

New Species of *Nysson* from Southwestern United States
(Hymenoptera, Sphecidae)

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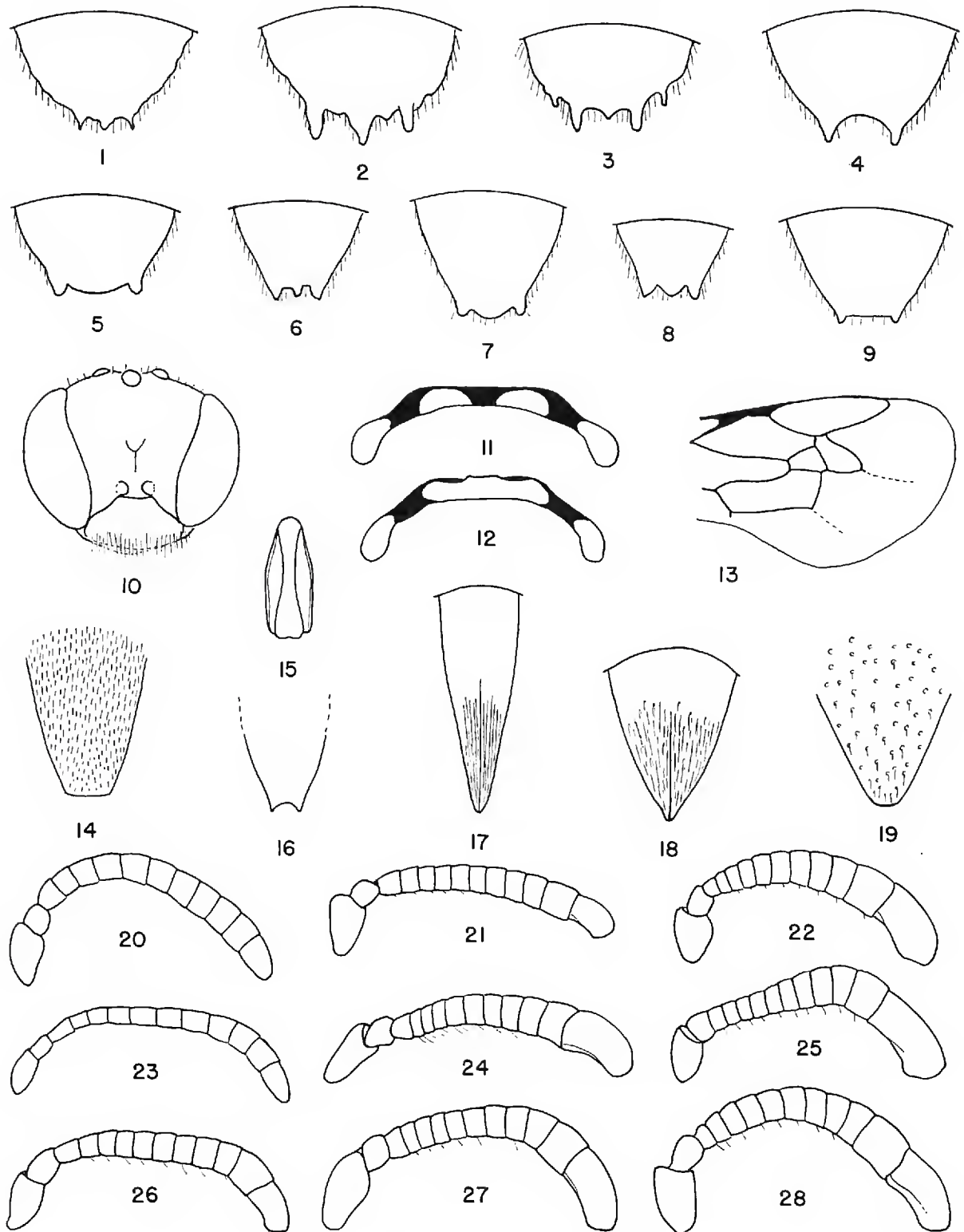
Material of undescribed species of *Nysson* has been accumulated for about ten years. Respectable series of most species have been obtained. Names are given at this time to facilitate a generic revision of Sphecidae now underway, assisted in part by National Science Foundation grant, GB-5839.

The genus *Nysson* is considered to have the following characters which, taken together, distinguish it from its North American relatives, *Synneurus*, *Epinysson*, *Hyponysson*, *Metanysson*, *Zanysson*, and *Foxia*: Hindtibia without teeth or stout spines posteriorly, sternites not dentate or spinose laterally, posterior margins of tergites simple (rather than double-edged) and without a regular fringe of prominent flattened setae, forewing with three submarginal cells of which the second is petiolate, pygidial plate of female well defined.

Holotypes of the new species are deposited in the Entomology Museum of the University of California at Davis. Paratypes will be distributed to institutions which have contributed material, especially the American Museum of Natural History, California Academy of Sciences, Oregon State University, University of California at Berkeley and Riverside, University of Idaho, University of Arizona, University of Kansas, Harvard Museum of Comparative Zoology, and U. S. National Museum.

***Nysson argenticus* R. Bohart, new species**
(Figs. 1, 10, 13, 22)

MALE HOLOTYPE.—Length 4.0 mm. Head and thorax mostly black, abdomen mostly red. Ivory are: mandible partly, clypeus, lateral spot on lower frons, pedicel in front; submedian pronotal spot, pronotal lobe, tegular dot, coxal spots, distal streaks on fore and midfemora, tibiae outwardly, apical bands on tergites I to V, broadly broken medially, central spot on tergite VII, hindfemur all red, hindtibia red within, some reddish on other legs. Body with extensive silver pubescence, especially on face, notum, pleuron, and tergite I; wings nearly transparent, rather evenly microsetose. Punctuation mostly close, moderate to fine, obscured on frons, macropunctures well separated on scutum; pleural punctuation fine and close, obscured on mesopleuron. Facial proportions as in fig. 10, antenna as in fig. 22, frons with small but definite crest-like point above antennal base; scutellum and metanotum finely sculptured, rather plain, silvery; marginal and submarginal cells of forewing as in fig. 13; hindwing media diverging about 3.0 midocellus diameters beyond cu-a; propodeal enclosure coarsely and longitudinally striate; posterior face of propodeum with large central triangle bounded by carinae, otherwise sim-



Figs. 1-9, male tergite VII: 1. *N. argenticus*; 2. *N. euphorbiae*; 3. *N. timberlakei*; 4. *N. neorusticus*; 5. *N. rufosflavus*; 6. *N. schlingeri*; 7. *N. bakeri*; 8. *N. hesperus*; 9. *N. aridulus*; Fig. 10. *N. argenticus*, front view of head; Figs. 11-12, pronotal markings, dorsal view; 11. *N. rusticus*; 12. *N. neorusticus*; Fig. 13. *N. argenticus*, distal one-half of forewing; Fig. 14. *N. hesperus*, pygidial plate of female; Figs. 15-16. *N. schlingeri*; 15. Female sternite VI; 16. Female pygidial plate; Fig. 17. *N. chumash*, female sternite VI; Fig. 18. *N. hesperus*, female sternite VI; Fig. 19. *N. timberlakei*, pygidial plate of female; Figs. 20-28. Inner profile of left male antenna; 20. *N. schlingeri*; 21. *N. rufosflavus*; 22. *N. argenticus*; 23. *N. hesperus*; 24. *N. neorusticus*; 25. *N. euphorbiae*; 26. *N. aridulus*; 27. *N. bakeri*; 28. *N. timberlakei*.

ple, dorsolateral tooth small. Tergites a little swollen under white spots but apical margins thin, with fine silvery fringe, most prominent laterally; tergite VII tridentate (fig. 1); sternite II moderately convex, II to V with delicate medioapical white brushes, that on II broadest and about one-sixth the sternite breadth.

FEMALE.—About as in male. Interocellar and ocellocular spaces about equal; pedicel and clypeus, except for weak lateral spots, dark; pygidium strongly margined, punctogranulose, rounded posteriorly (about as in fig. 19).

Holotype male (UCD), 18 MILES WEST OF BLYTHE, CALIFORNIA, 9 April 1962 (R. M. Bohart). Paratypes, 21 males, 19 females, same locality as holotype but with dates in April and October (F. D. Parker, M. E. Irwin, P. D. Hurd, D. S. Horning, R. M. Bohart); 1 male, Glamis, Imperial Co., California (P. M. Marsh); 2 females, Borego, California, 26 April 1954 (P. H. Timberlake); 1 female, 16 mi. ne. Douglas, Arizona, 25 August 1962 (J. G. Rozen, *et al.*); most specimens have been collected on mats of *Euphorbia*.

The principal variation observed was the presence of two small anterior spots on the scutellum of some females. *N. argenticus* can be distinguished from all other American *Nysson* by the combination of the crested frons, sternal hair brushes on the male, the three sharp teeth of male tergite VII, the distal divergence of the hindwing media, and the stout but dark antennae. Its closest relatives are *N. euphorbiae* R. Bohart and *N. timberlakei* R. Bohart, which also have a small frontal crest.

***Nysson aridulus* R. Bohart, new species**

(Figs. 9, 26)

MALE HOLOTYPE.—Length 5.5 mm. Head and thorax mainly black, abdomen mostly red. Ivory are: mandible basally, transverse apicolateral spot on clypeus, apex of scape narrowly, narrow band across pronotum except just inside pronotal lobe, fore and midfemoral spots, tibiae extensively externally, widely separated transverse apicolateral spots on tergites I to VI; red are: mandible distally, legs slightly, abdomen except for pale spots, a dark spot on tergite VI and all of tergite VII. Body with moderate silvery pubescence, thickest on clypeus, lower frons, mesopleuron and propodeum dorsolaterally; wings a little smoky, rather densely and evenly microsetose. Punctuation fine to moderate, mostly dense but overlaid with scattered macropunctuation, thicker posteriorly on each segment; posterior slope of mesopleuron with fine and coarse punctures, metapleuron shiny with traces of microsculpture. Face about as in fig. 10; antenna (fig. 26); no frontal crest; scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging about 2.5 midocellus diameters beyond cu-a; propodeal enclosure finely to moderately and longitudinally areolate; posterior face of propodeum with weakly defined median triangle, sublateral carinae converging below and well inside tiny dorsolateral teeth. Tergites not swollen under white spots, margins very thin, silvery fringe inconspicuous; tergite VII convex, ending in a median lobe between rather stout teeth (fig. 9); sternite II moderately convex; no sternal hair brushes.

FEMALE.—About as in male. Clypeus all black, last three or four tergites often brownish in ground color; pygidium rounded apically, surface coarsely and irregularly punctured; sternite VI pubescent toward tip, not carinate nor protruding beyond tergite VI.

Holotype male (UCD), BORREGO VALLEY, SAN DIEGO COUNTY, CALIFORNIA, 26 March 1959 (R. M. Bohart). Paratypes, 9 males, 6 females, all from southern California: Borrego Valley (M. Wasbauer, P. Hurd, R. Bohart); Apple Valley, San Bernardino Co., on *Euphorbia* (P. Hurd); Piute Butte, Mojave Desert (A. L. Melander); Yermo (E. G. Linsley, *et al.*); near Palm Springs (A. Melander, J. Powell). Paratype dates were from 17 March to 9 May.

Some paratype males have the clypeus all black and the last few tergites brownish, especially toward the middle. *N. aridulus* belongs in the *N. pumilus* Cresson group which is characterized by the distal divergence of the hindwing media, rather simple frons, disproportionately enlarged terminal antennal articles, and the last female sternite rather simple. The mixture of coarse and fine punctation, particularly toward the apices of the tergites, separate *N. aridulus* and *N. rufoflavus* Bohart. From *N. rufoflavus*, it differs by its smaller size, the clear rather than suffused abdominal markings, the shinier metapleuron, and the narrower male tergite VII.

***Nysson bakeri* R. Bohart, new species**

(Figs. 7, 27)

MALE HOLOTYPE.—Length 5.0 mm. Head and thorax mainly black, abdomen mostly red. Ivory are: mandible basally, clypeus, scape and pedicel in front, pronotal ridge except break near pronotal lobe, spots on fore and midfemora, tibiae externally, fore and midtarsi partly, transverse and broadly separated spots near apex of tergites I to V, weak band on VI; red are: mandible distally, legs slightly but hindtarsus mostly, abdomen except for pale maculation and dark brown last segment. Body with mostly moderate silvery pubescence but thick on clypeus, lower frons and mesopleuron; wings very lightly smoky, rather densely and evenly covered with microsetae. Punctation unusually fine and close over most of body, including posterior slope of mesopleuron, scutum, and tergites. Face about as in fig. 10; antenna as in fig. 27; no frontal crest; scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging about 2.5 midocellus diameters beyond cu-a; metapleuron and side of propodeum highly polished; propodeal enclosure coarsely and somewhat longitudinally areolate; posterior face of propodeum with obscure median triangle and lateral oblique carina from insertion of gaster to just inside moderate dorsolateral tooth. Tergites not swollen under white spots, margins very thin, minutely fringed with silvery hair; tergite VIII unusually long, rather flat, ending in convexity between two blunt teeth (fig. 7) sternite II moderately convex; no sternal hair brushes.

FEMALE.—About as in male. Clypeus dark except for an apical band or two

spots; pygidium narrowly rounded apically, surface with close, moderately fine and a few coarse punctures; sternite VI pubescent toward tip, not carinate nor protruding beyond tergite VI.

Holotype male (UCD), 5 MILES SOUTH HEMET, RIVERSIDE COUNTY, CALIFORNIA, on *Euphorbia* mat, 24 April 1956 (R. M. Bohart). Paratypes, 15 males, 28 females, all from southern California: 5 mi. s. Hemet (R. Bohart), Sage (R. Bohart), Riverside (E. Schlinger), Valle Vista (Rozen and Schrammel), Whitewater Canyon (H. R. Moffitt), near Sunnymead (M. E. Irwin), Perris (P. Timberlake), San Jacinto Mts. (E. S. Ross), Verdemont (A. Melander), Arcadia (R. Bohart), Claremont (C. F. Baker); 5 mi. s. Gorman (J. Powell), Phelan (J. C. Hall), 12 mi. n. Escondido (M. Wasbauer), Borrego Valley (M. Wasbauer, P. Hurd, R. Bohart). Paratype dates range from 25 March to 22 May.

The combination of fine abdominal punctation, distal divergence of the hindwing media, enlarged last antennal article, and the evenly punctate posterior slope of the mesopleuron characterize both *N. bakeri* and *N. pumilus*. In the male, *N. bakeri* differs by having no thick erect pubescence on sternite VII, tergite VII flatter and more slender, and the flagellum ciliate beneath as well as all dark. In the female, *N. bakeri* has the flagellum all dark and the metapleuron is highly polished rather than finely sculptured. The species is named in honor of C. F. Baker, a great collector of the early part of this century.

***Nysson euphorbiae* R. Bohart, new species**

(Figs. 2, 25)

MALE HOLOTYPE.—Length 5.5 mm. Head and thorax mainly black, abdomen mainly brownish red. Reddish-tinted ivory are: lateral one-third of clypeus, mandible partly, dull spots toward base of antenna, interrupted band on pronotum, legs partly, interrupted subapical bands on tergites I to V; red are: antenna mostly, mandible partly, legs extensively, propodeum partly, abdomen mostly. Body with extensive silvery pubescence, especially on face, notum, pleuron, and tergite I; wings nearly transparent, rather evenly microsetose. Punctation moderately close, fine to coarse, some macropunctures above and below ocelli, scutum with coarse punctures which are mostly separated by less than a puncture diameter; mesopleural punctures coarse but obscured; tergites with fine and coarse punctures, latter dominating posteriorly. Facial proportions as in fig. 10, antenna as in fig. 25, frons with small crest-like point above antennal base; scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13 except second recurrent vein more nearly interstitial; hindwing media diverging about 2.5 midocellus diameters beyond cu-a; propodeal enclosure obliquely striate laterally, unevenly areolate medially, posterior face of propodeum with narrow median triangle and adjoining trough, all areas limited by carinae, totalling 4; dorsolateral tooth small. Tergites somewhat swollen under pale spots but margins

thin, fringed laterally with silver hair; tergite VII trispinose (fig. 2); sternite II moderately convex, no sternal hair brushes.

FEMALE.—About as in male. Interocellar and ocellocular spaces about equal; red of thorax almost wholly replacing black in some specimens; frons sometimes with a golden tint; pygidium shaped about as in fig. 19 but more coarsely puncto-granulate.

Holotype male (UCD), RODEO, NEW MEXICO, 19 AUGUST 1958, on *Euphorbia* mat (R. M. Bohart). Paratypes, 10 males, 27 females: near Rodeo, New Mexico, August (P. Hurd, R. Bohart, J. Rozen, *et al.*, C. Moore, P. Marsh); Las Cruces, New Mexico, 2 June 1965 (R. Bohart); Mesilla, New Mexico, 23 September 1965 (G. E. Bohart); near Portal, Arizona, May (J. Rozen, *et al.*); near Douglas, Arizona, August (J. Rozen, *et al.*); Willcox, Arizona, August (P. Hurd); Whitewater Canyon, Riverside Co., California, June (E. Schlinger); 18 mi. w. Blythe, California, October (F. Parker, R. Bohart, D. Horning). One female metatype, near Elota, Sinaloa, Mexico, 18 May 1962 (F. Parker).

In some specimens the pale antennal spots stand out more clearly than in others. This species belongs to the *N. argenticus* group in which the frons is crested, the antennae are stout, the abdomen is nearly all red, the tergites are noticeably silver-fringed, and the hindwing media diverges well beyond cu-a. *N. euphorbiae* differs from the other two in the predominantly coarse punctation of its tergites and by the mostly red antennae.

***Nysson hesperus* R. Bohart, new species**

(Figs. 8, 14, 18, 23)

MALE HOLOTYPE.—Length 3.5 mm. Body mainly black. Ivory are: scapal spot, fore and midfemoral spots, transverse apicolateral spots on tergites I to III; red are: mandible mostly, legs partly, tints on abdomen. Body with mostly inconspicuous silvery pubescence, thickest on clypeus, lower frons and mesopleuron; wings a little smoky, rather densely and evenly microsetose. Punctures mostly fine and a little separated; upper frons and mesopleuron densely punctate; mesopleuron in front of vertical ridge with a few scattered macropunctures, behind ridge subareolate; metapleuron shiny with traces of microsculpture. Clypeus faintly indented anteromedially, least interocular distance about equal to flagellomeres I to IV together, antenna (fig. 23), no frontal crest; scutellum simple, metanotum irregularly striate; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging at cu-a; propodeal enclosure shiny, coarsely and longitudinally areolate; posterior face of propodeum with distinct median triangle, lateral carina inside small dorsolateral tooth, several carinae below tooth and laterad. Tergites not swollen under white spots, margins thin, silvery fringe inconspicuous; tergite VII ending in a median lobe, slightly surpassed by short sharp lateral teeth (fig. 8); sternite II moderately convex; no sternal hair brushes.

FEMALE.—About as in male. Clypeus rather shiny and sparsely punctate;

pygidium truncate apically, moderately narrow (fig. 14); sternite VI sharply pointed at apex which protrudes beyond pygidium, surface striatopunctate on either side of longitudinal median carina (fig. 18).

Holotype male (UCD), DAVIS, YOLO COUNTY, CALIFORNIA, 24 August 1956 (R. M. Bohart). Paratypes, 6 males, 9 females, topotypical and collected 21 May to 30 August (R. C. Bechtel, R. Bohart). Metatype material, 9 males, 6 females: Independence Lake, Sierra Co., California (R. Bohart); Carnelian Bay, Placer Co., California; Trinity River, Trinity Co., California (A. T. McClay); Lake of the Woods, Oregon (A. McClay); Narrows, Oregon; Meeker, Colorado (R. Bohart); Princeton, British Columbia (E. Schlinger); Moscow, Idaho (R. L. Westcott); Shoshoni, Wyoming (G. Bohart and P. Torchio); Austin, Nevada (L. C. Kuitert). Metatype dates were June to September.

Some species of each sex may have two or four tergites spotted. The female metatype from Austin, Nevada has the ground color of the first and most of the second abdominal segments red.

Other species of this closely knit group are *N. simplicicornis* Fox and *N. chumash* Pate. These share the divergence of the hindwing media at or near cu-a, simple antenna, clypeus black, male tergite VII tridentate, female sternite VI prolonged and medially carinate. The male of *N. hesperus* differs from *N. simplicicornis* by the much finer punctation, the mesopleuron closely punctate rather than areolate; from *N. chumash* by flagellomere I being hardly longer than II and by the finer punctation of sternite II. The female *N. hesperus* differs from *N. simplicicornis* by the mesopleural sculpture as in the male; from *N. chumash* by the pygidium being moderately wedge-shaped rather than exceptionally narrow, and by sternite VI being striatopunctate rather than multistriate. In addition, *N. chumash* is overall much more dull and more closely punctate than *N. hesperus*.

Nysson neorusticus R. Bohart, new species

(Figs. 4, 12, 24)

MALE HOLOTYPE.—Length 7.0 mm. Head and thorax black and ivory, abdomen black, ivory, and red. Ivory are: mandible basally, clypeus, scape, and pedicel in front, pronotal band except just inside lobe (fig. 12), tegular spot, fore and mid-femoral spots, tibiae outwardly, lateral spot on tergite I, bands on tergites II to V, narrowly broken medially on II and III; red are: mandible apically, legs partly, tints toward wing base, abdominal segments I and II except maculation; III basally and laterally. Body with short, generally distributed silvery pubescence, thickest on clypeus, lower frons, mesopleuron, and sternites I to II; wings a little brownish especially in marginal cell, rather evenly microsetose. Punctation close, fine on clypeus, moderate on frons and scutum, becoming areolate on mesopleuron, close and irregular on posterior slope of mesopleuron, metapleuron shiny below,

abdominal punctation fine and close, overlaid with a sprinkling of macropunctures on tergites, larger punctures much more numerous on sternites. Face about as in fig. 10, antenna (fig. 24); no frontal crest; scutellum and metanotum simple but roughened; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging from cu-a; propodeal enclosure irregularly and longitudinally areolate, posterior face of propodeum with distinct median triangle, rest areolate, dorsolateral tooth strong. Tergites not swollen under white spots; margins thin, silvery fringe inconspicuous; tergite VII a little flattened medially, truncate apically with two stout teeth (fig. 4); sternite II moderately convex; no sternal hair brushes.

FEMALE.—About as in male. Clypeus black, all femora dark, mid and hindtibiae dark, tergite I with lateral spots, II to IV with bands broken medially; pygidium wedge-shaped, rounded apically, finely and closely punctate; sternite VI subcarinate toward base, punctate, pubescent apically, not protruding beyond tergite VI.

Holotype male (UCD), DAVIS, YOLO COUNTY, CALIFORNIA, 8 May 1961 (R. M. Bohart). Paratypes, 52 males, 36 females from California: Davis (R. Bohart, *et al.*), Rumsey (P. Marsh, L. Stange), Capay (R. Rice), Putah Canyon and Elkhorn Ferry in Yolo Co. (F. Parker, A. McClay), Sacramento (M. Washbauer, F. Parker), Cache Creek in Lake Co., (F. Parker), Dardanelles (R. Bohart), Strawberry and Eleonor Lake in Tuolumne Co. (A. McClay, S. Kappos), Markleeville (F. Parker), Boca (F. Parker), Chester (R. Bohart). Other paratypes, 25 males, 10 females from Nevada: Verdi (M. Irwin, F. Parker, R. Bohart), Dayton (F. Parker), Patrick (F. Parker, M. Irwin, R. Bohart). Metatypes, 3 males, 1 female, Parkdale, Oregon (K. Gray, J. Schuh); Oak City, Utah (G. Bohart); Cornish, Utah (G. Bohart); Jackson Hole, Wyoming (J. MacSwain). Paratype dates are from 19 April to 12 August.

N. neorusticus is closely related to *N. rusticus* Cresson with which it has been confused in collections. Both species occur broadly over the United States west of the 100th parallel but *N. rusticus* has a red-suffused coastal subspecies *N. r. sphecodoides* Bradley. The typical form of *N. rusticus* differs consistently in markings from *N. neorusticus*. The latter has the pronotal band continuous medially (fig. 12) and the spots of tergite I are well developed and white in both sexes. The pronotal band is broken medially in *N. rusticus* (fig. 11) and the spots of tergite I are small, red-suffused or absent.

***Nysson ruf flavus* R. Bohart, new species**

(Figs. 5, 21)

MALE HOLOTYPE.—Length 5.0 mm. Head and thorax mainly black, abdomen mostly red. Ivory are: mandible mostly, large lateral clypeal spot, scape distally, band across pronotum, broken sublaterally, fore and midfemoral spots, tibiae ex-

ternally, narrow apical bands on tergites I to VI which are broken or weak medially and are infused with reddish; red are: mandible distally, legs partly, abdomen except for pale spots and median brownish area from tergite III to VII which is all dark; body with rather inconspicuous silvery pubescence, thickest on clypeus, lower frons, mesopleuron, and propodeum dorsolaterally; wings smoky, rather densely and evenly covered with microsetae. Punctuation fine to moderate, mostly dense, that of tergites fine and dense but overlaid with scattered larger punctures, thicker posteriorly on each segment; posterior slope of mesopleuron with fine and coarse punctures, metapleuron shiny but covered with microsculpture. Face about as in fig. 10; antenna (fig. 21); no frontal crest but a raised line above antennal bases; scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging about 2.2 midocellus diameters beyond cu-a; propodeal enclosure rather coarsely and longitudinally areolate; posterior face of propodeum with weakly defined median triangle and sublateral carinae. Tergites not swollen under pale maculation, margins thin, silvery fringe inconspicuous; tergite VII broad, convex, ending in median lobe which forms part of a semicircle except for the two small teeth (fig. 5); sternite II moderately convex; no sternal hair brushes.

FEMALE.—Unknown.

Holotype male (UCD), MT. DIABLO, CONTRA COSTA COUNTY, CALIFORNIA, 20 May 1940 (G. E. Bohart). Two male paratypes, Mt. Diablo, California, 29 April 1939 (G. Bohart).

The seemingly close relationship of this species with *N. aridulus* is discussed under that species. The broader and more semicircular tergite VII in *N. rufoflavus* (compare figs. 5 and 9) is probably the most reliable point of distinction. The reddish-infused tergal markings will be useful, also.

***Nysson schlingeri* R. Bohart, new species**

(Figs. 6, 15, 16, 20)

MALE HOLOTYPE.—Length 4.0 mm. Body mainly black. Ivory are: scapal spot, pronotal lobe, spots on fore and midfemora, sublateral apical spots on tergites I to VI; reddish are: mandible mostly, legs slightly, tints between and external to pale tergal spots. Body with inconspicuous silvery pubescence, thickest on clypeus and lower frons, wings smoky, microsetae rather evenly distributed. Punctuation fine and close, notably on mesopleuron and tergites; metapleuron finely pebbled-punctate, dull. Face about as in fig. 10; antenna simple (fig. 20) no frontal crest; free edge of clypeus concave; interocellar area slightly concave; scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging about 2.0 midocellus diameters beyond cu-a; propodeal enclosure coarsely and longitudinally areolate, rest of propodeum rather finely and closely punctate or microstriate, dorsolateral spines slender and sharp. Tergites not swollen under white spots, margins thin, fringe inconspicuous, tergite VII not unusually hairy, broadly wedge-shaped, ending in three small teeth (fig. 6); sternite II weakly convex; no sternal hair brushes.

FEMALE.—About as in male but legs dark and ground color of abdomen red, darkening a little posteriorly; pygidium wedge-shaped, finely punctate, narrowly

emarginate apically (fig. 16); sternite VI greatly narrowed, sides nearly parallel, humped in profile, bearing three longitudinal channels defined by carinae (fig. 15), surpassing apex of pygidium.

Holotype male (UCD), SAMUEL SPRINGS (NOW SOUTH SIDE OF LAKE BERRYESSA), NAPA COUNTY, CALIFORNIA, 22 May 1956, (E. I. Schlinger). Paratypes, 6 males, 1 female, all from middle California: Samuel Springs (E. Schlinger, R. Bohart); Tesla, Alameda Co. (J. Rozen); Three Rivers (P. Timberlake). Paratype dates were from 22 March to 24 May.

Three species, *N. schlingeri*, *N. gagates* Bradley, and *N. trichrus* Mickel, share the distally diverging hindwing media, simple antenna, black clypeus, simple frons, and tridentate male tergite VII. In the male, *N. schlingeri* differs from the other two by its finely and closely punctate mesopleuron rather than areolate (*N. gagates*) or macropunctate (*N. trichrus*). Also, *N. schlingeri* has the clypeal free margin much more concave than in the other two, and the teeth of tergite VII are much less hairy than in *N. gagates*. The female of *N. schlingeri* differs as in the male with respect to clypeal and mesopleural characters. Additionally, the form of its sternite VI is unique, somewhat approaching the condition in *Metanysson*.

***Nysson timberlakei* R. Bohart, new species**

(Figs. 3, 19, 28)

MALE HOLOTYPE.—Length 4.5 mm. Head and thorax mainly black, abdomen mostly red. Ivory are: clypeus, mandible mostly, lower frons laterally, antenna entirely in front, band across entire pronotum, narrowly broken medially, posterolateral dot on scutum, nearly complete anterior band on scutellum, outer spots on all femora, all tibiae entirely on outer surface, interrupted apical bands on tergites I to V, median spot on tergite VI; red are: legs partly; including most of hindfemur, inside of hindtibia, tarsi palely, abdomen mostly. Body with extensive silvery pubescence, especially on face, notum, pleuron, and tergite I; wings nearly transparent, microsetae more scarce toward base of wing, absent in posterior one-half of median cell. Punctuation fine, close, lightly impressed but overlaid with rather scattered and moderate-sized macropunctures; tergites finely punctate medially, grading to medium-sized punctuation subapically. Face about as in fig. 10, frontal crest sharply pointed, antenna (fig. 28); scutellum and metanotum simple; marginal and submarginal cells of forewing about as in fig. 13; hindwing media diverging about 2.5 midocellus diameters beyond cu-a; propodeal enclosure obliquely and obscurely striate, medially with semicircular areole, posterior face of propodeum with a median triangle set off by carinae, dorsolateral tooth small. Tergites somewhat swollen under pale spots but margins thin, fringed with silver hair which increases in length laterally; tergite VII quinquespine (fig. 3); sternite II moderately convex, no sternal hair brushes.

FEMALE.—About as in male. Interocellar and ocellocular spaces about equal,

antenna becoming reddish in front toward apex; pygidium well margined, rounded apically, coarsely punctogranulate (fig. 19).

Holotype male (UCD), LAS CRUCES, NEW MEXICO, 2 June 1965, on *Chilopsis linearis* (R. M. Bohart). Paratypes, 3 males, 3 females, Las Cruces, New Mexico, June (R. Bohart); 3 mi. se. Schurz, Nevada, 27 June 1961 (F. Parker); Borego, California, April and May (F. X. Williams, P. Hurd, P. Timberlake).

N. timberlakei belongs to the *N. argenticus* group, characterized under *N. euphorbiae*. It differs from the latter by a much finer punctation; and from both of the other species by the extensively ivory antennae and the sparsely and very unevenly microsetose median cell of the forewing. The subtruncate female pygidium seems to be a further character for separation in that sex. The male has distinctive quinquespine rather than tridentate tergite VII (fig. 3).

Francis X. Williams

1882–1967

It is with deep regret that the Pacific Coast Entomological Society announces the death of Dr. Francis X. Williams, at Chula Vista, California, on 16 December 1967 during his 85th year. Dr. Williams, who was born on 6 August 1882 at Martinez, California, had been in failing health during the past year. He was an Honorary Member of this Society, as well as a Research Associate in the Department of Entomology and a Fellow and an Honorary Member of the California Academy of Sciences. Following his retirement in 1948, as Associate Entomologist, after 32 years employment by the Experiment Station of the Hawaiian Sugar Planter's Association, he returned to his native California and resided successively in Walnut Creek, Mill Valley, Lemon Grove, and Chula Vista. His entomological interests and publications in the fields of Lepidoptera, the biology and taxonomy of digger wasps, the insects and other invertebrates found in Hawaiian sugar cane fields, and the Hawaiian water-loving insects, are well known. A portrait and biography will appear in a future issue of the Pan-Pacific Entomologist.—PAUL H. ARNAUD, JR., *California Academy of Sciences, Golden Gate Park, San Francisco.*