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Taxonomic notes on the ground beetles (Coleoptera: Carabidae) of Tunisia.

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Abstract: The objective of this study was to determine the species diversity of Carabidae found during expeditions to some provinces of Tunisia between 2012 and 2013. In total 105 species and subspecies within 59 genera belonging to 11 subfamilies of Carabidae are reported. Endemic elements are indicated and information on the Tunisian distribution of each species is also given.

Key words: Coleoptera, Carabidae, taxonomy, distribution, endemisms, Tunisia.

Resumen: Notas taxonómicas sobre los carábidos (Coleoptera: Carabidae) de Túnez. El objetivo de este estudio fue determinar la diversidad de especies de Carabidae encontradas durante las expediciones a algunas provincias de Túnez entre 2012 y 2013. En total se citan 105 especies y subespecies de 59 géneros pertenecientes a 11 subfamilias de Carabidae. Se indican los elementos endémicos y se da información sobre la distribución en Túnez de cada especie.

Palabras clave: Coleoptera, Carabidae, taxonomía, distribución, endemismos, Túnez.

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Introduction

Tunisia is delimited by the Mediterranean to the North and the East, to the South by Libya, and to the West by Algeria (Fig. 1). It is separated from Sicily by the Sicilian Strait whose Eastern part is the Pelagian platform. Tunisia has a privileged geographic situation at the intersection of the Eastern and Western basins of the Mediterranean, between Africa and Europe (Kayouli 2006).

The mountain chain of Kroumerie Mogods which runs along the North of the country is a prolongation of the Tell Atlas. To the South are the productive plains of the valley of Mejerda, Tunisia's only permanent river. The elevated Tell or Dorsale is a prolongation of the Saharan Atlas; Jebel Chambi (1544 m) is the highest mountain of the country. The majority of the central region is a plateau at about 500 m above sea level; further to the South there is an area of internal drainage and *chotts*, and the South is the Sahara. There are large plains on the east coast, like the Sahel plain South of Sousse and the Gefara plain South of Gabes (Kayouli 2006).

There are four different physiographic regions with substantial variety of soils:

- The North is marked by two zones, the North-East and the North-West. The first is a mixture of hills and plains where there are productive soils and interesting underground water resources. The second is characterized by hills and valleys where underground water resources

are restricted. The North-West is constituted in its southern sector (the Tell) by calci-magnesian soils and vertisols on limestone and marls, while the northern part named "Mogods-Kroumirie" is marked by brown dark soils developed on sandstone and on non-calcareous clays (Kayouli 2006).

- The Dorsale, dominated by large mountains, is characterized by its hilly relief and plains with fragile soils (Kayouli 2006). The plains have irrigation schemes and mountains covered with forests and *Stipa tenacissima* L. At the base of the large mountains there are calci-magnesian soils. These soils formed under more arid climatical conditions are often eroded, low in organic matter and stony. In alluvial plains they are recently evolved, often slightly saline; these soils suit many crops, notably under irrigation.
- The Center is usually arid. The eastern part is characterized by flat space broken by many saline depressions called "sebkhas" collecting flowing water; the soils are light and deep. The western part is formed by large mountains related by huge glacis to alluvial plains containing extensive water resources.
- According Kayouli (2006) Southern Tunisia is characterized by:
 1. Mountainous areas with limestones and calcic-marly soils on which are developed lithosols marked by a superficial surface horizon (10 to 15 cm).
 2. The Jeffara (Coastal plains).
 3. Large Depressions or *Chotts* where underground water resources are the origin of some oasis. There are two types of soils:
 - sandy soils in Southern Chott Jerid: the surface is a succession of micro dunes more or less invaded by a vegetation called "nebkas".
 - the very salty soils of *Chotts*: the surface of these soils is covered with salt lying over sediments engorged with salty water. No vegetation can grow; it is the true desert.
 4. The desert zone, the "Erg", formed of sand dunes separated by small sandy depressions where grows a very sparse vegetation.

Tunisia's climate is Mediterranean, marked by hot dry summers and cool wet winters that delimit the growth period; the rainfall varies significantly from the North to South (Fig. 2). Based on rainfall, there are five bioclimatic zones going from the most arid to the most humid (Table 1) (Emberger 1960).

Precipitation is not the only bioclimatic determinant; temperature, especially in winter, is also important (Kayouli 2006). This is not only due to the altitude but also related to the degree of continentality; interior areas have relatively hotter summers and colder winter than areas near the sea.

Annual rainfall (mm)	Bio-climatical strata
800-1200	Humid
600-800	Sub-humid
400-600	Semi-arid
100-400	Arid
20-100	Desert (Saharan)

Table 1. - The five bioclimatic zones in Tunisia (Kayouli 2006).

One of the most daunting tasks challenging an aspiring entomologist is the identification of species within a family as diverse as carabids (Choate 2001). Carabidae is one of the most diverse families of Coleoptera in the world. They are located in all terrestrial habitats and represent a major part of the invertebrate predator for the soil fauna (Arndt et al. 2011). Ground beetles are often chosen for study because they are most abundant, diverse, ecologically and systematically well known and they are sensitive to environmental changes (Butovsky 2011; Rainio & Niemelä 2003). They present a series

of taxa able to live in a drier environment and higher latitudes and altitudes (Erwin 1979). They are everywhere, abundant, easy to collect, and have well-known life cycles so that changes in their variety

and activity abundance can be related to observed changes in the environment (Lövei & Sunderland 1996; Niemelä *et al.* 2000). Due to their abundance and ubiquitous occurrence, the overall ecological role of carabid beetles in these ecosystems can safely be assumed (Arndt *et al.* 2011).

Species checklists are helpful tools in the field of scientific research. They serve to improve our level of knowledge and allow discovering areas in need of further study.

Bedel (1895) published the first information about the Tunisian diversity of carabid beetles, whereas in the first half of the twentieth century, Normand (1933, 1936, 1938) published the latest inventory of several families of Tunisian beetles, including Carabidae. Studies on Tunisian Carabidae have been mostly published in specialized journals by Ghannem *et al.* (2015a, b) and Ghannem *et al.* (2014). More recently, many new species have been described from Tunisia (Wrase 2009; Guéorguiev 2012; Quéinnec & Ollivier 2012; Ghannem *et al.* 2015a).

The aim of our study was to analyze spatial patterns in the species richness of carabids of Tunisia which is mainly based on a number of expeditions made from 2012 to 2013. We therefore believe that this paper provides a preliminary faunal study. However the updating of the knowledge on the entomofauna requires regular surveys covering the emergence periods of different development stages of species, and sampling other heterogeneous localities spread across all bioclimatic Tunisian zones.

Material and methods

In this study we represent the diversity of Carabidae species of Tunisia which includes data of 11 subfamilies, 28 tribes, 59 genera and 105 species and subspecies. In the preparation of this investigation, we used the information obtained from a two-year study (2012-2013) in different provinces. The materials were identified using literature carried out by specialists as Bedel (1895) or Antoine (1955, 1957, 1959, 1961, 1962) and later confirmed by some experts, such as Mr. Olegario del Junco or Dr. Ildefonso Ruiz-Tapiador. In general, for practical reasons we follow in our study the highest classification suggested by Bouchard *et al.* (2011) and for the genus level and species names we have followed the Palearctic Catalogue (Löbl & Smetana 2003). The systematic classification used in this study and the number of genera, species and subspecies in each subfamily are summarized in Table 2.

Subfamilies	Tribes	Genera	Species and subspecies
Nebriinae	Nebriini	1	2
	Notiophilini	1	1
Cicindelinae	Cicindelini	2	2
Carabinae	Carabini	2	2
Omophrinae	Omophrini	1	3
Scaritinae	Clivinini	1	1
	Dyschiriini	1	2
	Scaritini	2	3
Broscinae	Broscini	1	1
Apotominae	Apotomini	1	2
Siagoninae	Siagonini	1	1
Trechinae	Bembidiini	5	11
	Pogonini	1	1
	Trechini	1	5
Brachininae	Brachinini	1	7
Harpalinae	Abacetini	1	1
	Anthiini	1	1
	Chlaeniini	2	5
	Dryptini	1	1
	Graphipterini	1	1
	Harpalini	12	20
	Lebiini	8	12
	Licinini	1	1
	Platynini	2	2
	Pterostichini	3	7
	Sphodrini	3	6
	Zabrini	1	3
Zuphiini	1	1	

Table 2.- Systematic classification used and number of genera, species and subspecies within each subfamily.

Results

Family CARABIDAE Latreille, 1802

Subfamily Nebriinae Laporte, 1834

Tribe Nebriini Laporte, 1834

Genus *Nebria* Latreille, 1802

Subgenus *Nebria* Latreille, 1802

1. *N. (Nebria) andalusia* ssp. *variabilis* Lucas, 1842

Biogeographic: Provinces of Bizerte, Jendouba. Chorotype: Mediterranean.

2. *N. (Nebria) rubicunda rubicunda* Quensel, 1806

Biogeographic: Province of Jendouba. Chorotype: Mediterranean.

Tribe Notiophilini Motschulsky, 1850

Genus *Notiophilus* Duméril, 1806

3. *N. geminatus* Dejean, 1831

Biogeographic: Province of Jendouba. Chorotype: Mediterranean.

Subfamily Cicindelinae Latreille, 1802

Tribe Cicindelini Latreille, 1802

Genus *Cicindela* Linnaeus, 1758

Subgenus *Cicindela* Linnaeus, 1758

4. *C. (Cicindela) campestris atlantis* Mandl, 1944

Biogeographic: Province of Jendouba. Chorotype: Palearctic.

Genus *Lophyra* Motschulsky, 1859

Subgenus *Lophyra* Motschulsky, 1859

5. *L. (Lophyra) flexuosa flexuosa* (Fabricius, 1787)

Biogeographic: Provinces of Jendouba, Bizerte, Sidi Bouzid. Chorotype: Mediterranean.

Subfamily Carabinae Latreille, 1802

Tribe Carabini Latreille, 1802

Genus *Calosoma* Weber, 1801

Subgenus *Campalita* Motschulsky, 1866

6. *C. (Campalita) maderae maderae* (Fabricius, 1775)

Biogeographic: Province of Kairouan. Chorotype: Mediterranean.

Genus *Carabus* Linnaeus, 1758

Subgenus *Macrothorax* Chenu, 1851

7. *C. (Macrothorax) morbillosus morbillosus* (Fabricius, 1792)

Biogeographic: Province of Bizerte. Chorotype: W-Mediterranean.

Subfamily Omophroninae Bonelli, 1810

Tribe Omophronini Bonelli, 1810

Genus *Omophron* Latreille, 1802

Subgenus *Omophron* Latreille, 1802

8. *O. (Omophron) limbatum* Fabricius, 1776

Biogeographic: Province of Bizerte. Chorotype: Mediterranean.

Subgenus *Phrator* Semenov, 1922

9. *O. (Phrator) variegatum boiteli* Alluaud, 1935

Biogeographic: Province of Bizerte. Chorotype: Endemic for Tunisia.

10. *O. (Phrator) variegatum seurati* Alluaud, 1935

Biogeographic: Province of Tozeur. Chorotype: North Africa.

Subfamily Scaritinae Bonelli, 1810

Tribe Clivinini Rafinesque, 1815

Genus *Clivina* Latreille, 1802

11. *C. ypsilon* Dejean & Boisduval, 1829

Biogeographic: Province of Bizerte. Chorotype: Palaearctic.

Tribe Dyschiriini Kolbe, 1880

Genus *Dyschirius* Bonelli, 1810

Subgenus *Dyschiriodes* Jeannel, 1941

12. *D. (Dyschiriodes) pusillus* Dejean, 1825

Biogeographic: Provinces of Gafsa, Tozeur. Chorotype: Mediterranean.

Subgenus *Dyschirius* Bonelli, 1810

13. *D. (Dyschirius) numidicus* Putzeys, 1846

Biogeographic: Province of Bizerte. Chorotype: W-Mediterranean.

Tribe Scaritini Bonelli, 1810

Subtribe Scaritina Bonelli, 1810

Genus *Distichus* Motschulsky, 1857

Subgenus *Distichus* Motschulsky, 1858

14. *D. (Distichus) planus* (Bonelli, 1813)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Afrotropico-Indo-Mediterranean.

Genus *Scarites* Fabricius, 1775

Subgenus *Parallelomorphus* Motschulsky, 1849

15. *S. (Parallelomorphus) laevigatus* (Fabricius, 1792)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Mediterranean.

Subgenus *Scallophorites* Motschulsky, 1858

16. *S. (Scallophorites) striatus* Dejean, 1825

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Mediterranean.

Subfamily Broscinae Hope, 1838

Tribe Broscini Hope, 1838

Subtribe Broscina Hope, 1838

Genus *Broscus* Panzer, 1813

17. *B. laevigatus* Dejean, 1828

Biogeographic: Provinces of Kairouan, Kasserine. **Chorotype:** Middle East.

Subfamily Apotominae Le Conte, 1853

Tribe Apotomini Le Conte, 1853

Genus *Apotomus* Illiger, 1807

18. *A. rufithorax* Pecchioli, 1838

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

19. *A. clypeonitens clypeonitens* Jedlicka, 1961

Biogeographic: Provinces of Jendouba, Le Kef. **Chorotype:** Mediterranean.

Subfamily Siagoninae Bonelli, 1813

Tribe Siagonini Bonelli, 1813

Genus *Siagona* Latreille, 1804

20. *S. rufipes* Fabricius, 1792

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Endemic to North Africa.

Subfamily Trechinae Bonelli, 1810

Tribe Bembidiini Stephens, 1827

Subtribe Bembidiina Stephens, 1827

Genus *Asaphidion* Gozis, 1886

21. *A. stierlini* (Heyden, 1880)

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

Genus *Bembidion* Latreille, 1802

Subgenus *Bembidion* Latreille, 1802

22. *B. (Bembidion) quadrimaculatum quadrimaculatum* Linnaeus, 1761

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Subgenus *Neja* Motschulsky, 1864

23. *B. (Neja) cirtense* Netolitzky, 1914

Biogeographic: Province of Jendouba. **Chorotype:** Endemic to North Africa.

Subgenus *Nepha* Motschulsky, 1864

24. *B. (Nepha) callosum* Küster, 1847

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Mediterranean.

25. *B. (Nepha) genei* (Küster, 1847)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Europeo-Mediterranean.

Subgenus *Ocyturanus* Müller-Motzfeld, 1986

26. *B. (Ocyturanus) dudichi* (Csiki, 1928)

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

27. *B. (Ocyturanus) praeustum* Dejean, 1831

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

Subgenus *Phyla* Motschulsky, 1844

28. *B. (Phyla) tethys* (Netolitzky, 1926)

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Subtribe Tachyina Motschulsky, 1862

Genus *Tachys* Stephens, 1828

Subgenus *Tachys* Dejean, 1821

29. *T. (Tachys) scutellaris* Stephens, 1828

Biogeographic: Province of Jendouba. **Chorotype:** Turano-Mediterranean.

Genus *Polyderis* Motschulsky, 1862

30. *P. algericus* (Lucas, 1848)

Biogeographic: Province of Jendouba. **Chorotype:** W-Mediterranean.

Genus *Tachyura* Motschulsky, 1862

Subgenus *Sphaerotachys* Müller, 1926

31. *T. (Sphaerotachys) haemorrhoidalis* (Ponza, 1805)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Afrotropico-Mediterranean.

Tribe Pogonini Laporte, 1834

Genus *Pogonus* Dejean, 1821

Subgenus *Pogonus* Dejean, 1821

32. *P. (Pogonus) littoralis* Duftschmid, 1812

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Tribe Trechini Bonelli, 1810

Subtribe Trechina Bonelli, 1810

Genus *Trechus* Clairville, 1806

Subgenus *Trechus* Clairville, 1806

33. *T. (Trechus) rufulus* Dejean, 1831

Biogeographic: Province of Jendouba. **Chorotype:** W-Mediterranean.

34. *T. (Trechus) obtusus* Erichson, 1837

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

35. *T. (Trechus) echarouxi* Ollivier & Quéinnec, 2011

Biogeographic: Province of Beja. **Chorotype:** Endemic for Tunisia.

36. *T. (Trechus) zorgatii* Quéinnec & Ollivier, 2012

Biogeographic: Province of Bizerte. **Chorotype:** Endemic for Tunisia.

37. *T. (Trechus) djebelgloubensis* Quéinnec & Ollivier, 2012

Biogeographic: Province of Jendouba. **Chorotype:** Endemic for Tunisia

Subfamily Brachinae Bonelli, 1810

Tribe Brachini Bonelli, 1810

Subtribe Brachina Bonelli, 1810

Genus *Brachinus* Weber, 1801

Subgenus *Brachinus* Weber, 1801

38. *B. (Brachinus) efflans* Dejean & Boisduval, 1829

Biogeographic: Province of Bizerte. Chorotype: Mediterranean.

39. *B. (Brachinus) crepitans* (Linnaeus, 1758)

Biogeographic: Province of Bizerte. Chorotype: Palaearctic.

Subgenus *Brachynolomus* Reitter, 1919

40. *B. (Brachynolomus) immaculicornis* Dejean, 1825

Biogeographic: Provinces of Bizerte, Jendoub. Chorotype: Mediterranean.

Subgenus *Brachynidius* Reitter, 1919

41. *B. (Brachynidius) sclopeta* (Fabricius, 1792)

Biogeographic: Provinces of Bizerte, Jendouba. Chorotype: Europeo-Mediterranean.

Subgenus *Brachinoaptinus* Lutshnik, 1926b

42. *B. (Brachinoaptinus) mauretanicus* Bedel, 1914

Biogeographic: Provinces of Bizerte, Jendouba. Chorotype: North Africa.

Subgenus *Cnecostolus* Reitter, 1919

43. *B. (Cnecostolus) humeralis* Ahrens, 1812

Biogeographic: Provinces of Bizerte, Jendouba. Chorotype: W-Mediterranean.

44. *B. (Cnecostolus) exhalans* Rossi, 1792

Biogeographic: Province of Bizerte. Chorotype: Europeo-Mediterranean.

Subfamily Harpalinae Bonelli, 1810

Tribe Abacetini Chaudoir, 1873

Genus *Abacetus* Dejean, 1828

Subgenus *Astigis* Rambur, 1838

45. *A. (Astigis) salzmanni* (Germar, 1824)

Biogeographic: Provinces of Tozeur, Jendouba. Chorotype: W-Mediterranean.

Tribe Anthiini Bonelli, 1813

Genus *Anthia* Weber, 1801

Subgenus *Termophilum* Basilewsky, 1950

46. *A. (Termophilum) sexmaculata* Fabricius, 1787

Biogeographic: Provinces of Sidi Bouzid. **Chorotype:** North Africa.

Tribe Chlaeniini Brullé, 1834

Subtribe Chlaeniina Brullé, 1834

Genus *Chlaenius* Bonelli, 1810

Subgenus *Chlaenius* Bonelli, 1810

47. *C. (Chlaenius) velutinus auricollis* Géné, 1839

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Europeo-Mediterranean.

Subgenus *Stenochlaenius* Reitter, 1908

48. *C. (Stenochlaenius) aeratus varvasi* Laporte, 1834

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Mediterranean.

Subgenus *Chlaenites* Motschulsky, 1860

49. *C. (Chlaenites) spoliatus* (Rossi, 1792)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Palaearctic.

Subgenus *Chlaeniellus* Reitter, 1908

50. *C. (Chlaeniellus) olivieri* (Crotch, 1871)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** S-European.

Genus *Trichochlaenius* Seidlitz, 1887

Subgenus *Trichochlaenius* Seidlitz, 1887

51. *T. (Trichochlaenius) chrysocephalus* (Rossi, 1790)

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Tribe Dryptini Bonelli, 1810

Genus *Drypta* Latreille, 1796

Subgenus *Drypta* Latreille, 1796

52. *D. (Drypta) dentata* (Rossi, 1790)

Biogeographic: Province of Jendouba. **Chorotype:** Afrotropico-Palaearctic.

Tribe Graphipterini Latreille, 1802

Genus *Graphipterus* Latreille, 1802

53. *G. serrator* Forsskal, 1775

Biogeographic: Provinces of Gafsa, Sidi Bouzid, Bizerte. **Chorotype:** North Africa from Egypt to Mauritania.

Tribe Harpalini Bonelli, 1810

Subtribe Anisodactylina Lacordaire, 1854

Genus *Anisodactylus* Dejean, 1829

Subgenus *Hexatrichus* Tschitschérine, 1898

54. *A. (Hexatrichus) poeciloides* Stephens, 1828

Biogeographic: Province of Tozeur. **Chorotype:** W-Mediterranean.

Genus *Scybalicus* Schaum, 1862

55. *S. oblongiusculus* (Dejean, 1829)

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Subtribe Harpalina Bonelli, 1810

Genus *Carterus* Dejean, 1829

Subgenus *Carterus* Dejean, 1830

56. *C. (Carterus) rotundicollis* (Rambur, 1842)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

57. *C. (Carterus) interceptus* Dejean, 1830

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Genus *Graniger* Motschulsky, 1864

58. *G. cordicollis* (Audinet-Serville, 1821)

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Genus *Amblystomus* Erichson, 1837

59. *A. mauritanicus* (Dejean, 1829)

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Genus *Ophonus* Dejean, 1821

Subgenus *Ophonus* Dejean, 1821

60. *O. (Ophonus) opacus* (Dejean, 1829)

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Genus *Harpalus* Latreille, 1802

Subgenus *Cryptophonus* Brandmayr & Zetto Brandmayr, 1982

61. *H. (Cryptophonus) litigosus* (Dejean, 1829)

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Subgenus *Harpalus* Latreille, 1802

28. *H. (Harpalus) distinguendus distinguendus* (Duftschmidt, 1812)

Biogeographic: Provinces of Jendouba, Sousse, Nabeul. **Chorotype:** Palaearctic.

29. *H. (Harpalus) neglectus* Audinet-Serville, 1821

Biogeographic: Provinces of Jendouba, Bizerte. **Chorotype:** Europe-Mediterranean.

64. *H. (Harpalus) serripes* (Quensel, 1806)

Biogeographic: Province of Bizerte. **Chorotype:** Palaearctic.

Subgenus *Pseudoophonus* Motschulsky, 1844

65. *H. (Pseudoophonus) rufipes* (De Geer, 1774)

Biogeographic: Province of Bizerte. **Chorotype:** Palaearctic (Holarctic).

Genus *Acinopus* Latreille, 1829

66. *A. haroldii* Schaum, 1863

Biogeographic: Province of Bizerte. **Chorotype:** North Africa (Mediterranean).

67. *A. grassator* Coquerel, 1858

Biogeographic: Province of Bizerte. **Chorotype:** North Africa.

Genus *Parophonus* Ganglbauer, 1892

Subgenus *Parophonus* Ganglbauer, 1891

68. *P. (Parophonus) hispanus* (Rambur, 1838)

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

69. *P. (Parophonus) hespericus* Jeanne, 1985

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Subtribe *Stenolophina* Kirby, 1837

Genus *Bradycellus* Erichson, 1837

Subgenus *Bradycellus* Erichson, 1837

70. *B. lusitanicus* (Dejean, 1829)

Biogeographic: Province of Jendouba. **Chorotype:** W-Mediterranean.

Genus *Dicheirotrichus* Jacquelin du Val, 1857

Subgenus *Dicheirotrichus* Jacquelin du Val, 1857

71. *D. (Dicheirotrichus) obsoletus* (Dejean, 1829)

Biogeographic: Provinces of Gafsa, Kairouan. **Chorotype:** W-Mediterranean.

72. *D. (Dicheirotrichus) punicus* Bedel, 1899

Biogeographic: Province of Gafsa. **Chorotype:** Mediterranean.

Genus *Stenolophus* Dejean, 1821

Subgenus *Stenolophus* Dejean, 1821

73. *S. teutonius* (Schrank, 1781)

Biogeographic: Provinces of Jendouba, Bizerte. **Chorotype:** Turano-Europeo-Mediterranean.

Tribe Lebiini Bonelli, 1810

Subtribe Apenina Ball, 1983

Genus *Platyтарus* Fairmaire, 1850

74. *P. bufo* (Fabricius, 1801)

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Subtribe Cymindidina Laporte, 1834

Genus *Cymindis* Latreille, 1806

Subgenus *Cymindis* Latreille, 1806

75. *C. (Cymindis) setifensis setifensis* Lucas, 1842

Biogeographic: Provinces of Bizerte, Sidi Bouzid. **Chorotype:** North Africa (Mediterranean).

Subtribe Dromiusina Bonelli, 1810

Genus *Apristus* Chaudoir, 1846

76. *A. striatipennis* Lucas, 1846

Biogeographic: Province of Jendouba. **Chorotype:** West Africa.

Genus *Lionychus* Wissmann, 1846

Subgenus *Lionychus* Wissmann, 1846

77. *L. albonotatus* (Dejean, 1825)

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

Genus *Syntomus* Hope, 1838

78. *S. fuscomaculatus* (Motschulsky, 1844)

Biogeographic: Province of Kasserine. **Chorotype:** Turano-Europeo-Mediterranean.

79. *S. obscuroguttatus* (Duftschmid, 1812)

Biogeographic: Province of Kasserine. **Chorotype:** Europeo-Mediterranean.

Genus *Microlestes* Schmidt-Goebel, 1846

80. *M. corticalis* (Dufour, 1820)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Turano-Europeo-Mediterranean.

81. *M. fulvibasis* (Reitter, 1901)

Biogeographic: Province of Tozeur. **Chorotype:** Turano-Europeo-Mediterranean.

82. *M. abeillei sardous* Holdhaus, 1912

Biogeographic: Provinces of Tozeur, Gafsa. **Chorotype:** W-Mediterranean.

83. *M. mauritanicus* Lucas, 1846

Biogeographic: Provinces of Jendouba, Tozeur. **Chorotype:** S-W-Mediterranean.

Subtribe *Lebiina* Bonelli, 1810

Genus *Lebia* Latreille, 1802

Subgenus *Lamprias* Bonelli, 1810

84. *L. (Lamprias) fulvicollis* (Fabricius, 1792)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

Subtribe *Trichina* Basilewsky, 1984

Genus *Trichis* Klug, 1832

85. *T. maculata* Klug, 1841

Biogeographic: Provinces of Gafsa, Tozeur. **Chorotype:** Mediterranean.

Tribe *Licinini* Bonelli, 1810

Subtribe *Licinina* Bonelli, 1810

Genus *Licinus* Latreille, 1802

Subgenus *Licinus* Latreille, 1802

86. *L. (Licinus) punctatulus* (Fabricius, 1792)

Biogeographic: Provinces of Bizerte, Jendouba, Kairouan, Sousse. **Chorotype:** Mediterranean.

Tribe *Platynini* Bonelli, 1810

Genus *Olisthopus* Dejean, 1828

87. *O. fuscatus* Dejean, 1828

Biogeographic: Province of Jendouba. **Chorotype:** Mediterranean.

Genus *Agonum* Bonelli, 1810

Subgenus *Agonum* Bonelli, 1810

88. *A. (Agonum) nigrum* Dejean, 1828

Biogeographic: Province of Bizerte. **Chorotype:** Turano-Europeo-Mediterranean.

Tribe Pterostichini Bonelli, 1810

Subtribe Pterostichina Bonelli, 1810

Genus *Poecilus* Bonelli, 1810

Subgenus *Parapedius* Seidlitz, 1887

89. *P. (Parapedius) decipiens* (Waltl, 1835)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

Subgenus *Poecilus* Bonelli, 1810

90. *P. (Poecilus) crenulatus distinctus* Lucas, 1846

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

91. *P. (Poecilus) tyrrhenicus* Csiki, 1930

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Mediterranean.

Subgenus *Carenostylus* Chaudoir, 1838

92. *P. (Carenostylus) purpurascens purpurascens* Dejean, 1828

Biogeographic: Province of Bizerte. **Chorotype:** W-Mediterranean.

Genus *Orthomus* Chaudoir, 1838

Subgenus *Orthomus* Chaudoir, 1838

93. *O. (Orthomus) barbarus barbarus* (Dejean, 1828)

Biogeographic: Province of Sousse. **Chorotype:** Mediterranean.

94. *O. (Orthomus) rubicundus rubicundus* Coquerel, 1859

Biogeographic: Province of Bizerte. **Chorotype:** North Africa.

Genus *Percus* Bonelli, 1810

Subgenus *Percus* Bonelli, 1810

95. *P. (Percus) lineatus* Solier, 1835

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Tribe Sphodrini Laporte, 1834

Subtribe Calathina Laporte, 1834

Genus *Calathus* Bonelli, 1810

Subgenus *Calathus* Bonelli, 1810

96. *C. (Calathus) opacus* Lucas, 1846

Biogeographic: Province of Bizerte. **Chorotype:** North Africa.

Subgenus *Bedelinus* Ragusa, 1885

97. *C. (Bedelinus) circumseptus* (Germar, 1824)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

Subgenus *Neocalathus* Bail & Nègre, 1972

98. *C. (Neocalathus) mollis* (Marsham, 1802)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Palaeartic.

Subtribe Sphodrina Laporte, 1834

Genus *Laemostenus* Bonelli, 1810

Subgenus *Pristonychus* Dejean, 1828

99. *L. (Pristonychus) algerinus algerinus* (Gory, 1833)

Biogeographic: Provinces of Bizerte, Kairouan. **Chorotype:** W-Mediterranean.

Subgenus *Sphodroides* Schaufuss, 1865

100. *L. (Sphodroides) tiouirii* Guéorguiev, 2012

Biogeographic: Province of Zaghouan. **Chorotype:** Endemic for Tunisia.

Subtribe Synuchina Lindroth, 1956

Genus *Platyderus* Stephens, 1828

Subgenus *Platyderus* Stephens, 1827

101. *P. (Platyderus) depressus* Audinet-Serville, 1821

Biogeographic: Province of Bizerte. **Chorotype:** Mediterranean.

Tribe Zabrini Bonelli, 1810

Subtribe Amarina Zimmermann, 1832

Genus *Amara* Bonelli, 1810

Subgenus *Amara* Bonelli, 1810

102. *A. (Amara) subconvexa* Putzeys, 1865

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** W-Mediterranean.

103. *A. (Amara) aenea* (De Geer, 1774)

Biogeographic: Provinces of Bizerte, Jendouba. **Chorotype:** Palaearctic (Holarctic).

104. *A. (Amara) familiaris* (Duftschmid, 1812)

Biogeographic: Province of Jendouba. **Chorotype:** Palaearctic.

Tribe Zuphiini Bonelli, 1810

Subtribe Zuphiina Bonelli, 1810

Genus *Zuphium* Latreille, 1806Subgenus *Zuphium* Latreille, 1806105. *Z. (Zuphium) olens* (Rossi, 1790)

Biogeographic: Provinces of Jendouba, Bizerte. **Chorotype:** Afrotropico-Indo-Mediterranean.

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