

ASSOCIAZIONE NATURALISTICA PIEMONTESE

Rivista Piemontese di Storia Naturale

Volume XXXVII - Anno 2016

ANP

Museo Civico F. Eusebio - Alba
Museo Civico Craveri di Storia Naturale - Bra
Museo Civico di Storia Naturale - Carmagnola

ASSOCIAZIONE NATURALISTICA PIEMONTESE

Rivista Piemontese di Storia Naturale

Volume XXXVII - Anno 2016

ANP

Museo Civico F. Eusebio - Alba
Museo Civico Craveri di Storia Naturale - Bra
Museo Civico di Storia Naturale - Carmagnola

GIANFRANCO CURLETTI*

New Neotropical *Agrilus* species (Coleoptera, Buprestidae)

ABSTRACT - Five new species belonging to the genus *Agrilus* Curtis, 1825 from countries of Central and South America are described: *Agrilus rappi* n. sp. from Costa Rica and Panama, *Agrilus paulista* n. sp., *Agrilus alini* n. sp. and *Agrilus herbophagus* n. sp. from Brazil, *Agrilus ruzzieri* n. sp. from Paraguay.

KEY WORDS - Coleoptera, Buprestidae, *Agrilus*, Brazil, Panama, Paraguay, new species.

RIASSUNTO - *Nuove specie neotropicali di Agrilus (Coleoptera, Buprestidae).*

Sono descritte cinque nuove specie appartenenti al genere *Agrilus* Curtis, 1825 del Sud e Centro America: *Agrilus rappi* n. sp. di Costa Rica e Panamá, *Agrilus paulista* n. sp., *Agrilus alini* n. sp. e *Agrilus herbophagus* n. sp. del Brasile, *Agrilus ruzzieri* n. sp. del Paraguay.

MATERIAL AND METHODS

Some of my colleagues have sent me for study several specimens of *Agrilus* collected in various countries of Central and South America. Among these, some species are undescribed and are described here.

The descriptions follow the procedure proposed by Curletti (2010, 2012) and Curletti & Migliore (2013), which allows, with the help of photographs, to specify an appropriate and concrete habitus of the taxa, omitting most of the unnecessary and repetitive descriptions of unimportant and subjective general morphology, and to dwell in more detail on distinctive characters which cannot be assessed from the images.

The pictures were made with a Coolpix P6000 connected with a stere-

* Museo Civico di Storia Naturale, Parco Cascina Vigna, 10022 Carmagnola, Italy.
gianfranco.curletti@yahoo.it

omicroscope Leica MZ6, processed with Adobe Photoshop 5.0 Limited Edition and stacked with Combine Z4 program.

The specimens were prepared dry and glued on a card for the study, description and conservation. The genitalia were placed on the same card.

ACRONYMS

CHAH: Henry A. Hespenheide, Dept. of Ecology and Evolutionary Biology, University of California Los Angeles, U.S.A.; ERCI: E. Ruzzier, Italy; INBC: Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica; LACM: Los Angeles County Museum of Natural History, U.S.A.; MCCI: Museo Civico di Storia Naturale di Carmagnola, Italy; MNHN: Muséum National d'Histoire Naturelle, Paris, France; MZUSP: Museu de Zoologia da Universidade de São Paulo, Brasil; NHML: Natural History Museum, London, UK; NMPC: Národní Muzeum, Praha, Czech Republic.

Agrilus (Agrilus) rappi n. sp. (fig. 1a, 1b, 1c)

Type series

Holotype ♂: Costa Rica, Est. Sirena, P.N. Corcovado, 0-100 m. Prov. Punt., Oct. 1989, G. Fonseca [leg.]. L-S-270500, 508300 (INBC). Paratypes: 9 ex. ♂ and ♀, idem (INBio, CHAH, MCCI); 6 exx. ♂ and ♀, Costa Rica, Est. Las Pallas, 800 m, P.N. Rincon de la Vieja, Prov. Guanacaste, 23 set. a 12 oct. 1992, D. Garcia [leg.] (INBC); 8 ex. ♂ and ♀, Costa Rica, Prov. San José, Puriscal, P.N. La Cangreja, Send. Chiris, 300-400 m, 13 jul. 2004, W. Porras [leg.] (INBC, MCCI); 1 ♂, Costa Rica, San Vito de Java, 2 mi. S, Puntarenas prov., VIII. 1967, coll. R. W. McDiarmid (LACM); 1 ♀, Panama, Mon. Nat. Cero Gaital, 1 juliet 2007, M. Rapp [leg.] (MCCI).

Holotype description

Length 11.7 mm. Elongate, slender. Dorsal color dark green, with three pairs of white pubescent spots on the apical half of elytra.

Frons depressed, bright green, longitudinally furrowed on dorsal half. In basal part, along inner edge of eyes, presence of a tubercle topped with white pubescence. Clypeus separated from frons by a deep transverse groove that connects eyes. Antennae bronzed, serrated from fourth antennomere.

Pronotum broadly furrowed at middle: sculpture inside groove formed by transverse striae, remainder of disc sculpture obsolete and punctiform.



Fig. 1 - *Agrilus rappa* n. sp. Holotype: a) back, b) profile, c) aedeagus 3,8 mm.

Lateral margins covered by inconspicuous white pubescence. Premarginal carinula not entire. Marginal carinae joined before base. Prosternal lobe with anterior margin broadly sinuate. Prosternal plate parallel, with acute apex. Scutellum depressed, not carinate.

Elytra elongate and narrow, showing lateroterga. Apex concave forming two teeth, outer one more elongated, pointed and robust. Lateroterga with yellow golden pubescence. Ventral side darker, with similar yellow pubescence forming a longitudinal line at sides of basal ventrite; a second small spot visible at anterior angle of second ventrite. Same pubescence on mesepimeron, metepisternum and upper margin of metasternum. Legs with all claws simply dentate. Metatarsus longer than metatibia, first metatarsomere longer than following four ($1 > 2+3+4+5$).

Aedeagus as in fig. 1c.

Paratypes description

Length from 9.2 to 13.7 mm. In some specimens the internal tooth of the elytral apex is replaced by a small serration; in others a further smaller pubescent spot on the anterior angle of third ventrite is present. The females are distinguishable by the broader form, and the basal metatarsal article as long as the sum of the following four ($1=2+3+4+5$).

Etymology

The species is named after the friend and colleague collector of Panamanian specimen: Mathieu Rapp.

Differential remarks

There are many species in Central America that have three pairs of pubescent spots on the elytra, but none has all three concentrated in the apical half. Some specimens of *Agrilus centralis* Waterhouse, 1889 from Guatemala and Mexico may have three pairs of spots, but the syntypus in the NHLM has only two pairs of spots. However apart from the elytral spots, the species described by Waterhouse has the elytral apex not bifid, but has three small spines.

Agrilus (Agrilus) paulista n. sp.
(fig. 2a, 2b, 2c)

Type series

Holotype ♂: Brasil, São Paulo est., São Paulo, 13.XI.1972, V. N. Alin leg. (MZUSP)

Holotype description

Length 11 mm. Entirely black with a wide pubescent yellow-orange stripe in apical part of elytra.

Frons depressed, with short gray pubescence uniformly disposed, not covering surface. Two carinae at base, along inner edge of eyes. Clypeus small, not carinate. Antennae serrate from fourth antennomere.

Pronotum widest at basal half, broadly furrowed in middle. Disc with strong and robust sculpture, transverse at middle and longitudinal at sides.

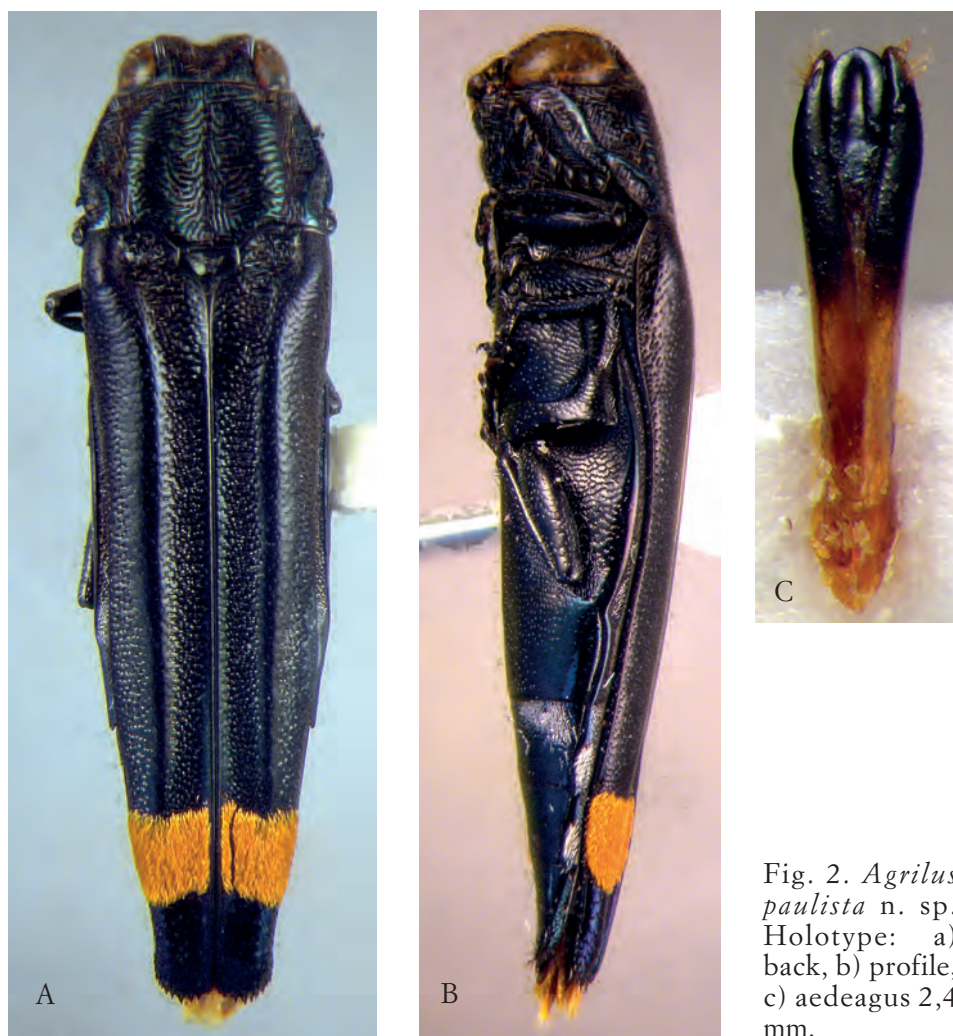


Fig. 2. *Agrilus paulista* n. sp. Holotype: a) back, b) profile, c) aedeagus 2,4 mm.

Premarginal carinula entire. Marginal carinae joined before base. Prosternal lobe with anterior margin broadly sinuate, prosternal plate broad and flat, wider at apex.

Scutellum with a transversal furrow.

Elytra ribbed, with rounded and denticulate apex.

Lateroterga with a white spot of pubescence at base.

Ventral side with a large spot of white pubescence at angle of second ventrite. Less dense white pubescence present in middle part of basal ventrite.

All claws bifid. Metatarsus shorter than metatibia. Basal metatarsomere shorter than sum of following four ($1 < 2 + 3 + 4 + 5$).

Apex of penis rounded (fig. 2c).

Etymology

“Paulista” is the name given to the inhabitants of the São Paulo region.

Differential remarks

The orange stripe at the elytra unmistakably characterizes *A. paulista* n. sp. Two other Brazilian Agrilina species have a similar stripe to the elytra: *Agrilus antepodex* Thomson, 1878 (type in MNHN) and *Autarcontes posticalis* (Laporte & Gory, 1835) (type in MNHN), but in both cases the red stripe is divided into four parts and not entire as in *A. paulista* n. sp. In *A. posticalis* a further pair of white pubescent spot at elytral apex is also present.

Agrilus (Agrilus) alini n. sp.
(fig. 3a, 3b, 3c)

Type series

Holotype ♂: Brasil, São Paulo, São Paulo st., 6.XI.1966, V. N. Alin leg. (MZUSP). Paratypes: 2, idem, 17.XI. 1971 and 22.X.1966, V. N. Alin leg. (MCCI, CHAH).

Holotype description

Length 4.2 mm. Entirely bronze, with three pairs of grey pubescent spots on elytra. Vertex furrowed, wider than 2/3 of anterior margin of pronotum. Frons convex, rounded, prominent, with green highlights. Clypeus without transverse carina. Antennae serrate from fourth antennomere.

Pronotum wider anteriorly, posterior angles quadrate. Disc with faint sculpture, little evident, having silky appearance. Premarginal carinula absent. Marginal carinae joined before base. Prosternal lobe with anterior margin broadly sinuate. Prosternal plate parallel, with acute apex.

Scutellum with rough transverse carina, posteriorly placed.

Elytral apex rounded and microdenticulate. One spot of grey pubescence on basal laterotergum.



Fig. 3. *Agrilus alini* n. sp. Holotype: a) back; b) profile; c) aedeagus 0,9 .mm.

Ventral side practically glabrous. Legs with anterior and median claws bifid, posterior dentate. Metatarsus shorter than metatibia; first metatarsomere shorter than sum of following two ($1 < 2+3$). Apex of penis rounded (fig. 3c).

Paratypes

Length 4.3 and 4.9. Do not differ substantially with the holotype.

Etymology

After the name of the collector: lepidopterist V. N. Alin.

Considerations and comparative notes

In *A. alini* n. sp., the bulging frons and eyes on the sides recall characters that belong to African species of subgen. *Robertius* Théry, 1947. It is similar to *A. impressipennis* Thomson, 1879 from Brazil (type in MNHN), but the Thomson species differs principally from *A. alini* n. sp. in having pronotum sculpture composed by hard, coarse, transversal striae and not silky *facies*.

Agrilus (Agrilus) ruzzieri n. sp.
(fig. 4a, 4b, 4c)

Type series

Holotype ♂: Paraguay, Dep. Paraguari, Cerro Acahay, 10.XI.2011, J. Rivas leg. (NHML); Paratypes: 10 ex. ♂ and ♀, idem (MCCI, ERCI).

Holotype description

Length 5.1 mm. Entirely dark bronze, with four pairs of pale yellow spots on elytra.

Frons pubescent with hairs white on vertex and pale yellow in median part and at base, two small glabrous central areas. Clypeus not carinate. Antennae serrate from fourth antennomere.

Pronotum wider in anterior half, posterior angles obtuse. Pale yellow pubescence at sides and at middle of disc. Premarginal carinula not entire, marginal carinae joined before base. Prosternal lobe with anterior margin hardly sinuate. Prosternal plate parallel with rounded apex.

Scutellum carinate.

Elytral apex rounded and denticulate. In addition to four pairs of pubescent spots, other scattered hairs visible on disc, more concentrate posteriorly, along lateral margin. Lateroterga pubescent.

Ventral side with large marginal pubescent spots on ventrites 2 and 3. Base of ventrite 1, mesepimeron, metasternum, metepisternum, metecoxa and legs uniformly pubescent.



Fig. 4. *Agrilus ruzzieri* n. sp. Holotype: a) back; b) profile; c) aedeagus 1,5 mm.

Legs with all claws bifid. Metatarsus shorter than metatibia; first metatarsomere as long as following three ($1=2+3+4$). Apex of penis rounded (fig. 4c).

Description of the paratypes

Length from 4.4 to 5.3 mm. Some specimens have the frontal pubescence uniformly white or yellow. In other specimens, the basal pubescence of the basal ventrite is prolonged with a median stripe reaching the second ventrite.

The females have basal metatarsomere shorter and metatarsal claw simply dentate.

Etymology

The new species is named after the friend and colleague Enrico Ruzzier from Mirano, Italy, who sent to me for study this and other species from Paraguay.

Differential diagnosis

No species with four pairs of pubescent spots are known from Paraguay. *A. ruzzieri* n. sp. is similar to *A. turgitus* Kerremans, 1897 described from Bahia in Brazil (type in NHML), that differs in the larger dimensions and less dense pubescence.

Agrilus (Agrilus) herbophagus n. sp.
(fig. 5a, 5b)

Type series

Holotype ♀: Brasil, São Paulo est., São Paulo, 12.XI.1969, V. N. Alin leg. (MCCI).

Holotype description

Length 6.8 mm. Parallel, dark bronze color, with three pairs of grey pubescent spots on elytra. Vertex furrowed, glabrous, with exception of few hairs at base. Clypeus small and thin, not carinate. Antennae serrate from fourth antennomere.

Pronotum very gibbous, wider anteriorly, posterior angles obtuse. Pre-marginal carinula absent. Marginal carinae joined posteriorly, very open anteriorly. Prosternal lobe with anterior margin rounded. Prosternal plate parallel.

Scutellum transversely carinate.

Elytral apex rounded and denticulate. One pubescent spot on basal laterotergum.



Fig. 5. *Agrilus herbophagus* n. sp. Holotype: a) back; b) profile.

Ventral side black. Two rounded, pruinose, white pubescent spots at each lateral margin of ventrites 1 and 2. Further pubescence present on metacoxa and posterior angle of metasternum.

All claws simply dentate. Tarsomeres very short. First metatarsomere slightly longer than second but shorter than following two ($1 < 2 + 3$).

Etymology

From Latin. *A. herbophagus* n. sp. belongs to a group of species that probably lives on herbaceous or shrubby plants.

Differential diagnosis

A. herbophagus n. sp. is near to *A. seriatus* Curletti & Brûlé, 2011 from French Guyana, but the latter has four elytral spots. The new species is near also to the Brazilian *A. elaphrus* Obenberger, 1933 and *A. tiberius* Obenberger, 1933 (both types in NMPC). The former differs for having premarginal carinula and the latter for the very prominent vertex; in addition, none of the three mentioned species has two pruinose spots on ventrites 1 and 2.

Acknowledgments

I am grateful to colleagues Mathieu Rapp and Enrico Ruzzier for the confidence in entrusting their material. Special thanks to Henry Hespenheide, that who, other than loaning his material for study, was of great help in suggestions and advice.

REFERENCES

- CURLETTI G., 2010 – New species of *Agrilus* from Nicaragua and Costa Rica - *Fragmenta entomologica*, 42(2): 493-498.
- CURLETTI G., 2012 – La foresta di Kakamega in Kenya: nuove specie del Genere *Agrilus* Curtis, 1825 (Coleoptera Buprestidae). *Giornale italiano di Entomologia*, 13 (57): 17-24.
- CURLETTI G., MIGLIORE L., 2013 – A new species of *Agrilus* Curtis, 1825 from the Natural History Museum of Porto Alegre, Brazil. *Giornale italiano di Entomologia*, 13 (58): 351-354.
- CURTIS J., 1825 – *British Entomology; being illustrations and descriptions of the genera of insects found in Great Britain and Ireland: containing coloured figures from nature of the most rare and beautiful species, and in many instances of the plants upon which they are found.* London. Printed for the author, Volume 2, plates 51-98 with text, not paginated.

- KERREMANS C., 1897 – Contribution a l'étude de la faune intertropicale Américaine. Voyages de M. E. Gounelle au Brésil. Buprestides. Mémoires de la Société entomologique de Belgique 6: 1-146.
- LAPORTE [DE CASTELNAU] F. L. N. CAUMONT DE, GORY H. L., 1835 – Histoire naturelle de iconographie des insectes Coléoptères. Monographie des buprestides. P. Duménil, Paris. Volume 1, livraisons 1-7, genera: *Sternocera*, *Julodis*, *Acmaeodera*, *Chrysochroa*, *Chrysodema*, *Ptosima* (genera paged separately). [see Gory & Laporte for Volume 2 and Gory for Volume 4].
- OBENBERGER J., 1933 – Nové druhy rodu *Agrilus* Steph. (Col. Bupr.). De Agrili generis speciebus novis (Col. Bupr.). Acta Entomologica Musei Nationalis Pragae, 11: 15-81.
- THÉRY A., 1947 – Buprestides nouveaux (2^{ème} note). The Annals and Magazine of Natural History, (11)13(1946): 663-683.
- THOMSON J., 1878 – Typi Buprestidarum Musei Thomsoniani. E. Deyrolle, Paris, 103 pp.
- THOMSON J., 1879 – Typi Buprestidarum Musei Thomsoniani, Appendix 1a. E. Deyrolle, Paris, 87 pp.
- WATERHOUSE C. O., 1889 – Biologia Centrali-Americana, Insecta, Coleoptera, Buprestidae, Volume 3, part 1, pp. 49-166, plates IV-VIII and Supplement, pp. 167-193.

SOMMARIO

ESTIVI F., BOUVET D., PANDOLFO A., FRIARD O. - Bibliografia Botanica del Piemonte e della Valle d'Aosta <i>Botanical Bibliography of Piemonte and Valle d'Aosta regions</i>	3
GOTTSCHELICH G., SOLDANO A. - Contributo alla conoscenza del genere <i>Hieracium</i> s.l. (<i>Hieracium</i> s.str., <i>Pilosella</i> , <i>Schlagintweitia</i>) nella provincia di Biella (Piemonte, Italia) <i>Contribution to the knowledge of the genus Hieracium s.l. (Hieracium s.str., Pilosella, Schlagintweitia) in the Biella province (Piedmont, Italy)</i>	15
PIZZO A., ROTA F., OLIVERO G. - Analisi genetica condotta su alcune popolazioni piemontesi di <i>Vinca minor</i> L. tipica (<i>Apocynaceae</i>) e della sua varietà <i>atropurpurea</i> Sweet: studio di un processo evolutivo in atto <i>Genetic analysis on some piedmontese populations of typical Vinca minor L. (Apocynaceae) and its variety atropurpurea Sweet: study of an evolutionary process in progress</i>	33
EVANGELISTA M., SEGLIE D. - Primo ritrovamento in Piemonte di <i>Placobdella costata</i> (Fr. Müller, 1846) (Annelida, Hirudinida, Glossiphoniidae) <i>First record of Placobdella costata (Fr. Müller, 1846) in Piedmont (Annelida, Hirudinida, Glossiphoniidae)</i>	49
COTTARELLI V., BORRONI I., MURA G. - Primo rinvenimento di <i>Branchipus schaefferi</i> Fischer, 1834 in acque temporanee d'alta quota delle Alpi italiane e nuove informazioni sulla distribuzione in Italia di <i>B. schaefferi</i> e <i>B. blanchardi</i> Daday, 1908 (Branchiopoda, Anostraca) <i>First record of Branchipus schaefferi Fischer, 1834 in temporary pools at high altitude on the Italian Alps and new data on the distribution of B. schaefferi and B. blanchardi Daday, 1908 in Italy (Branchiopoda, Anostraca)</i>	59
DELMASTRO G. B., VINÇON G. - The redesccovery of <i>Isoperla obscura</i> (Zetterstedt, 1840) in Italy (Plecoptera, Perlodidae, Isoperlinae) <i>Riscoperta di Isoperla obscura (Zetterstedt, 1840) in Italia (Plecoptera, Perlodidae, Isoperlinae)</i>	73
GIULIANO D., PIANO E. - Gli odonati del Lago del Malpasso (San Giorio di Susa, Torino) <i>The dragonflies of the Malpasso Lake (San Giorio di Susa, TO - NW Italy)</i>	79
BATTISTI A., CERRATO C., VITERBI R., BIONDA R., SAVOLDELLI P. - Gli Ortoteri dei Parchi Naturali Veglia-Devero e Alta Valle Antrona <i>The Orthoptera of "Veglia-Devero" and "Alta Valle Antrona" Natural Park</i>	93
CIRACÌ A. - Nuova segnalazione di <i>Ameles spallanzania</i> (Rossi, 1792) (Insecta, Mantodea) dalla pianura vercellese (Piemonte, Italia Nord-occidentale) <i>Finding of Ameles spallanzania (Rossi, 1792) (Insecta, Mantodea) in the Vercelli plain (Piedmont, North-west Italy)</i>	117
GHIANO S. - Cinipidi galligeni (Hymenoptera Cynipidae) della Rocca del Campione (Cherasco - CN, Piemonte) <i>Cynipid gall wasps (Hymenoptera Cynipidae) of the Rocca del Campione (Cherasco - CN, Piedmont)</i>	121
MOSCA A., FERRARA A. M., GRIECO C., GRASSO I., MOSSI G., PERNA M., ROBERTO P. - Diffusione di <i>Aedes (Stegomyia) albopictus</i> (Skuse, 1895) (Diptera, Culicidae) in Piemonte e prima segnalazione per la Valle d'Aosta <i>Spread of Aedes (Stegomyia) albopictus (Skuse, 1895) (Diptera, Culicidae) in Piedmont and first record for the Aosta Valley (NW Italy)</i>	127
BISIO L., ALLEGRO G., GIUNTELLI P. - I Coleotteri Carabidi della Valle Gesso (Alpi Marittime) (Coleoptera Carabidae) <i>Carabid beetles of the Gesso Valley (Maritime Alps, Piedmont, Cuneo, Italy) (Coleoptera Carabidae)</i>	137
ALLEGRO G., CASALE A., CHIARABAGLIO P. M., DELLA BEFFA G. - I Carabidi del Bosco delle Sorti della Partecipanza di Trino (Coleoptera, Carabidae) (Italia, Piemonte) <i>The Ground Beetles of 'Bosco delle Sorti della Partecipanza di Trino' (Coleoptera, Carabidae) (Italy, Piedmont)</i>	189
CURLETTI G. - New Neotropical <i>Agrilus</i> species (Coleoptera, Buprestidae) <i>Nuove specie Agrilus neotropicali (Coleoptera, Buprestidae)</i>	211
LANA E., SELLA R. - Le grotte del Monte Fenera e la loro fauna <i>The caves of the Mount Fenera and their fauna</i>	225
MOSTINI L. - Animali "nocivi": specie, taglie e premi per la cattura. Una rassegna documentale dal XVIII al XX secolo <i>"Noxious" animals: species, bounties and prizes for capture. A review from 18th to 20th century</i>	299
GIULIANO D. - Gli uccelli del S.I.C. IT1110033 "Stazioni di <i>Myricaria germanica</i> " <i>The birds of the S.C.I. IT1110033 "Stazioni di Myricaria germanica" (Piedmont, Italy)</i>	311
SELVAGGI A. - SOLDANO A. - PASCALE M. - DELLAVEDOVA R.(EDS.) Note floristiche piemontesi n. 706-773 <i>Floristic notes in Piedmont region (NW Italy)</i>	327
COMUNICAZIONI - Ricordo di Angelo Morisi - Informations - <i>In memory of Angelo Morisi</i>	365
Recensioni - Books reviews	373