The origins of the names of Plecoptera genera and species occurring in the Italian Region

INTRODUCTION

Many times, considering the name of an insect species, one may wonder from where it had been derived or who was the person to whom it had been dedicated. Very often, though, names of both genera and species had been coined in a way that is not always understandable anymore to modern students, freed from the obligation to study Latin and Greek. Since the name of a species offers valuable hints and mnemotechnical clues that may shorten the identification process, we decided to summarize this kind of information on the etymology of the species names in this companion article to our study of the Italian stoneflies (Vinçon & Ravizza, in preparation). In addition, we also provide an exhaustive bibliography of the original species descriptions of the Italian Plecoptera fauna.

names of the genera

The names of the genera are listed according to the following systematic order of the families: Perlidae, Perlodidae, Chloroperlidae, Taeniopterygidae, Nemouridae, Leuctridae and Capniidae.

Perla Geoffroy, 1762. Properly speaking, Geoffroy did not coin the name Perla, but only restricted its scope to the order of the Plecoptera, mainly the large Perlidae, known at that time. The name Perla had been used already in the 17th century to designate work, or in memoriam of some scientist of the past. When proposing a new name, some authors explained its etymology, while others did not provide such information, probably because they believed the name to be self-explanatory. After several decades or centuries, however, the original meaning of taxonomic names tends to fade away and fall into oblivion. Moreover, the origins of the older names of species and particularly of genera are often difficult to understand, because they refer to taxonomic problems of the 18th and the 19th century not shared by modern entomologists.

Riassunto: Origine dei nomi dei generi e delle specie di Plecotteri della Regione Italica.

Sono elencate le derivazioni dei nomi delle 177 specie di Plecotteri accertate in Italia. La maggior percentuale di nomi si riferisce a caratteristiche morfologiche della specie (56 specie), seguono quelli dedicati a stimati entomologi o a chi raccolse i primi esemplari (52 specie) e nomi riferiti a luoghi geografici o di derivazione etnologica (45 specie). Un numero limitato di specie (9) fa riferimento a peculiarità ecologiche, altre sono dedicate a un parente dell’autore (6) o anche a un artista o scienziato (3). Infine, 6 specie hanno un nome simbolico. Inoltre abbiamo compilato una particolareggiata bibliografia, elencando tutte le descrizioni originali di specie appartenenti alla plecotterofauna italiana.

Abstract: The origins of the names of the 177 species of stoneflies occurring in the Italian region are listed. These names chiefly refer to a taxonomic characteristic (56 species), then a dedication to a well-known entomologist or to the collector (52), then to either a geographical - ethnological (45) or to an ecological aspect (9). The remaining species are dedicated to someone in the author’s family (6) or to an artist or scientist (3). Finally, 6 other species have a symbolic name. In addition, we also provide an exhaustive bibliography of the original species descriptions of the Italian Plecoptera fauna.

Key words: stoneflies, taxonomy, species name derivation, genus name derivation, Italy, Corsica, Sardinia, Sicily.
Anisoptera, and Pictet (1841: 5-6) attributes its coining to the pearl-like aspect of their eyes. In the 18th century, the name Perla then served to designate a variety of taxa belonging, from the present point of view, to different orders or infraorders: Anisoptera, Plecoptera and Trichoptera.

Dinocras Klapálek, 1907. From the Greek δεινός “terrible, terrifying” (changed to “dino”, like in “dinosaur”) and κράσ “head”, alluding to the particular design of the cephalic mask of the genus.

Perlodes Banks, 1903. From the genus Perla and the Greek suffix “-ōdēs”, meaning “having the aspect of”. Perlodes is a replacement name created by Banks for the preoccupied Dictyopteryx of Pictet (1841).

Besdolus Ricker, 1952. From Russian: bez “without” and dolya “lobe”, because the males of this genus lack the ventral lobe on the 7th sternite (Ricker 1976).

Dictyogenus Klapálek, 1904. From Greek δίκτυον “net”, referring to the reticulated aspect of the wing venation.

Isogenus Newman, 1833. From Greek ἴσος “equal”; this new genus was created to set apart the Perlidae (of the British fauna) with brachypterous males (Dinocras cephalotes, Perla bipunctata (carlukiana)) from those where males and females were both macropterous, i.e. had the same lengths of wings in both sexes (Newman, 1836).

Isoperla Banks, 1906. From Greek ἴσος “equal”. Isoperla had been coined by Banks in contrast to another (Nearctic) genus, namely Alloperla. Both names refer to details in wing venation. “I therefore do so, using the name Isoperla for those forms having the median vein extending basally parallel to the radius, and Alloperla for those forms having the median united to the radius at base.” (p. 175)

Chloroperla Newman, 1836. From Greek χλωρός, meaning greenish-yellow, pale green, pale, (verdant) and the genus Perla.

Siphonoperla Zwick, 1967. A compound word from Greek ξανθός “yellow” and Perla, i.e. a yellow Perlidae.

Brachyptera Newport, 1848. The first described species of this genus was Pictet’s trifasciata the male of which is short-winged.

Rhabdiopteryx Klapálek, 1902. According to Klapálek himself, the name is composed of the Greek ῥαβδίον “stripe” and πτέρυξ “wing”. The name probably refers to the oblique dark stripes on the forewings.

Taenioptrix Pictet, 1841. According to Pictet himself, the name is composed of the Greek ταινία “ribbon” and πτέρυξ “wing”, referring probably to the grey bands crossing obliquely the forewings.

Nemoura Latreille, 1796. From the Latin nemo “none” and the Greek σῶρα “tail”, to indicate that there are no caudal cerci in this genus, in contrast to what Latreille considers as Perla.

Protonemura Kempny, 1898. From Greek πρῶτος “first” and the genus Nemoura. This new genus is placed first in the family of the Nemouridae.

Amphinemura Ris, 1902. From Ancient Greek ἀμφί “around, on both sides of, all around, about” and Nemoura.

Nemurella Kempny, 1898. The genus Nemoura (Nemura) flanked by the Latin diminutive word-forming element -ella.

Leuctra Stephens, 1836. This genus name is somewhat enigmatic, and no explanation for its origin is offered. The name “Leuctra” is known only as a Greek place name, famous for the battle that took place there between the Thebans and the Spartans in 371 BC. The genus Leuctra had been coined by Stephens for the species Leuctra geniculata.

Tyrrhenoleuctra Consiglio, 1957. This name is composed of Tyrrhenian and Leuctra, to name a genus whose species only occur in the region of the Tyrrhenian Sea. Tyrrhenoleuctra is a replacement name for the preoccupied Strobliella, the latter named after the first collector (Strobl) by Klapálek 1901.
Capnia Pictet, 1841. From the female of the Latin *capnios*, or Greek κάπνιος, which means “dark”, an adjective used by Pliny to describe a very dark sort of grapes. The species described by Pictet (1841) under this new genus is *Capnia (Perla) nigra*, also pointing to the overall dark aspect of this taxon.

Capnioneura Ris, 1905, 1913. The wing venation of this genus resembles the one of the genus *Capnia*, whereas other aspects, notably its cerci, make it differ from it. From the genus *Capnia* and the Greek νευρόν “nervation, venation”.

Capnopsis Morton, 1896. From Greek ὄψις “resembling in appearance, alike or similar” and the genus *Capnia*. This genus was first described by Rostock (1892) under the genus Capnides. Morton noted that this genus was preoccupied and proposed therefore the new genus replacement name *Capnopsis*.

Zwicknia Murányi, Gamboa & Orci, 2014. These are the wordings of the original dedication: “The genus is dedicated to Prof. Peter Zwick, Schlitz, Germany, in recognition of his major contributions and establishing leadership in many fields of study of the Plecoptera. The name composed with the ending "nia" corresponding to *Capnia*; gender feminine.”

Names of the Species

abdominalis (Perla abdominalis Burmeister, 1839). From Latin abdomen, abdominalis “abdomen, belly”. The name refers to the characteristic orange colour of the abdomen.

albida (Leuctra albida Kempny, 1898). From Latin albidos “white, pale”. The original description explains the name “albida” by the paler colour of the wings, as compared to other species of Leuctra (p. 13).

algovia (Protonemura algovia Mendl, 1968). The first series of specimens was collected in the Allgäu in the south of Germany. Algovia corresponds to the Latin name of the German “Allgäu”.

alpinum, alpina (Dictyogenus alpinum (Pictet, 1841); Rhabdiopteryx alpina Kühtreiber, 1934; Leuctra alpina Kühtreiber, 1934). From Latin alpina “inhabiting the Alps”; all three species are widespread in the Alps.

ameliae (Leuctra ameliae Vinçon & Ravizza, 1996). It is dedicated to Amélie Vinçon, daughter of Gilles Vinçon.

andreiini (Isoperla andreiini (Festa, 1938)). It was named in honour of Alfredo Andreini (1870-1943), a medical officer who was an amateur entomologist and a smart collector of insects, chiefly Coleoptera, both from Libya and from the northern Apennines.

annae (Leuctra annae Consiglio,1975). It was dedicated to Anne, the author’s wife.

apenninicola (Leuctra apenninicola Ravizza, 1988). From the Latin suffix -cola “dwelling, cultivating” and Apennini “Apennines”.

apicalis (Xanthoperla apicalis (Newman, 1836)). From Latin apicalis “apical”. The origin of the name is unclear; the wording of the original description (p. 501) is as follows: Tota luteo-viridis, oculis antennarum apicibusque nigerrimis. “Entirely of a pale delicate green, with the eyes and extreme portions of the antennae intensely black.” The epithet apicalis hence refers to the deeply black apical parts of the eyes and antennae.

archimedis (Leuctra archimedes Consiglio, 1968). This species, endemic to Sicily, was named in honour of the famous ancient scientist Archimedes (288 BC-212 BC) who lived in Syracuse, a town in Sicily.

armata (Leuctra armata Kempny, 1899). From Latin armata “armed”. The original description explains the name “armata” by the shield-like shape of the abdominal plate of male adults (p. 275).

auberti (Brachyptera auberti Consiglio, 1957; Protonemura auberti Illies, 1954; Leuctra auberti Ravizza & Ravizza Dematteis, 1985). Species named in honour of the Swiss entomologist Jacques Aubert (1916-1995) author of more than one hundred papers on Plecoptera that contain the description of nearly 150 new species. Jacques Aubert undertook several collecting trips to Italy and described a great number of new species from this country. He was a curator and later the director of the Musée zoologique of Lausanne, and also professor of entomology in the Lausanne University and for many years, editor of the Mitteilungen der Schweizerischen entomologischen Gesellschaft.

aubertorum (Leuctra aubertorum Ravizza & Ravizza Dematteis, 1994). In the last years of his life Aubert carried out researches on stoneflies on the Swiss Ticino Canton together with his wife Cécile and his first-born son Charles-Edouard. Among the Plecoptera collected by them there was a single male of this species. “Aubertorum”, genitive plural form, hence refers to the family of Jacques Aubert as a whole.
**ausonia** (Protonemura ausonia Consiglio, 1955). From Latin Ausonia, i.e. the country of the Ausonii an autochthonous population inhabiting Southern Italy.

**austriaca** (Protonemura austriaca Theischinger, 1976). The type series was collected in the Austrian Alps.

**austrialis** (Leuctra austrialis Aubert, 1948). From Latin austrialis “autumnal”, referring to the flight period of this species.

**biellensis** (Leuctra biellensis Festa, 1942). The first collected specimens were from Biellese a Piedmont historic region at the far southern end of the Pennine Alps.

**bipartita** (Protonemura bipartita Consiglio, 1962). From Latin bipartitus “divided into two parts”. The male has the styli separated from the subgenital plate in the paraprocts.

**bipunctata** (Perla bipunctata Pictet, 1833). From the prefix bi- “two, double” and punctatus “with dots”. The name of this species, originally described from larval material, refers to the two round dark patches on both sides of the pronotum (Pictet 1833, p. 56; Pictet 1842, plate 11, fig. 1) of the larvae.

**boreoni** (Leuctra boreoni Aubert, 1962). It was discovered in the Boréon valley in the French Maritime Alps.

**braueri** (Leuctra braueri Kempny, 1898). Dedicated to the Austrian entomologist Friedrich Moritz Brauer (1832-1904) who was Professor of Zoology and Director of the Naturhistorisches Hofmuseum, Vienna; later he was appointed Professor of Zoology in the University. He wrote many papers on Diptera and Neuroptera.

**brevipennis** (Leuctra brevipennis Ravizza, 1978). New adjective created from the Latin brevis “short” and penna “wing”, referring to the shortwingedness in both sexes.

**brevistyla** (Protonemura brevistyla Ris, 1902). New adjective created from the Latin brevis “short” and stylus “style”, referring to the very short style of this species compared to Protonemura nimborum or P. intricata.

**bucolica** (Protonemura bucolica Consiglio, 1957). From Greek βουκολικός “pastoral, shepherd’s”, or from βουκόλος “oxen shepherds”. Why this species has this name is not explained by the author, but “bucolica” seems to be a way to refer indirectly to Corsica, because this epithet is commonly associated with this island, where everything is “bucolic”, from the trains to the hotels and the food. The association of Corsica with “bucolica” probably reaches back to Vergil’s Bucolica.

**budzi** (Leuctra budzi Esben-Petersen, 1912). It was dedicated to Vilhelm Ferdinand Budtz (1855-1925), who collected in Corsica the first specimens of this species.

**calabrica** (Brachyptera calabrica Aubert, 1953). From Latin calabricus “from Calabria”. This species inhabits Calabria, the far south region of the Italian peninsula.

**canavensis** (Leuctra canavensis Ravizza & Ravizza Dematteis, 1992). This species is named after the Canavese (Canavesium in Latin), a historic region of Piemonte (Italy, Graian Alps). It is the only site in which this species has presently been found.

**caprai** (Leuctra caprai Festa, 1939; Protonemura caprai Aubert, 1954) Named in honour of the Italian entomologist Felice Capra (1896-1991), who was curator of the entomologic collections of the Natural History Museum of Genoa for about 35 years. Moreover for 30 years he was editor of the Società entomologica italiana reviews.

**carbonaria** (Isoperla carbonaria Aubert, 1953). From Latin carbonarius “related to charcoal”, probably an allusion to the black abdomen of the adults of this species.

**cephalotes** (Dinocras cephalotes (Curtis, 1827)). From Greek κεφαλή “head”. The species has a large and broad head.

**cinerea selene** (Nemoura cinerea selene Consiglio, 1959). In Greek mythology, Selene is the personification of divine order of the full Moon. The name probably refers to the main distinctive feature of this new subspecies: the head of the paraproct is half-moon shaped, which is not the case in the nominal species.

**cingulata** (Leuctra cingulata Kempny, 1899). From Latin cingulatus “with a belt”, because the abdomen of this species is provided with an arched, well pigmented band.

**concii** (Leuctra concii Consiglio, 1958). Species dedicated to Cesare Conci (1920-2011) who collected in Liguria the first specimens of this species. Conci was a specialist of Odonata, of which he published the first volume of the Fauna d’Italia, as well as Mallophaga and Homoptera Psylloidea. He was curator then director of the Natural History Museum of Milan. Moreover he was President of the Italian entomological Society for almost 30 years.
consiglio (Protonemura consiglioii Aubert, 1953). For more than 20 years Carlo Consiglio (born in 1929 at Rome) studied Odonata and particularly Plecoptera of which he described one new genus (Tyrrhenoleuctra) and 19 new species most of them endemic to Italy. At the University of Rome, he was at first professor of entomology, then full professor of zoology, devoted to nature conservation.
corsicana (Protonemura corsicana (Morton, 1930)). This species is endemic to Corsica.
costai (Protonemura costai Aubert, 1953; Leuctra costai Aubert, 1953). In honour of the Italian entomologist Achille Costa (1823-1898), who was professor of Zoology at the University of Naples. In his collections there were a few dry pinned specimens of these species.
cyrena (Leuctra cyrnea Consiglio & Giudicelli, 1965). From Latin Cyrons after the Greek Κύρνος “Corsica”.
delmastroi (Leuctra delmastroi Vinçon, 2012). Dedicated to Giovanni Delmastro an Italian entomologist and hydrobiologist who collected many stoneflies in the western Italian Alps and Liguria.
dolasilla (Leuctra dolasilla Consiglio, 1955). This name derived from princess Dolasilla, tied to a cycle of legends from the region of the Dolomites, mountains from which the specimens belonging to the type series were collected.
dylanii (Leuctra dylanii Graf, 2007). In honor of Bob Dylan a poet and musician (Robert Allen Zimmerman) born in Duluth (Minnesota USA) in 1941, who was awarded the Nobel Prize in literature in 2016.
elisabethae (Protonemura elisabethae Ravizza, 1976; Leuctra elisabethae Ravizza, 1985). These species were dedicated by the author to his beloved wife Elisabetta Dematteis, partner in life and in collecting and studying Stoneflies. She was at first curator of the zoological museum then professor of zoology at the University of Milan.
ferreri (Dinocras ferreri (Pictet, 1841)). The author found two adult males of this species collected near Torino, in the collection donated by the canon Gian Battista Ferrero (1756-1836) to the Geneva museum. The species was dedicated to him in memoriam.
festai (Leuctra festai Aubert, 1954). Named in honour of the Italian amateur plecopterologist Aldo Festa (1914-2001) from Genoa. In his youth, F. Capra who was his mentor, directed him to study Plecoptera. He was a pioneer in Italy in this kind of studies and described five new species, all endemic to Italy, with all of them confirmed as new species by the British plecopterologist Martin Mosely.
flexuosa (Nemoura flexuosa Aubert, 1949). From the Latin flexuosus “bent”; refers to the slightly excised medial edge of the male paraprocts (Aubert, personal communication).
fochetti (Leuctra fochetti Vinçon & Vitecek, 2017). Species named in honour of Romolo Fochetti, born in 1958 at Roma, for his contributions to the knowledge of the Italian Plecoptera. Fochetti is the co-author of the volume Plecoptera in the Fauna d’Italia series. At present he is a professor of zoology at Tuscia University (Viterbo).
fontium (Dictyogenus fontium (Ris, 1896)). From Latin fontium genitive plural of the Latin fons “spring”, hence “of springs”, since the species occurs at high altitude mainly in the headwaters of glaciers, brooks and rivulets.
fraterna (Leuctra fraterna Morton, 1930). From Latin fraterna “brotherly, fraternal”. As to the name the author explains that the two paired parallel abdomen processes “have the apex shaped more like a bird’s head, the beaks turned inwards and connected by a narrow, very slightly strip”.
fulviceps (Nemoura fulviceps Klápálek, 1902). From Latin fulvus “fulvous” and ceps for caput “head”. Fulvous-headed species, by the rear part of the light brown head.
fusca (Leuctra fusca (Linnaeus, 1758)). From Latin fusca “brown”, probably referring to the brown colour of the body, which is, however, common to many other Leuctra species.
gardinii (Leuctra gardinii Ravizza, 2005). This wingless Leuctra was dedicated to the Italian entomologist Giulio Gardini from Genoa, who collected its first specimens. He is a specialist of Arachnida, Pseudoscorpionida.
gattollati (Zwicknia gattollati Vinçon & Reding, 2018). Species dedicated to Jean-Luc Gattolliat, curator in the Musée cantonal de zoologie, Lausanne, who collaborated with the authors to recognize this new species.
geniculata (Leuctra geniculata Stephens, 1836). From Latin geniculatus “knotty”, provided with knots, relating to the sclerotized processes protruding from the basal segments of nymphal antennae.
grammatica (Isoperla grammatica (Poda, 1761)). The creation of the species name Isoperla grammatica was a pioneer in Italy in this kind of studies and described five new species, all endemic to Italy, with all of them confirmed as new species by the British plecopterologist Martin Mosely.
is traditionally attributed to Poda (1761, p. 99, sub nom. Phryganea grammatica) and the city of Graz (Austria) recorded as its type locality, and not Greece, as some authors pretend, since the Latin Graecia refers to the Austrian city (Rupprecht 1984). The attribute grammatica, “lettered” “inscribed” refers to a letter « V » or « C » engraved on the frontoclypeus of the species and is supposed to correspond to the typical dark horse-shoe mark on the frons of Isoperla grammatica. The adjective “grammatica” refers to the Greek γράμμα “letter”. Poda’s original Latin description says: fronte V. vel C. negro inscripta “a black letter V or C inscribed on the forehead”.

grafi (Leuctra grafi Vinçon & Vitecek, 2017). Species named in honour of Wolfram Graf for his contribution to the knowledge of the Austrian Stoneflies. Wolfram Graf is an aquatic biologist and entomologist who works mainly on Trichoptera, Plecoptera and other aquatic insects. He is professor of Hydrobiology at Vienna University.

grandis (Perla grandis Rambur, 1842). From Latin grandis “large”, referring to the dimension of the species, the largest among all European Perlidae.

hamulata (Xanthoperla hamulata (Morton, 1930)). From Latin hamus “hook, hooked”, from which the adjective hamulatus “with a hook” is derived, referring to the hook-shaped male epiproct. The original description by Morton says “anal appendage seen from above dark brown at its base, the exposed part mostly pale”.

handlirschi (Leuctra handlirschi Kempny, 1898). Species named in honour of the Austrian entomologist Anton Handlirsch (1865-1935). He studied Hymenoptera and Hemiptera and became director of the department of entomology of the Natural History Museum of Vienna.

harperi (Rhabdiopteryx harperi Vinçon & Murányi, 2009). Dedicated to Pierre-Paul Harper (1942-2019), a Canadian entomologist who studies for many years the Plecoptera of the world, including a world catalogue of the order. He was head of the Limnologische Flussstation Schlitz which he turned into a Mekka for students of Plecoptera.

illiesi (Perla illiesi Braasch & Joost, 1973; Nemoura illiesi Mendl, 1968). Named in honour of Joachim Illeys (1925-1982), a German entomologist and hydrobiologist who published many papers on the Plecoptera of the world, including a world catalogue of the order. He was head of the Limnologische Flussstation Schlitz which he turned into a Mekka for students of Plecoptera.

ilviana (Isoperla ilviana Consiglio, 1958). This species is endemic to Elba (in Latin Ilva), the largest island of the Tuscan Archipelagos in the Tyrrenian Sea.

incudensis (Leuctra incudensis Vinçon & Ravizza, 2000). The species is named after the Incudine Mount in the south of Corsica where this species had been discovered.
Leptogaster (Leuctra leptogaster Aubert, 1949). Derived from Greek λεπτός “delicate”, and γαστήρ “stomach”, for its thin and slender abdomen.

Insularis (Isoperla insularis) (Morton, 1930)). From Latin insularis “belonging to an island”. This species is endemic to Corsica and Sardinia islands.

Inermis (Leuctra inermis Kempny, 1899). From Latin inermis “unarmed”, as the males of this species have no sclerified appendages on the abdominal tergites.

Insubrica (Leuctra insubrica Aubert, 1949). Insubria is a historic region, corresponding to the territory sited between the Po River and the pre-alpine lakes, inhabited in the proto-historic period from the IV century BC by the Insubri.

Inermis (Protonemura macrura Aubert, 1953). From the Greek words μακρός “large”, and οὐρά “tail”. This species has a dark appearance with blackish-brown cerci.

Jahorinensis (Leuctra jahorinensis Kacanski, 1972). After the Jahorina Mountains in Bosnia, type locality of this species.

Julia (Protonemura julia Nicolai, 1983). This species was discovered in the Julian Alps.

Juliettae (Leuctra juliettae Vinçon & Graf, 2011). This species occurs in the Pre-Alps close to Verona, so the authors dedicate it to the emblematic Verona lovers, Romeo and Juliette.

Kir (Isoperla kir Fochetti & Vinçon, 1993). Kir was the Phoenician name of Corsica, the island from which this species is endemic.

Kühitreiberi (Taeniopteryx kühitreiberi Aubert, 1950). Dedicated to the Austrian plecopterologist Josef Kühitreiber (1908-1996), who was the author of an important monograph on the North Tirol Stoneflies.

Lagrecai (Protonemura lagrecai Aubert, 1954). It was dedicated to Marcello La Greca (1914-2001) an Italian entomologist and biogeographer. He studied mainly Orthoptera and Mantodea and was a professor of compared anatomy and zoology, first at Naples then at Catania.

Lateralis (Protonemura lateralis) (Pictet, 1836)). From Latin lateralis “lateral”, referring probably to the yellow pronotum margins.

Microcephalus (Perlodes microcephalus) (Pictet, 1833)). Derived from Greek μικρός “small” and κεφαλή “head”. This species has a head that is smaller than the one of the related Perlodes intricatus.

Minima (Nemoura minima Aubert, 1946). From the Latin minimus “smallest”. It is the smallest species among the genus Nemoura.
monilicornis (Brachyptera monilicornis (Pictet, 1841)). The antennal segments are rounded and well separated from each other, like beads. From Latin *monile* “necklace” and *cornum* “antenna”.

montana (Siphonoperla montana (Pictet, 1841)). Latin *montanus* “mountainous”. This species occurs in many types of watercourses in the Alps.

mortonii (Nemoura mortoni Ris, 1902; Leuctra mortoni Kempny, 1889). These species were dedicated to Kenneth J. Morton (1858–1940), a Scottish entomologist with a particular interest in the study of Odonata, Neuroptera and Plecoptera.

moselyi (Leuctra moselyi Morton, 1929). Species named in honour of the British entomologist Martin Ephraim Mosely (1867-1948). As an amateur he devoted much of his spare time to study Ephemeroptera, Plecoptera and chiefly Trichoptera, publishing over 100 scientific papers.

muranyii (Leuctra muranyii Vinçon & Graf, 2011). Dedicated to the Hungarian entomologist Dávid Murányi. His publication list now includes many papers on Far Eastern fauna; he lived in Japan for over a year and travelled in China as well. He established the genus *Zwicknia* and described many stonefly species from eastern Europe and from the Oriental region.

nebulosa (Taeniopteryx nebulosa (Linnaeus, 1758)). From Latin *nebulosus* “misty”; to indicate the opaque wings with little marked veins.

neglecta (Rhabdiopteryx neglecta Albarda, 1889). From Latin *neglectus* (feminine *neglecta*) “disregarded, ignored, neglected”. The species was neglected because confused with another species, namely *Taeniopteryx nebulosa*.

nemuroides (Capnioneura nemuroides Ris, 1905). The name reminds us of the feature of a *Nemoura* species, whereas its wing venation is close to that of *Capnia*.

nigra (Capnia nigra (Pictet, 1833)). From Latin *niger* “black” for the dark colour of this species.

nimborella (Protonemura nimborella Mosely, 1930). From Latin -*ella*, a diminutive word-forming element, so *nimborella* refers to a small-sized *P. nimborum*.

nimborum (Protonemura nimborum Ris, 1902). From the genitive plural of the Latin *nimbus* “cloud, or dark grey cloud that often produces rain or snow”. The reason for this name is unclear. The name perhaps refers to the “cloudy” aspect of the wing venation.

nitida (Protonemura nitida (Pictet, 1836)). From Latin *nitidus* “shining”. The original description (p. 179) emphasises the shining (= *nitidus*) black head and pronotum, thought to be characteristic of the taxon.

niveola (Leuctra niveola Schmid, 1947). The adjective *niveola* is not attested in classical Latin; it is, however, a common botanical epithet. By its etymology, the name is related to snow and hence points to the early flight period of this species which is often found walking on snow.

nubeculum (Isogenus nubeculum Newman, 1833). *Nubeculum* is a Latin expression of post-classical origin, used mainly in zoology to point to characteristics denoting a stained aspect. The term is related to the Latin *nubes* “cloud”. The name refers to the cloudy stain on the wings distinctive of this genus.

obscura (Isoperla obscura (Zetterstedt, 1840)). From Latin *obscurs* “dark, shadowy, indistinct”. The general colour of this species is dark-yellow, usually well pigmented.

obtusa (Nemoura obtusa Ris, 1902). From Latin *obtusus* “blunted, not sharp”, referring to the blunt paraprocts of the male.

oenotriai (Isoperla oenotriai Consiglio, 1967). The Oenotrians were an ancient people of Greek origin who inhabited a territory from Paestum to southern Calabria in southern Italy.

orobica (Isoperla orobica Ravizza, 1975). The name derives from the Orobian Alps where the species was found.

oropensis (Nemoura oropensis Ravizza & Ravizza De-matteis, 1980). This species occurs in the headwater of the Oropa stream, in the Biellese, an historic Piedmont region in the southern slopes of the Pennine Alps.

orsiera (Leuctra orsiera Ravizza & Vinçon, 2003). By the Orsiera Mount near Susa, where was collected the type series of this species.

oxylepis (Isoperla oxylepis (Despax, 1936)). A compound word, from Greek οξύς “sharp, pungent, pointed” and λεπίς “scale”. Despax was the first who studied the penial armature of *Isoperla*, and felt this species had very sharp scales.

padana (Protonemura padana Vinçon & Ravizza, 2005). From Latin *Padanus* derived from *Padus*, the Latin name of the Po River.

palliventris (Nemoura palliventris Aubert, 1953). Compound name from Latin *pallidus* “pale yellow-green” and *venter* (genitive *ventris*) “belly” alluding to the pale abdomen of the adults.

pasquinii (Leuctra pasquinii Consiglio, 1958). The author has dedicated this species to Pasquale Pasquini.
(1901-1977), his Professor of zoology at the University of Rome, who granted financial support to research on Plecoptera in Central Italy.

**pesarinii** (Nemoura pesarinii Ravizza & Ravizza Dematteis, 1979). The first specimens of this species were collected by Carlo Pesarini (1946-2017), who was curator of invertebrate collections in the Natural history Museum of Milan and researcher of Coleoptera and Araneidae.

**petricola** (Capnioneura petricola Giudicelli, 1967). From Latin *petra* “rock” and the suffix -*cola* “dwelling, cultivating”. The species inhabits temporary brooks drying out in summer; adult specimens were collected by the author under stones in December.

**pictetii** (Nemurella pictetii Klápálek, 1900). Named in honour of the Swiss zoologist and palaeontologist François-Jules Pictet (1809-1872) who was the first to publish in 1841 a very important handbook on Plecoptera containing the descriptions of a number of new species, and completed with a volume of Stonefly full colour paintings. He established the genera new species, and completed with a volume of Stonefly containing the descriptions of a number of new species. He published in 1841 a very important handbook on Plecoptera containing the descriptions of a number of new species, and completed with a volume of Stonefly full colour paintings. He established the genera Tae-niopteryx and Capnia.

**praecox** (Protonemura praecox (Morton, 1894)). From the Latin *praecox* “very early”. The name refers to the emergence period of the species in early spring.

**prima** (Leuctra prima Kempny, 1899). From Latin *prima* “first”, as it is one of the first *Leuctra* emerging in winter, adults being found often on snow.

**pseudorosinae** (Leuctra pseudorosinae Aubert, 1954). Closely related to *L. rosinae*, with which it might be confused.

**pusilla** (Leuctra pusilla Krno, 1985). From Latin *pusillus* “tiny, little”, probably because the size of the species is smaller than the average *Leuctra* size.

**queyrassiana** (Leuctra queyrassiana Ravizza & Vinçon, 1991). It was named after the Queyras massif in the French Hautes Alpes.

**rauscheri** (Leuctra rauscheri Aubert, 1957). This species was named in honour of the Czech plecopterologist Jaroslav Raušer (1925-1993). By profession he was a geographer in the Prague University, but always loved to work on stoneflies publishing more than 20 papers.

**ravizzai** (Leuctra ravizzai Ravizza Dematteis & Vinçon, 1994). Born in 1934 at Milan, he is an amateur entomologist, who for half a century dealt with European Stoneflies, mainly the ones occurring in the Italian Region.

**ravizzarum** (Besdolus ravizzarum Zwick & Weinzierl, 1995). The Ravizza couple collected a series of specimens that they classified as *Dictyogenus ventralis*, but it was a new species which was named in their honour.

**rasi** (Brachyptera rasi (Morton, 1896)). Friedrich Ris (1867-1931) was a Swiss entomologist who specialised in Odonata. He was Director of a psychiatric clinic in Rheinau, Switzerland.

**rivorum** (Nemoura rivorum Ravizza & Ravizza Dematteis, 1995). From Latin genitive plural of *rivus* “brook, stream, streamlet”.

**rivulorum** (Isoperla rivulorum (Pictet, 1841)). From Latin genitive plural of *rutilus* diminutive of *rivus* “a small brook, rivulet”.

**rosiniae** (Leuctra rosiniae Kempny, 1900). Species dedicated to “Fräulein” (Miss) Rosine Handlirsch (1848-1938), a sister of Anton Handlirsch. She was an artist and poet, and one of the first feminists in 19th century Vienna. Rosine Handlirsch is probably also one of the first female plecopterologists, and Kempny had dedicated the species to her because she was its first collector.

**ruffoi** (Protonemura ruffoi Consiglio, 1961). Sandro Ruffo (1915-2010) was a zoologist and zoogeographer, in 1945 he became curator, in 1964 director of the Natural History Museum of Verona. He published more than 300 papers chiefly on Amphipods, of which he was a world specialist, and also on Coleoptera Chrysomelidae. It was co-editor of the Checklist and Distribution of the Italian Fauna too.

**sabina** (Nemoura sabina Fochetti & Vinçon, 2009). Refers to the Latin name of the Region where it was collected in Latium.

**saccai** (Isoperla saccai (Festa, 1939)). Dedicated to Giuseppe Saccà (1916-2008) who first collected a couple of specimens of this species. Saccà, was a doctor of medicine, but his love of entomology led him professionally to work in applied entomology, focusing his scientific activity on disease vectors and their control, publishing 106 original papers dealing with Leishmania vectors, *Anopheles* mosquitoes and food pests.

**safii** (Protonemura safii Aubert, 1954). Dedicated to Mario Salfi (1900-1970), an Italian zoologist and entomologist. In 1948 he became professor of zoology at the University of Naples. His studies concerned mainly the taxonomy, biogeography and ecology of Orthoptera as well as Tunicata Ascidiae.

**schilleri** (Capnopsis schilleri (Rostock, 1892)). The
author dedicated this species to his friend Karl Schiller (1840-1910) who collected the first six adult specimens near Dresden in Germany.

**schmidt** (*Leuctra schmidt* Aubert, 1946). Species dedicated to the Swiss entomologist Fernand Schmid (1924-1998) who collected the first specimens of this species.

**schoenemundi** (*Taeniopteryx schoenemundi* (Mertens, 1923)). This species is dedicated to Eduard Schoenemund (1886-1943), an important German freshwater entomologist, who published 87 works, mainly on Mayflies, and 17 on Stoneflies.

**sesvenna** (*Leuctra sesvenna* Aubert, 1953). The specimens of the type series were collected in the Sesvenna Valley in Engadine (Rhaetian Alps, Switzerland).

**seticornis** (*Brachyptera seticornis* (Klapálek, 1902)). Name given in contradistinction to Pictet’s *Brachyptera monilicornis*. The segments of the antennae of this new species do not have a bead-like aspect, like pearls in a necklace as we find it in *B. monilicornis*, but are more like bristles, as the original description says (p. 168). From Latin *seta* “hair, bristle” and *cornum* “antenna”.

**sicula** (*Protonemura sicula* Consiglio, 1961). The name is derived from the latinized adjective for “Sicily” from where this species is endemic.

**silana** (*Leuctra silana* Aubert, 1953). The name derives from the Sila plateau in Calabria, where the species was found.

**sinuata** (*Nemoura sinuata* Ris, 1902). From the Latin *sinuatus* “bent”. In lateral view the epiproct sclerite appears sinuate.

**standfussi** (*Amphinemura standfussi* Ris, 1902). This species was dedicated to Maximilian Rudolph Standfuss (1854-1917) a German-Swiss entomologist specialized in Lepidoptera.

**stankovitch** (*Taeniopteryx stankovitchi* Ikonomov, 1978). Dedicated in memoriam of Professor Sinicha Stankovitch (1892-1974) who was an esteemed researcher of Limnology in Serbia.

**subalpina** (*Leuctra subalpina* Vinçon, Ravizza & Aubert, 1995). The species name comes from Latin *sub* “under, beneath” and *alpina*, as this species generally occurs in the Alps at lower altitudes than the closely related *L. alpina* and inhabits mountainous regions at the foothills of the Alps (Jura, Northern Apennines).

**sulcicollis** (*Amphinemura sulcicollis* (Stephens, 1836)). From Latin *sulcus* “furrow, wrinkle” and *collum* “neck”, supposed to be distinguished by a furrow on the pronotum.

**susemicheli** (*Chloroperla susemicheli* Zwick, 1967). Species dedicated to Georg Susemichel (1926-2007), first collector of the species. He assisted students of aquatic insects far beyond his obligations as a member of the technical staff of the Schlitz institute.

**teriolensis** (*Leuctra teriolensis* Kempny, 1900). This species was described from specimens collected in Tyrol/Tirolo in the Atesine Alps. The adjective *teriolensis* is a modern derivation from the place name of Tyrol.

**triangularis** (*Amphinemura triangularis* Ris, 1902). From Latin *triangularis* “triangular”, an allusion to the shape of the epiproct, in dorsal view.

**trifasciata** (*Brachyptera trifasciata* (Pictet, 1832)). From the prefix *tri-* “three, thrice” and *fasciatus* “banded”. The forewings of the females have three transverse pigmented stripes, while the male is short winged.

**tripunctata** (*Chloroperla tripunctata* (Scopoli, 1763)). From the prefix *tri-* “three, thrice” and *punctatus* “with dots”. A reference to the three black ocelli on the pale head.

**tyrrhena** (*Protonemura tyrrhena* Festa, 1938). Named after a land area around the Tyrrhenian Sea (Corsica, Sardinia, and Italy’s west coast). This species was described from specimens collected in localities belonging to the Tuscan Archipelagos.

**uncinata** (*Nemoura uncinata* Despax, 1934). From the Latin adjective *uncinatus* “possessing a hook” derived from *uncinus* “hook, barb”, a reference to the hooked male cercus.

**undulata** (*Nemoura undulata* Ris, 1902). From Latin *undulatus* “wavy, undulated”. The veins at the apex of the wings are sinuous (Aubert 1950b).


**vidua** (*Capnia vidua vidua* Klapálek, 1904). From Latin *vidua* “widow”; no males were initially collected.

**vinconi** (*Leuctra vinconi* Ravizza & Ravizza Dematteis, 1993). Species dedicated to the French entomologist Gilles Vinçon, a keen student of Stoneflies, who collected the first specimens of this *Leuctra*, and recognized that it was a new species.

**zavattarii** (*Tyrrenoleuctra zavattarii* (Consiglio, 1956)). Species dedicated to Edoardo Zavattari (1883-
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1972), who was a biologist, explorer, entomologist and zoogeographer. For many years he was professor of zoology and director of the Istituto di zoologia dell’Università di Roma, zwicki (Leuctra zwicki Ravizza & Vinçon, 1991; Isoperla zwicki Tierno de Figueroa & Fochetti, 2001). Peter Zwick, born in 1941 at Berlin is a qualified entomologist who studies mainly Plecoptera. He was for more than 20 years editor of Aquatic Insects and director of the Limnologische Flussstation of Schlitz.

He published the important textbook of the Plecoptera phylogenetic system and catalogue, and established the genera Siphonoperla and Xanthoperla.

DISCUSSION
According to the origin of their name, the Italian species can be subdivided into 7 groups.

Names pointing to a morphological feature (56 species).
Most of these names appear to be derived from Latin, only a few ones from ancient Greek abdominalis, albida, apicalis, armata, bipartita, bipunctata, brevipennis, brevistylo, carbonaria, cephalotes, cingulata, flexuosa, fulviceps, fusca, geniculata, grammatica, grandis, hamulata, hexacanthia, hippopus, inermis, intricata, intricatus, lateralis, leptogaster, lugens, macrura, major, marginata (2), megacephala, microcephalus, minima, monilicornis, nebulosa, neglecta, nemuroides, nigra, nimborella, nimbornum, nitida, nubeculum, obscura, obtusa, oxylepis, palliventris, pseudorosinae, pusilla, seticornis, sinuata, sulcicollis, triangularis, trisparta, tripunctata, uncinata, undulata.

Names dedicated to the first collector or to a well-known entomologist or biologist (53 species).
Twenty-three species out of fifty-one, concerning species endemic to Italy, were dedicated to Italian scholars. Almost all the remaining ones were named either to European plecopterologists or entomologists, except for the one dedicated to a Canadian plecopterologist.

andreinii, auberti (3), aubertorum, braueri, budzii, caprai (2), concii, consiglio, costai (2), delmastrovi, ferreri, festai, fochetti, gardinii, gattolliatii, grafi, handlirschi, harperi, hrabei, illiesi (2), kühetreberi, lagrecii, meyeri, mortoni (2), moselyi, muranyii, pasquinii, pesarinii, pictetti, rauscheri, ravizzai, ravizzarum, risi, rosinae, ruffoi, saccii, salfii, schilleri, schmids, schoenemundi, standfussi, stankovitchi, susemicheli, vinconi, zavattarii, zwicki (2).

Names pointing to a geographical or ethnological aspect (45 species).
algovia, alpina (2), alpinum, apenninicola, ausonia, austriaca, biellensis, boreoni, calabrica, canavensis, corsicana, cyrnea, helvetica, hesperiae, hirpina, hyblaea, ichnusae, illyrica, ilvana, incudensis, insubrica, insularis, italicana, jahorinensis, julia, kir, ligurica, lucana, meridionalis, oenotriana, orobica, opaleae, orsiera, padana, queyrassiana, sabina, sesvennana, sicula, silana, subalpina, teriolensis, tyrrhena, vesulensi.

Names pointing to an ecological characteristic (9 species):
autumnalis, fontium, montana, niveola, petricola, praecox, prima, rivorum, rivulorum.

Names dedicated to a family member (5 species):
ameliae, annae, elisabethae (2), helenae.

Symbolic names (6 species):
bucolica, dolasilla, fraterna, juliettae, selene, vidua.

Names dedicated to an artist or scientist (3 species):
archimedis, dylani, mercuryi.

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