

TWO NEW SPECIES OF *NITELA* WITH TAXONOMIC
NOTES ON THE TAXA *TENILA*, *RHINONITELA*,
AND *NITELA RUGOSA*

(Hymenoptera : Sphecidae)

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Abstract

Nitela carinifrons and *N. williamsi* are described from Costa Rica and Malaya, respectively. *Rhinonitela* Williams is regarded as a simple synonym of *Nitela* Latreille, but *Tenila* Brèthes is retained as a subgenus of *Nitela*. *Rhinonitela guiana* Williams is assigned to the subgenus *Tenila*, which also includes one other species, *amazonica* Ducke. Supplementary descriptive notes are given for *Nitela rugosa* Williams.

Two unusual and undescribed species of *Nitela* Latreille have been found in the collection of the U.S. National Museum. They are being described so that the names will be available for use in a generic discussion of *Nitela* now being prepared in connection with a larger study which will deal with the genera and classification of the Sphecidae of the world. The holotypes of the new species are deposited in the U.S. National Museum.

I would like to thank Dr. J. Linsley Gressitt, Bernice P. Bishop Museum, Honolulu, Hawaii, for the loan of the types of *Rhinonitela domestica* Williams, *R. guiana* Williams, and *Nitela rugosa* Williams. The facial portraits were rendered by Mrs. Karen Calden Fulk.

***Nitela carinifrons* Menke, new species**

FEMALE HOLOTYPE:

Length: 3.5 mm.

Color: Black; mandible reddish apically; palpi and tarsi pale; tibial spurs whitish; wings clear, stigma brown, veins somewhat lighter brown.

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Vestiture: Eyes with sparse, short setae; antennal socket basins and clypeus with short, appressed, silver pubescence.

Structure: Head weakly shining, frontal carina present and extending from anterior ocellus to triangular bevel at apex of clypeus (fig. 3); antennal socket basins margined dorsally by a transverse carina which laterally joins a carina that parallels inner eye margin (fig. 3); frons above transverse carina irregularly foveolate, the spaces minutely roughened but shining and each bearing one decumbent dorsad oriented seta, frons below transverse carina smooth; malar space narrow, at narrowest point slightly wider than diameter of anterior ocellus; mandible subapically dentate within; outer orbit bordered by a strong carina, the enclosed space crossed by ridges; gena minutely roughened but shining; occipital carina strongly raised ventrad; thorax weakly shining, pronotal collar and scutum foveolate, the spaces minutely roughened but shining; pronotal collar with angulate humeri (90°), the disk rectangular in dorsal view, disk posteriorly with two large, strongly shining submedian foveae; disk of propleuron with an angular swelling; scutum with a median longitudinal carina which is continued on scutellum by a weaker carina; anterior margin of scutellum with four pits; propodeal dorsum longitudinally ridged, the ridges linked by weaker, irregular transverse carinules, interspaces shining; posterior face of propodeum with a few weak transverse ridges laterally but largely smooth and shining although minutely roughened; posterior face margined by a carina which dips down mediodorsally suggesting the top of a heart-shaped figure; propodeal side minutely roughened and with very fine longitudinal carinae posteriorly which fade anteriorly; mesopleuron above scrobe smooth and shining; submarginal cell of forewing elongate, more than twice as long as wide; recurrent vein received at apex of submarginal cell; gaster smooth, highly polished.

MALE:

Essentially same as female description except that the humeral angles are more prominent (acute).

TYPES:

Holotype female, Turrialba, Costa Rica, 16 June 1949, K. W. Cooper, U.S.N.M. Type #70208. Paratypes, seven females and five males, Turrialba, Costa Rica, 14-24 June, 1949, K. W. Cooper.

DISCUSSION:

The distinctive facial carinae of *carinifrons* makes it unlikely that this species will be confused with any other New World *Nitela*. *Nitela carinifrons* is most similar to the Oriental species *domestica* (Williams) and *williamsi* Menke, but these have a bifurcate frontal carina and rounded pronotal humeri. The mandible of male *carinifrons* is unique among known *Nitela* males in that it is subapically dentate within. With the exception of the male of *Nitela darwini*, which has a basal mandibular tooth, all males of *Nitela* that I have studied have simple mandibles.

***Nitela williamsi* Menke, new species**

FEMALE HOLOTYPE:

Length: 3 mm.

Color: Black; mandible and tarsi brownish; tibial spurs whitish; wings clear, stigma light brown, veins pale brown.

Vestiture: Antennal socket basins with sparse, appressed, silver pubescence; head and thorax with fine, decumbent pubescence.

Structure: Head weakly shining, frontal carina present, bifurcating dorsad, the arms parallel and extending nearly to level of anterior ocellus, stem of carina continuous with carina on clypeus (fig. 2); antennal socket basins margined dorsally by a transverse V-shaped carina which laterally joins a carina that parallels inner margin of eye (fig. 2); frons above transverse carina weakly irregularly reticulate, the spaces minutely roughened but shining; frons below carina smooth; clypeus with a triangular, apical bevel; malar space narrow, at its narrowest point about one-half diameter of anterior ocellus; mandible subapically dentate within; eyes moderately converging above, ratio of the least interocular distance to greatest interocular distance = 18:29; distance between inner orbit and hind-ocellus equal to one-half ocellus diameter; outer orbit with a weak sulcus which is bordered by a ridge-like swelling; gena with a few very fine ridges ventrad; thorax weakly shining; pronotal collar and scutum smooth; collar with rounded humeri, disk of collar with a transverse basal sulcus which is broadest and deepest towards midline where it is interrupted by a posteriorly directed wedge-shaped prominence; posterolateral angle of propleuron with a shallow, oval fovea; scutum depressed anteriorly opposite wedge-shaped prominence of pronotal collar, base of scutum with short ridges; anterior margin of scutellum with six pits, rest of scutellum smooth; propodeal dorsum with a few longitudinal ridges, the center ridge strongest, the others curving slightly outward, the ridges linked by a few weak transverse carinules, interspaces minutely reticulate but shining; posterior face of propodeum with a few weak and irregular transverse ridges except for a mediodorsal inverted trigonal area delimited by fine carinae, posterior face margined by a carina which dips down mediodorsally suggesting the top of a heart-shaped figure; propodeal side with many fine longitudinal ridges, but smooth and shining; mesopleuron around scrobe smooth and shining; submarginal cell of forewing trapezoidal; recurrent vein received beyond submarginal cell (fig. 1); gaster smooth, highly polished.

MALE:

Unknown.

TYPES:

Holotype female, Ulu Gombak, Selangor, Malaya, 17 September 1960, elevation 1,960 feet, U. S. N. M. type #70207. One paratype female, Gombak Forest Reserve, 22 mi. N. Kuala Lumpur, Selangor, Malaya, 8 October 1960, elevation 1,960 feet, 140 foot tree platform (evidently same locality as holotype).

This species is dedicated to the late F. X. Williams.

DISCUSSION:

Nitela williamsi is closely related to *N. domestica* (Williams). The latter was described from the Philippine Islands. Yasumatsu's (1939) record of *domestica*

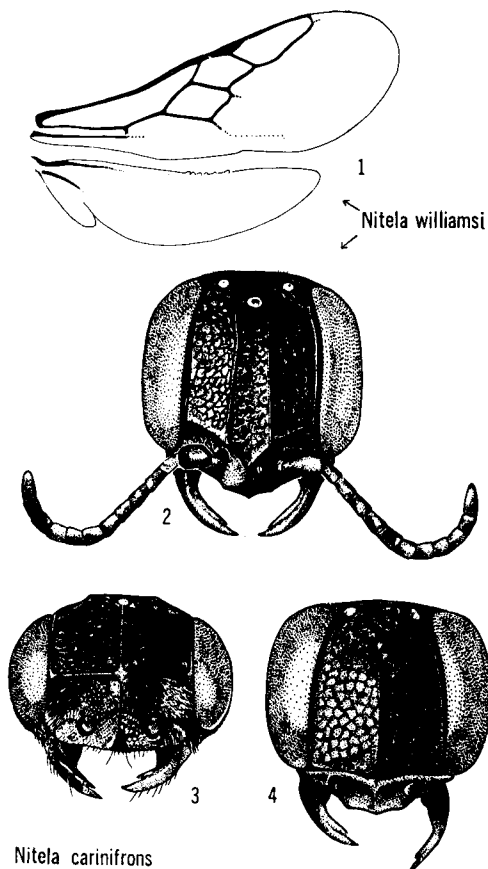


Fig. 1. Wings of *Nitela williamsi*. Fig. 2. Facial portrait of *Nitela williamsi*. Figs. 3. and 4. Anteroventral and anterior facial portraits of *Nitela carinifrons*, respectively.

from Taiwan may actually pertain to *williamsi*. A figure of the head of *domestica*, drawn from the type, is given for comparison with *williamsi* (compare figures 2 and 5).

The more obvious differences between *williamsi* and *domestica* may be summarized in couplet form:

Dorsal arms of frontal carina short, ending about one-half the distance to anterior ocellus (fig. 5); outer orbit paralleled by a very fine carina but not margined by a sulcus; eyes with some short, sparse pubescence; inner orbits more strongly converging, ratio of least interocular distance to greatest interocular distance, 13:28; recurrent vein of forewing without a stub of a

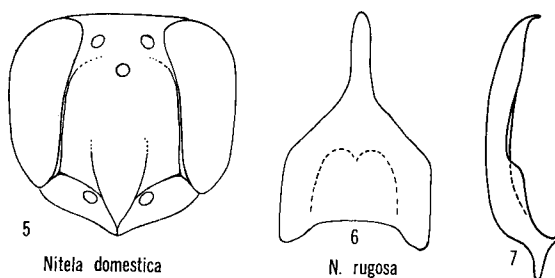


Fig. 5. Face of *Nitela domestica* (holotype). Figs. 6 and 7. Last sternite and lateral view of dissected aedeagus of *Nitela rugosa*, respectively (holotype).

vein near juncture with submarginal cell (see fig. 99 in Williams, 1928); carina delimiting posterior face of propodeum nearly straight dorsally *domestica* (Williams)
 Dorsal arms of frontal carina long and parallel, ending at level of anterior ocellus (fig. 2); outer orbit margined by a sulcus which is defined laterally by a ridgelike swelling; eyes glabrous; inner orbits less strongly converging, ratio of LID to GID, 18:29; recurrent vein of forewing with a stub of a vein just before its juncture with submarginal cell (fig. 1); carina delimiting posterior face of propodeum dipping down mediodorsally suggesting the top of a heart-shaped figure *williamsi* Menke

The Status of *Rhinonitela* and *Tenila*

Williams (1928) made *domestica* the type of a new genus *Rhinonitela*, and included one other new species, *R. guiana*. The two species are not closely allied, however, and *R. suiana* belongs in the taxon *Tenila* Brèthes which is characterized by having a lamelliform frontoclypeal carina and pubescent eyes. I consider *Tenila* to be a subgenus of *Nitela*, and in addition to *guiana* it contains one other species, *amazonica* Ducke.

Based on current knowledge, it would seem best to regard *Rhinonitela* as a simple synonym of *Nitela*. If *Rhinonitela* were retained as a subgenus for *domestica* and its relative *williamsi*, the taxon would be definable mainly on the basis of having a bifurcate frontal carina. Subsidiary characters would be: 1) antennal socket basins margined above by a transverse V-shaped carina, 2) inner orbit paralleled by a carina, 3) posterior face of propodeum margined by a carina, and 4) pronotal humeri rounded. *Nitela carinifrons*, described above, agrees with most of these features except that the frontal carina is not bifurcate, the transverse carina is nearly straight, and the pronotal humeri are angulate. Unlike *domestica*, *carinifrons* has a sulcus and carina along the outer orbit. *Nitela williamsi* is intermediate between the two species in this character. If *Rhinonitela* is recognized as a subgenus of *Nitela*, should *carinifrons* be placed in it or in a new sub-

genus? This question is further complicated by the fact that *Nitela rugosa* Williams has a strong sulcus and carina along the outer orbit, but possesses no facial carinae. This species, like *carinifrons*, also has angulate humeri and a carina around the posterior face of the propodeum. Until the world *Nitela* fauna is better known we will not know if *Rhinonitela* is a tenable taxon and if it is, what its salient characteristics are. For the time being, therefore, it appears best not to recognize *Rhinonitela*. In this connection it is important to point out that some species of typical *Nitela* (that is, species without special facial carinae and without a sulcus or carina along the outer orbit) have angulate humeri and a carina around the posterior face of the propodeum.

Williams' (1928) description of *Rhinonitela* contains some errors. The female mandible is subapically dentate within in both *domestica* and *guiana*, and is not, therefore, simple as stated by Williams. In fact, this applies to all female *Nitela* that I have examined. Unfortunately, it is necessary to spread the mandibles to verify this character. The eyes of *guiana* are densely covered with short setae; however, the eyes of *domestica* are very sparsely setose.

Nitela rugosa Williams

The following notes are offered to supplement Williams' (1928) original description of this species inasmuch as he did not mention certain features and inadequately dealt with others. These notes are based on the male holotype.

The antennal socket basins and clypeus are covered with very dense, appressed silver hair to the extent that the underlying sculpture is obscured. The frons has a granulate appearance but there are scattered, large, shallow punctures which vary from contiguous to three or four puncture diameters apart. The frons has no trace of a frontal carina. The ratio of the least interocular distance to the greatest interocular distance is 17:41. The lateral ocellus is separated from the inner orbit by about 1/3 of an ocellus diameter. The outer orbit is bordered by a coarsely foveolate (or pitted) sulcus and strong carina. The gena is roughened and the occipital carina is strongly raised ventrad. The malar space is broad, its narrowest width equal to two ocellus diameters. The pronotal humeri are more sharply attenuate than shown in Williams' figure 11. The propleuron has a transverse, shelflike ridge. The posterior face of the propodeum is finely, closely, transversely ridged, and is delimited by a carina which dips down mediodorsally suggesting the top of a heart-shaped figure. The last sternite and aedeagus are shown by figures 6 and 7 respectively. The apical process of the sternite has a basodorsal prominence.

Two females in the U. S. N. M. collection from Malaya may be *rugosa*, but they differ in several respects from the male type. The frons has a distinct frontal carina, and the frontal surface is much more densely and evenly punctate (punctures separated by one to one-half a puncture diameter). The interspaces are granulate. There is also a discrete median longitudinal carina on the scutum.

Literature Cited

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