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A NEW GENUS OF RIODINID BUTTERFLIES

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In the course of my studies of Stichel's subtribe Nymphidinii[2], I discovered three species, *leucarpis* Stichel, *scurrilus* Stichel and *nealces* Hewitson which had been placed in the genus *Nymphidium,* but lacked a number of the characteristics of that genus. While they definitely belonged to the subtribe, and showed certain affinities among themselves, they did not fit into any of the other existent genera of the Nymphidinii. Therefore, I am erecting a new genus for these three species.

Mycastor, new genus

TYPE SPECIES: *Nymphidium leucarpis* Stichel, 1925

DESCRIPTION: Eyes naked; palpi slender, the third segment well over half the length of the second (Fig. **2F**). Antennae slightly over half the length of the forewing; club tapered at end.

Venation similar to *Nymphidium* (Fig. **1**); cell slightly under half the length of the forewing. Hindwing cell shorter; slightly over one third the length of the wing. Humeral vein long and straight, more like *Synargus.* Vein 3 A shorter than either *Nymphidium* or *Synargus.* Rs rises near to, but not connate with M_1.

Male forelegs long, approaching the size of the female foreleg, pubescent with two tarsal segments (Fig. **2 E**). Coxa long and wedge-shaped. Female forelegs with three spurs, one each on the second, third, and fourth tarsal segments. (Fig. **2 D**).

Male genitalia (Figs. **2A, G, J**) with saccus prominent curving cephalad; tegumen vertical, rounded; vinculum narrow, widening slightly in the middle. Uncus bilobed; falces prominent, sharply angular, with terminal arms tapered to a sharp point. Valvae truncated, narrow, curving inwards and connected to the anellus cephalad. Adeagus tapering to a sharp point (Figs. **2A, I, L**). Rami bifurcated in two species, rounded in the third (Figs. **2B, H, K**).

Female genitalia only known from *leucarpis.* Papilae anales separated bladelike. Ductus bursae is a simple flat tube concave at both ends. Corpus bursae rounded with two small signa in the form of two inward projecting teeth.

The name *Mycastor* is an arbitrary combination of latin terms with no special meaning.

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[2]The current members of the Nymphidiini are *Nymphidium, Synargus, Juditha, Audre* and *Calociasma.*

RELATIONSHIPS: The genus *Mycastor* is intermediate to the other genera which make up the subtribe Nymphidinii. Superficially, all the species of *Mycastor* resemble *Nymphidium, Synargus,* and *Juditha* with the white triangular area on the forewing and marginal crescent spots. The rami are present in *Mycastor,* but is partially bifurcated in two species, as in *Synargus,* and in one it is rounded, as in *Nymphidium.* Like *Synargus* the palpi are elongated and the vein 3 A of the hindwing is short as in *Audre.* The valvae are truncated or slightly curved inwards like *Nymphidium,* but the prominent socii found in *Nymphidium* are lacking, as in *Synargus.*

The members of *Mycastor* show considerable variation among themselves. The rami, which are fairly consistent among the other genera, are quite different between the species of the *Mycastor.* One of the species, *nealces,* shows strong sexual dimorphism, and the male forelegs have one tarsal segment. Because of these differences three genera could perhaps be justified. However, I feel that the similarities outweigh the differences, and the three species should be considered congeneric.

Because of its intermediate position relative to the other genera of the Nymphidinii, I consider *Mycastor* to be representive of the progenitors of the present day Nymphidinii.

Because the species included in *Mycastor* are poorly known, I include the original descriptions and some notes on the habits of all three species.

Mycastor leucarpis (Stichel) 1925 [New Combination]

Type species of the genus

Nymphidium leucarpis. Stichel 1925, Zeit Wis. Ins. Biol Sud Rio de Jan..20:263.
=*N. leucaspis* (!) Zikan 1928, Ent. Rundschau, 45:20 [missp.].

ORIGINAL DESCRIPTION: "Upperside black, with a white band crossing the middle of both wings which in the forewing is nearer the distal margin and ends in a point at the radial vein; in the hindwing it is somewhat wider. On the distal border of both wings is a chain of white rings which in the hindwing are against the fringe on which lies a white line. In the black proximal area of the forewing there are some faint eliptical white rings. The underside is somewhat lighter in color; on the border of the dark proximal area next to the white band is a faint black streak; the white on both wings penetrates the black distal border along the veins, and the grey basal area of the hindwing has some black spots.
Forewing length 12.5 - 14 mm
Type No. 599-601 " (Translation mine).

Little need be added to Stichel's description, except that of the female, which has broader wings than the male and a correspondingly wider white area in the forewing which curves distally below the costal margin. The eliptical spots on the margin of both wings are flattened on top so as to form a chain of blue-white circles. The basal areas of bogh wings are dark brown and display a pattern of spots outlined in grey between the veins. The female forewing length varies between 11 and 15 mm. The abdomen of both sexes is black with grey scaling underneath.

The male genitalia (Fig. 2 A) have the valvae more truncated than in *Nymphidium.* The uncus has three spines protruding from each lobe. The aedeagus is long with a pointed spine on the end, and the rami are large, moderately bifurcated and irregular in shape. The female genitalia are as described under the genus (Fig. 2C).

HABITS: *M. leucarpis* is restricted to elevations above 900 m in the Serra do Mar and southern Mantiqueira mountains in the states of Rio de Janeiro, Minas Gerais, and São Paulo in southeastern Brazil. I have observed these butterflies during the late morning and early afternoon along roads that cut through the bamboo forests. They rest under leaves with wings outspread about 1 to 2 meters above the ground and are most common in more humid areas, such as where the road crosses a stream. They fly with a fast, flitty flight though never for more than a few yards, unless frightened, at which time they disappear into the thick bush. *Mycastor leucarpis* is very local, but when encountered it is usually in groups of from 5 to 50 individuals.

MATERIAL EXAMINED: Petropolis, Caminho Imperial, 1300 m, Rio de Janeiro, 29.i.72 (1 ♂ 3 ♀); Itatiaia Park, 1500 m, Rio de Janeiro, 3.i.73 (3 ♂ 2 ♀); Maromba, Itatiaia Park, Rio de Janeiro, (4 ♂ 2 ♀); *Ibid.*, xii.63 (2 ♂ 4 ♀); Sa. de Bocaina, Serra de Mar, São Paulo, 12.i.75 (15 ♂ 22 ♀).

Mycastor nealces nealces (Hewitson) 1871 [New Combination]

Nymphidium nealces Hewitson 1871. Ill. Diurn. Butt. V. 5 (4) pl. 15.

ORIGINAL DESCRIPTION: "Male dark brown with a marginal series of black spots bordered with white. Anterior wing crossed below the median nervure by a band of white; the spots in the cell bordered on both sides with white; the nervures white. Posterior wing crossed by a broad band of orange which is extended on the inner margin to the anal angle and bordered near the base with white. A submarginal series of black spots bordered with white.

Underside as above except that the marginal spots of the posterior wing are much more distinctly bordered with white and that there are two separate black spots at the anal angle. Female differs from the male in shape and in having a broad yellow band in both wings."

In this species, the sexual dimorphism is quite marked. The females resemble *Nymphidium baeotia* Hewitson with a bright yellow band. The unique female I have in my possession has the yellow washed out, except around the edges. Otherwise it resembles Hewitson's illustration.

The male genitalia resemble other members of the genus with the truncated valvae and lack of socii (Fig. 2 G). It differs in that the lobes of the uncus are square-shaped and lack spines. The aedeagus is small and the rami are rounded off similar to *Nymphidium.* Finally, the valvae extend outwards instead of turning inward as with the other two members of the genus.

MATERIAL EXAMINED: Obidos, Para, Brazil, no date (1 ♂); Leticia, Amazonas, Colombia, 18.XII,81 (1 ♂); km 1288 Cuiabá - Santarém, Ruo Ariari Grande, Pará, 20.vii.78 (1 ♂ 1 ♀); Iquitos, Perú, no date (1 ♂).

DISCUSSION: *Mycastor nealces nealces* inhabits the deep primary forests where the males may be found flying around sunlit areas in the early afternoon. It appears to be extremely rare, especially the females. I have caught only two males and one female in many months collecting in the Amazon basin. The range of the nominate subspecies is quite extensive, however. Hewitson described the species from Surinam and I have taken it south of Santarém, Brazil, and Leticia, Columbia. It probably ranges over the eastern half of the Amazon basin from Peru to the Guianas. Due to the extreme rarity of this insect, it is never collected in series, so a definitive statement as to its geographic variation and range may be a while in coming.

Mycastor nealces amoenum (Stichel) 1929 [New Combination]

Nymphidium nealces amoenum Stichel 1929, Mitt, zool. mus. Berlin 15:25.

The difference between this and the nominate subspecies is that the white area of forewings is considerably broadened as is the orange area of the hindwings. In the latter case, the brown borders are reduced to a spot on the apex of the hindwing.

The genitalia are identical to those of the nominate subspecies.

MATERIAL EXAMINED: Manicoré, Amazonas, Brazil, 18.vii.76 (1 ♂).

HABITS: *M. nealces amoenum* has to date been recorded only from the forest around Manicoré, Amazonas, Brazil, where its habits are as described under the nominate subspecies. It remains to be determined whether *amoenum* is a valid subspecies or merely a form.

Mycastor scurrilus (Stichel) 1929 [New Combination]

Nymphidium scurrilus. H. Stichel 1929. Mitt zool. mus Berlin 15:25

Because this species is poorly known, I reproduce Stichel's original description: "Upperside of wings white. Forewing with costal and distal margins somewhat uniformly bordered in black. The edge of the longish center area is a little toothed and rounded. Forewing cell and distally with long, light colored ringed spots that nearly reach into the white. In the distal area are the usual blue white crescents. Hindwing black at the base, the distal border, likewise black, about 3 mm wide, in which there are some high, nearly three cornered blue white arches, which in the beginning are flatter, then doubled. On the underside the border is paler, the rings in the cell of the forewing stronger, on the distal border three white spots, the arched rings in each wing intensive white. Forewing length 16 mm. Types 2 ♂ Berlin Mus. Jurimaguas (Peru).

"Near *N. olinda* Bates, but the white field on the forewing wider at the expense of the costal border and apex, the fringe black and the crescents in the distal area without any blue scaling" (Translation mine).

To Stichel's description, we add that the male genitalia have the lobes of the uncus further apart than *leucarpis* and without the spines. The valves are quite truncated with the tips turned inward. Rami moderately bifurcated (Figs. **2j, k**).

Forewing length of material examined: 15 mm.

The female remains unknown.

Material examined: Jaru, Rondônia, Brazil, 6.viii. 1976 (2 ♂).

DISCUSSION: Although it superficially resembles several members of the genus *Nymphidium,* its genitalia place *scurrilus* in *Mycastor.*

M. scurrilus can be easily separated from several members of the genus *Nymphidium,* such as *N. baeotia,* by the elongated toothlike shape of the marginal crescent rings on the hindwing. *Nymphidium fulminans* Bates has similar tooth shaped crescent spots, but is a much larger butterfly.

The two males mentioned above were observed in the early afternoon resting under leaves about a meter above the ground along a trail in the high climax forest near Jaru, Rondônia. They flew rather slowly when disturbed, disappearing beneath leaves a few yards down the trail.

The species was described by Stichel from south east Peru. It appears to be widespread, but very rare.

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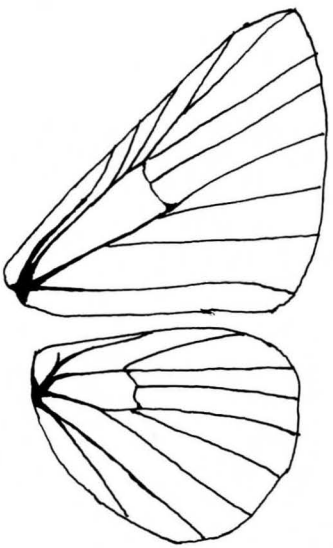

Figure 1: venation of *Mycastor*, new genus

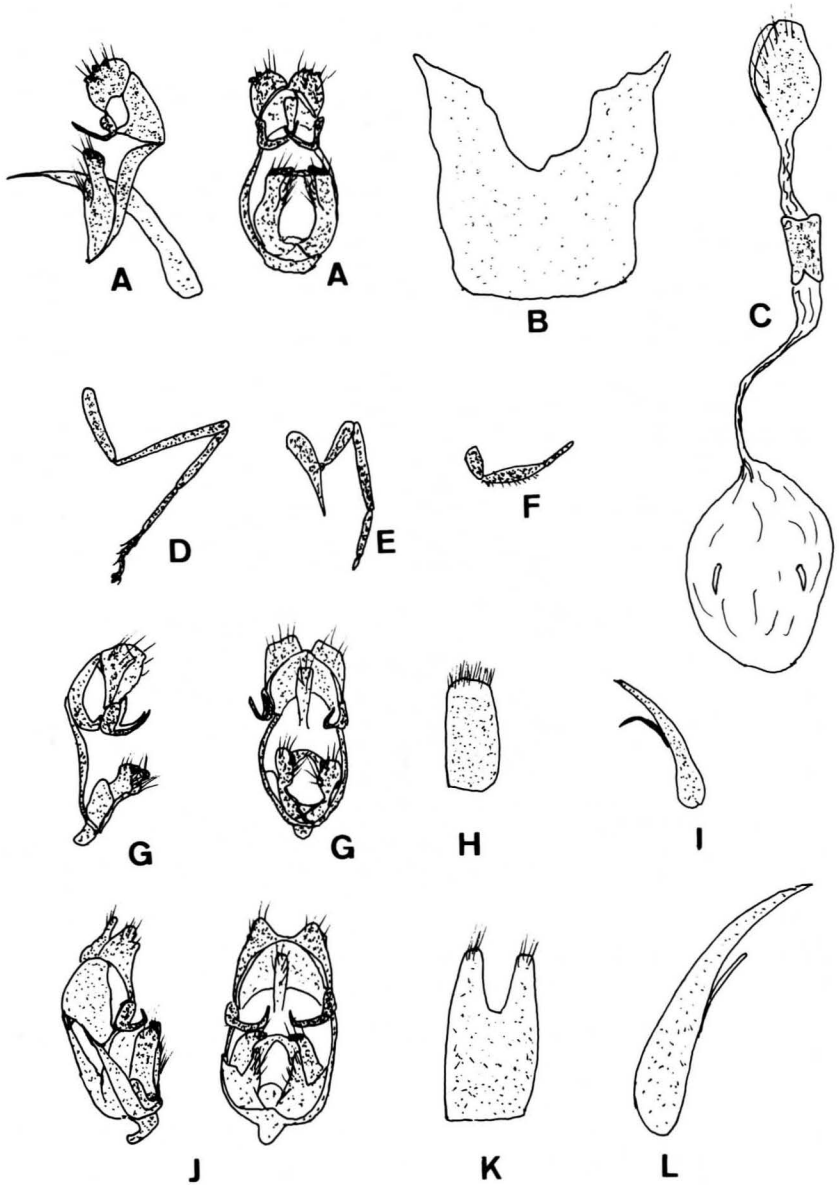

Figure 2: genitalia of *Mycastor* species. *M. leucarpis*: **A**, ♂ genitalia; **B**, rami; **C**, ♀ genitalia; **D**, ♀ foreleg; **E**, ♂ foreleg; **F**, ♂ palpus. *M. nealces*: **G**, ♂ genitalia; **H**, rami; **I**, penis. *M. scurrilis*: **J**, ♂ genitalia; **K**, rami; **L**, penis.

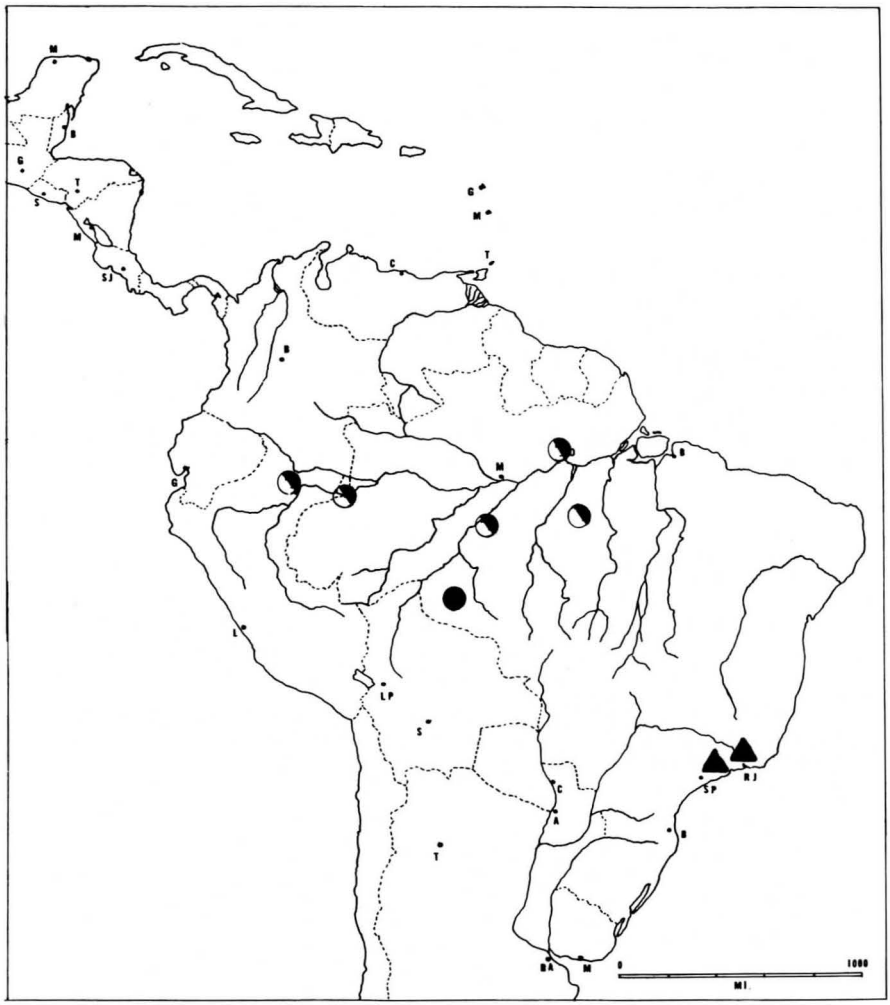

Figure 3: distribution of *Mycastor* species. Triangles = *M. leucarpis*; solid circles = *M. scurrilis*; half-circles = *M. nealces*.

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