

## ***CURRICULUM VITAE ET STUDIORUM AIDA RAIÒ***

### **Education**

- 1979 Scientific high School Degree
- 1988 Degree in Agricultural Science at the University of Naples “Federico II”. Thesis: “Characterization and dairy utilization of *Enterococcus* strains”.
- 1990-91. Two-year grant at the “Centre for the study of Biological Control – CNR”
- 1992-94. Doctorate Course at the Plant Pathology Institute of the Agricultural University of Naples “Federico II”.
1993. Eleven-month stage at the laboratory of Phytobacteriology of the Oregon State University (Prof. Larry W. Moore)
1994. Four month grant of the Storkan-Hanes Foundation at the Oregon State University (Prof. Larry W. Moore).
1995. Doctorate thesis: “Use of soil solarization for controlling *Agrobacterium tumefaciens* and monitoring of the pathogen in soil”.
1996. Statistic course. Cortona (AR), Italy. 16/09-05/10
1998. Qualification for the profession of agronomist.
2011. Laser scanning confocal microscopy course. University of Florence.

### **Professional Experience**

- 1994-2000. Contract as researcher at the “Centre for the study of Biological Control – CNR”.
- 2001- present. Researcher at the “Institute for Plant Protection – CNR”.
- 2003-04. Teacher of Phytobacteriology module at the Plant Pathology Course of the University of Agriculture of Naples “Federico II”.
- Co-reporter of several degree and doctorate thesis in Phytobacteriology at the University of Agriculture of Naples “Federico II”.
- Referee for European Journal of Plant Pathology, Journal of Plant Pathology, Int. J. of Agriculture and Biology, iForest.
- 2006 to present. Technical manager at the organic farm Poggio Mori srl (Sarteano, SI. Italy).

### **Scientific Activity**

Biological control of plant disease by bacterial antagonists; phenotypic and molecular characterization of phytopathogenic and antagonistic bacteria; study of the antagonistic mechanisms of bacteria; application of the antagonist *Agrobacterium radiobacter* strain K84 and related risks; soil solarization; classic and molecular diagnosis of the main bacterial diseases; alien invasive phytopathogenic bacteria monitoring; integrated control of grape pathogens; entomopathogenic bacteria characterization.

### **Project Partnership**

- EU Project “Integrated control of crown gall in Mediterranean countries” (INCO Program ERBIC18CT970198).
- MIPAF project “Genetic resources for the improvement of organisms and for a sustainable agriculture (2002-04).
- MIUR project “Evaluation of the impact of transgenic tomato on non-target organisms and environment” (2003-04).
- BURC project “Development of a detection system of latent infections of *Agrobacterium tumefaciens* in peach trees” (2003-04).
- EU project “ENDURE grapevine case study” (2007-10).
- ARPAT project “Investigation on Bleeding canker of horse chestnut” (2009-10).

EU Project ISEFOR, Contract no. 245268 "Increasing Sustainability of European Forests: Modelling for Security Against Invasive Pests and Pathogens under Climate Change". (2009-2013)  
EU project PURE, Contract no. 265865 "Innovative crop protection for sustainable agriculture" (2011-2014).

Regione Veneto Project "Residuo 0. Eliminazione dei trattamenti chimici comportanti residui in campo e in cantina" (2013-2015)

### **International publications**

STEFANI E., RAIIO A., BAZZI C., ZOINA A. 1994. Identification and grouping of *Xanthomonas campestris* pv. *vitians* using SDS-PAGE. *Phytopathologia mediterranea*, 33, 99-104.

CARPUTO D., SPEGGIORIN M., GARREFFA P., RAIIO A., MONTI L. M. 1996. Screening for resistance to tuber soft rot and blackleg in diploid *Solanum* species and *S. tuberosum* haploids. *J. Genet. & Breed.*, 50, 221-226.

RAIO A., ZOINA A., MOORE L.W. 1997. The effect of solar heating of soil on natural and inoculated agrobacteria. *Plant Pathology*, 46, 320-328.

CARPUTO D., DELLA ROCCA F., CARBONE S., RAIIO A., STRAFACE S., FRUSCIANTE L. 1999 Resistance to *Erwinia* in *Solanum tuberosum* x *S. tarijense* diploid hybrids and their backcross generations. 14th Triennial conference of the European association for potato research. Sorrento, Italia, 2-7 maggio. Abstracts of conference papers, posters and demonstrations : 535-536.

ZOINA A., RAIIO A. 1999. Susceptibility of some peach rootstocks to crown gall. *J. Plant Pathology*. 81 (3); 181-187. ZOINA A., RAIIO A., PELUSO R., SPASIANO A. 2001. Characterization of agrobacteria from weeping fig (*Ficus benjamina*). *Plant Pathology* 50 (5) 620-627.

PELUSO R., RAIIO A., MORRA F., ZOINA A. 2003. Physiological, biochemical and molecular analyses of an Italian collection of *Agrobacterium tumefaciens* strains. *Eur. J. Plant pathology* 109: 291-300.

MOLINARO A., DE CASTRO C., LANZETTA R., PARRILLI M., RAIIO A., ZOINA A. 2003. Structural elucidation of a novel core oligosaccharide backbone of the lipopolysaccharide from the new bacterial species *Agrobacterium larrymoorei*. *Carbohydrate Research*. 338: 2721-2730.

RAIO A., PELUSO R., NESME X., ZOINA A. 2004. Chromosomal and Plasmid Diversity of *Agrobacterium* Strains Isolated from *Ficus benjamina* Tumors. *Eur. J. Plant Pathol.*, 110: 163-74.

FORMISANO C., SENATORE F., BELLONE G., BRUNO M., GRASSIA A., RAIIO A., RIGANO D. 2006. Chemical Composition and Biological Activity of Essential Oil from Flowerheads of *Centaurea polymorpha* Lag. (Asteraceae) Growing Wild in Spain. *Polish J. Chemistry*. 80: 617-22.

KRIMI Z., RAIIO A., NESME X., DESSAUX Y. 2006. *Eucalyptus occidentalis* plantlets are naturally infected by pathogenic *Agrobacterium tumefaciens*. *European Journal of Plant Pathology* 116: 237-246.

PUOPOLO G., RAIIO A., ZOINA A. 2007. Early detection of *Agrobacterium tumefaciens* in asymptomatic artificially inoculated chrysanthemum and peach plants. *J. Plant Pathol.* 89, 185-90.

SENATORE F., FORMISANO C., RAIIO A., BELLONE G., BRUNO M. 2008. Volatile components from flower-heads of *Centaurea nicaeensis* All., *C. parlatoris* Helder and *C. solstitialis* L. spp. *schouwii* (DC). Dostal growing wild in southern Italy and their biological activity. *Natural product research* 22 (10): 825-832.

RAIO A., PELUSO R., PUOPOLO G., ZOINA A. 2009. Evidence of pAgK84 transfer from *Agrobacterium rhizogenes* K84 to natural pathogenic *Agrobacterium* spp. in an Italian peach nursery. *Plant Pathology* 58: 745-753.

PUOPOLO G., RAIIO A., ZOINA A. 2010. Identification and characterization of *Lysobacter capsici* strain PG4: a new plant health-promoting rhizobacterium. *J. Plant Pathology* 92: 159-166.

RAIO A., PUOPOLO G., MASI M., DANTI R., DELLA ROCCA G., EVIDENTE A. 2011. Biocontrol of cypress canker by the phenazine producer *Pseudomonas chlororaphis* subsp. *aureofaciens* strain M71. *Biological Control* 58: 133-138.

PUOPOLO G., RAIIO A., PIERSON III L.S., ZOINA A. 2011 Selection of a new *Pseudomonas chlororaphis* strain for the biological control of *Fusarium oxysporum* f. sp. *radicis-lycopersici*. *Phytopathol. Mediterr.* 50, 228-35.

PUOPOLO G., MASI M., RAIIO A., ANDOLFI A., ZOINA A. CIMMINO A., EVIDENTE A. 2013. Insights on the susceptibility of plant pathogenic fungi to phenazine-1-carboxylic acid and its chemical derivatives. *Nat. Prod. Res.* 27 (11) 956-966. DOI: 10.1080/14786419.2012.696257

#### **Book chapters**

SCALA, F., RAIIO, A., ZOINA, A. AND LORITO, M. 2007 Biological control of fruit and vegetable diseases with fungal and bacterial antagonists: the *Trichoderma* and *Agrobacterium* cases. In: "Biological Control of Plant Diseases: Current Concepts". Chincholkar S.B., Mukerji K.G. (Eds). Pp. 151-190.

#### **International proceedings**

RAIO A., ZOINA A. 1992. Analysis of *Agrobacterium* populations in central and southern Italy and search for natural antagonists. In: "New approaches in biological control of soil-borne diseases". Proceedings Workshop, Copenhagen, Denmark, 30 June-4 July 1991. IOBC/WPRS Bulletin - Bulletin OILB/SROP 1992/XV/1, 136-138.

RAIO A., ZOINA A., CANFIELD M.L., MOORE L.W. 1994. Effect of soil solarization on *Agrobacterium tumefaciens* populations. Meeting Annuale dell'American Phytopathological Society, Albuquerque (New Mexico), 6-10 agosto 1994. *Phytopathology*, 84, (10), 1135. Abstr. 551

ZOINA A., RAIIO A., D'AQUINO L. 1995. *Agrobacteria* from epigeous galls of weeping fig. Int. Conference on "*Agrobacterium* and beyond", Gif sur Yvette (France), 24-26 sept. 1995.

RAIO A., ZOINA A., LORITO M. 1996. Characterization of *Agrobacterium* strains from weeping fig. 8th Int. Congr. Bacteriology and applied microbiology division, Jerusalem, Israel, 18-23 Aug.

CARPUTO D., SPEGGIORIN M., GARREFFA P., RAIIO A., MONTI L. M. 1996. Screening for resistance to tuber soft rot and blackleg in diploid *Solanum* species and *S. tuberosum* haploids. *J. Genet. & Breed.*, 50, 221-226.

RAIO A., ZOINA A., MOORE L. W. 1998. Loss of *Agrobacterium tumefaciens* Ti plasmid in solarized soil. In : Molecular approaches in biological control. Workshop proceedings. Delemont, Svizzera, 15-18 settembre 1997. IOBC wprs Bulletin. Bulletin PILB srop. 21 (9) : 301-305.

RAIO A., SPASIANO A., PELUSO R., ZOINA A. 2000. New *agrobacteria* from weeping fig. Proceedings of the 5th Congress of the European Foundation of Plant Pathology. Pp175-177.

RAIO A., PELUSO R., SIGILLO L., ZOINA A. 2000 Screening stone fruit rootstocks for crown gall sensitivity. Proc. of the 5th Congress of the Eur. Foundation of Plant Pathology. Pp. 457-459.

PELUSO R., ZOINA A., MORRA F., SIGILLO L., RAIIO A. 2001 Outbreak of dangerous transconjugant strains in a stone fruit nursery field. *J. Plant Pathology* 83: 240

KRIMI Z., RAIIO A. , NESME X., Y.DESSAUX 2002. Characterization of *Agrobacterium* spp. Isolated from *Eucalyptus* crown gall tumors. Journées Jean Chevaugau. I Ve rencontres de phytopathologie/micologie. Aussois, Savoie, France. 13-17 marzo.

RAIO A., PELUSO R., PUOPOLO G. , ZOINA A. 2003. Root colonization ability and virulence of spontaneous transconjugant strains originated by plasmid transfer from *Rhizobium rhizogenes* K84 biocontrol agent to tumorigenic *Rhizobium* strains. Int. Symposium "Structure and Function of soil microbiota" . Marburg, Germany 18 – 20 September. pp. 145.

PUOPOLO G., PELUSO R., ZOINA A., RAIIO A. 2003. A direct PCR-based protocol for detecting tumorigenic rhizobia in chrysanthemum and peach plantlets. Joint Workshop on Molecular diagnostics of plant pathogens. Lametia Terme, September 20-23. pp. 23.

RAIO A., PELUSO R., PUOPOLO G., ZOINA A. 2004. Occurrence of breakdown in the biocontrol of crown gall disease by the *Agrobacterium radiobacter* strain K84 in Italy. IOBC Bulletin 27(8): 173-6.

RAIO A. PUOPOLO G., PELUSO R., COZZOLINO L., ZOINA A. 2004. Detection of tumorigenic rhizobia in asymptomatic peach plants by PCR. *Phytopathologia Mediterranea*, 43: 281-284.

PUOPOLO G., RAIIO A., ZOINA A., PIERSON L.S. III. 2008. How quorum sensing controls the activation of phenazine operon promoter in *Pseudomonas aureofaciens* strain 30-84. Proceedings of A Universal Language workshop. Firenze, 12 Marzo. Pp. 8.

PUOPOLO G., RAIIO A., ZOINA 2008. Identification and characterization of a new biocontrol agent in the genus *Lysobacter*. J. Plant Pathology 90 (2, Supplement): S124.

PUOPOLO G., RAIIO A., ZOINA 2008 Looking for new biocontrol agents within a collection of fluorescent pseudomonads. J. Plant Pathology 90 (2, Supplement): S124.

RAIO A., PUOPOLO G., CIMMINO A., MASI M., MUGNAI L., ZOINA A., SURICO G., EVIDENTE A. 2010. Microbial metabolites for the biocontrol of the fungi involved in esca grapevine. 7<sup>th</sup> Int. workshop of grapevine trunk diseases.

RAIO A., PUOPOLO G., MASI M., DANTI R., DELLA ROCCA G., EVIDENTE A. 2010 *Pseudomonas chlororaphis* subsp. *aureofaciens* strain M71 controls *Seiridium cardinale* infections on cypress. Proceedings of the 13<sup>TH</sup> MPU Congress. Petria 20 (2): 577-78.

KRIMI Z., BELASKRI A., RAIIO A. 2010 Screening some Eucalyptus species for crown gall disease sensitivity. Proceedings of the 13<sup>TH</sup> MPU Congress. Petria 20 (2): 423-24.

RAIO A., PUOPOLO G., ZOINA A. 2010 Stone fruit agrobacteria and their biocontrol in Southern Italy. COST Action 873 "Bacterial diseases of Stone fruit and nuts". 13-15 Sept. 2010. Jurmala, Latvia. Abstract book, pp.14.

KRIMI Z., RAIIO A., DESSAUX Y., SMAN K., KHODJA R. 2012. Bacterial endophytes from diverse spontaneous plant species with biological activities. COST Action FA1103: Endophytes in biotechnology and agriculture. Trento, 14-16 Novembre.

HADDAD N., KRIMI Z., RAIIO A. 2013 Endophytic bacteria from weeds promote growth of tomato plants in vitro and greenhouse. Proceedings of Int. Symposium on Plant protection and Plant Health in Europe. Berlin 26-29 May

#### **Italian publications and proceedings**

ZOINA A., RAIIO A., LORITO M., NOVIELLO C. 1990. Antagonismo *in vitro* di *Sepedonium chrysospermum* (Bull.) Link: Fr. nei confronti di *Sclerotinia sclerotiorum* (Lib.) De Bary e *Rhizoctonia solani* Kuhn. Ann. Fac. Sci. Agr. Univ. Napoli, Serie IV, 24, 63-75.

ALOJ B., LORITO M., RAIIO A., NOVIELLO C. 1990. Osservazioni sull'attività *in vitro* di miceti antagonisti verso funghi fitopatogeni scleroziali. Ann. Fac. Sci. Agr. Univ. Napoli, Serie IV, 24, 76-89.

ZOINA A., RAIIO A., ALOJ B. 1992. Caratterizzazione di isolati di *Agrobacterium* da vivai dell'Italia centro-meridionale. Atti Giornate Fitopatologiche, 2, 389-398.

COPPOLA L., DEL SORBO G., RAIIO A., ZOINA A., SCALA F. 1992. Indagini sierologiche su *Pseudomonas syringae* pv. *phaseolicola*. Petria, 2, 205-206.

MARCONE C., RAIIO A., RAGOZZINO A. 1994. Fessurazione della corteccia ed escrescenze verrucose su fusti e tralci di vite causate da erbicida. Inf. Agrario, 28, 67-69.

STEFANI E., RAIIO A., BAZZI C., ZOINA A. (1994) Identification and grouping of *Xanthomonas campestris* pv. *vitiensis* using SDS-PAGE. Phytopathologia mediterranea, 33, 99-104.

ZOINA A., RAIIO A., DEL SORBO G., LORITO M., SCALA F. 1994. Osservazioni epidemiologiche su un marciume batterico della lattuga. Atti Giornate Fitopatologiche, 3, 269-276.

ZOINA A., RAIIO A., LORITO M., DEL SORBO G., ALOJ B., SCALA F. 1994. Lotta biologica al tumore radicale del pesco: esiti di una prova quinquennale. Atti Giornate Fitopatol., 3, 359-64.

ZOINA A., RAIIO A. 1996 Agrobatteri da *Ficus benjamina* L. Atti del Convegno Annuale SIPaV, Udine, 26-27 settembre 1996.

ZOINA A., RAIIO A., SPASIANO A. 1999. Una batteriosi dell'*Anthurium* nuova per l'Italia: qualche osservazione epidemiologica. VII Convegno Nazionale SIPaV. Piacenza 23-24 settembre.

RAIO A., PELUSO R., SIGILLO L., ZOINA A. 2001. Production of antibiotics and iron-binding compounds by *Agrobacterium* strain - VIII Convegno Nazionale S.I.Pa.V.: Le conoscenze delle Interazioni Biologiche in Patologia Vegetale per una Agricoltura Ecocompatibile - Potenza (Italia). Ottobre 3-5.

RAIO A., PUOPOLO G., PELUSO R., SIGILLO L., ZOINA A. 2002. Rilevamento di infezioni latenti di *Agrobacterium tumefaciens* in piante di crisantemo e pesco. Atti Giornate Fitopatol. 2: 565-566.

SIGILLO L., PELUSO R., RAIO A., ZOINA A. 2002. Prove di solarizzazione e impiego di antagonisti nella lotta alla tracheofusariosi del melone. Atti Giornate Fitopatologiche 2: 493-494.

ZOINA A., A. RAIO, AND R. PELUSO 2002. Comportamento endofitico di agrobatteri in *Ficus benjamina* L. Atti del Convegno "L'endofitismo di funghi e batteri patogeni in piante arboree ed arbustive". Sassari (Italy), May 20-21. pp 127-136.

PELUSO R., RAIO A., ZOINA A. 2002. Rilevamento di agrobatteri tumorigeni mediante PCR in differenti tipi di terreno. Convegno SIPaV Roma 1-2 Ottobre.

ZOINA A , PELUSO R., SIGILLO L., RAIO A. 2003. Efficacia di diverse modalità di lotta al tumore batterico dei fruttiferi. Informatore Agrario. 16: 69-71.

RAIO A., PELUSO R., PUOPOLO G. , ZOINA A. 2003 Characteristics of endophytic bacteria from *Ficus benjamina*. Atti "X Congresso Nazionale SIPaV" . 1-3 ottobre, Sorrento. Pp.82

RAIO A., PUOPOLO G., PELUSO R., ZOINA A. 2004. Valutazione dell'efficacia di alcuni mezzi di prevenzione del tumore radicale dei fruttiferi. Atti Giornate Fitopatologiche Vol. II pag 131-134.

PUOPOLO G., DI MARTINO L. , COZZOLINO L, ZOINA A., RAIO A. 2004. In vitro antagonistic activity of fluorescent pseudomonads and screening for effective antagonists by an in vivo assay. XI Convegno Sipav. Milano 29 settembre-01 ottobre.

ZOINA A., PUOPOLO G., PASINI C., D'AQUILA F., COZZOLINO L., RAIO A. 2004 *Pseudomonas viridiflava* is the causal agent of a bacterial disease on *Ranunculus asiaticus*. Atti XI Convegno Sipav. Milano 29 settembre-01 ottobre.

RAIO A., GIORGINI M. 2005. Infezioni di *Xanthomonas campestris* pv. *campestris* in coltivazioni di rucola selvatica in Campania. Informatore Fitopatologico 7/8: 58-60.

ZOINA A., PUOPOLO G., PASINI C., D'AQUILA F., COZZOLINO L., RAIO A. 2005. *Pseudomonas viridiflava* agente di una grave alterazione su ranuncolo da fiore reciso. Colture Protette 9: 107-112.

RAIO A., PUOPOLO G., PELUSO R., ZOINA A. 2005 Early detection and biological control for peach crown gall prevention in the nurseries. Atti XII Convegno SIPAV. Reggio Calabria 29 sett.-01 ott.

COZZOLINO L., RUFOLO A., ZOINA A., PUOPOLO G., RAIO A. 2005. Biocontrol activity of *Bacillus* spp. strains isolated from the rhizosphere of vegetable crops. Atti XII Convegno SIPAV. Reggio Calabria 29 settembre-01 ottobre.

PUOPOLO G.,RAIO A., ZOINA A. PIERSON L.S. III 2006. Characterization of a quorum sensing control promoter: the phenazine operon promoter in *Pseudomonas aureofaciens* 30-84. Atti XIII Convegno SiPaV, pp. 163.

COZZOLINO L., ZOINA A., RAIO A. 2007. Horizontal gene transfer from genetically modified tomato plants to *Pseudomonas syringae* pv. *tomato* and *Ralstonia solanacearum*. Atti XIV Congresso Sipav, 18-21 Settembre, Perugia.

COZZOLINO L., GAGLIONE S., ZOINA A., RAIO A. 2007. In vitro transformation of *Pseudomonas corrugata* by DNA of transgenic tomato plants. Atti XIV Congresso Sipav, 18-21 Sett., Perugia.

BATTAGLIA V., PUOPOLO G., CAPPIO V., RAIO A., ZOINA A. 2007. Identification and characterization of *Bacillus amyloliquefaciens* strain M123 as a potential antagonist of phytopathogenic fungi. Atti XIV Congresso Sipav, 18-21 Settembre, Perugia.

CAPPIO V., PUOPOLO G., BATTAGLIA V., RAIO A., ZOINA A. 2007. Identification of a lytic Gram- bacterial strain showing appreciable antagonistic activity towards a broad range of fungal species. Atti XIV Congresso Sipav, 18-21 Settembre, Perugia.

PUOPOLO G., RAIO A., ZOINA A. 2007 First insight on the possibile correlation between bacteriolytic activity and biofilm formation in a *Lysobacter* member. Atti XIV Congresso Sipav, 18-21 Settembre, Perugia.

- RUSSO A., PUOPOLO G., RAIIO A., ZOINA A. 2007. Evaluation of five fluorescent pseudomonads for the prevention of tomato crown root rot and tomato wilt disease caused by *Fusarium oxysporum f.sp. radicum lycopersici* and *Fusarium oxysporum f.sp. lycopersici*. Atti XIV Congresso Sipav, 18-21 Settembre, Perugia.
- RAIO A., PUOPOLO G., COZZOLINO L., ZOINA A. 2008. Efficacia della lotta biologica al tumore radicale del Pesco in Italia meridionale. Atti Convegno Nazionale sulla Peschicoltura Meridionale. Caserta 6-7 marzo.
- COZZOLINO L., ZOINA A., RAIIO A. 2008. Transformability of four plant pathogenic bacteria with DNA from transgenic tomato plants. X Annual Congress FISV. Riva del Garda 24-27 Settembre.
- PUOPOLO G., COZZOLINO L., RAIIO A., NIGRO C., ZOINA A. 2009. Polyphasic identification of xanthomonads causing bacterial leaf spot on sensitive igp peppers. Atti XV convegno SIPAV, pp187.
- RAIO A. 2009. Aspetti microbiologici del processo di compostaggio e conservazione della biodiversità nei suoli agrari. Convegno "Viticoltura Sostenibile", Panzano in Chianti (FI), 26/11/09.
- PUOPOLO G., RAIIO A., MASI M., EVIDENTE A., ZOINA A. 2010. Insight on the antifungal activity of phenazines molecules produced by strain M71 of *Pseudomonas chlororaphis* subsp. *aureofaciens*. XVI Convegno Nazionale SIPAV. Firenze 14-17 settembre.
- V. FRANCARDI, C. BENVENUTI, G. MAZZA, G.P. BARZANTI, B. CARLETTI, A. CITO, S. LONGO, A. RAIIO, M. GORI R. NANNELLI, J. DE SILVA, P. F. ROVERSI. 2014. Organismi associati a *Rhynchophorus ferrugineus* (Olivier) in Sicilia. Convegno Nazionale Italiano di entomologia, 9-14 Giugno Orosei (NU). Pp.26.
- FRANCARDI V., BENVENUTI C., MAZZA G., BARZANTI G.P., B. CARLETTI, CITO A., LONGO S., NANNELLI R., RAIIO A., GORI M., DE SILVA J., PIO F. R. 2014. Organismi associati a *Rhynchophorus ferrugineus* in Italia e possibile strategia di controllo con isolati indigeni di funghi entomopatogeni. "Giornata di approfondimento su *Rhynchophorus ferrugineus*" , 13 settembre, Sanremo.