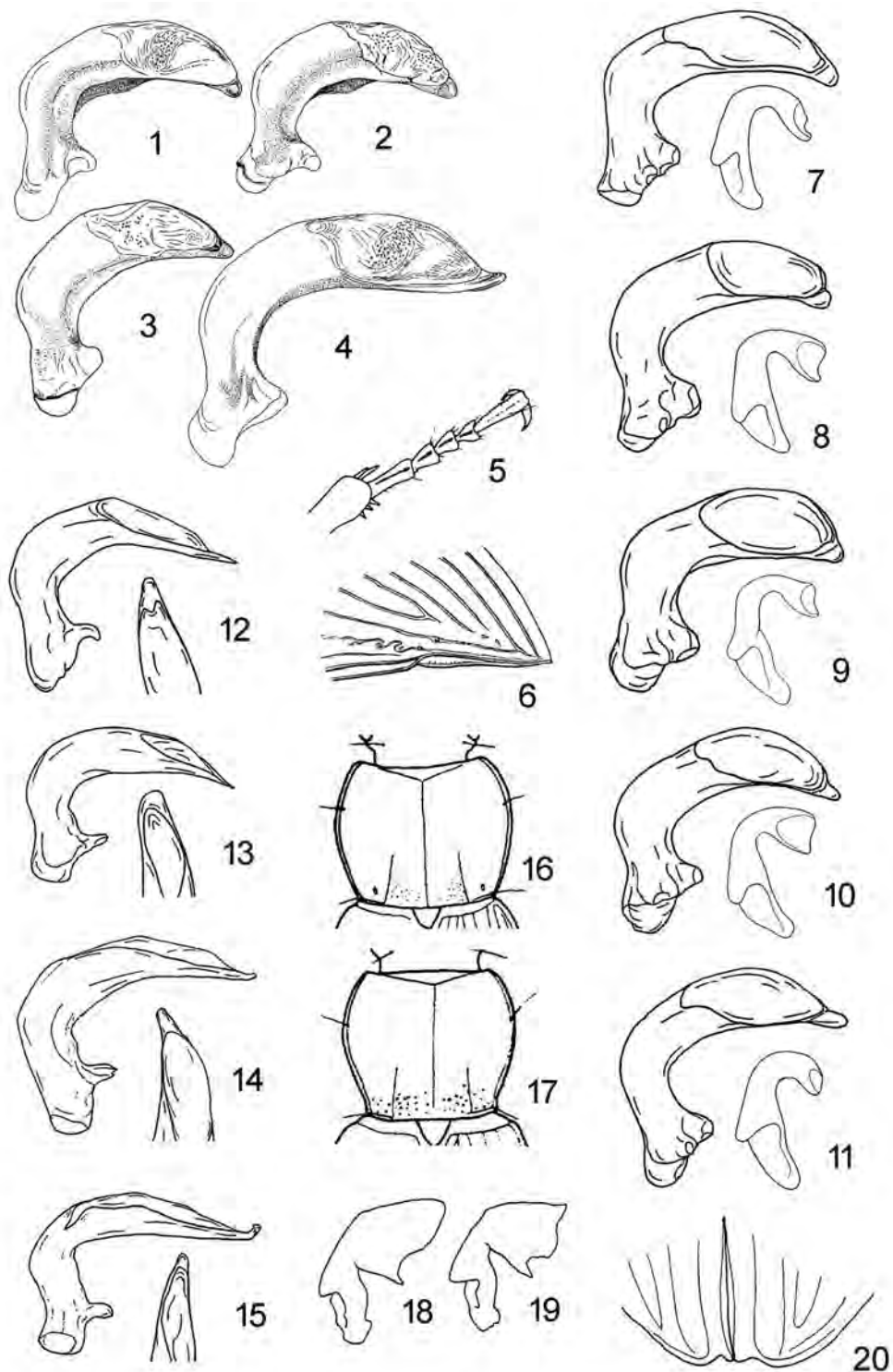
- Dimensioni minori (8,8-9,8 mm). Addome ai lati zigrinato. Nella femmina l'apice suturale delle elitre è semplice. Habitus simile a *P. anthracinus* (Fig. 76), ma più piccolo. N-S-Sa

.....***Pterostichus (Pseudomaseus) gracilis***
(Dejean, 1828)

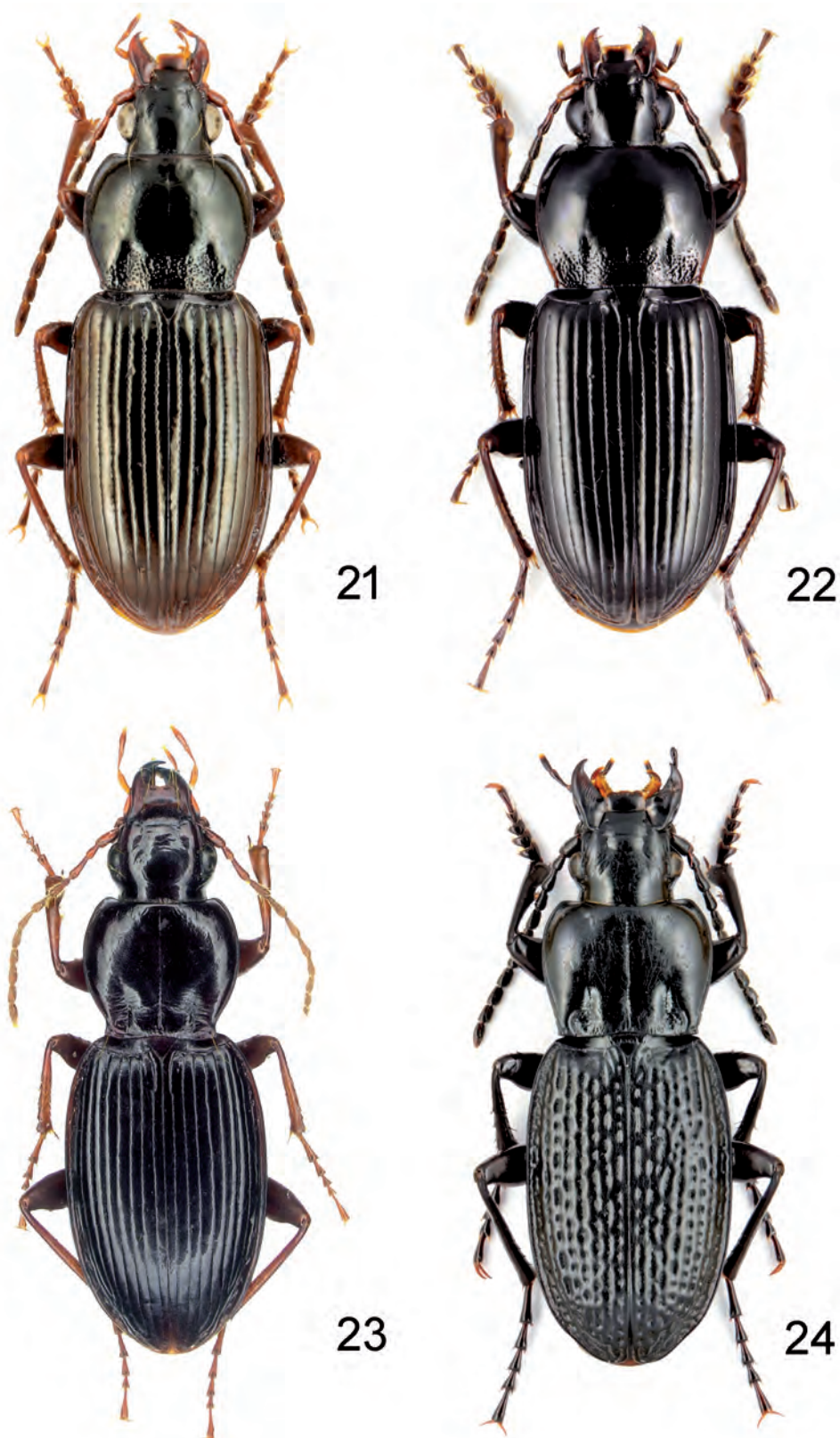
= *giordanii* (Bucciarelli & Sopracordevole, 1958)

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Un sentitissimo ringraziamento agli amici carabidologi Luigi Bisio, Achille Casale e Pier Mauro Giachino per i generosi consigli utili a migliorare la chiave di identificazione; un grazie particolare a Maurizio Pavesi, non soltanto per la minuziosa revisione della chiave ma anche per i numerosi dati corologici forniti, così come a Ortwin Bleich (www.eurocarabidae.de) per la concessione delle splendide immagini fotografiche degli habitus delle specie; si ringrazia inoltre il CREA-FL di Casale Monferrato per avere permesso l'utilizzo dell'attrezzatura fotografica.



Figg. 1-20. Lobo mediano dell'edeago in visione laterale di: 1 – *Pterostichus rutilans*; 2 – *P. vagepunctatus*; 3 – *P. impressicollis*; 4 – *P. auratus*; 5 – tarsi solcati nel sottogenere *Argutor*; 6 – epipleure “incrociate” posteriormente; lobo mediano dell'edeago in visione laterale e paramero destro di: 7 – *P. pedemontanus*; 8 – *P. micans*; 9 – *P. funestes*; 10 – *P. phaeopus*; 11 – *P. ruffoi*; lobo mediano dell'edeago in visione laterale e lamella apicale di: 12 – *P. unctulatus*; 13 – *P. apenninus*; 14 – *P. josephi*; 15 – *P. subsinuatus*; pronoto di: 16 – *P. diligens*; 17 – *P. strenuus*; paramero destro di: 18 – *P. nigrita*; 19 – *P. rhaeticus*; 20 – apice elitrale di femmina di *P. anthracinus*.



Figg. 21-24. Habitus di: 21 – *Pterostichus chameleon*; 22 – *P. vernalis*; 23 – *P. nicaeensis*; 24 – *P. cribratus*.



25



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Figg. 25-28. Habitus di: 25 – *Pterostichus ziegleri*; 26 – *P. fasciatopunctatus*; 27 – *P. vagepunctatus*; 28 – *P. schaschli*.



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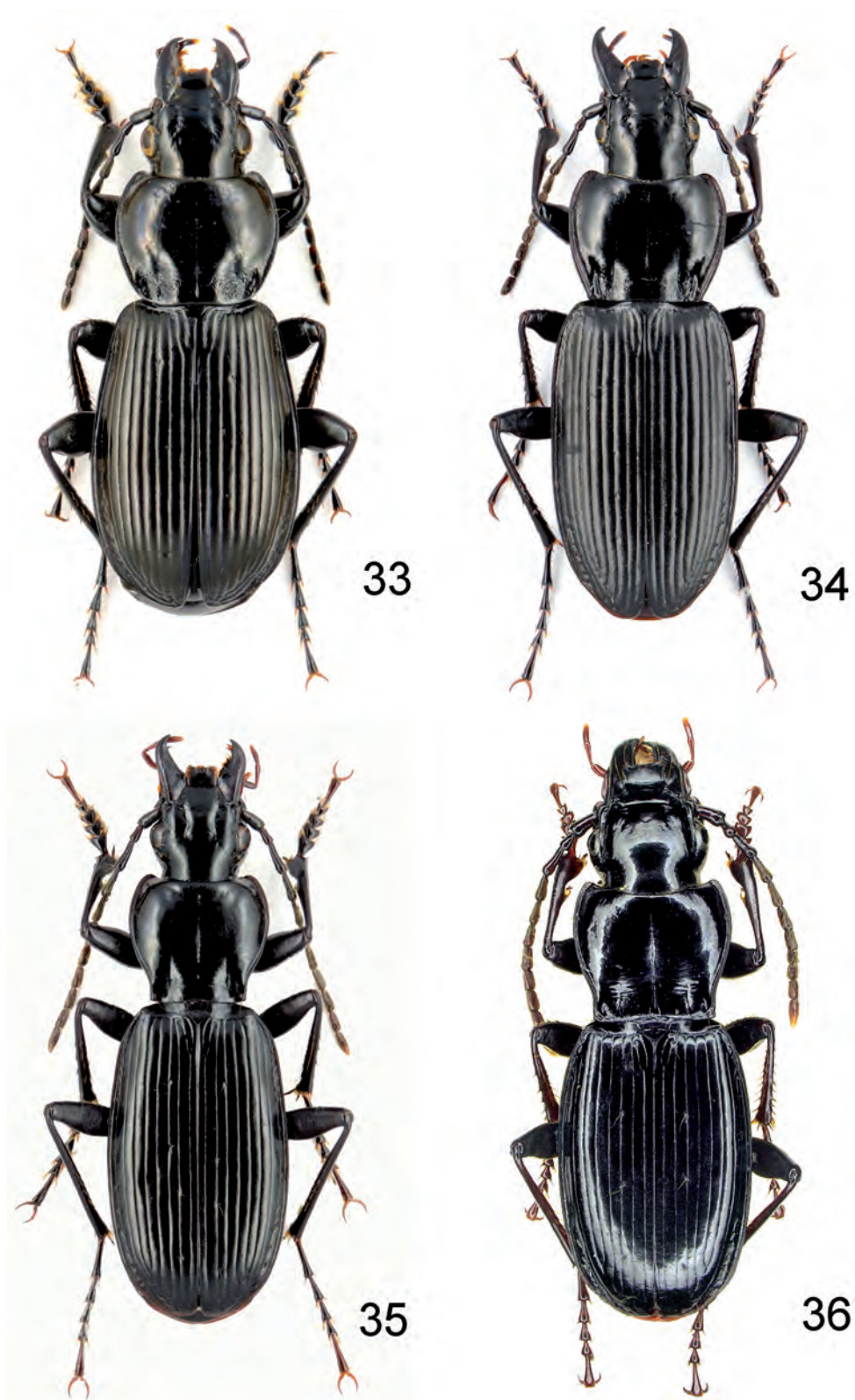


31



32

Figg. 29-32. Habitus di: 29 – *Pterostichus grajus*; 30 – *P. madidus*; 31 – *P. melas*; 32 – *P. melanarius*.



Figg. 33-36. Habitus di: 33 – *Pterostichus aethiops*; 34 – *P. lombardus*; 35 – *P. honnoratii*; 36 – *P. andreinii*.



37



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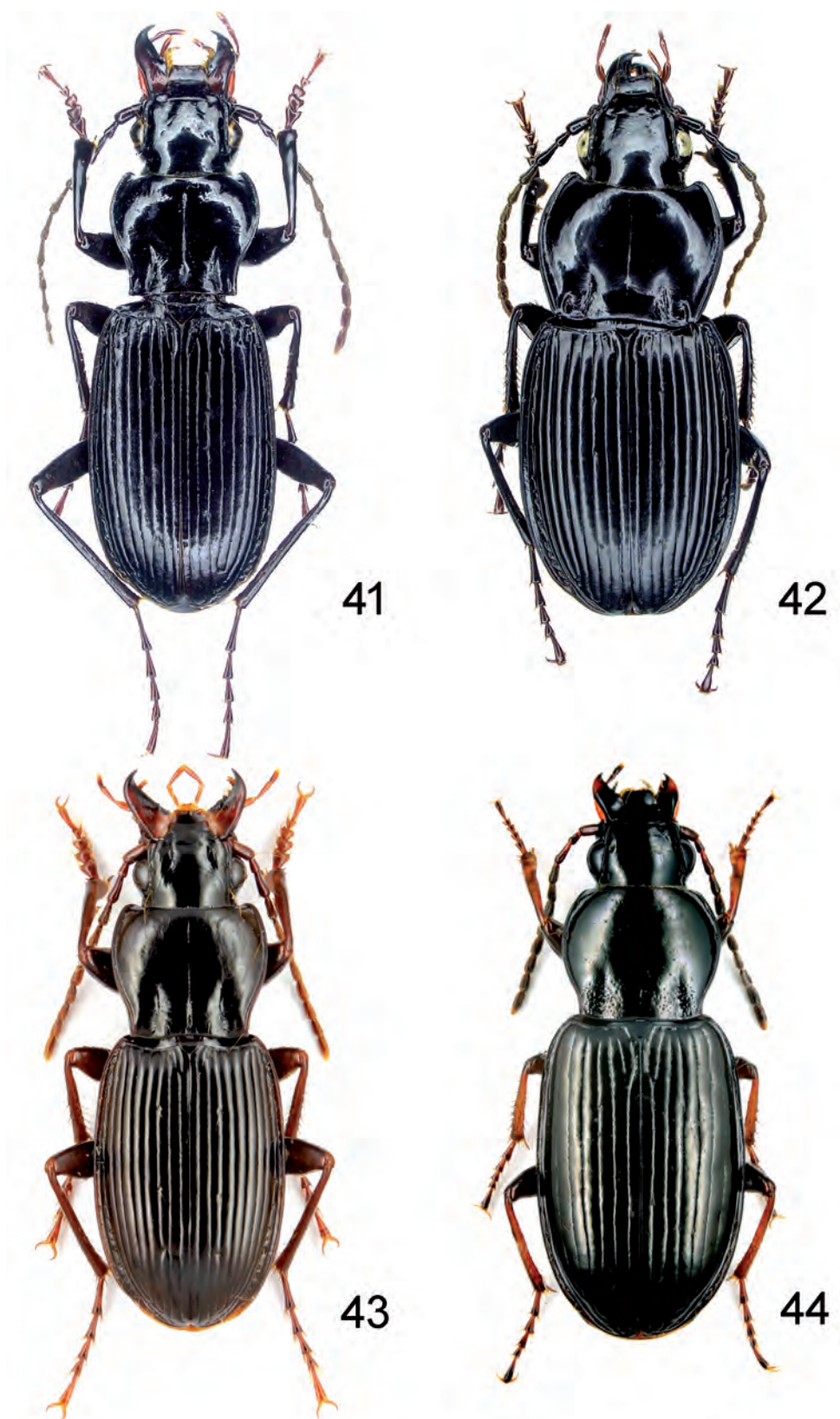


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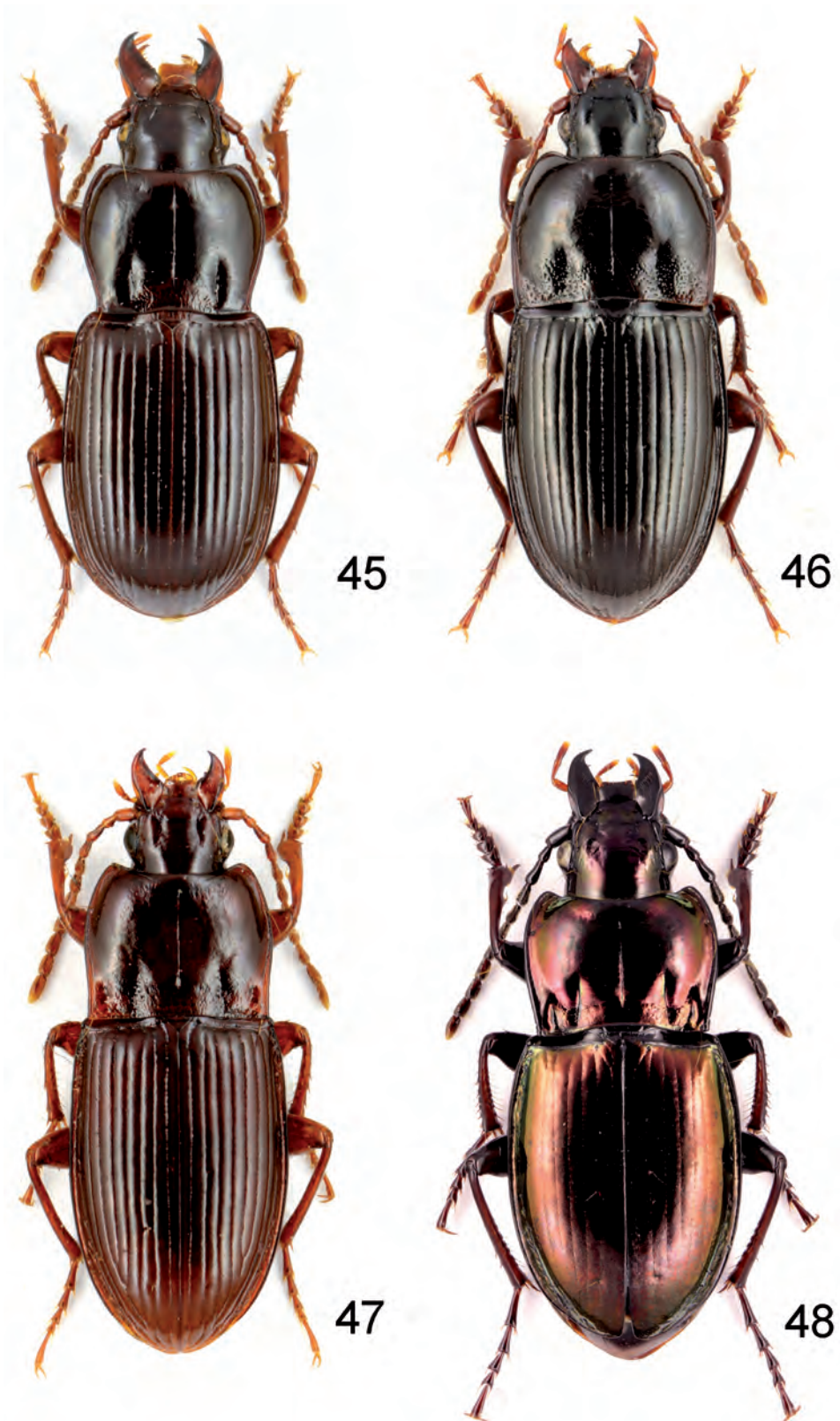


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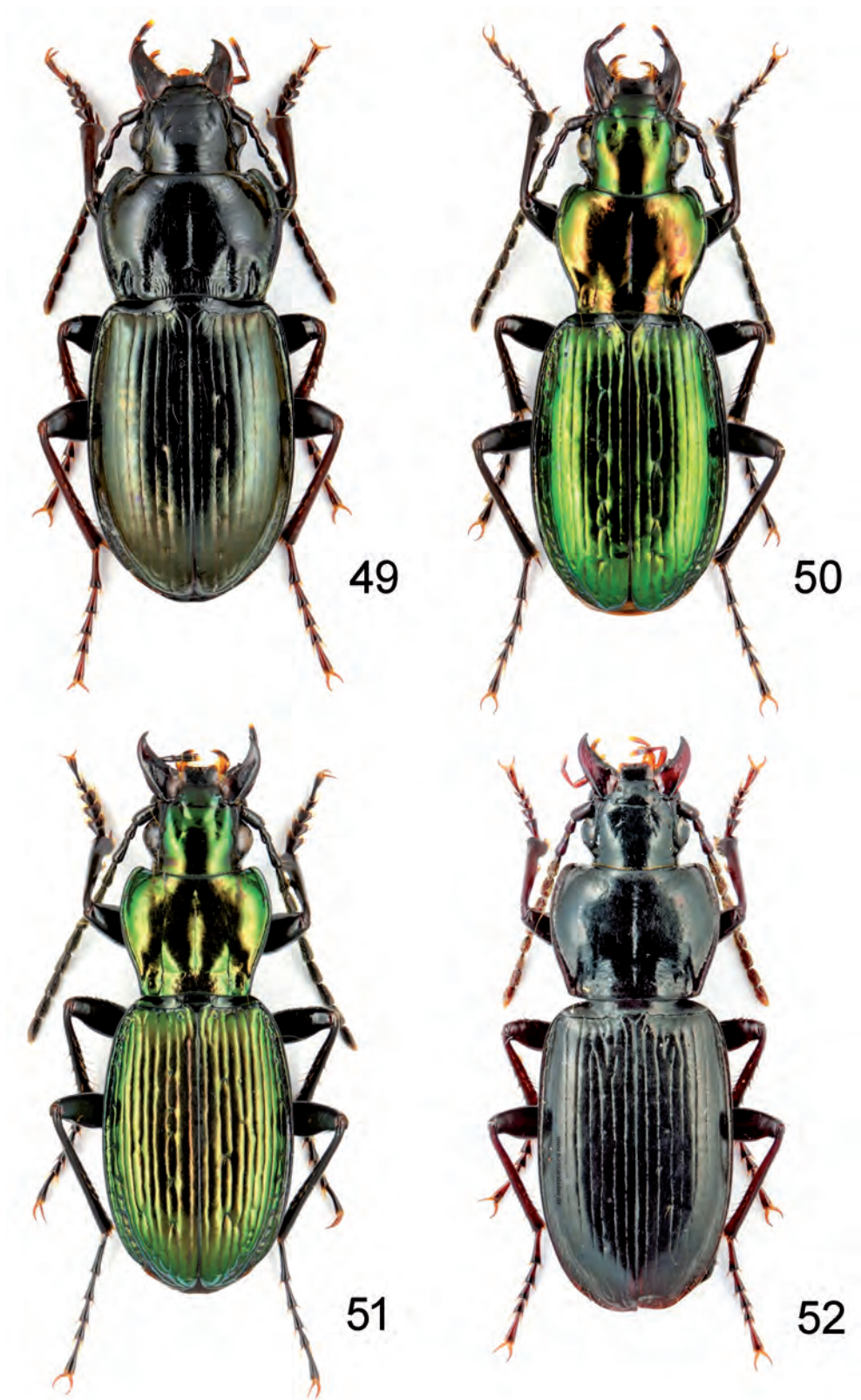
Figg. 37-40. Habitus di: 37 – *Pterostichus truncatus*; 38 – *P. transversalis*; 39 – *P. kokeilii*; 40 – *P. impressicollis*.



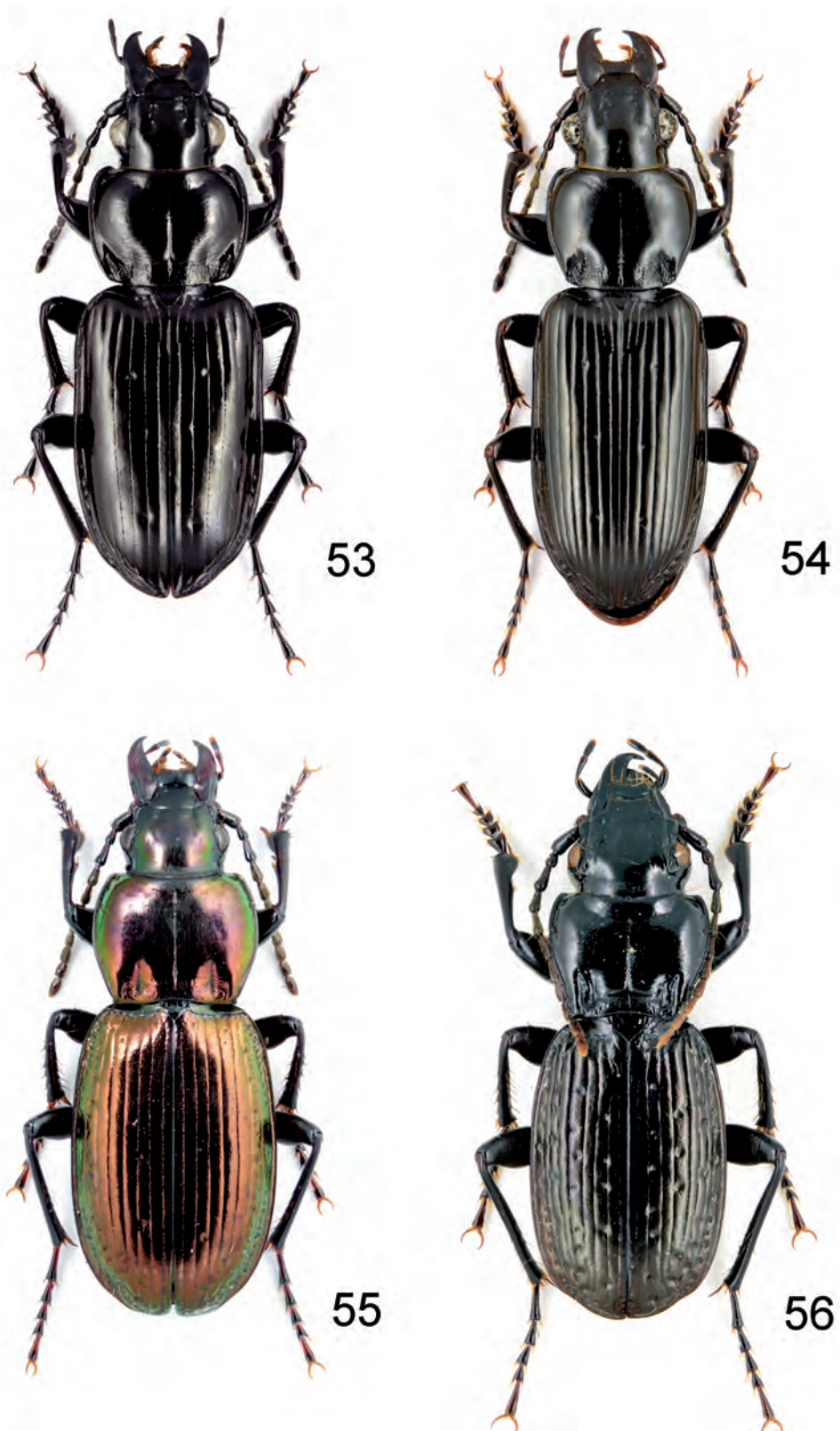
Figg. 41-44. Habitus di: 41 – *Pterostichus focarilei*; 42 – *P. pedemontanus*; 43 – *P. micans*; 44 – *P. strenuus*.



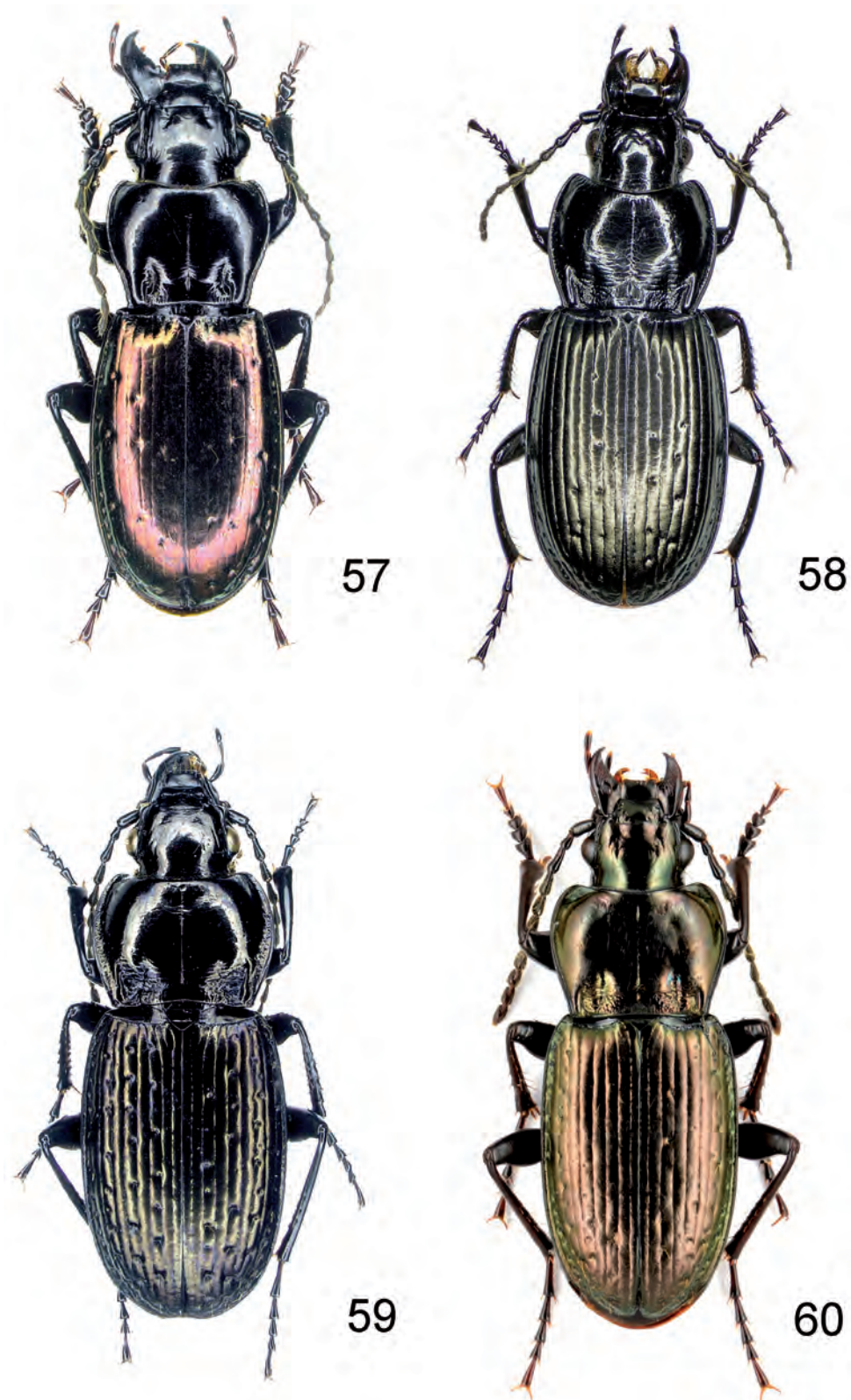
Figg. 45-48. Habitus di: 45 – *Pterostichus brevis*; 46 – *P. unctulatus*; 47 – *P. subsinuatus*; 48 – *P. burmeisteri*.



Figg. 49-52. Habitus di: 49 – *Pterostichus muehlfeldi*; 50 – *P. auratus*; 51 – *P. rutilans*; 52 – *P. planiusculus*.



Figg. 53-56. Habitus di: 53 – *Pterostichus aterrimus*; 54 – *P. elongatus*; 55 – *P. externepunctatus*; 56 – *P. impressus*.



Figg. 57-60. Habitus di: 57 – *Pterostichus duratii*; 58 – *P. yvanii*; 59 – *P. parnassius*; 60 – *P. multipunctatus*.



61



62



63



64

Figg. 61-64. Habitus di: 61 – *Pterostichus schmidtii*; 62 – *P. oblongopunctatus*; 63 – *P. quadrifoveolatus*; 64 – *P. bicolor*.



65



66

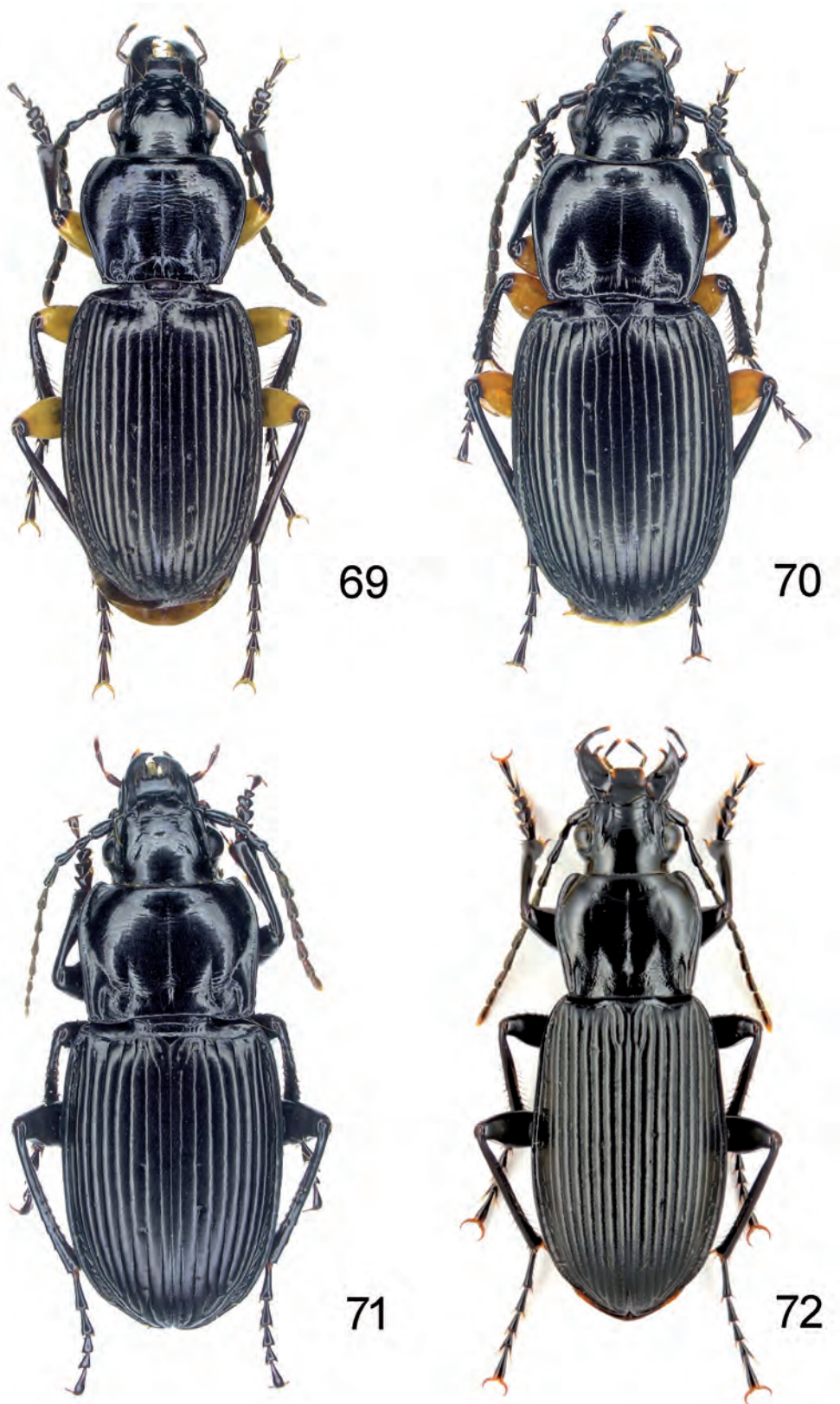


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Figg. 65-68. Habitus di: 65 – *Pterostichus jurinei*; 66 – *P. ovoideus*; 67 – *P. oenotrius*; 68 – *P. macer*.



Figg. 69-72. Habitus di: 69 – *Pterostichus flavofemoratus*; 70 – *P. pinguis*; 71 – *P. dissimilis*; 72 – *P. niger*.



73



74



75



76

Figg. 73-76. Habitus di: 73 – *Pterostichus morio*; 74 – *P. spinolae*; 75 – *P. rhaeticus*; 76 – *P. anthracinus*.

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IN MEMORIA DI PIERO ABBAZZI

(Firenze, 21 febbraio 1928 - 8 marzo 2020)

Piero Abbazzi nasce a Firenze il 21 febbraio 1928. Effettua studi classici presso l'Istituto degli Scolopi e si laurea in Farmacia presso l'Università degli Studi di Firenze il 21 novembre 1957. Trova presto impiego nella propaganda medica per l'industria farmaceutica Richter, impiego che manterrà fino al pensionamento. Il 2 agosto 1959 convola a nozze con Maria Scarselli e la coppia avrà tre figli: Alessandra, Giovanni e Laura. Piero Abbazzi si spegne a 92 anni l'8 marzo 2020 in ospedale a Firenze, dove era stato ricoverato per l'aggravarsi delle sue precarie condizioni di salute, circondato dall'affetto della sua famiglia.

Piero è stato per oltre trent'anni un prezioso collaboratore della Sezione di Zoologia "La Specola" del Museo di Storia Naturale dell'Università degli Studi di Firenze. Vi ha riordinato tutta la collezione dei Curculionidae italiani, oltre ad aver identificato un gran numero di esemplari indeterminati.

Piero era socio della Società Entomologica Italiana dal 1970 e Presidente Onorario del Gruppo Entomologico Toscano, di cui è stato membro fin dalla sua fondazione nel 1990 e di cui ha ricoperto la carica di Presidente dal 24 gennaio 2004 al 4 maggio 2009, per poi esserne nominato Presidente Onorario dal 2015 (www.gruppoentomologicoitaliano.it).

La collezione di Curculionidea di Piero Abbazzi consta di 69 cassette entomologiche, di cui 68 di formato 39 x 26 cm e una 26 x 19,5 cm. Nel corso della sua vita Piero è riuscito a radunare esemplari (compresi 75 paratipi) appartenenti alla gran parte delle oltre 2000 specie italiane (escludendo Platypodinae e Scolytinae). Piero era un preparatore eccezionale, paziente e meticoloso: la sua collezione è meravigliosa anche da un punto di vista puramente estetico, oltre ad avere un grande ed evidente valore scientifico. La famiglia, venendo incontro al desiderio sempre manifestato da Piero, ha deciso di donare la collezione al Museo "La Specola", dove verrà conservata in un apposito armadio entomologico.

Il primo autore (LB) conobbe Piero all'inizio degli anni '80. Essendo da poco laureato, LB cercava qualcuno che potesse aiutarlo a determinare una piccola raccolta di Curculionidae toscani; scrisse pertanto una lettera (le email ancora non usavano!) a quello che



Dr. Piero Abbazzi, Maggio 2005 (foto di Saulo Bambi).

allora era in Italia il maggiore specialista del gruppo, ovvero il prof. Giuseppe Osella di Verona. Gentilmente il prof. Osella rispose consigliando di contattare un eccellente specialista che viveva proprio a Firenze, ovvero il dr. Piero Abbazzi; ancora uno scambio epistolare con quest'ultimo, fino al primo incontro di persona alla Specola. Sulle prime Piero poteva apparire un po' formale (probabilmente anche in conseguenza del lavoro di informatore farmaceutico che svolgeva, sempre a contatto con i medici), ma dopo quel primo incontro nacque una profonda, sincera e duratura amicizia e Piero si rivelò per quello che era: una persona gentile e generosa, simpaticissima, spiritosa, sempre piena di aneddoti sulle raccolte più interessanti e sulle piccole o grandi manie degli entomologi che aveva conosciuto. Dopo pochi anni dal primo incontro, fra LB e Piero nasceva un primo progetto comune di ricerca sulla curculionidofauna nel Parco Naturale della Maremma. Furono così effettuate tante missioni in quel bellissimo territorio, che poi portarono alla realizzazione della Tesi di Laurea della dr.ssa Luciana Billi Biozzi e alla pubblicazione (Abbazzi *et al.*, 1998) di una checklist di ben 319 specie per il Parco. Seguirono poi numerose spedizioni entomologiche nel Parco Na-

zionale dell'Arcipelago Toscano, in particolare all'Isola d'Elba e all'Isola di Pianosa, quando era ancora carcere (Abbazzi *et al.*, 2004a), nel Parco Nazionale delle Foreste Casentinesi (Abbazzi *et al.*, 2004b) e in tante altre aree protette della Toscana.

Anche il secondo autore (SR) conobbe Piero agli inizi degli anni '80 ma, considerate le differenti specializzazioni coleotterologiche, non vi furono in seguito particolari rapporti di comuni collaborazioni entomologiche, a parte la necessità di ricorrere a lui per ottenere la determinazione dei curculionidi provenienti dalle raccolte effettuate da SR nelle zone umide. Non mancava però l'amicizia e l'occasione di incontri piacevolissimi per parlare di entomologia, di escursioni, di amici comuni e di tanti altri argomenti.

Piero, persona molto disponibile e altruista, non si negò mai a tutti coloro che per varie necessità

si rivolgevano a lui; da ricordare il tempo che volle dedicare all'amico entomologo Silvio Failla (Livorno, 1905 - Firenze, 1988) per assisterlo nella sua attività entomologica anche negli anni della vecchiaia. E come non ricordare anche l'amicizia che lo legava a tutti i membri del Gruppo Entomologico Toscano e in particolare ad Aligi Bandinelli che, con Piero già malfermo nei movimenti, si adoperava per portarlo in auto al Museo e a Paolo Magrini, coautore con Piero di una serie di lavori sui Curculionidi, soprattutto endogei.

Piero lascia un ricordo indelebile in tutti coloro che hanno avuto la fortuna di conoscerlo, frequentarlo e apprezzarlo.

Luca Bartolozzi & Saverio Rocchi
*Museo di Storia Naturale
Università degli Studi di Firenze*

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Taxa descritti da Piero Abbazzi (Curculionidae)

Nuovo genere

Ioniorhynchus Magrini, Meoli & Abbazzi, 2005

Nuove specie (in ordine alfabetico)

Amaurorhinus (Amaurorhinus) rossellae Abbazzi & Forbicioni, 2019

Cyrrorhynchus sclanoi Abbazzi & Magnano, 2003

Mesagroicus amicalis Magnano, Osella & Abbazzi, 2008

Neumatora annamariae Magrini, Abbazzi & Petrioli, 2013

Otiorhynchus (Lixorrhynchus) avoni Magrini, Bastianini & Abbazzi, 2008

Otiorhynchus (Lixorrhynchus) bartolozzii Magrini, Meoli, Cirocchi & Abbazzi, 2004

Otiorhynchus (Lixorrhynchus) bastianinii Magrini, Meoli & Abbazzi, 2004

Otiorhynchus (Lixorrhynchus) consortii Magrini, Abbazzi & Cirocchi, 2001

Otiorhynchus (Lixorrhynchus) daunia Magrini & Abbazzi, 2011

Otiorhynchus (Lixorrhynchus) emanuelae Magrini, Meoli & Abbazzi, 2004

Otiorhynchus (Lixorrhynchus) fioronii Magrini, Meoli, Cirocchi & Abbazzi, 2004

Otiorhynchus (Lixorrhynchus) melonii Magrini, Abbazzi, Leo & Fancello, 2002

Otiorhynchus (Lixorrhynchus) paulae Magrini, Bastianini & Abbazzi, 2008

Otiorhynchus (Lixorrhynchus) pavesii Magrini, Magnano & Abbazzi, 2007

Otiorhynchus (Lixorrhynchus) sabinus Magrini, Meoli & Abbazzi, 2004

Otiorhynchus (Lixorrhynchus) virginiae Magrini, Abbazzi & Cirocchi, 2001

Otiorhynchus (Otiiorhynchus) angelae Magrini, Abbazzi, Magnano & Baviera, 2007

Pararaymondionymus mingazzinii Osella & Abbazzi, 1985

Raymondionymus antoninii Magrini & Abbazzi, 2011

Raymondionymus degiovannii Magrini & Abbazzi, 2011

Raymondionymus pulcherrimus Magrini, Bastianini & Abbazzi, 2008

Troglorhynchus cirocchii Osella & Abbazzi, 1985

Troglorhynchus monteleonii Osella & Abbazzi, 1985

Troglorhynchus pennisii Osella & Abbazzi, 1985

Troglorhynchus taitii Abbazzi, Bartolozzi & Osella, 1992

Taxa dedicati a Piero Abbazzi

Acallorneuma abbazzii Magrini & Paladini, 2017 (Curculionidae)

Otyorhynchus (Acunotus) abbazzii Magnano, 1996 (Curculionidae)

Pseudomeira abbazzii Pierotti & Forbicioni, 2015 (Curculionidae)

Torneuma (Torneuma) deplanatum abbazzii Stüben, 2007 (Curculionidae)

Typhloreicheia abbazzii Magrini & Fancello, 2007 (Carabidae)

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