

RESEARCH

Marvel and DC Characters Inspired by Arachnids

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This article compares arachnid-based Marvel and DC comics characters. The composition of a comic book character often has interesting 'real-life' influences. Given the strong connection between arachnids (especially spiders, scorpions and mites, all belonging to the zoological class *Arachnida*) and human beings it is not surprising that they have inspired many fictional characters.

We recorded 84 Marvel Comics characters and 40 DC Comics characters, detailed in the dataset that accompanies the article (Da-Silva 2014). Most characters have been created recently, since the 1990s. Marvel has significantly more arachnid characters than DC. As for taxonomic classification, the characters were based mostly on spiders (zoological order *Araneae*). Of the total characters, the majority are human beings, but an overwhelming number have at least some typical arachnid features. Villains (60.91% of total) are significantly more numerous, considering the sum of the two publishers. Arachnids have bad reputation for being dangerous (Thorp and Woodson 1976; Ruppert and Barnes 1996). Since the public usually considers spiders, scorpions and mites "harmful" in general, we expected a larger contingent of villains. However, there was no statistical difference between the amount of villains and heroes in Marvel characters. It did not happen probably due to the success of one character: the Amazing Spider-Man.

Keywords: Zoology; Arthropoda; Arachnida; pop culture; entertainment; comics; spiders; superheroes

Introduction

Comics often have details and sophisticated allusions that could and should be leveraged in various ways, including in the classroom, to arouse the interests and hold the attention of students (Rama and Vergueiro 2004; Marchiori 2011; Quartim 2013; Miranda 2014).

Despite being a creatively free process, the composition of a comic book character often has interesting 'real-life' influences. Given the strong connection between arachnids (especially spiders, scorpions and

mites, all belonging to the class *Arachnida*) and human beings (Mundkur 1983; Cloudsley Thomson 1990, 2001; Monzón and Blasco Gil 1995, 1996a, b, c, d, 1997, 1998; Ruppert and Barnes 1996; Melic 1997, 2002, 2003), it is not surprising that they have inspired many fictional characters.

Focusing only on the two major American comics publishers, DC Comics and Marvel Comics, we conducted an inventory of the characters that have been inspired by arachnids in some way. We have compared the features of these characters with the morphology, biology and behaviour of living arachnids from the 'real' world.

Materials and Methods

For the inventory of characters, we used basic sources like encyclopaedias (Beatty *et al.* 2009; DeFalco *et al.* 2009; Saunders *et al.* 2010; David and Greenberger 2010; Beatty *et al.* 2012), available comics and websites. We classified the characters according to the publisher, social role (hero or villain), taxonomic classification (order) of the inspiring arachnid, the presence/absence of features associated with arachnids, and the decade of creation. We also considered the "*femme fatale*" effect, something the general public in general observe in spiders, derived from the fact that some female spiders devour their partners after copulation (Thorp and Woodson 1976; Foelix 2011).

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The classes were statistically compared through the Pearson's nonparametric chi-squared test (Siegel 1981), and the results were considered significant with "p" values less than 0.05, always comparing one by one (1 degree of freedom).

Animals (Especially Arthropods) in Cultural Expressions

Issues relating Zoology to cultural events have been gaining prominence recently. Coelho (2000, 2004) studied insect references in the lyrics and cover art of rock music albums, respectively. Ashenden (2000–2001) made an entomological survey of the renowned novel *Ada*, by Vladimir Nabokov. Cherry (2002, 2005) studied the role of insects in mythology and magic, respectively.

Mariño Pérez and Mendoza Almeralla (2006) made a critical analysis of the presence of insects and other arthropods in films from 1938 to 2002. Costa Neto (2006) surveyed the use of insects in popular customs and celebrations in northeastern Brazil. Mendonça (2008) studied folkloric demonstrations that could enhance the learning of Zoology at school. Chantoury-Lacombe (2009) studied the connection between insects and painting techniques used in renaissance Europe. Monserrat (2009, 2011) approached the presence of arthropods in paintings of Hieronymus Bosch and Salvador Dali, respectively. Carvalho (2010) investigated the symbolic meaning of two butterfly species represented in paintings of the XV century. Monserrat (2010) made a study of tattoos containing visual references to arthropods. Nemésio *et al.* (2013) approached the use of different taxonomic groups of animals in postage stamps. Recently, animal species have been named after pop culture icons, such as artists (Dumas *et al.* 2013), athletes (Santos and Nessimian 2009) and fictional characters. Of the latter, interesting examples include a leafhopper (insect) named after Batman (Rodrigues *et al.* 2012) and a shrew (mammal) named after the god Thor (Stanley *et al.* 2013).

Arachnids and Culture

Through history, arachnid symbolism in culture and mythology has been remarkable. The cultural entomology of the Sumerian era (3,500 B.C.), for example, is fundamentally based on arachnids. The most important arthropods in this mythology are scorpions and spiders (Melic 2002). Astronomers of Babylon were the first to recognize the Tauro and Scorpion constellations around 4,000 years ago, showing the influence of these animals on that people (Melic 2003). In Navajo Creation myth, Grandmother Spider Woman spins all life from the shimmering threads in her belly (Bartlett 2009). The ancient Vedic philosophy of India suggests that a spider wove the veil of illusion, which hides the supreme reality. In western Africa, Anansi, the spider, prepared the material of which the first human beings were made, and so created sin, the moon and the stars (Cicchetti 2003). Old assertions concerning the birth of the scorpion emerging from various corpses are interpreted as probably resulting from observations of scorpions preying on arthropods on carcasses. Some

ancient Egyptian myths emphasize the sacred character of the scorpion as the protector of marriage, and this curious veneration results from accurate observations of scorpions' sexual behaviour and courtship (Ferrer 2009). In pop culture, spiders have been highlighted in epic literary sagas (and consequently in the movies), such as *Harry Potter and the Chamber of Secrets* (2003) and *The Lord of the Rings - The Return of the King* (2004). The spider generally symbolizes patience and tenacity, due to its hunting skills. In addition, it has a lugubrious side that fascinates and scares, enhanced by its poison, which causes paralysis and death to its victims.

In the Roman poet Ovid's collection of stories about the rivalry between gods and mortals, Arachne was a beautiful girl highly skilled in weaving who was once challenged by Athene (Minerva), goddess of the wisdom, weaving, and strategy, to a contest. Arachne wove a tapestry of marvelous beauty on which she depicted the amours of the gods and goddesses. The beauty and the subject of the tapestry so enraged the goddess that she ripped Arachne's work into shreds. Arachne, overcome with despair, hung herself. Mercifully, Athene gives her life back turning her into a spider and cursing her and her descendants to weave for all time (Thorp and Woodson 1976; Fantham 2004).

A Brief Zoological Characterisation of Arachnids

Arachnids are zoologically placed in the class *Arachnida*, a group that contains 114,275 species described so far, distributed among 11 extant orders (Zhang 2013). They are part of the subphylum *Chelicerata*, one of the largest of the phylum Arthropoda (Zhang 2013). The class includes many common and familiar forms, such as spiders, scorpions, and mites (Ruppert and Barnes 1996; Brusca and Brusca, 2003; Zhang 2013).

The main morphological characteristics of *Arachnida* are the division of the body into two parts, the prosoma (or cephalothorax) and the opisthosoma (or abdomen), the presence of chelicerae (the mouth part of the arachnids, also called fang), and the presence of eight legs (**Figure 1A, B**). The fangs of all arachnids lacerate their prey, and spiders have venom glands (**Figure 1B**). Scorpions also have venom glands, but they are present in the last segment of the metasoma (**Figure 1A**) that also helps immobilize and digest their prey. All arachnids are easy to recognize because of their body divisions and their eight legs, but the Acari (mites and ticks) have great diversity of shape, and most of them have the prosoma and the opisthosoma fused, so both parts are not distinguishable; in these animals just the legs and the mouth parts are recognizable as joint parts (**Figure 1C**). In the spiders one appendage is greatly responsible for its enormous diversity, the spinnerets (**Figure 1B**), which are associated with glands that produce the silk they use to build their webs.

We ranked Marvel and DC characters according to arachnid features, such as web weaving (only in spiders), venom inoculation (in both spiders and scorpions),

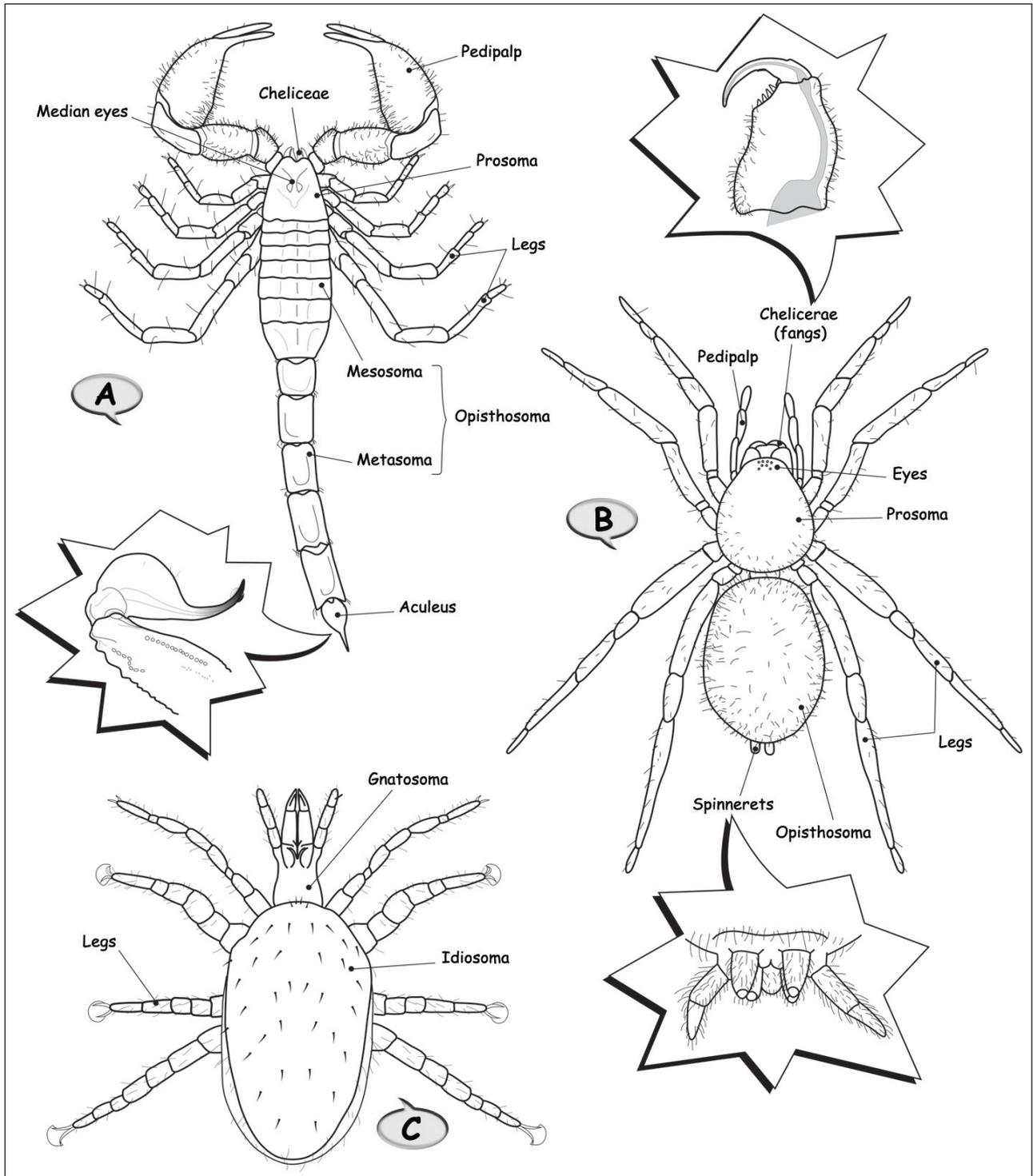


Figure 1: Drawings of generalized arachnids (Class Arachnida): A, scorpion (Order Scorpiones) with a detail of the aculeus; B, spider (Order Araneae) with a detail of a fang and the spinnerets; C, mite (Order Acari). A and C: modified from Savory (1977). B: modified from Brusca & Brusca (2003); detail chelicerae modified from Foelix (2007); detail spinnerets modified from Ovtsharenko and Tanasevitch (2002).

exoskeleton (responsible for surface resistance and hardness, among other advantages, in all arthropods), multiple eyes (allowing some arachnids to form images and others to differentiate light from dark), chelicerae, eight legs, a post abdomen (for example, the scorpion's metasoma, popularly called its "tail") and the ability to climb vertical smooth surfaces (in spiders and mites).

Arachnids in the Marvel and DC Universes

We recorded 84 Marvel characters (**Table 1; Figure 2**) and 40 DC characters (**Table 2; Figure 3**). Most of the characters (75, almost two thirds of the total) have been created since the 1990s (**Table 3**). The chi-squared test results are summarized in **Table 4**. As a probable consequence of Spider-Man's success as a pop culture icon, Marvel has

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC	SOCIAL ROLE	YEAR
Agent Venom	Flash Thompson	Ar.	Human	1	Hero	2011
Ai Apaec	Ai Apaec	Ar.	Human/Spider	1, 2, 3, 4	Hero	2011
Alistaire Smythe (Spider-Slayer)	Alistaire Smythe	Ar.	Human	1, 5, 6	Villain	1985
Arachnaughts	Arachnaughts	Ar.	Vehicle Robot	2, 3	Villain	2013
Arachne	Julia Carpenter	Ar.	Human	1, 7	Hero	1984
Arachne (Ancient Deity)	Arachne	Ar.	Human/Spider	2, 3, 7	Villain	2010
Arachne (Deathweb)	Dr Sylvie Yaqua	Ar.	Human	4, 7	Villain	1992
Arachne (Demon-Fire)	Unknown	Ar.	Devil Spider	2, 3, 7	Villain	1974
Arachnid	Unknown	Ar.	Human	None	Hero	1983
Arachnoid	Zoltan Amadeus	Ar.	Human	2, 3, 7	Villain	1983
Arachnoid	Bradley Shaw	Ar.	Human	2, 3, 7	Villain	1981
Araña / Spider-girl	Anya Corazón	Ar.	Human	1, 5, 7	Hero	2004
Black Widow	Claire Voyant	Ar.	Human	16	Villain	1940
Black Widow	Natasha Romanoff	Ar.	Human	15	Hero	1964
Black Widow / Adaptoid	Yelena Belova	Ar.	Human	8, 15	Hero	1999
Black Widow Ultimate	Monica Chang-Fury	Ar.	Human	15	Hero	2009
Black Widow Spider-Slayer	Black Widow Spider-Slayer	Ar.	Vehicle Robot	2, 3, 5	Villain	1995
Blood Spider	Michael Bingham	Ar.	Human	1, 7	Villain	1992
Bride Of Nine Spiders	Unknown	Ar.	Human	4	Hero	2007
Carnage	Cletus Kasady	Ar.	Human	1, 7	Villain	1992
Doppelganger	Unknown	Ar.	Human/Spider	1, 2, 7	Villain	1992
Dyna-Mite	Roger Aubrey	Ac.	Human	None	Hero	1943
Ezekiel	Ezekiel Sims	Ar.	Human	1	Villain	2001
Iron Spider-Man	Peter Parker	Ar.	Human	1, 2, 5, 7, 9	Hero	2006
Karlin Malus	Karlin Malus	Ar.	Human Symbionte	1, 7	Villain	1980
Madame Web	Cassandra Webb	Ar.	Human	None	Hero	1980
Man-Spider	Webster Weaver	Ar.	Human/Spider	1, 2, 7	Hero	1978

Contd.

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC	SOCIAL ROLE	YEAR
Monster-Ock	Dr. Otto Octavius + Carnage	Ar.	Human Symbiont	2	Villain	2000
New Venom	Normie Osborn III	Ar.	Human	1, 7	Villain	1998
Scarlet Spider	Ben Reilly	Ar.	Human	1, 7	Hero	1994
Scarlet Spider	Joe Wade	Ar.	Human	1, 5	Villain	1995
Scarlet Spider (MC2)	Felicity Hardy	Ar.	Human	7	Hero	2002
Scarlet Spider / Tarantula	Kaine Parker	Ar.	Human	1, 4, 7	Hero	1994
Scorn	Doctor Tanis Nieves	Ar.	Human Symbiont	1, 7	Hero	2010
Scorpio	Jake Fury	Sc.	Human	4	Villain	1968
Scorpio	Jacques LaPoint	Sc.	Android	None	Hero	1986
Scorpio	Mikel Fury	Sc.	Human	None	Hero	1989
Scorpion	Paul Rogers	Sc.	Human	10	Villain	1962
Scorpion	Sam Scorpion	Sc.	Human	5, 11	Villain	1964
Scorpion	Jim Evans	Sc.	Human	4	Villain	1967
Scorpion	McDonald Gargan	Sc.	Human	1, 12	Villain	1964
Scorpion (Carmilla Black)	Thasanee Rappaccini	Sc.	Human	11	Hero	2005
Scorpion 2099	Kron Stone	Sc.	Human	5, 10	Villain	1993
Scorpion (Ultimate)	Maximus Gargan	Sc.	Human	5, 11	Villain	2012
Scorpion Spider-Slayer	Scorpion Spider-Slayer	Sc.	Vehicle Robot	2, 12	Villain	1995
She-Venom	Anne Weying	Ar.	Human	1	Hero	1993
She-Venom	Patricia Robertson	Ar.	Human	1	Hero	2003
Singing Spider	Unknown	Ar.	Human	None	Hero	2009
Spider Carnage	Ben Reilly + Carnage	Ar.	Human Symbiont	1, 7	Villain	1998
Spider Queen	Adriana Soria	Ar.	Human Mutant	2, 3	Villain	2004
Spider Queen	Sheron Kaine	Ar.	Human	7	Hero	1941
Spidercide	Unknown	Ar.	Human	1	Villain	1995

Contd.

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC	SOCIAL ROLE	YEAR
Spider-Girl	May "MayDay" Parker	Ar.	Human	1, 7	Hero	1998
Spider-Kid	Benjamin Parker?	Ar.	Human	1, 7	Hero	2007
Spider-Man	Peter Parker	Ar.	Human	1, 7	Hero	1962
Spider-Man (MC2)	Gerry Drew	Ar.	Human	1, 7	Hero	2001
Spider-Man 1602	Peter Parquagh	Ar.	Human	None	Hero	2001
Spider-Man 2099	Miguel O'Hara	Ar.	Human	1, 7	Hero	1992
Spider-Man 2211	Jamoff "Max" Borne	Ar.	Human	2	Hero	1995
Spider-Man (Ultimate)	Miles Morales	Ar.	Human	1, 7	Hero	2011
Spider-Man India	Pavitr Prabhakar	Ar.	Human	1, 7	Hero	2004
Spider-Man Manga	Komori Yū	Ar.	Human	1, 7	Hero	1970
Spider-Slayer Mark I a XIX	Spider-Slayer Mark	Ar./Sc.	Vehicle Robot	2, 5	Villain	1972
Spider-Woman	Jessica Drew	Ar.	Human	1	Hero	1977
Spider-Woman	Charlotte Witter	Ar.	Human/Spider	1, 7, 13	Villain	1999
Spider-Woman	Mattie Franklin	Ar.	Human	1, 13	Hero	1998
Spider-Woman (version Exiles)	Mary Jane Watson	Ar.	Human	1, 7	Hero	2001
Spider-X	Brian Kornfield	Ar.	Human	1, 6, 13	Villain	1993
Steel-Spider	Oliver "Ollie" Osnick	Ar.	Human	2	Hero	1998
Superior Spider-Man	Otto Octavius	Ar.	Human	1, 7	Hero	2013
Tarantula	Clay Riley	Ar.	Human	None	Villain	1967
Tarantula	Anton Miguel Rodriguez	Ar.	Human	2, 3	Villain	1974
Tarantula	Luis Alvarez	Ar.	Human	1, 7	Hero	1988
Tarantula	Jacinda Rodriguez	Ar.	Human	1, 7	Hero	2003
Tarantula	Maria Vasquez	Ar.	Human	None	Villain	2006
Tarantula Spider-Slayer	Tarantula Spider-Slayer	Ar.	Vehicle Robot	2, 14	Villain	1995
Therak (Deathweb)	Theodore Davros	Ar.	Devil Spider	2, 3	Villain	1992
Ultimate Tarantula	Peter Parker	Ar.	Human/Spider	2, 4, 6, 7	Villain	2006

Contd.

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC	SOCIAL ROLE	YEAR
Venom	Eddie Brock	Ar.	Human	1, 7	Villain	1984
Venom	Angelo Fortunato	Ar.	Human	1, 7	Villain	2004
Venom Ultimate	Eddie Brock Jr	Ar.	Human	1, 7	Villain	2003
Web-Man	Unknown	Ar.	Human	1, 7	Villain	1974
Webslinger	Unknown	Ar.	Human/Spider	7, 13	Hero	2000
Wolf Spider	Niko Constantin	Ar.	Human	None	Villain	2011

*The title and number of the comic book where the character was first published are in the complete table available for download (Da-Silva, 2014).

Table 1: Marvel characters with arachnid feature(s). This list is organized in alphabetical order according to role name. The column “Arach. Order” specifies the taxonomic group (Order) that inspired the character’s feature(s) (the abbreviations are as follows: Ac., *Acari*; Ar., *Araneae*; Sc., *Scorpiones*). The column “Arach. Charac.” identifies the arachnid characteristic(s) present (1, Wall-crawler; 2, Eight legs; 3, Spider-shape; 4, Poison; 5, Exoskeleton; 6, Fangs; 7, Silk; 8, Several eyes; 9, Spinnerets; 10, Scorpion-shape; 11, Aculeus; 12, Post-abdomen (metasoma); 13, Additional legs; 14, Semblance of spider or scorpion; 15, Attractive female; 16, Lethality (touch of black widow).

significantly more arachnid characters than DC. Arachnids account for about 1.68% of Marvel’s 5,000 or so characters created so far (Marvel 2014). On the other hand, of DC’s cast of over 10,000 characters (DC 2014), arachnid-inspired characters represent only 0.40%. If we merge the two publishers, the arachnid-inspired characters comprise approximately 0.83% of the total.

As for taxonomic classification, the characters were based mostly on the order *Araneae* (82.93% in DC, 84.71% in Marvel, 81.13% for both publishers). Of the total characters, 80.65% are human (85.00% in DC, 77.38%, in Marvel). The majority of the *Araneae*-derived characters are human beings with specific arachnid features (74.19%) rather than simply being named after spiders. Marvel characters (88.10%) have more arachnid features than DC characters, where there is no significant difference between characters with or without arachnid features.

Villains (60.91% of total) are significantly more numerous, considering the sum of the two publishers. Arachnids have bad reputation for being dangerous (Thorp and Woodson 1976; Ruppert and Barnes 1996). Since the public usually considers spiders, scorpions and mites “harmful” in general, we expected a larger contingent of villains because the general public usually considers spiders, scorpions and mites “harmful”. However, analysing the two publishers alone, we have a very interesting difference. In DC, the pattern was maintained, with significantly higher number of villains. Nevertheless, there was no statistical difference between the amount of villains and heroes in Marvel characters. It did not happen probably due to a certain *friendly neighbourhood character...*

The Spider-Man Phenomenon

In 1962, one of the most popular Marvel titles, *Amazing Fantasy*, was going downhill, with disappointing sales. With the risk of the series being cancelled, editor and writer Stan Lee presented executives a new and completely different character: a comics character superior to everything that anyone had seen up to that time. This character had problems inherent to youth, such as relationship difficulties, school problems, and lack of economic stability (David and Greenberger 2010). At the moment Peter Parker gets his powers from the bite of a mutant spider, he thinks immediately about taking personal advantage of it, as any normal human being would. In other words, Stan Lee offered a human character who behaved like an ordinary person. Only after experiencing a personal tragedy, exhaustively explored in different media (the murder of his uncle who raised him), the new character learned his lesson, and forged one of the most famous quotations of pop culture, “*with great power comes great responsibility*”. When the combined artistry of Jack Kirby and Steve Ditko forged the cover of *Amazing Fantasy* # 15 in August 1962 (Lee and Ditko 1962), the world gained one of its modern icons. Spider-Man and his alter ego Peter Parker became well-known in the four corners of the earth. The audience identified with that character, who was powerful and heroic, but at the same time full of everyday problems, and he certainly changed the way the world of comics would see spiders and related creatures from that day on. Marvel, then, became the publisher of arachnids.

A Brief Review of Other Characters

Although arachnid comics characters form a large group in absolute terms (over a hundred characters), very few



Figure 2: Marvel Comics characters: A, Black Window (Natasha Romanov); B, Scorpion (McDonald Gargan); C, Spider-Girl (Anya Corazón); D, Spider-Woman (Jessica Drew); E, Carnage (Kletus Cassady); F, Ai Apaec; G, Black Widow (Yelena Belova); H, Spider-Man (Peter Parker); I, Spider-Man Ultimate (Miles Morales); J, Iron Spider-Man (Peter Parker); K, Venom (Eddie Brock); L, Arachne (Julia Carpenter). Illustrations obtained and modified from various sources found via *Google Images*. © Marvel Comics.

have recognized standing, and they are concentrated at Marvel. Besides the aforementioned Spider-Man, his incarnations in alternate realities and parallel universes, and the villains he faces (such as Venom, Carnage, Tarantula and Scorpion), only the Black Widow is well-known by non-comic book fans. This is certainly due to the recent releases of the Marvel movies.

Like Spider-Man, the Black Widow also has human features that may have leveraged the character for success.

After the supposed death of her husband, a test pilot, Natasha Romanoff (or Natalia Romanova), enlisted in the Soviet spy agency, the KGB. A superbly trained athlete, Romanoff brilliantly learned the arts of espionage, earning the honorific code name Black Widow. Later on, she was co-opted by S.H.I.E.L.D. (Strategic Homeland Intervention, Enforcement, and Logistics Division), an agency linked to the U.S. government. A character created by Stan Lee and Don Heck, the Black Widow had its debut in *Tales of*

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC.	SOCIAL ROLE	YEAR
Alias The Spider	Tom Ludlow Hallaway	Ar.	Human	None	Hero	1940
Arachnus	Murray Serrintella	Ar.	Human	1, 13	Villain	1991
Arcane	Anton Arcane	Ar.	Human	3	Villain	1973
Bat-Mite	Unknown	Ac.	Alien	17	Variable	1959
Black Spider	Eric Needham	Ar.	Human	None	Villain	1976
Black Spider	Johnny LaMonica	Ar.	Human	None	Villain	1995
Dan the Dyna-Mite	Daniel Dunbar	Ac.	Human	None	Variable	1942
Dyno-Mite Dan	Harris Ledbetter	Ac.	Human	None	Hero	2005
Fang	Unknown	Ar.	Human?	2, 3, 4	Villain	2004
Gizmo	Mikron O'Jeneus	Ar.	Human	13	Villain	1981
Gloriana Tenebrae	Gloriana Tenebrae	Ar.	Human	4	Villain	2005
Guilt	Unknown	Ar.	Hybrid	8	Villain	2005
I, Spyder	Thomas Ludlow-Dalt	Ar.	Human	None	Hero	2005
Insect Queen	Lana Lang	Ar. / Sc.	Human	14	Variable	1965
Lois Lane	Lois Lane	Sc.	Human	2, 10, 11	Hero	1941
Misty Kilgore	Arriachnon	Ar.	Human	15	Hero	2005
Moneyspider	Lonnie Machin	Ar.	Human	None	Hero	1989
Nebula Man	Neh-Buh-Loh	Ar.	Human	None	Villain	2005
Scorpiana	Tristessa Delicias	Sc.	Human	4, 11	Villain	2008
Scorpion-Machine	Scorpion-Machine	Sc.	Vehicle Robot	3	Villain	1965
Skorpio	Sam Ellis	Sc.	Human	4	Villain	1997
Spider	Lili Vorna	Ar.	Human	None	Villain	1952
Spider	Unknown	Ar.	Human	None	Villain	1997
Spider	Spider Jerusalem	Ar.	Human	None	Hero	1997

Contd.

ROLE NAME*	REAL NAME	ARACH. ORDER	NATURE	ARACH. CHARAC.	SOCIAL ROLE	YEAR
Spider	Lucas Ludlow Dalt	Ar.	Human	None	Variable	1998
Spider III	Unknown	Ar.	Human	None	Villain	1941
Spider Girl	Sussa Paka	Ar.	Human	None	Villain	1964
Spider Guild	Unknown	Ar.	Spider	2, 3	Villain	1983
Spider-Man	Unknown	Ar.	Human	None	Villain	1967
Tarantula	Jonathan Law	Ar.	Human	1, 7	Hero	1941
Tarantula	Catalina Flores	Ar.	Human	1, 7	Hero	2002
The Black Spider	Derrick Coe	Ar.	Human	None	Villain	2005
The Scorpion	Unknown	Sc.	Human	None	Villain	1941
The Spider	Unknown	Ar.	Human	None	Villain	1941
The Spider	Unknown	Ar.	Spider	2,3	Villain	1945
The Spider	Unknown	Ar.	Hybrid	3	Villain	1954
The Spider	Unknown	Ar.	Human	None	Hero	1999
The Spider	Unknown	Ar.	Human	None	Villain	2005
The Spider	Thomas Lucas Ludlow Dalt	Ar.	Human	None	Hero	1998
Wolf-Spider	Unknown	Ar.	Human	None	Villain	2013

The title and number of the comic book where the character was first published are in the complete table available for download (Da-Silva 2014).

Table 2: DC characters with arachnid features. The list is organized in alphabetical order according to role name. The column “Arach. Order” specifies the taxonomic group (Order) that inspired the character’s feature(s) (the abbreviations are as follows: *Ac.*, *Acari*; *Ar.*, *Araneae*; *Sc.*, *Scorpiones*). The column “Arach. Charac.” identifies the arachnid characteristic(s) present (similar to **Table 1** but with fewer characteristics: 1, Wall-crawler; 2, Eight legs; 3, Spider-shape; 4, Poison; 7, Silk; 8, Several eyes; 10, Scorpion-shape; 11, Aculeus; 13, Additional legs; 14, Semblance of spider or scorpion; 15, Femme fatale; 17, “Clingy” like tick).

Suspense #52 in April 1964 (Lee and Heck 1964; DeFalco et al. 2009). Despite eventually playing important roles in some sagas in the Marvel Universe, usually related to espionage and the Cold War, the super-agent of KGB and S.H.I.E.L.D. only exploded in popularity with Scarlett Johansson’s performance of the character in the blockbuster film *The Avengers* (2012), directed by Joss Whedon. The film is one of the most profitable in the history of

the movies, having risen more than US\$ 1 billion at the box office.

Although not endowed with superpowers, the Black Widow is well-respected by her colleagues and opponents. Among her most striking qualities are agility, attractiveness, the ability of an escape artist, intellect, leadership, marksmanship, stamina, stealth, unarmed combat ability and weapon mastery. Interestingly enough, those who

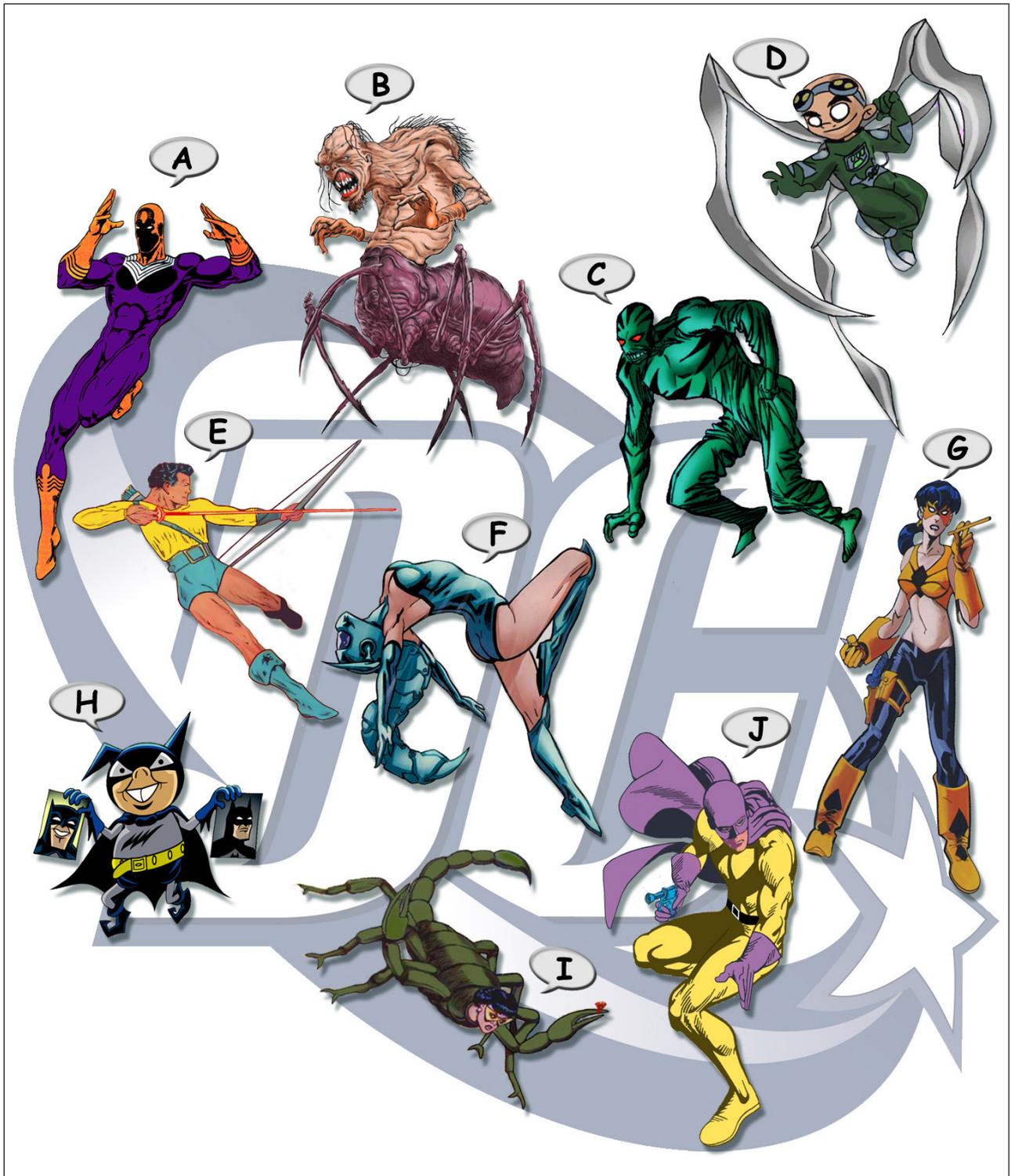


Figure 3: DC Comics characters: A, Black Spider (Eric Needham); B, Arcane (Anton Arcane); C, Skorpio (Sam Ellis); D, Gizmo (Mikron O'Jeneus); E, Alias The Spider (Tom Ludlow Hallaway); F, Scorpiana (Tristessa Delicias); G, Tarantula (Catalina Flores); H, Bat-Mite; I, Lois Lane; J, Tarantula (Jonathan Law). Illustrations obtained and modified from various sources found via *Google Images*. © DC Comics.

meet the character do not immediately realize her connection with spiders. But the code name itself which consecrated her among comics fans alludes to a group of spiders, the black widows (genus *Latrodectus* Walckenaer, 1805; Family Theridiidae), who are often presented as “femmes fatale”, reminding readers of the mating ritual in which the

female often devours the male (Thorp and Woodson 1976; Ruppert and Barnes 1996). As an additional curiosity, the average viewer of *The Avengers* may not associate Scarlett Johansson's character with arachnids, but cinephiles may remember the actress from the film *Eight Legged Freaks* (2002), directed by Ellory Elkayem.

	1930	1940	1950	1960	1970	1980	1990	2000	2010
DC	1	8	3	3	2	3	8	11	1
MARVEL	1	2	0	9	8	9	26	22	7
TOTAL	2	10	3	12	10	12	34	33	8

Table 3: Decades of characters' first appearance.

	Qui-squared	Significance
Publishing House: Marvel (84) vs. DC (40)	15.61	p<0.001
Human (100) vs. Arachnid (or Intermediate) (24) TOTAL	46.58	p<0.001
Human (34) vs. Arachnid (or Intermediate) (6) DC	19.60	p<0.001
Human (65) vs. Arachnid (or Intermediate) (19) MARVEL	25.19	p<0.001
Role: Hero (43) vs. Villain (67) TOTAL	5.24	p<0.05
Role: Hero (11) vs. Villain (25) DC	5.44	p<0.05
Role: Hero (32) vs. Villain (42) MARVEL	1.35	n.s.
Arachnids Features: Yes (92) vs. No (32) TOTAL	29.03	p<0.001
Arachnids Features: Yes (18) vs. No (22) DC	0.40	n.s.
Arachnids Features: Yes (74) vs. No (10) MARVEL	48.76	p<0.001
Order: Araneae (106) vs. Scorpiones+Acari (20) TOTAL	58.70	p<0.001
Order: Araneae (34) vs. Scorpiones+Acari (7) DC	17.78	p<0.001
Order: Araneae (72) vs. Scorpiones+Acari (13) MARVEL	40.95	p<0.001

Table 4: Pearson's Qui-Squared values and significance level (number of cases in parenthesis).

The order *Araneae* (spiders) has inspired the overwhelming majority of comics characters (over 80%). Some features and behaviours of these characters refer, in fact, to real spiders. In urban areas, for example, it is common to have small spiders (mainly of the family *Pholcidae*) that inhabit human residences; these spiders weave webs in corners where the walls and ceiling meet. Jumping spiders (Family *Saltidae*) are also common, as are wandering spiders that expertly roam over vertical surfaces and, occasionally, hang by silk threads. These behaviours (climbing walls and moving around using silk threads) are common in many of the comics characters based on spiders. Virtually all the

characters derived from Spider-Man (besides, of course, himself) present such modes behaviour.

Other characters, especially women, use some power of fascination and seduction to fight their rivals. These are the "femmes fatale", whose inspiration must have been the complex mating rituals of spiders. Finally, lethality is a registered trademark of many characters. Some are efficient killers, using weapons or poisonous gadgets to beat their enemies, which must have been inspired by the efficiency of spiders as notorious hunters, injecting paralyzing venom into their prey through the chelicerae.

About 15% of the characters have some inspiration in arachnids of the Order Scorpiones (scorpions). Many of these have typical features of the creatures that inspire them, such as some sort of tail (alluding to the metasoma, the second part of the abdomen of a real scorpion; **Figure 1A**) and use of some kind of poison. Many are called "Scorpion," and McDonald Gargan is the most famous of them because he is one of the main villains of Spider-Man.

The number of characters inspired by the order *Acari* (which includes mites and ticks) is unrepresentative (about 4%) of the total. The arachnid features of this Order in characters are tenuous. There are four characters named, jokingly, after the term "mite" (Bat-Mite, Dan the Dyna-Mite, Dyna-Mite and Dyno-Mite Dan). Of these, only the first has features typically associated with group members such as ticks, being small and sticky. A hardcore Batman fan, this character often puts his idol in trouble.

References

- Ashenden, L** 2000–2001 Ada's erotic Entomology. *Nabokov Studies*, 6: 129–148. DOI: <http://dx.doi.org/10.1353/nab.2011.0031>
- Bartlett, S** 2009 *The mythology bible: The definitive guide to legendary tales*. New York: Sterling Publishing Company.
- Beatty, S, Cowsill, A and Dougall, A** 2012 *The Avengers. The ultimate guide to Earth's mightiest heroes!* London: DK.
- Beatty, S, Greenberger, R, Jiminez, P and Wallace, D** 2009 *The DC Comics encyclopedia – The definitive guide to the characters of the DC Universe – Updated and expanded*. London: DK.
- Brusca, R C and Brusca, G J** 2003 *Invertebrates*. Sunderland: Sinauer Associates.
- Carvalho, A L** 2010 Butterflies at the Mouth of Hell: traces of biology of two species of Nymphalidae (Lepidoptera) in European paintings of the fifteenth century. *Filosofia e História da Biologia*, 5(2): 177–193.

- Chantoury-Lacombe, F** 2009 L'insectarium de l'histoire de l'art ou le pouvoir de fascination de la peinture (Hommage à Daniel Arasse). *Canadian Art Review*, 34(2): 20–27.
- Cherry, R** 2002 The functions of insects in mythology. *American Entomologist*, 48(3): 134–136. DOI: <http://dx.doi.org/10.1093/ae/48.3.134>
- Cherry, R** 2005 Magical insects. *American Entomologist*, 51(1): 11–13. DOI: <http://dx.doi.org/10.1093/ae/51.1.11>
- Cicchetti, J** 2003 *Dreams, symbols, & homeopathy archetypal dimensions of healing*. Berkeley: North Atlantic Books.
- Cloudsley-Thomson, J L** 1990 Scorpions in mythology, folklore and history. In: G. A. Polis, ed. 1990. *The biology of scorpions*. Stanford: Stanford University Press. pp. 462–485.
- Cloudsley-Thomson, J L** 2001 Scorpions and spiders in mythology and folklore. In: V. Fet and P. A. Selden, ed. 2001. *Scorpions. In Memoriam Gary A. Polis*. Burnham: British Arachnological Society. pp. 391–402.
- Coelho, J R** 2000 Insects in Rock & Roll music. *American Entomologist*, 46(3): 186–200. DOI: <http://dx.doi.org/10.1093/ae/46.3.186>
- Coelho, J R** 2004 Insects in Rock and Roll cover art. *American Entomologist*, 50(3): 142–151. DOI: <http://dx.doi.org/10.1093/ae/50.3.142>
- Costa Neto, E M** 2006 “Cricket singing means rain”: semiotic meaning of insects in the district of Pedra Branca, Bahia State, northeastern Brazil. *Anais da Academia Brasileira de Ciências*, 78(1): 59–68. DOI: <http://dx.doi.org/10.1590/S0001-37652006000100007>
- Da-Silva, E R** 2014 Marvel and DC Characters Inspired by Arachnids. Figshare. DOI: <http://dx.doi.org/10.6084/m9.figshare.1259268>.
- David, P A** and **Greenberger, R** 2010 *The Spider-Man vault. A museum-in-a-book with rare collectibles spun from Marvel's web*. Philadelphia: Running Press.
- DC** 2014 Characters. Available at: <http://www.dccomics.com/characters>. [Last accessed: 03 December 2014].
- DeFalco, T, Sanderson, P, Brevoort, T, Teitelbaum, M, Wallace, D, Darling, A** and **Forbeck, M** 2009 *The Marvel encyclopedia. Updated and expanded*. London: DK.
- Dumas, L L, Calor, A R** and **Nessimian, J L** 2013 The genus *Alterosa* Blahnik 2005 (Trichoptera, Philopotamidae, Philopotaminae) in northeastern Brazil, including the description of three new species and an identification key for the genus. *ZooKeys*, 317: 1–15. DOI: <http://dx.doi.org/10.3897/zookeys.317.5437>
- Eight Legged Freaks [Motion picture]** 2002 Warner Home Video.
- Fantham, E** 2004 *Ovid's Metamorphoses*. Oxford: Oxford University Press.
- Ferrer, J** 2009 Entomología fantástica: Apuntes para una mitología del escorpión. *Boletín de la Sociedad Entomológica Aragonesa*, 45: 583–587.
- Foelix, R** 2011 *Biology of spiders*. 3rd edition. London: Oxford University Press.
- Harry Potter and the Chamber of Secrets [Motion picture]** 2003 Warner Home Video.
- Lee, S (w)** and **Ditko, S (i)** 1962 Spider-Man!. *Amazing Fantasy*, 15. Marvel Comics.
- Lee, S (w)** and **Heck, D (i)** 1964 The Crimson Dynamo strikes again!. *Tales of Suspense*, 52. Marvel Comics.
- Marchiori, E** 2011 Quadrinhos viram tema de estudo sobre Zoologia. 08 July 2011. Available at: <http://mutantaxis.wordpress.com/2011/07/08/quadrinhos-viram-tema-de-monografia-sobre-zoologia/>. [Last accessed 18 January 2013].
- Mariño Pérez, R** and **Mendoza Almeralla, C** 2006 Los insectos en el cine. Un estudio preliminar. *Boletín de la Sociedad Entomológica Aragonesa*, 38: 415–421.
- Marvel** 2014 Characters. Available at: <http://marvel.com/characters>. [Last accessed 03 December 2014].
- Melic, A** 1997 Los artrópodos en los tebeos. *Boletín de la Sociedad Entomológica Aragonesa*, 20: 463–468.
- Melic, A** 2002 De madre araña a demonio escorpión: Arácnidos en la mitología. *Revista Iberica de Aracnología*, 5: 112–124.
- Melic, A** 2003 De los jeroglíficos a los tebeos: Los artrópodos en la cultura. *Boletín de la Sociedad Entomológica Aragonesa*, 32: 325–357.
- Mendonça, V L** 2008 O folclore como ferramenta de motivação para o ensino de Zoologia na escola – proposta de um livro paradidático. Unpublished dissertation (Master). São Paulo: Universidade de São Paulo.
- Miranda, G S** 2014 Quadrinhos e Zoologia parte 3. Available at: <http://biodevaneios.blogspot.com.br/2014/03/quadrinhos-e-zoologia-parte-3.html>. [Last accessed 7 March 2014].
- Montserrat, V J** 2009 Los artrópodos en la obra de Hieronymus Van Aken (El Bosco). *Boletín de la Sociedad Entomológica Aragonesa*, 45: 589–615.
- Montserrat, V J** 2010 Sobre los artrópodos en el tatuaje. *Boletín de la Sociedad Entomológica Aragonesa*, 47: 477–497.
- Montserrat, V J** 2011 Los artrópodos en la obra de Salvador Dalí. *Boletín de la Sociedad Entomológica Aragonesa*, 49: 413–434.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1995 In cauda venenum: El mito del escorpión (1). El escorpión en la mitología y las leyendas. *Boletín de la Sociedad Entomológica Aragonesa*, 12: 33–38.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1996a In cauda venenum: El mito del escorpión (2). El simbolismo y bestiarios. *Boletín de la Sociedad Entomológica Aragonesa*, 13: 43–45.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1996b In cauda venenum: El mito del escorpión (3). Etimología de los vocablos alacrán y escorpión. *Boletín de la Sociedad Entomológica Aragonesa*, 14: 36.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1996c In cauda venenum: El mito del escorpión (4). El escorpión en el refranero. *Boletín de la Sociedad Entomológica Aragonesa*, 15: 53–54.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1996d In cauda venenum: El mito del escorpión (5). Conceptos

- médicos y populares en torno al escorpión. *Boletín de la Sociedad Entomológica Aragonesa*, 17: 47–51.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1997 In cauda venenum: El mito del escorpión (6). El escorpión en la farmacopea española. *Boletín de la Sociedad Entomológica Aragonesa*, 18: 24.
- Monzón Muñoz, F J** and **Blasco Gil, R** 1998 In cauda venenum: El mito del escorpión (7). El escorpión en la Literatura. *Boletín de la Sociedad Entomológica Aragonesa*, 22: 47–49.
- Mundkur, B** 1983 *The cult of the serpent: an interdisciplinary survey of its manifestations and origins*. Albany: SUNY Press.
- Nemésio, A, Seixas, D P** and **Vasconcelos, H L** 2013 The public perception of animal diversity: what do postage stamps tell us? *Frontiers in Ecology and the Environment*, 11: 9–10. DOI: <http://dx.doi.org/10.1890/13.WB.001>.
- Ovtsharenko, V** and **Tanasevitch, A** 2002 Family Agele- nidae. 01 June 2002. Available at: <http://research.amnh.org/iz/blackrock2/families/agelenidae.htm>. [Last accessed 17 March 2014].
- Quartim, R** 2013 Professor universitário utiliza super- heróis para ensinar: conheçam o professor Elidiomar. Available at <http://www.chamandosuperamigos.com.br/2013/12/professor-universitario-utiliza-super.html>. [Last access 28 February 2014].
- Rama, A** and **Vergueiro, W** 2004 *Como usar as histórias em quadrinhos na sala de aula*. São Paulo: Ed. Contexto.
- Rodrigues, L G, Gonçalves, A C** and **Mejdalani, G** 2012 A remarkable new species of *Euragallia* from Peru (Insecta, Hemiptera, Cicadellidae, Agalliini), including the description of a peculiar structure of the male genitalia. *ZooKeys*, 178: 51–58.
- Ruppert, E E** and **Barnes, R D** 1996 *Zoologia dos invertebrados*. 6th edition. São Paulo: Roca.
- Santos, A P M** and **Nessimian, J L** 2009 New species and records of *Neotrichia* (Trichoptera: Hydrop- tilidae) from Central Amazonia, Brazil. *Zoologia*, 26(4): 758–768. DOI: <http://dx.doi.org/10.1590/S1984-46702009000400022>.
- Saunders, C, Scott, H, March, J** and **Dougall, A** 2010 *Marvel chronicle – A year by year history*. London: DK.
- Savory, T H** 1977 *Arachnida*. 2nd edition. London: Aca- demic Press.
- Siegel, S** 1981 *Estatística não paramétrica para as ciências do comportamento*. São Paulo: McGraw Hill do Brasil.
- Stanley, W T, Robbins, L W, Malekani, J M, Mbalitini, S G, Migurimu, D A, Mukinzi, J C, Hulselmans, J, Prévot, V, Verheyen, E, Hutterer, R, Doty, J B, Mon- roe, B P, Nakazawa, Y J, Braden, Z, Carroll, D, Peter- hans, J C K, Bates, J M** and **Esselstyn, J A** 2013 A new hero emerges: another exceptional mammalian spine and its potential adaptive significance. *Biological Letters*, 9: 1–5. DOI: <http://dx.doi.org/10.1098/rsbl.2013.0486>
- The Avengers [Motion picture]** 2012 Marvel Studios.
- The Lord of the Rings, The Return of the King [Motion picture]** 2004 New Line Home Entertainment.
- Thorp, R W** and **Woodson, W D** 1976 *The black widow*. 2nd edition. New York: Dover Publications.
- Zhang, Z-Q** 2013 Phylum Arthropoda von Siebold, 1848. In: Z.-Q. Zhang, ed. Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness. *Zootaxa*, 3148: 99–103.

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