# CONTRIBUTION TO THE KNOWLEDGE OF THE GENUS *NATHRIUS* BRETHES, 1916, WITH THE DESCRIPTION OF *N. CYPERICUS* N. SP. FROM CYPRUS (*COLEOPTERA : CERAMBYCIDAE*)

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**Abstract**
Here is introduced the description of a new species, **Nathrius cypericus**, from Cyprus. It is described and differentiated from closely related species.

**Keywords**
Coleoptera, Cerambycidae, **Nathrius**, new species, Cyprus.

**Résumé.** Contribution à la connaissance du genre **Nathrius** Brèthes, avec la description de **N. cypericus** *n. sp.* de Chypre (*Coleoptera : Cerambycidae*).
Dans cet article est décrite une nouvelle espèce de Chypre, **Nathrius cypericus** ; elle est ensuite comparée aux espèces voisines.

**Mots-clés**
*Coleoptera*, *Cerambycidae*, **Nathrius**, espèce nouvelle, Chypre.

## Introduction

Genus **Nathrius** Brèthes, 1916 occurred in West Palaearct in two species. Species **Nathrius brevipennis** (Mulsant, 1839) was described from southern France. It is spread in seaside countries in the whole Mediterranean, in southwest Asia from Turkey and Israel to Transcaucasus and Iran. Autochtonous region of occurrence is probably in the Mediterranean countries, and from there it was introduced to many countries of the world, especially in Europe, North and South America and Asia. The next species, **Nathrius berlandi** (Villiers, 1946), was described from Morocco (Agadir) using one specimen ♂ and later it was found and raised in higher numbers including ♀♀. In the following text we present the description of the new species, **Nathrius cypericus**, from Cyprus,

where few specimens were found, unfortunately again only ♂♂. According to the literature the main difference between both of the sooner described species is the length of the third and the fourth antennae segments compared to the fifth segment. After finding the newly desribed species this differentiation is incomplete and insufficient for the determination. Therefore we introduce the distinct marks of all three species in a form of differential diagnosis using the table below. For completeness we introduce also marks of ♂ **Nathrius berlandi** from Spain (Andalucia) in 1991 (SLÁMA, 2001 [2000]), which was also the only one piece found. It was a new finding of this species in Spain and Europe. It is not known if there were more findings since. In spite of some differences, which we consider less significant, we believe that the found ♂ belongs to **Nathrius berlandi**, because it fits the best the description, or it could be a new subspecies of this species.

## Type material

Holotypus : ♂ CYPRUS, Paphos, Maronas, 29.5.2002, J. & M. Sláma lgt. Paratypus : one ♂ CYPRUS, Paphos, Pomos, *ex larva* 25.9.1993 P. Berger lgt., one ♂ CYPRUS, Kourion *ex larva* 11.8.2002 C. Makris lgt. Next two specimens from the locality Maronas were raised by M. Sláma, but both of them decayed and for the description only parts of these imagoes were usable.

| **Nathrius brevipennis** (Mulsant,1839) | **Nathrius cypericus** n. sp. | **Nathrius berlandi** (Villiers, 1946) | **Nathrius berlandi** (Villiers, 1946) (or new sp. ?) |
|---|---|---|---|
| **Head** | | | |
| Vertex of head is mat, finely wrinkled | Vertex of head more shiny, less wrinkled | Vertex of head is mat, finely wrinkled | Vertex of head is mat, finely wrinkled |
| Width of vertex of the head is 67,8 – 68 % of the whole width with eyes. | Width of vertex of the head is 52,3 % of the whole width with eyes. | Width of vertex of the head is 53,9 – 54,8 % of the whole width with eyes. | Width of vertex of the head is 58,7 % of the whole width with eyes. |
| The sides of the front part of the head by the eyes are almost parallel or convergent forward, | The sides of the front part of the head by the eyes are gradually deeply sagged. | The sides of the front part of the head by the eyes are shortly, almost sharply, deeply sagged to the | The sides of the front part of the head by the eyes are shortly deeply sagged to the inside. |

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| exceptionally slightly sagged. | | inside. | |
| The width of the forehead scutum is 62,8 –63,2 % of the whole width of head with eyes. | The width of the forehead scutum is 59,5% of the whole width of head with eyes. | The width of the forehead scutum is 66,3 % of the whole width of head with eyes. | The width of the forehead scutum is 65,2 % of the whole width of head with eyes. |
| Palpi maxillares are on average 2,43 times longer than the width. | Palpi maxillares are on average 3,30 times longer than the width. | Palpi maxillares are on average 2,39 times longer than the width. | Palpi maxillares are on average 2,32 times longer than the width. |
| The eyes from the side view reach to the half of the antennae and they are only very slightly cut out. | The eyes smaller than on N. brevipennis. From the side view they reach only to the base of the antennae and they are only slightly cut out. | The eyes from side view reach behind the middle of the antennae and they are more cut out. | The eyes from side view reach behind the middle of the antennae and they are more cut out. |
| The antennae ♂♂ reach approximately to the end of the body or slightly past it.<br><br>Average proportion of the length of segments ♂♂ to the fifth segment : third + fourth segments are shorter than the fifth segment (0,92).<br>From the third segment the antennae segments are thicker.<br>Midwidth of third antennae segment is = 0,39, fourth is | The antennae ♂♂ reach approximately to the end of the body.<br><br>Proportion of the length of segments ♂ to the fifth segment : third + fourth segments are longer than the fifth segment(1,22).<br><br>From the third segment the antennae segments are thinner.<br>Midwidth of third antennae segment | The antennae ♂♂ are longer and reach over the end of the body by approximately 10-15 %.<br>Average proportion of the length of segments ♂♂ to the fifth segment : third + fourth segments are longer than the fifth segement (1,18).<br>From the third segment the antennae segments are thinner.<br>Midwidth of third antennae segment is 0,23, fourth is | The antennae ♂ are longer and reach over the end of the body by approximately 10 %.<br><br>Proportion of the length of segments ♂ to the fifth segment : third + fourth segments are longer than the fifth segment (1,16).<br><br>From the third segment the antennae segments are thinner.<br>Midwidth of third antennae segment |

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| 0,28, fifth is 0,14. | is 0,30, fourth is 0,23, fifth is 0,14. | 0,19, fifth is 0,11. | is 0,19, fourth is 0,19, fifth is 0,10. |
| On the first through fourth antennae segments long hair is standing up backwards. Rarely some of them are also on the base of the fifth segment. | Long hair standing up backwards is not only on the first through the fourth segments, but also on the whole fifth segment. | Long hair standing up backwards is on the first through the fifth segments, it is longer and very thin. | Long hair standing up backwards is on the first through the fifth segments as by the previous species, but much thinner. |
| **Pronotum** | | | |
| Pronotum is longer than wide, on sides widened and evenly rounded. On the back side slightly narrower than on the front side. | Pronotum is slightly longer than wide (1,08), on the base and at the end narrower, on the sides widely evenly rounded. On the back side much narrower than on the front side. | Pronotum is longer than wide, on the sides only slightly widened and rounded. On the back side slightly narrower than on the front side. | Pronotum is longer than wide, on the sides only slightly widened and rounded. On the back side slightly narrower than on the front side. |
| Pronotum is the same width as the head with the eyes or narrower 1 – 0,96 times. | Pronotum is wider than the head with the eyes by 1,08 times. | Pronotum is narrower than the head with the eyes by 0,92 – 0,98 times. | Pronotum is narrower than the head with the eyes by 0,92 times. |
| Surface of the pronotum almost mat, very finely wrinkled. In the middle part often with a mild hollow, on the sides usually with more or less convex longitudinal keel that is especially in the front part smooth and shiny. Except for the | Surface of the whole pronotum shiny. In the middle part slightly hollowed or straight, on holotypus from the half of pronotum is a slight longitudinal elevation. Instead of longitudinal keels the whole side parts are slightly raised, | Surface of the pronotum less mat than on N. brevipennis, much more finely wrinkled. Instead of longitudinal keels the side parts are widely raised, especially in the front part, shiny, without dots. These shiny areas sometimes extend to the middle part. | Pronotum is similar as on N. berlandi, on the surface it is less mat than on N. brevipennis, much more finely wrinkled. Side parts slightly longitudinally raised, not very shiny, without dots. In the middle part there is also a |

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| shiny keels the pronotum is slightly dotted. | intensely shiny, without dots. Compared to the previous species the dots are up to twice bigger. | Except for the shiny keels the pronotum is finely dotted. | slight narrow longitudinal mat elevation. Except for the shiny keels the pronotum is slightly dotted. |
| Hair on pronotum is long and thicker. It is turned forward. | Hair on pronotum is long, but much thinner. It is turned forward. | Hair on pronotum is finer, thin and shorter. Hair on base is turned backward, differently throughout the area. | Hair on pronotum is finer, very thin and shorter. It is turned in different directions. |
| **Elytra** | | | |
| Elytra shiny. Bottom third, occasionally even half of elytra is smooth with or without very fine dots. | Elytra shiny. Bottom fourth of elytra is smooth, almost without dots. | Elytra less shiny, matter, between dots slightly wrinkled. Bottom fifth of elytra is shiny with very fine sporadic dots. | Elytra matter than on N. berlandi, between dots denser slightly wrinkled. Bottom fifth of elytra is shiny with very slight sporadic dots. |
| Elytra are 1,61 to 1,72 times longer than the width behind base. | Elytra are 1,61 times longer than the width behind base. | Elytra are 2,35 to 2,59 times longer than the width behind base. | Elytra are 2,32 times longer than the width behind base. |
| Elytra are 1,8 to 2,2 times longer than pronotum. | Elytra are 1,8 to 2 times longer than pronotum. | Elytra are 3,1 to 3,6 times longer than pronotum. | Elytra are 3 times longer than pronotum. |
| Surface of elytra at the bottom fourth is not distinctly lifted. | Surface of elytra at the bottom fourth is lifted and distinctly convex. | Surface of elytra at the bottom fifth is lifted and slightly convex. | Surface of elytra at the bottom fifth is not lifted. |
| Dimples on elytra are smaller, towards back even smaller. | Dimples on elytra are two to three times bigger, very distinct, towards back also even smaller, but they are still bigger than at the base of | Dimples on elytra are slightly bigger and much denser than those of N. brevipennis. | Dimples on elytra are slightly bigger and much denser than those of N. brevipennis. |

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| | elytra of N. brevipennis. | | |
| The bottom fourth of elytra bends outward from the stitch, elytra are on the outside very slightly or more sagged to the inside. | The bottom fourth of elytra bends outward from the stitch, elytra are stronger sagged to the inside. | The bottom third of elytra slightly bends outward from the stitch, sometimes even widens. On the outside are elytra sagged to the inside. | The bottom third of elytra slightly bends outward from the stitch. Elytra are on the outside only slightly sagged to the inside. |
| Elytra at the end on the inside are more rounded or almost rounded. | Elytra at the end are on the inside bluntly angled. | Elytra at the end are bluntly or less bluntly rounded. | Elytra at the end are less bluntly rounded. |
| The hair on elytra is thin and short. On the base longer. | The hair on elytra is distinctly thicker and slightly longer. On the base longer. | The hair on elytra is thicker and longer. On the base longer. | The hair on elytra is thicker and short. On the base longer. |
| **Legs** | | | |
| Femora ♂♂ in the basal part to 30 % of the length are thin, further down they are much thicker clubshaped. | Femora ♂♂ in the basal part to 35 % of the length are thin, further down they are also much thicker clubshaped. | Femora ♂♂ in the basal part to 39 % of the length are thin, further down they are also thicker clubshaped, but less. | Femora ♂ in the basal part to 39 % of the length are thin, further down they are also thicker clubshaped, but less. |
| Tarsae shorter and thicker. | Tarsae slightly thinner and shorter. | Tarsae thin and long. | Tarsae thin and long. |
| The second segment of front tarsae is thick, from base to the end it strongly widens. It is 1,09 times longer than the width at the end. | The second segment of front tarsae is thinner, from the base slightly widens, but towards the bottom it narrows down again. It is 1,25 times longer than wide in the middle. | The second segment of front tarsae is narrow, from the base is slightly widens, towards the bottom it narrows downs again. It is 1,95 times longer than wide at the end. | Similar to **N. berlandi.** |

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| The first segment of back tarsae is long, it is 66 to 67 % of the lenght of the whole tarsae. | The first segment of back tarsae is a bit shorter, it is 62 to 64 % of the length of the whole tarsae. | The first segment of back tarsae is shorter, it is 58 to 60 % of the length of the whole tarsae. | The first segment of back tarsus is even shorter, it is 59 % of the length of the whole tarsus. |
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| Hair on the legs is stronger and thicker. Towards the back standing up from tibia at approximate angle 15° - 30°. | Hair on the legs is much stronger and thicker. Towards the back standing up from tibia at approximate angle 35° - 50°. | Hair on the legs is much finer and thinner. Towards the back standing up from tibia at approximate angle 15° - 30°. | Similar to **N. berlandi** |
| Hair on the back tibia is approximately 2 – 2,5 times longer than the width of tibia. | Hair on the back tibia is approximately 3 – 3,5 times longer than the width of tibia. | Hair on the back tibia is approximately 1,5 - 2,5 times longer than the width of tibia. | Similar to **N. berlandi.** |
| **Lower side of body** | | | |
| Prothorax is mostly shiny. The gap between the joints of middle hips is narrow, on average 0,29 of the width of the joint. | Prothorax is mostly shiny. The gap between the joints of middle hips is wider, it is 0,36 – 0,66% of the width of the joint. | Prothorax is mostly shiny. The gap between the joints of middle hips is very narrow, it is 0,12-0,19% of the width of the joint. | Not inspected |
| Protuberance of mesothorax is very narrow, it is shaped almost like a sharp wedge, mostly with straight sides. At the end it is pointy with a rounded end. | Protuberance of mesothorax is wider, it can have almost a shape of isosceles triangle with slightly sagged sides. At the end wider up to two times, bluntly rounded. | Protuberance of mesothorax is very narrow, it is shaped like a sharp wedge, mostly with straight sides. At the end pointed. | Not inspected |

| **Colouration** | | | |
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| Body is single-colour brown to dark brown. Antennae, legs or elytra are often a little lighter. | Body is single-colour black-brown, first two segments of antennae and tarsae dark brown, or legs and antennae may be brown, occasionally the whole insect is brown (probably a young not fully developed piece). | Body is single-colour lighter brown. Same coloured are legs, antennae and elytra. The head is usually darker. | Body is single-colour lighter brown. Same coloured are legs, antennae and elytra. The head is slightly darker. |
| Hair is lighter brown. | Hair is black-brown. | Hair is light brown. | Hair is light brown |
| **Size of body** | | | |
| ♂♂ 2,7 – 5,0 mm<br>♀♀ 3,3 – 4,8 mm | ♂♂ 3,2 – 4,1 mm | ♂♂ 4,4 – 6,3 mm<br>♀♀ 3,8 – 6,1 mm | ♂ 4,3 mm |
| **Comparative material** | | | |
| 96 specimens ♂♂ and ♀♀ from Spain, southern France, Germany, Czechia, Italy, Croatia, Greece, Crete, Cyprus, the Caucasus (Sotschi), Algeria, Tunisia, California. | 3 specimens ♂♂ from Cyprus and parts of two decayed specimens. | 30 specimens ♂♂ and ♀♀ from Morocco | 1 specimen ♂ from Spain |

**Biology**

Development of **Nathrius brevipennis** is introduced in various literatures from a number of tree species (e.g. SAMA, 2002). In the Mediterranean the development occurs most often in thin branches of ***Ficus*** and ***Ceratonia***. (SLÁMA, 1998). Larvae create passages predominantly under the bark, and pupate in the wood. The development reoccurs for many years in the same material. This species was recently introduced to various parts of the world,

mostly by wicker covers of glass dishes (e.g. demijohn) used early on, and baskets made mostly out of thin branches of ***Salix***. After years of feeding the wicker is so destructed it crumbles during handling. That is the reason that this species was introduced in the textbooks as a pest. Nowadays the wicker covers are seldom used. Time of development is believed to be one to two years. In laboratory conditions imagoes pupated sporadically after one year. Many more imagoes pupated the second year, but it was impossible to find out, whether it also involved imagoes from eggs laid by the generation from the previous year.

Fig. 1 : **Nathrius cypericus** *n. sp.*, *HOLOTYPUS* : Cyprus, Paphos, Maronas, 29-5-2002.

It is possible, just like in the other species of Cerambycidae, that some imagoes hatched from one egg laying pupate a year later then others. According to the literature the development takes one or two years. After hatching the imagoes live outside of wood variously from May till the end of July. During the day they mostly cling to the bark of branches. They are not found on blossoms (information according to Sláma, 1998).

Development of **Nathrius berlandi** was found by Sláma in little branches of ***Ficus carica*** L. in Morocco (Gorges du Dades, Gorges du Todra, Tinerhir, Tizin Test) and in Spain (Nerja). In Morocco it was also in little branches of an unknown shrub (Gorges du Dades). Larvae live similarly like the previous species. Imagoes hatched during the following year, but it was impossible to judge the time of development, because it was not known when the eggs were laid in the branches.

The newly described species **Nathrius cypericus** was caught in the nature on ***Prunus dulcis*** (Miller) D.A. Webb (= *Amygdalus communis* L.), 29.V.2002. From the little branches collected by Sláma from the same tree one imago hatched in 2003 and another in 2004. The development of the second specimen therefore must have taken at least two years. Berger raised one imago from a little branch of ***Prunus dulcis***. Makris raised one imago from ***Pistacia***.

## Discussion

In this publication is described a new species from genus **Nathrius** Brethes, 1916, from west Palaearctic region. There are mentioned the main distinguishing marks of ♂♂ between up to now known species of this genus and a brief bionomie of these species.

Short key to determination of ♂♂ of mentioned species.

1 (2) The fifth antennae segment of ♂♂ is longer than the third and the fourth segments combined ..... **Nathrius brevipennis** (Mulsant, 1893)

2 (1) The fifth antennae segment of ♂♂ is shorter than the third and the fourth segments combined.

3 (4) Elytra are shorter than two times the width of base ..... **Nathrius cypericus** *n. sp.*

4 (3) Elytra are longer than two times the width of base ..... **Nathrius berlandi** (Villiers, 1946)

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