SAWFLIES (HYMENOPTERA: ARGIDAE) FROM DOMINICAN AMBER[1]

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ABSTRACT: Six sawfly specimens discovered in amber deposits from the Dominican Republic are represented by five adults and one larva. The five adults represent five new species of the Central and South American genus *Didymia*, a genus that no longer occurs in the West Indies. Species described are *D. dominicana*, *D. davisi*, *D. protea*, *D. poinari*, and *D. ebena*. The larva belongs to the Argidae but cannot be identified further.

Six specimens of sawflies, five adults and one larva, have been discovered in Dominican amber. Four adults and the larva were found by the junior author, and the other adult was discovered in the amber collection of the Smithsonian Institution. All specimens belong to the family Argidae and all adults show differences that justify separate species.

This is an unusual discovery. Only about six species of Symphyta currently occur in the West Indies (Smith, 1969), and only one, *Sericoceros krugii* (Cresson), is known from Hispaniola (Smith, 1992). The amber adults belong in the subfamily Sterictiphorinae and in the extant genus *Didymia* that includes about 20 species distributed from Panama to southeastern Brazil. The presence of these Symphyta in Dominican amber, believed to be 20 to 40 million years old (Davis, 1989; Manley and Poinar, 1991), indicates that sawflies were, at one time, much more widespread and diverse in the West Indies.

Little is known of the habits of *Didymia*, and the host plants of only two species are recorded. *Didymia connarusae* Smith has been reared from *Connarus fulvus* in D.F., Brazil (Smith, 1992), and *D. unifasciata* Smith has been reared from *Rouria glabra* in Panama (Kimsey and Smith, 1985). Both plants are in the Connaraceae. *Didymia* has been recorded from Brazil (Amazonas, D.F., Goias, Espirito Santo, Mato Grosso, Minas Gerais, Pará, Rio de Janiero, Santa Catarina, São Paulo), Panama, Peru, and Surnam (Smith, 1992).

All of the adult amber species have the following characters in common: tibiae without preapical spines; tarsal claws simple; forewing with radial cell closed, with long accessory vein; forewing with crossvein 3r-m

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curved, cell 2rs longer on Rs than on M (complete forewing venation visible only in *D. poinari* and *D. ebena*, but the others are probably similar according to the parts that are visible); one or more of the maxillary or labial palpal segments expanded, much broader than the other segments; maxillary palpus longer than eye length; lower interocular distance subequal to or shorter than eye length. The hindwing venation is partially visible only in *D. ebena*, but the anal cell is probably closed in the specimens. These characters plus the short female antennae and general habitus place them in *Didymia*, according to Smith's (1992) definition, and none fit the species in his key. Since the sexes of many Argidae are very different in antennal structure and color, it is possible some of these described are opposite sexes of the same species. This, however, is impossible to determine.

All amber specimens treated here are from the Dominican Republic. More specific locality information is not available.

Didymia dominicana Smith, new species

(Fig. 1)

Female. Length, 7.0 mm. Yellow to orange with antenna, abdominal dorsum except downturned lateral margins of terga, apical 2 terga entirely, sheath, indistinct streaks on inner surfaces of femora, and extreme apex of hindtibia black. Antennal length subequal to head width. Clypeus shallowly, circularly emarginated; malar space linear; interantennal carina short, not extending onto supraclypeal area; maxillary palpus uniformly slender with 4th segment only slightly broader than others; 2nd and 3rd segments of labial palpus enlarged, 3rd segment largest; eye length about equal to lower interocular distance. Hindbasitarsus subequal in length to following tarsal segments combined. Only apex of forewing visible, veins 2r-m and 2m-cu interstitial. Sheath rounded at apex in lateral view, appearing slender in dorsal view, without scopae.

Holotype. Numbered "H-10-48-A", deposited in the Poinar Amber Collection, Museum of Paleontology, University of California, Berkeley; Museo. Paleo. 39852.

Didymia davisi Smith, new species

(Fig. 2)

Female. Length, 4.5 mm. Antenna and head black; thorax and legs appearing reddish; abdomen with basal terga and sterna appearing yellowish, with lateral stripe and apical 3 segments and sheath black. Antennal length slightly longer than head width. Clypeus nearly truncate; malar space linear; interantennal carina bisecting supraclypeal area to clypeus; segments of maxillary palpus appearing uniformly slender; at least 3rd segment of labial palpus enlarged; eye length subequal to or slightly longer than lower interocular distance. Hindbasitarsis subequal in length to following tarsal segments combined. Wing

Figs. 1, 2. 1, *Didymia dominicana* (H-10-48-A). 2, *D. davisi* (#10500).

venation poorly visible, but radial cell of forewing closed with long accessory vein. Sheath rounded at apex in lateral view, appearing slender in dorsal view, without scopae.

Holotype. With label "Smithsonian Institution Entomology Department, Brodzinsky/ Lopez-Penha Collection, Reg. #10500." In the National Museum of Natural History, Washington, D.C.

Didymia protera Smith, new species

(Fig. 3)

Male. Length, 5.0 mm. Entirely black. Antennal length 2.5X head width. Clypeus subtruncate; malar space linear; sharp interantennal carina bisecting supraclypeal area to clypeus; maxillary palpus 1.7X eye length, all segments uniformly slender; 3rd segment of labial palpus enlarged, 2nd only slightly broader than apical segment; lower interocular distance subequal to eye length. Hindbasitarsus subequal in length to following tarsal segments combined. Only apex of forewing evident; radial cell closed at apex with long accessory vein.

Holotype. Numbered "H-10-48-B", deposited in the Poinar Amber Collection, Museum of Paleontology, University of California, Berkeley; Museo. Paleo. 39853.

Didymia poinari Smith, new species

(Figs. 4, 5)

Male. Length, 5.5 mm. Black, with apparent reddish marks on pronotum, mesoprescutum, and mesonotal lateral lobes. Antennal length 1.8X head width. Clypeus subtruncate, malar space linear; interantennal carina short, not bisecting supraclypeal area; 4th segment of maxillary palpus slightly broader than other segments; 3rd segment of labial palpus enlarged, 2nd segment apparently enlarged (difficult to see) but narrower than 3rd segment; lower interocular distance subequal to eye length. Hindbasitarsus slightly shorter than length of remaining tarsal segments combined, about equal to following 3-1/2 segments. Forewing as in Fig. 4; veins 2r-m and 2m-cu interstitial.

Holotype. Numbered "H-10-48-C", deposited in the Poinar Amber Collection, Museum of Paleontology, University of California, Berkeley; Museo. Paleo. 39854.

Didymia ebena Smith, new species

(Fig. 6)

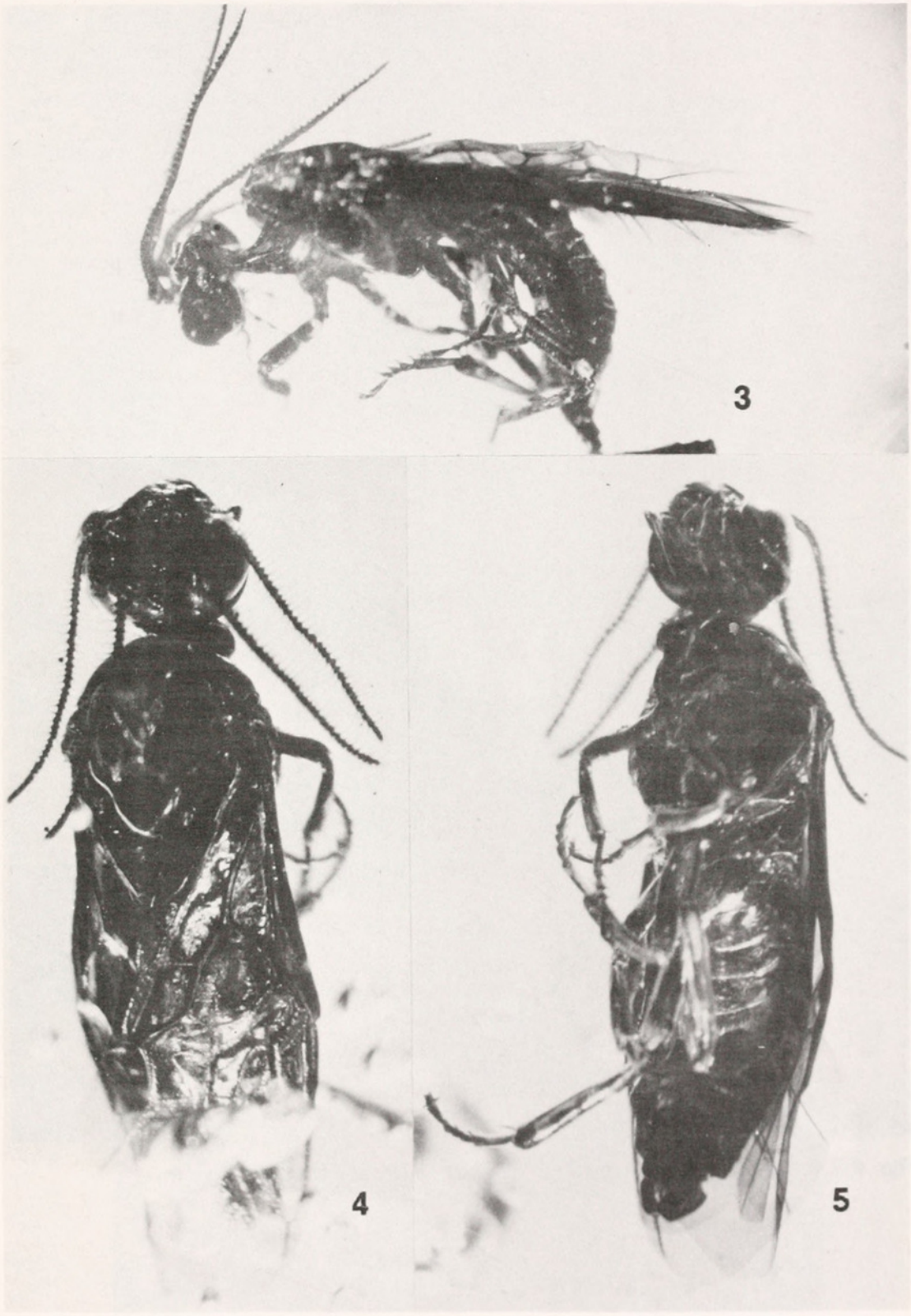
Male. Length, 3.0 mm. Entirely black. Antennal length 1.4X head width. Clypeus subtruncate; malar space linear; interantennal carina short, not bisecting supraclypeal area; segments of maxillary palpus uniformly slender; 3rd segment of labial palpus enlarged; lower interocular distance subequal to eye length. Hindbasitarsus subequal in length to remaining tarsal segments combined. Most of forewing visible; vein 2m-cu meets M about midway between 2r-m and 3r-m; apex of radial cell appearing open, but faintly closed and with accessory vein. Hindwing with anal cell.

Holotype. Numbered "H-10-36", deposited in the Poinar Amber Collection, Museum of Paleontology, University of California, Berkeley; Museo. Paleo. 39855.

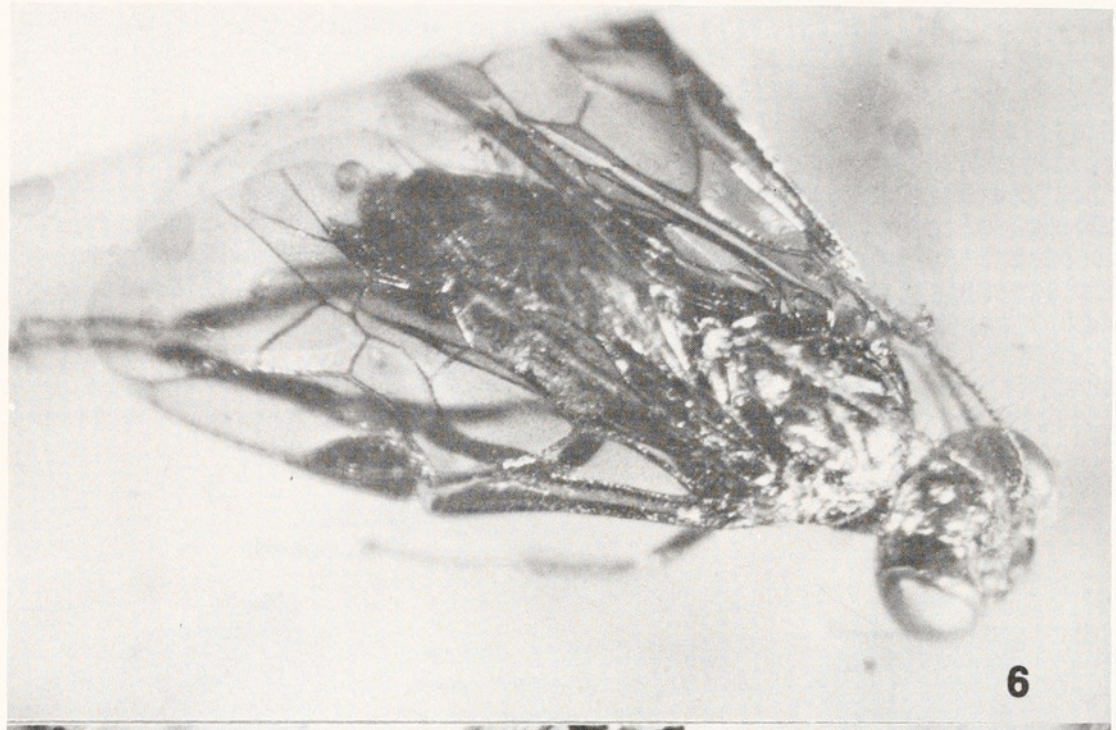
Argidae Larva

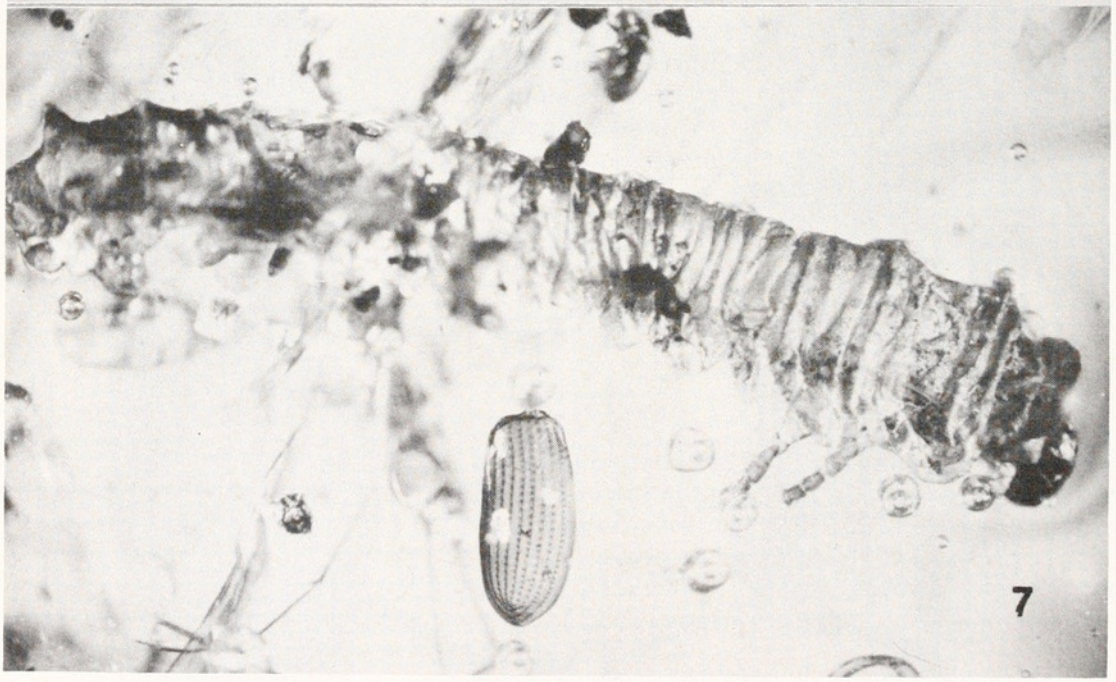
(Figs. 7-9)

It is rare to find larvae in amber. Characters such as the lobes adja-

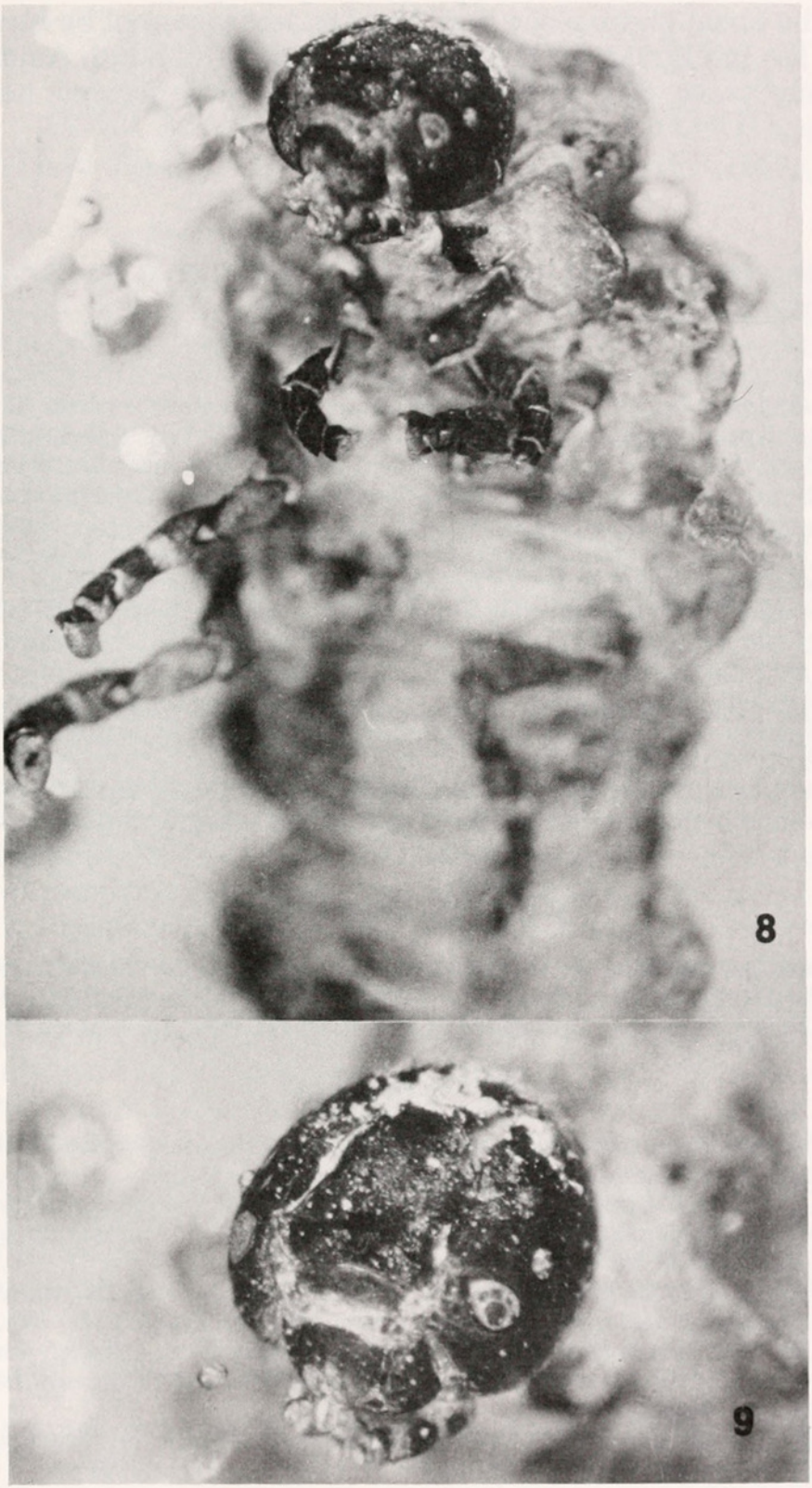


Figs. 3-5. 3, *Didymia protera* (H-10-48-B). 4, *D. poinari* (H-10-48-C) dorsal view. 5, *D. poinari* (H-10-48-C), ventrolateral view.





Figs. 6, 7. 6, *Didymia ebena* (H-10-36). 7, Argidae larva, dorsolateral view.



Figs. 8, 9. Argidae larva. 8, Ventral view of head and thorax. 9, Head.

cent to the tarsal claws place it in Argidae, but it cannot be identified further. Too few larvae are known from Central and South America to adequately place this specimen. It is cited and figured here for reference.

DISCUSSION

The species described here, the only ones known from Dominican amber, may be separated by the following key:

1. Female 2
   Male 3
2. Yellow; antennal length subequal to head width; interantennal carina short, not bisecting clypeus; length 7.0 mm ..... *dominicana* Smith
   Head black, thorax and legs reddish, abdomen yellowish with black lateral stripe and apical segments; antennal length slightly greater than head width; interantennal carina bisecting supraclypeal area; length, 4.5 mm ..... *davisi* Smith
3. Length about 3.0 mm (vein 2m-cu meets M about midway between 2r-m and 3r-m; hindbasitarsus subequal in length to following tarsal segments combined; interantennal carina short, not bisecting supraclypeal area; antennal length 1.4X head width) ..... *ebena* Smith
   Length 5.0-5.5 mm 4
4. Antennal length 1.8X head width; interantennal carina not bisecting supraclypeal area; hindbasitarsus slightly shorter than remaining tarsal segments combined (forewing with veins 2r-m and 2m-cu interstitial) ..... *poinari* Smith
   Antennal length 2.5X head width; interantennal carina bisecting supraclypeal area to clypeus; hindbasitarsus subequal in length to remaining tarsal segments combined ..... *protera* Smith

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