

Short notes

In this section 218 species of arthropods are recorded, collected in Sardinia mainly during the researches carried out by CNBFVR (cf. Bardiani 2011). All or part of the records of most species (207) come from the Marganai and/or Montimannu wilderness areas. They belong to taxa not treated in the previous pages nor by Cerretti et al. (2009). All taxa are listed in alphabetical order according to the nomenclature and systematics of the Fauna Europaea Web Service (de Jong 2011) unless otherwise stated. Collecting sites from the region-owned forests of Marganai and Montimannu and neighbouring areas are listed under "Records", while those from other Sardinian sites are listed under "Other records". Almost all the sites investigated during the faunistic survey carried out by CNBFVR on the island are indicated with abbreviations (see further on), while all the other sites are listed in full. All sites and/or their abbreviations are listed in alphabetical order. Sites listed in full are listed after those abbreviated, alphabetically according to province. Further details on most of the sampling sites are provided by Bardiani (2011). The material, unless otherwise stated, is stored in the CNBFVR collection.

ABBREVIATIONS

CNBFVR SAMPLING SITES. **A01** = Medio Campidano prov., Arbus, Piscinas, dune, 0 m, 32S 452927 4376897; **A02** = Medio Campidano prov., Arbus, Marina di Arbus, 10 m, 32S 454504 4383252; **A04** = Oristano prov., Arborea, Stagno di s'Ena Arrubia, 0 m, 32S 462842 4408878; **A05** = Carbonia-Iglesias prov., Buggerru, R. Mannu, foce, dune, 3 m, 32S 449437 4365545; **A06** = Carbonia-Iglesias prov., Buggerru, Cala Domestica, 10 m, 32S 446540 4358436; **A08** = Medio Campidano prov., Arbus, Capo Pecora, 15 m, 32S 446760 4367599; **A09** = Medio Campidano prov., Arbus, Piscinas, guado del R. Piscinas, 18 m, 32S 454087 4376193; **A10** = Oristano prov., San Vero Milis, sa Marigosa, spiaggia, 5 m, 32T 448490 4432720; **A11** = Oristano prov., San Vero Milis, sa Marigosa, stagno, 5 m, 32T 449217 4432397; **A12** = Cagliari prov., Domus de Maria, Torre di Chia, spiaggia di Su Portu, 1 m, 32S 490072 4305296; **A13** = Carbonia-Iglesias prov., Sant'Anna Arresi, Porto Pino, dune, 5 m, 32S 467025 4311362; **A15** = Carbonia-Iglesias prov., Gonnese, Plage Mesu, Sa Punta e s'Arena, 5 m, 32S 450884 4347330; **A16** = Carbonia-Iglesias prov., Gonnese, Fontanamare, 3 m, 32S 451423 4348717; **A17** = Carbonia-Iglesias prov., Fluminimaggiore, Portixeddu, 6 m, 32S 449437 4365741; **A18** = Carbonia-Iglesias prov., Sant'Antioco, Stagno di S. Caterina, 0 m, 32S 455569 4326716; **A19** = Carbonia-Iglesias prov., Sant'Antioco, Capo Sperone, spiaggia, 0 m, 32S 451831 4314957; **A21** = Oristano prov., Terralba, Stagno di Marceddi, 0 m, 32S 457917 4397594; **C01** = Carbonia-Iglesias prov., Iglesias, Case Marganai, 725 m, 32S 463890 4355925; **C02** = Carbonia-Iglesias prov., Iglesias, Pta Serra Pirastu, 656 m, 32S 463237 4355678; **C03** = Carbonia-Iglesias prov., Iglesias, Vecchia Cantoniera Marganai, 491 m, 32S 462272 4354677; **C05** = Carbonia-Iglesias prov., Iglesias, Pta Cungiaus, 636 m, 32S 462440 4355161; **C06** = Carbonia-Iglesias prov., Domusnovas, Grotta di S. Giovanni, 325 m, 32S 467900 4354891; **C07** = Carbonia-Iglesias prov., Domusnovas, dint. Planargia - Scoveri, 625 m, 32S 465523 4362921; **C08** = Carbonia-Iglesias prov., Domusnovas, Valle Oridda, pineta, 595 m, 32S 466970 4362400; **C10** = Medio Campidano prov., Villacidro, dint. Pta piscina Argiolas, Serbatoio, 282 m, 32S 472049 4360081; **C11** = Medio Campidano prov., Villacidro, Can.li Serci, 381 m, 32S 472208 4359497; **C12** = Medio Campidano prov., Villacidro, Can.li s'Otti, versante destro, 520 m, 32S 471690 4359611; **C13** = Medio Campidano prov., Villacidro, dint. Pta Pranu Ilixis, 563 m, 32S 471221 4359310; **C14** = Carbonia-Iglesias prov., Domusnovas, Sedda Pranu Cardu, 549 m, 32S 470926 4358924; **C15** = Carbonia-Iglesias prov., Domusnovas, Gutturu Seu, 140 m, 32S 471646 4355238; **C16** = Carbonia-Iglesias prov., Domusnovas, Gutturu Seu, 174 m, 32S 471577 4355716; **C19** = Medio Campidano prov., Villacidro, R. Cannisoni, 375 m, 32S 468713 4362692; **C20** = Medio Campidano prov., Villacidro, R. Cannisoni, 382 m, 32S 468980 4362541; **C22** = Medio Campidano prov., Villacidro, R. Cannisoni, sorg. s'acqua Frischedda, 372 m, 32S 468391 4362826; **C23** = Medio Campidano prov., Villacidro, R. Cannisoni, radura sponda sinistra, 401 m, 32S 468459 4362806; **C25** = Medio Campidano prov., Villacidro, Can.le Monincu, 450 m, 32S 468040 4363436; **C26** = Carbonia-Iglesias prov., Domusnovas, Bega d'Aleni, 621 m, 32S 467855 4361336; **C27** = Medio Campidano prov., Gonnosfanàdiga, M. Idda, strada per M. Linas, 474 m, 32S 466946 4368997; **C28** = Medio Campidano prov., Gonnosfanàdiga, sa Pta de s'Erbaceu, strada per M. Linas, 744 m, 32S 465989 4368410; **C29** = Medio Campidano prov., Gonnosfanàdiga, Genna Mirratta, 794 m, 32S 465363 4366138; **C30** = Medio Campidano prov., Gonnosfanàdiga, dint. Ovile Linas, 710 m, 32S 466346 4365201; **C31** = Carbonia-Iglesias prov., Domusnovas, L. Siuru, 322 m, 32S 467069 4357916; **C32** = Medio Campidano prov., Villacidro, L. di Montimannu, diga, 255 m, 32S 475380 4363486; **C33** =

Carbonia-Iglesias prov., Domusnovas, dint. P.ta Planotzara, 360 m, 32S 465515 4356209; **C34** = Carbonia-Iglesias prov., Domusnovas, R. sa Duchessa, greto del R., 270 m, 32S 466700 4356979; **C35** = Carbonia-Iglesias prov., Iglesias, Mamenga, 610 m, 32S 462170 4356618; **C36** = Medio Campidano prov., Villacidro, dint. L. di Montimannu, lungo T. Leni, 256 m, 32S 474156 4363150; **C39** = Carbonia-Iglesias prov., Iglesias, Cuccuruneddu, hill top, 708 m, 32S 472379 4357784; **C41** = Carbonia-Iglesias prov., Domusnovas, su Pranu Pirastu, 147 m, 32S 471365 4353536; **C42** = Carbonia-Iglesias prov., Iglesias, Conca Margiani, 750 m, 32S 462440 4356936; **C43** = Carbonia-Iglesias prov., Iglesias, Conca Margiani, radura, 725 m, 32S 462470 4357011; **C44** = Carbonia-Iglesias prov., Iglesias, Conca Margiani, radura lungo strada, 700 m, 32S 462635 4356866; **C45** = Carbonia-Iglesias prov., Iglesias, dint. P.ta Genna Ollioni, 750 m, 32S 462840 4356811; **C46** = Medio Campidano prov., Villacidro, R. Cannisoni, 400 m, 32S 468858 4362543; **C47** = Carbonia-Iglesias prov., Domusnovas, Valle Oridda, sorg., 590 m, 32S 466681 4362696; **C48** = Carbonia-Iglesias prov., Domusnovas, P.ta Piloni de sa Figù, 750 m, 32S 465958 4360742; **C49** = Medio Campidano prov., Villacidro, T. Leni, 300 m, 32S 471317 4360510; **C50** = Medio Campidano prov., Villacidro, C. Sarais, 251 m, 32S 474215 4361145; **C51** = Carbonia-Iglesias prov., Iglesias, dint. P.ta Campu Spina, 760 m, 32S 462466 4358236; **C52** = Carbonia-Iglesias prov., Iglesias, dint. S. Benedetto, 550 m, 32S 459499 4358405; **C53** = Medio Campidano prov., Gonnosfanàdiga, M. Linas, P.ta su Filixi, 780 m, 32S 465819 4368289; **C54** = Medio Campidano prov., Gonnosfanàdiga, M. Linas, Genna su Padenti, 853 m, 32S 465485 4367656; **C55** = Medio Campidano prov., Gonnosfanàdiga, M. Linas, Genna Mirratta, sorgente, 793 m, 32S 465136 4366226; **C56** = Medio Campidano prov., Gonnosfanàdiga, M. Linas, Genna sa Xirra, 847 m, 32S 464114 4366023; **C58** = Medio Campidano prov., Villacidro, dint. P.ta piscina Argiolas, rigagnolo, 282 m, 32S 472049 4360081; **C59** = Medio Campidano prov., Villacidro, dint. M. Anzeddu, 500 m, 32S 469031 4361072; **C60** = Carbonia-Iglesias prov., Domusnovas, dint. Gutturu Abis, 580 m, 32S 468140 4360761; **C61** = Carbonia-Iglesias prov., Domusnovas, dint. P.ta su Fenu, 250 m, 32S 467159 4356713; **C63** = Carbonia-Iglesias prov., Iglesias, dint. P.ta Fenu, 300 m, 32S 472097 4357122; **C64** = Carbonia-Iglesias prov., Iglesias, dint. P.ta Fenu, 225 m, 32S 471850 4356980; **C66** = Carbonia-Iglesias prov., Buggerru, dint. Grugua, 530 m, 32S 454376 4359900; **C67** = Carbonia-Iglesias prov., Buggerru, dint. Miniera S. Luigi, 347 m, 32S 452771 4358704; **C68** = Carbonia-Iglesias prov., Domusnovas, dint. sa Duchessa, 320 m, 32S 466164 4358209; **C69** = Carbonia-Iglesias prov., Domusnovas, dint. sa Duchessa, strada per Perda Niedda, 350 m, 32S 466233 4359025; **C70** = Carbonia-Iglesias prov., Iglesias, dint. Case Marganai, 660 m, 32S 463341 4356196; **C71** = Carbonia-Iglesias prov., Domusnovas, dint. P.ta Genna Ollioni, 650 m, 32S 463293 4356570; **C72** = Carbonia-Iglesias prov., Domusnovas, dint. P.ta Planotzara, 309 m, 32S 465718 4356515; **C74** = Medio Campidano prov., Villacidro, dint. T. Leni, eucalipteto, 300 m, 32S 469793 4361088; **C77** = Carbonia-Iglesias prov., Iglesias, dint. Case Marganai, car net from C85 to C01, 650 m; **C80** = Carbonia-Iglesias prov., Domusnovas, M.ti Marganai, Miniera Reigraxius, 465 m, 32S 464160 4357039; **C81** = Carbonia-Iglesias prov., Domusnovas, Valle Oridda, 643 m, 32S 465399 4362770; **C82** = Carbonia-Iglesias prov., Iglesias, M.ti Marganai, Tintillonis, 480 m, 32S 462590 4355061; **C84** = Carbonia-Iglesias prov., Iglesias, S. Benedetto, 500 m, 32S 459882 4357019; **C85** = Carbonia-Iglesias prov., Iglesias, M.ti Marganai, 540 m, 32S 463010 4355249; **G01** = Nuoro prov., Oliena, M. Maggione, 624 m, 32T 535451 4456520; **G02** = Nuoro prov., Oliena, P.ta sos Nidos, 986 m, 32T 536075 4456422; **G03** = Nuoro prov., Oliena, Oliena, 424 m, 32T 534746 4457479; **G04** = Nuoro prov., Orgosolo, Oristillai, 947 m, 32T 529688 4446725; **G05** = Ogliastra prov., Seui, dint. M. Tonneri, 876 m, 3 S 530745 4410020; **G06** = Ogliastra prov., Seui, dint. M. Tonneri, sorg. Nuletta, 892 m, 32S 531716 4412341; **G07** = Ogliastra prov., Seui, dint. M. Tonneri, Sa ucca 'e su Oe, 912 m, 32S 531228 4413496; **G08** = Ogliastra prov., Seui, dint. M. Tonneri, 919 m, 32S 530651 4412895; **G09** = Cagliari prov., Villanovatulo, dint. Nuraghe is Cangialis, 373 m, 32S 517956 4400645; **G11** = Cagliari prov., Sinnai, dint. M. Castangia, 584 m, 32S 532700 4351568; **G12** = Cagliari prov., Burcei, dint. Burcei, 631 m, 32S 528639 4356088; **G13** = Cagliari prov., Burcei, dint. Burcei, 725 m, 32S 528219 4356591; **G14** = Cagliari prov., Burcei, dint. P.ta Serpeddì, 785 m, 32S 526996 4356738; **G15** = Cagliari prov., Burcei, dint. P.ta Serpeddì, 954 m, 32S 525266 4356808; **G31** = Medio Campidano prov., Gesturi, Giara di Gesturi, 568 m, 32S 495926 4401318; **G35** = Nuoro prov., Lodé, S. Anna, strada per Siniscola, 490 m, 32T 554459 4491980; **G36** = Nuoro prov., Lula, dint. Lula, 530 m, 32T 542525 4480254; **G39** = Ogliastra prov., Talana, dint. Talana, 478 m, 32T 542523 4433941; **G41** = Ogliastra prov., Gairo, M. Perda Liana, 1219 m, 32S 535096 4417848; **G44** = Nuoro prov., Desulo, R. Aratu, 958 m, 32T 521882 4431913; **G46** = Nuoro prov., Gadoni, F. Flumendosa, riva, 402 m, 32S 516364 4416019; **G49** = Cagliari prov., Nurri, dint. Nuraghe Tacquara, fontana, 533 m, 32S 515371 4395479; **G50** = Oristano prov., Cabras, Tharros, 9 m, 32S 452048 4414023; **G51** = Cagliari prov., Vallermosa, dint. Cant. de s'Acquacotta, 83 m, 32S 483910 4361992; **G52** = Ogliastra prov., Seui, dint. M. Tonneri, 825 m, 32S 533277 4411585; **G54** = Ogliastra prov., Gairo, M. Tonneri, lecceta, 1020 m, 32S 530263 4415529; **G55** = Ogliastra prov., Gairo, M. Tonneri, dint. nuraghe Ardassai, lecceta, 1020 m, 32S 529111 4415819; **G56** = Ogliastra prov., Seui, Seui, 800 m, 32S 527585 4409970; **S1** = Carbonia-Iglesias prov., Iglesias, dint. colonia Beneck, 636 m, 32S 462391 4355441; **S2** = Carbonia-Iglesias prov., Domusnovas, sa Duchessa, 371 m, 32S 464990 4358384; **S3** = Carbonia-Iglesias prov., Domusnovas, Valle Oridda, 592 m, 32S 466973 4362228; **SAR1** = Carbonia-Iglesias prov., Iglesias, Marganai, plot CONECOFOR SAR1, 700 m, 32S 462853 4355582.

COLLECTORS. AB = A. Briganti; AD = A. Dodero; AK = A.H. Krausse; AM = A. Campanaro; AMo = A. Molinu; AT = A. Tenga; BM = B. Merz; CG = C. Giusto; CM = C. Meloni; CT = C. Torti; DA = D. Avesani; DB = D. Birtele; DD = D. Deidda; DW = D. Whitmore; EB

= E. Braga; EG = E. Gatti; EM = E. Minari; FC = F. Chessa; FM = F. Mason; FMa = F. Mazzocchi; GC = G. Chessa; GGa = G. Gardini; GGr = G. Grafitti; GN = G. Nardi; GS = G. Scaglioni; GZ = G. Zandi; IMA = I. Marcellino; JW = J. De Waele; LB = L. Briganti; L? = no collector mentioned; LF = L. Fancello; LS = L. Spada; MA = M. Armeni; MB = M. Bardiani; ME = M. Eggenberger; MM = M. Mei; MMu = M. Mucedda; MR = M. Rampini; MT = M. Tisato; MTr = M. Trizzino; MZ = M. Zapparoli; NS = N. Sanfilippo; PA = P. Audisio; PCe = P. Cerretti; PCo = P. Cornacchia; PL = P. Leo; RA = R. Argano; RM = R. Manconi; RRz = R. Rizzerio; SRi = S. Riese; SZ = S. Zoia; VC = V. Cottarelli; VV = V. Vomero.

SAMPLING METHODS. al = collecting at light; ba = bait (small pieces of meat mixed with hay placed in an open plastic tube); bz = glass trunk trap (beer and sugar); cn = car net; dc = direct collecting; lt = light trap; mt = Malaise trap; nt = hand net; oe = entomological umbrella; pt = pitfall trap (vinegar and salt); sn = sweep net; vg = sieve; wn = water net; wt = window flight trap.

OTHER ABBREVIATIONS AND RECURRENT TERMS USED IN FAUNISTIC LIST. C. = Casa = House; Can.le = Canale = Canal; Can.li = Canali = Canals; Cant. = Cantoniera = Roadman's house; coll. = collection; D = deutonymph/s; dint. = surroundings of; ex = specimen/s; dune = dunes; eucalipreto = eucalyptus plantation; foce = river mouth; F. = Fiume = River; Foresta = Forest; fontana = fountain; greto del = bed of [river]; Grotta = Cave; ingresso = entrance of; Isola = Island; L. = Lago = Lake; lecceta = holm-oak forest; leg. = collector/s; litoranea = coastal road; loc. = locality; Miniera = Mine; M. = Monte = Mount; M.ti = Monti = Mounts; P = protonymph/s; pineta = pinewood; prov. = province; P.ta = Punta = Peak; R. = Rio = stream; radura = clearing; radura con = clearing with; radura lungo strada = clearing alongside road; reg. = region; rigagnolo = rivulet; riva = bank; S. = San/Santa/Santo = Saint; sdb = same data but; Serbatoio = Reservoir; sorg. = sorgente = spring; sotto corteccia = under bark; spiaggia = beach; sponda sinistra = left bank; Stagno = Pond; strada = road; strada per = road to; su cadavere di = on carcass of; T. = Torrente = Torrent; tfi = translation from Italian; Tr = tritonymph/s; versante = slope; Valle = Valley; verso = in direction of; wdc = without date of collection.

DEPOSITORIES. CGG = G. Gardini collection (Genoa, Italy); CGN = G. Nardi collection (Cisterna di Latina, Latina, Italy); CGP = G. Platia collection (Gatteo, Forlì-Cesena, Italy); CKR = K. Rognes collection (Stavanger, Norway); CMM = M. Mei collection (Rome, Italy); CNBFVR = Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale "Bosco Fontana" di Verona (Marmirolo, Mantua, Italy); CPC = P. Cornacchia collection (Porto Mantovano, Mantua, Italy); MHNG = Muséum d'histoire naturelle (Genève, Switzerland); MSNM = Museo Civico di Storia Naturale di Milano (Milan, Italy); MCZR = Museo Civico di Zoologia (Rome, Italy); TCUB = M. von Tschirnhaus collection, University of Bielefeld (Bielefeld, Germany); ZSM = Zoologische Staatssammlung München (Munich, Germany).

Quotation-sample of single notes:

Podenas S., 2011. Short notes 15. Diptera, Limoniidae, pp. 862-866. In: Nardi G., Whitmore D., Bardiani M., Birtele D., Mason F., Spada L. & Cerretti P. (eds), Biodiversity of Marganai and Montimannu (Sardinia). Research in the framework of the ICP Forests network. Conservazione Habitat Invertebrati, 5. Cierre Edizioni, Sommacampagna, Verona.

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Three undescribed species are also recorded from the Marganai area: *Mayetia* sp., *Pselaphostomus* sp. and *Tychus* sp. (cf. Fancello et al. 2009).

The material collected during this study is too small to allow any wider considerations on the Sardinian pselaphine fauna, which currently consists of at least 76 confirmed species (Poggi & Sabella 2005; Poggi et al. 2008), without considering a few new taxa in course of description elsewhere. Therefore, only generic distributional data are provided for the four listed species.

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- Mulsant & Guillebeau, 1855, *L. (L.) hirta* (Linnaeus, 1758) and *L. (Apteronympha) rugosula* Rosenhauer, 1856 (Merkl 2008); the last two are recorded also from Sardinia (Aliquò et al. 2006). The larvae of these species develop in rotting wood of broadleaved trees and under various sorts of vegetal detritus; the adults can be found on flowers and plants (Sparacio 1999).
- Lagriia (Lagriia) hirta* (Linnaeus, 1758) (fig. 9.1)
- RECORDS. **C01**: 6.IX.2006, AM, dc on *Rosmarinus officinalis*, 3 ex. **C07**: 20.V.2006, PCo MB DB DW, sn, 1 ex. **C10**: 18.V.2006, MB PA GN MTr, al, 2 ex; 11.IX.2006, MB, dc by night, 3 ex; 12.IX.2006, DA MB DB GN, lt, 2 ex. **C11**: 8.IX.2006, GN, lt, 1 ex; 11.IX.2006, DA MB DB GN, lt, 1 ex. **C23**: 19.V.2006, PCo MB DB DW, sn, 1 ex; 19–24.V.2006, PCo MB DB DW, lt clearing, 7 ex; 19–24.V.2006, PCo MB DB DW, mt, 2 ex. **C26**: 24.V.2006, PCo MB DB DW, sn, 1 ex. **C27**: 22.V.2006, PCo MB DB DW, sn, 1 ex. **C29**: 12.IX.2006, GN, sn, 7 ex. **C31**: 20–23.V.2006, PCo MB DB DW, lt, 1 ex; 20–23.V.2006, PCo MB DB DW, mt, 3 ex; 12.XI.2006, GN, dc under stones, 1 ex. **C55**: 12.IX.2006, GN, sn, 19 ex. **C81**: 7.VI.2004, GN, dc, 2 ex. **C82**: 9–10.VI.2004, DB PCe GN DW, mt, 3 ex; 10.VI.2004, DB PCe GN DW, mt, 2 ex; 11–12.VI.2004, DB PCe GN MT DW, mt, 8 ex; 22–25.IX.2004, DB PCe EG FM DW, mt clearing with *Foeniculum vulgare*, 1 ex. **S1**: 2–16.V.2006, GC, mt, 1 ex; 16–30.V.2006, GC, mt, 5 ex; 5–19.IX.2006, GC, mt, 1 ex; 19.IX–3.X.2006, GC, mt, 2 ex. **S2**: 13–27.VI.2006, GC, mt, 2 ex; 27.VI–11.VII.2006, GC, mt 2 ex; 5–19.IX.2006, GC, mt, 2 ex; 19.IX–3.X.2006, GC, mt, 1 ex. **S3**: 23.IX.2004, sn, EG, 1 ex; 16–30.V.2006, GC, mt, 1 ex; 20.V.2006, PCo MB DB DW, sn, 1 ex; 19.IX–3.X.2006, GC, mt, 1 ex; 3–17.X.2006, GC, mt, 1 ex. **SAR1**: 31.VIII–14.IX.2003, DB PCe EM MT DW, mt, 3 ex; 14–29.IX.2003, DB PCe EM MT DW, mt, 26 ex; 29.IX–21.X.2003, DB PCe EM MT DW, mt, 12 ex; 15–30.VI.2004, GC, pt, 1 ex; 16.II–15.VI.2004, DB PCe GN DW, mt, 31 ex; 12.VI.2004, GN, dc, 1 ex; 15–30.VI.2004, GC, mt, 9 ex; 15–30.VI.2004, GC, pt, 5 ex; 30.VI–16.VII.2004, GC, pt, 13 ex; 16.VII–1.VIII.2004, GC, mt, 13 ex; 16.VIII–8.IX.2004, GC, mt, 3 ex; 8–21.IX.2004, GC, mt, 127 ex; 21.IX–6.X.2004, GC, mt, 107 ex; 21.IX–6.X.2004, GC, pt, 4 ex; 21.IX–6.X.2004, GC, wt, 3 ex; 6.X–5.XI.2004, GC, mt, 8 ex; 29.IV–20.V.2005, GC, mt, 13 ex; 20.V–16.VI.2005, GC, mt, 39 ex; 20.V–16.VI.2005, GC, pt, 17 ex; 16.VI–14.VII.2005, GC, mt, 2 ex; 16.VI–14.VII.2005, GC, pt, 4 ex; 16.VI–14.VII.2005, GC, wt, 1 ex; 5.VIII–13.IX.2005, GC, mt, 5 ex; 5.VIII–13.IX.2005, GC, pt, 2 ex; 13–30.IX.2005, GC, mt, 51 ex; 13–30.IX.2005, GC, pt, 5 ex; 30.IX–17.X.2005, GC, mt, 7 ex.
- OTHER RECORDS. **G04**: 4.IX.2006, MB DA DB GN, oe on *Quercus ilex*, 1 ex. **G06**: 17.V.2008, MB PA GN MTr, oe, 10 ex. **G35**: 15.V.2008, MB PA GN MTr, sn, 3 ex. **G36**: 15.V.2008, MB PA GN MTr, sn, 1 ex. **G44**: 4.IX.2006, GN, dc, 1 ex; 16.V.2008,

MB PA GN MTr, oe, 4 ex. **G55**: 16.V.2008, MB GN PA MTr, oe on *Crataegus* sp. and *Quercus ilex*, 4 ex. **G56**: 5.IX.2006, GN DA MB DB, dc by night, 1 ex. **Sassari prov.**: Alghero, Via Lido, Traversa A, 3 m, 32T 442317 4491465, 21.IX.2009, GN LS, dc, 1 ex (CGN); sdb 21.IX.2009, GN LS, dc on outer wall of house, 3 ex (CGN); sdb, 13.IX.2011, GN LS, al on outer wall of house, 1 ex (CGN).



Fig. 9.1. *Lagria hirta* ♂ (Sassari prov., Villanova Monte Leone, 23.V.2010) (photo by P. Niolu).

NOTES. A euryoecious, Sibero-European (sensu Vigna Taglianti et al. 1999) species, widespread from the Iberian Peninsula and Maghreb to Tajikistan and East Siberia (cf. Merkl 2004, 2006, 2008). In Italy it is recorded from all regions (Porta 1934; Aliquò et al. 2006) and also from some small islands (cf. Cecconi 1909; Razzauti 1919; Holdhaus 1923; Luigioni 1929; Bologna 1975; Lo Cascio et al. 2006). Adults of *L. (L.) hirta* are typical foliage-feeders (*Quercus*, *Tilia*, *Salix*, *Rubus*, *Urtica* etc.) (Zhou & Topp 2000), occurring on grasses, flowering herbs and shrubs, at the edges of forests, in forest meadows, clearings, gardens, from lowlands to mountains (Hürka 2005; Leo & Spada, unpublished data) as well as in urban habitats (Minelli 1974; Bologna 1997b; Kadas 2006; Leo & Spada, unpublished data). The species has a strictly univoltine life cycle; eggs are laid in broad-leaved deciduous forest litter, where the saprophagous larvae develop (cf. Zhou & Topp 2000; Zhou 2001; Hürka 2005). Adults are collected also at light (Angelini 1998; Sparacio 1999; Aliquò et al. 2006) and by Malaise traps.

This species is frequent and widespread in Sardinia (Leo, unpublished data); in the region-owned forest of Marganai it was collected at 16 sites (see above) with various methods (sweep net, pitfall and window traps, etc.) but chiefly with Malaise traps (79.19 % of collected specimens). The data from the site SAR1, where traps operated with continuity (2003–2005) (Bardiani 2011), were analysed to illustrate the adult phenology (fig. 9.2). These data were standardized using Activity Density (DA) (cf. Brandmayr et

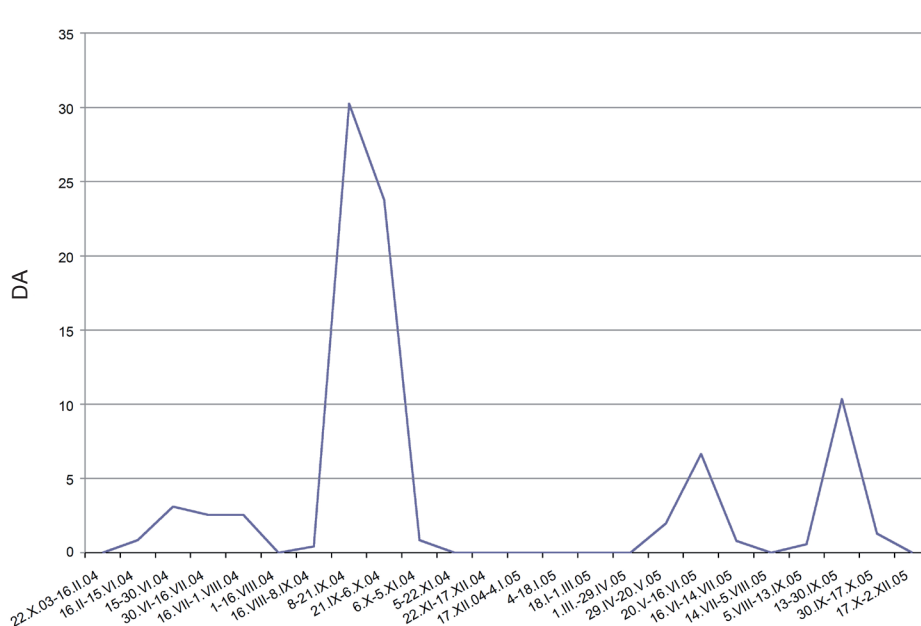


Fig. 9.2. Activity density of *Lagria hirta* at the sampling site SAR1 of the region-owned forest of Marganai.

al. 2005: 91–95): $DA = [\text{total number of collected adults} / (\text{number of traps} * \text{number of days of activity of the traps})] * 10$. At this site, like in the rest of the study area, adults of *L. (L.) hirta* were found from the end of April to the beginning of November, substantially confirming the phenology (April to October) observed in the rest of Italy (Bologna 1997a), while in Germany they occur only in summer, from the end of June to the beginning of August (Zhou 1996, 2001). The graph shows two peaks of activity (June, September): a similar situation to that observed also in other Sardinian sites (Leo, unpublished data). Further studies are necessary to explain this phenomenon, even though it is known that the oviposition of this species is affected by temperature (Zhou 2001).

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10. Diptera, ANISOPODIDAE

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This small family of nematoceran Diptera comprises 10 European species in genus *Sylvicola* Harris, 1780, seven of which have been reported from Italy (Dahl et al. 1995; de Jong 2004; Haenni 2008). The larvae are saprophagous, developing mainly in various kinds of decaying vegetal matter. Adults may be found in a wide variety of biotopes.

Sylvicola cinctus (Fabricius, 1787)

RECORDS. **C77**: 9.VI.2004, DB PCe GN MT DW, cn, 1 ♂. **C82**: 11–12.VI.2004, DB PCe GN MT DW, mt, 7 ♂♂ 8 ♀♀; 12.VI.2004, DB PCe GN MT DW, mt, 2 ♂♂ 1 ♀. **SARI**: 1–5.IX.2003, DB PCe EM MT DW, bz, 1 ♀; 21.I–16.II.2004, GC, mt, 1 ♂; 16.II–15.VI.2004, GC, mt, 3 ♂♂ 8 ♀♀; 15–30.VI.2004, GC, mt, 4 ♂♂ 2 ♀♀; 30.VI–16.VIII.2004, GC, mt, 4 ♂♂; 30.VI–16.VII.2004, GC, pt, 4 ♂♂; 16.VIII–8.IX.2004, GC, pt, 1 ♀; 20.V–16.VI.2005, GC, mt, 1 ♂; 30.IX–17.X.2005, GC, mt, 1 ♀; 3–16.XI.2005, GC, mt, 1 ♀.

NOTES. *Sylvicola cinctus* is the commonest species of the family and is widespread in the whole of Europe (cf. de Jong 2004). It is recorded here for the first time from Sardinia.

The occurrence of further species of *Sylvicola* may be expected in Sardinia.

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11. Diptera, BOMBYLIIDAE

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The bee flies (Bombyliidae) are a family of asilomorph, brachyceran Diptera, widespread on all continents and especially abundant in tropical regions (Zaitzev 1989). Worldwide, 4,500 species are known (Evenhuis & Greathead 1999), 339 of which occur in Europe and 257 in Italy (Greathead 2004). At European latitudes, adults are active in summer during the hottest hours of the day, flying in open areas and seeking flowers for nectar, more rarely pollen (Contini et al. 1995). Adults are often densely covered by long setae, which gives them a bumblebee-like appearance (hence the name of the family), and are also characterized by possessing elongated mouthparts, large eyes with a posterior indentation, often largely pigmented wings and long, slender legs (Stubbs & Drake 2001). The larvae are parasitoids of larvae and pupae of several insect orders (Hymenoptera, Lepidoptera, Coleoptera, Diptera and Orthoptera) (cf. Contini et al. 1995), or oophagous on eggs of Acridoidea or egg masses of spiders (Evenhuis & Greathead 1999). In the past, in Italy, some species of Bombyliidae have been used in biological control programmes for their ability to parasitize the larvae of insect pests (Paoli & Boselli 1947).

In this note, the genera *Platypygus* Loew, 1844, *Cyrtosia* Perris, 1839, *Empidideicus* Beckent, 1907 and *Glabellula* Bezzi, 1902, once included in the Bombyliidae (cf. Contini et al. 1995) but now ascribed to the Mythicomyiidae (cf. Zaitzev 1991; Evenhuis 2002; Greathead 2004), are excluded.

Information on the Italian and general distributions of each species is taken from Contini et al. (1995), Evenhuis & Greathead (1999, 2003), Greathead (2004), Birtele (2007, unpublished data) and Zaitzev (2007).