

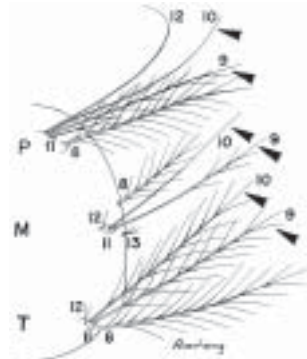
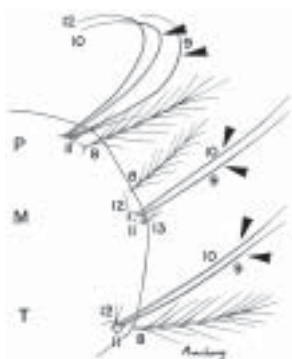


**PLATE 22**

From PLATE 21: Setae 9,10-T both branched or both simple; abdominal segments IV-VII with small tergal plates not enclosing small median posterior plates

1. Setae 9,10-T simple
2. Setae 9,10-P and 9,10-M all simple

1. Setae 9,10-T branched
2. Setae 9,10-P and 9,10-M not all simple

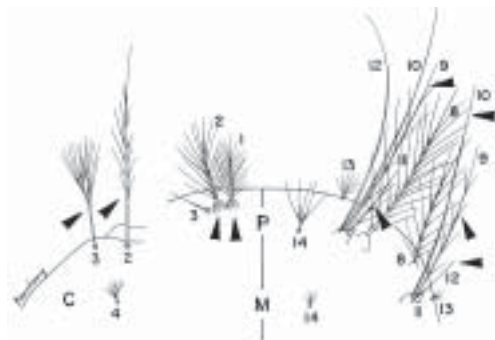


**Neomyzomyia Series**

↳ To PLATE 26

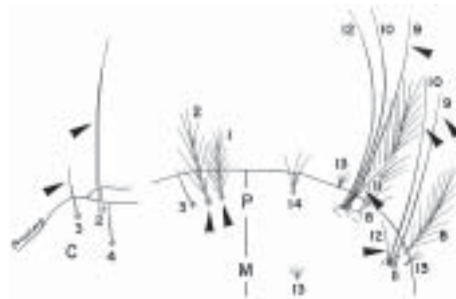
1. Setae 2, 3-C with lateral barbs or branches (both simple in *An. stephensi*)
2. Setae 1, 2-P with darkly sclerotized bases
3. Seta 9-P long, branched, and 11-P short, branched, except *An. stephensi*
4. Seta 9-M plumose, branched from base, setae 10-12-M simple

1. Setae 2, 3-C simple
2. Setae 1, 2-P with lightly sclerotized bases
3. Setae 9-12-P all simple, or one with 2 or 3 distal branches
4. Setae 9,10-M simple, or 9-M with 2 or 3 distal branches



**Neocellia Series**

↳ To PLATE 32



**Pyretophorus Series**

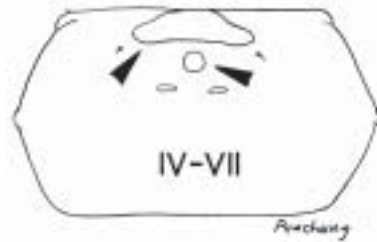
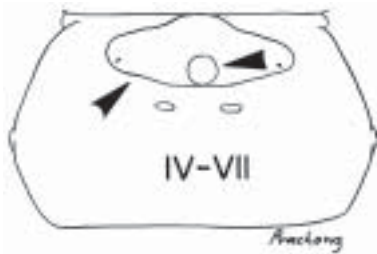
↳ To PLATE 38

KEY TO THE SPECIES OF THE MYZOMYIA SERIES, FUNESTUS GROUP  
FOURTH-INSTAR LARVAE

From PLATE 21: Setae 9,10-T with only one seta simple; abdominal segments IV-VII with very large tergal plates enclosing small median posterior plates, but not small oval submedian posterior plates, **if small**, not enclosing small median posterior plates and pair of small oval submedian posterior plates

Anterior tergal plates on IV-VII large, enclosing small median posterior tergal plates

Anterior tergal plates on IV-VII smaller, not enclosing small median posterior tergal plates



↳ To PLATE 24

1. Setae 2, 3-C with numerous short lateral barbs
2. Seta 4-C with 2-5 branches

1. Setae 2, 3-C simple
2. Seta 4-C simple

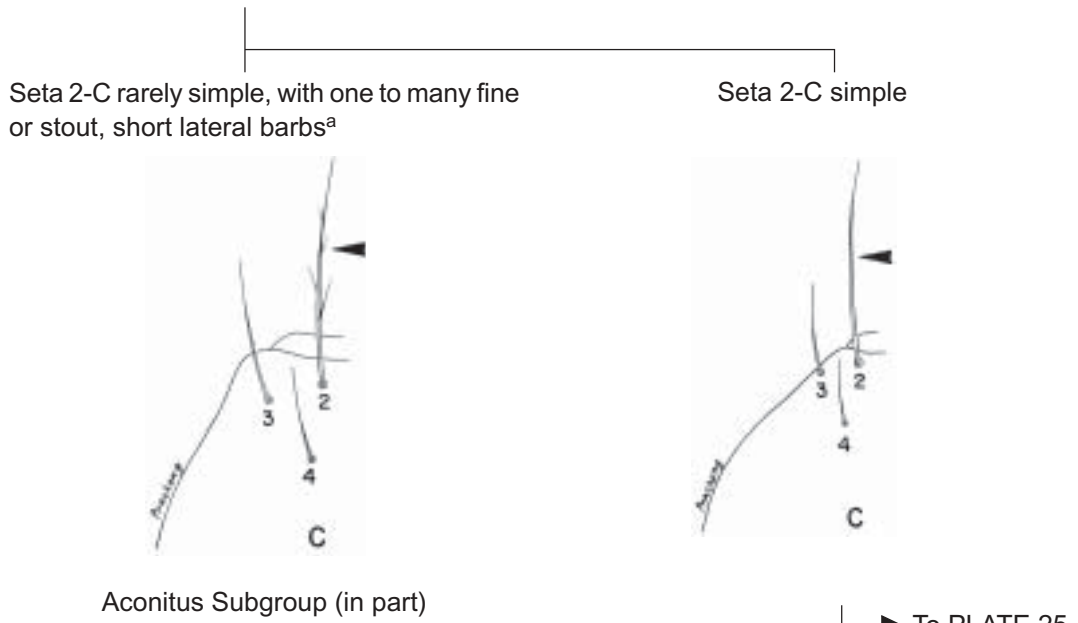


*An. jeyporiensis*  
(A, B, C, and D)

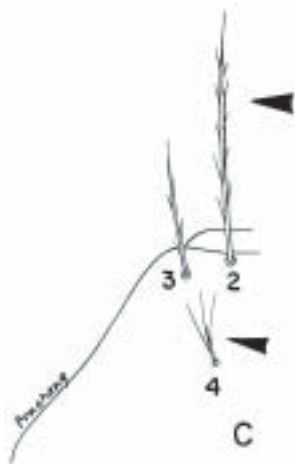


Culicifacies Subgroup  
*An. culicifacies*  
(A and B)

From PLATE 23: Anterior tergal plates on IV-VII large, enclosing small median posterior tergal plates



- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Seta 2-C with 9-18 short lateral barbs</li> <li>2. Seta 4-C with 2-5 branches</li> </ol> | <ol style="list-style-type: none"> <li>1. Seta 2-C with 1-4 short lateral barbs</li> <li>2. Seta 4-C simple</li> </ol> |
|--|--|



*An. aconitus*  
(A, B, and C)



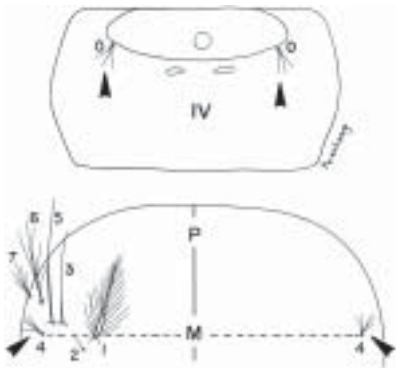
*An. varuna*

<sup>a</sup>Occasional *An. varuna* have both setae 2-C simple, but they can be identified by having seta 3-T leaflets with long slender filaments.

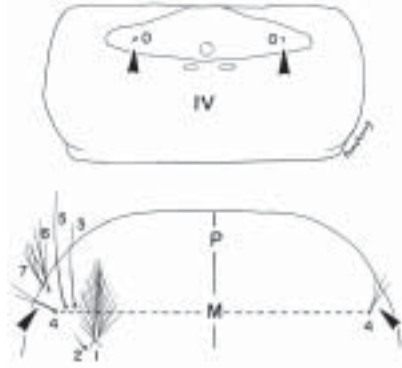
From PLATE 24: Seta 2-C simple

1. Seta 0-IV, V with 2-6 branches arising on segmental membrane
2. Sum of branches on both seta 4-M is 8-11

1. Seta 0-IV, V small, simple, arising on anterior tergal plate
2. Sum of branches on both setae 4-M is 4-6



Minimus Subgroup  
*An. minimus* and *An. minimus* species C



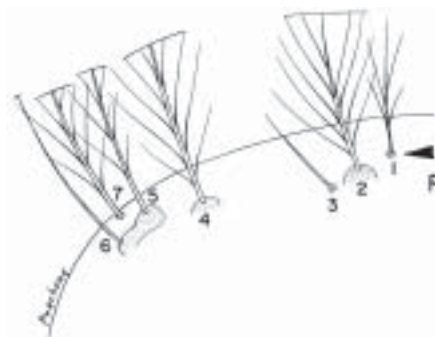
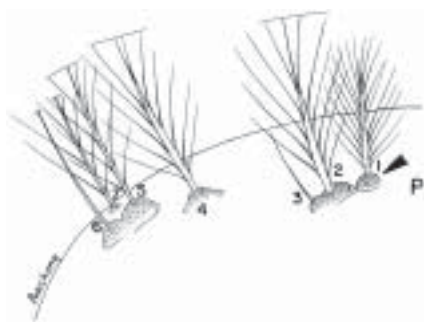
Aconitus Subgroup (in part)  
*An. pampanai*

KEY TO THE SPECIES OF THE NEOMYZOMYIA SERIES  
FOURTH-INSTAR LARVAE

From PLATE 22: Setae 9,10-T simple; setae 9,10-P and 9,10-M all simple

Seta 1-P with more than 10 branches arising from large, darkly pigmented basal tubercle, often joined with median tubercle

Seta 1-P with 2-10 branches arising from small, lightly pigmented basal tubercle

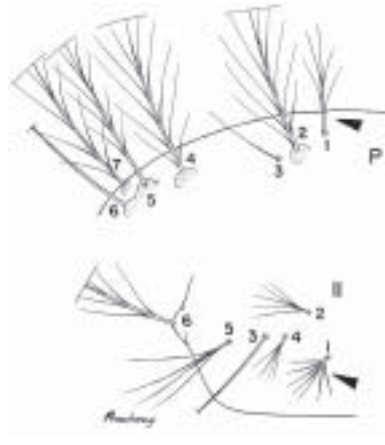
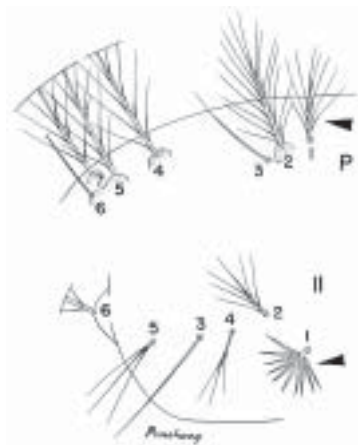


Leucosphyrus Group

↳ To PLATE 27

1. Seta 1-P usually with 7-10 branches
2. Abdominal seta 1-II palmate, with flattened leaflets

1. Seta 1-P usually with 2-5 branches
2. Abdominal seta 1-II not palmate, with filamentous branches



Kochi Group  
*An. kochi*

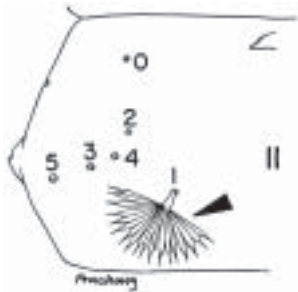
Tessellatus Group  
*An. tessellatus*

KEY TO THE SPECIES OF THE LEUCOSPHYRUS GROUP  
FOURTH-INSTAR LARVAE

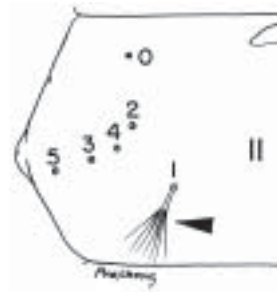
From PLATE 26: Seta 1-P with more than 10 branches arising from large, darkly pigmented basal tubercle, often joined with median tubercle

Abdominal seta 1-II palmate with clearly differentiated filamentous tips

Abdominal seta 1-II not fully developed, with at most lanceolate tips

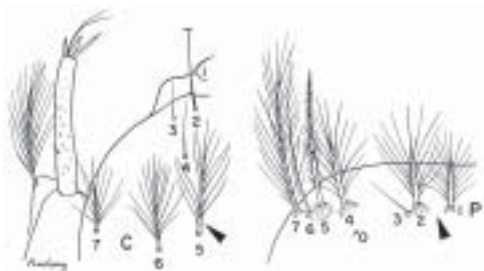


*An. hackeri*



1. Seta 5-C shorter, as long as or slightly longer than antenna
2. Basal sclerotized tubercle of seta 1-P usually separated from tubercle of 2, 3-P at least on one side, usually both

1. Seta 5-C conspicuously longer than antenna
2. Basal sclerotized tubercle of seta 1-P joined or separated from tubercle of 2, 3-P



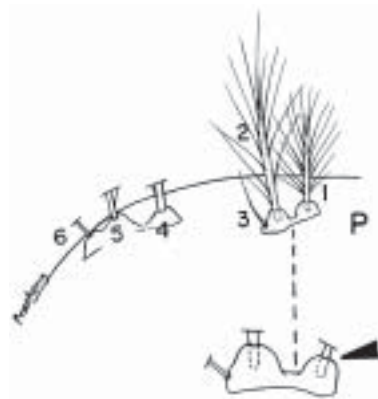
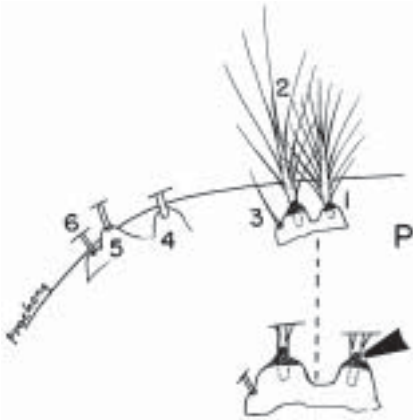
*An. scanloni*

➡ To PLATE 28

From PLATE 27: Seta 5-C conspicuously longer than antenna; basal sclerotized tubercle of seta 1-P joined or separated from tubercle of 2, 3-P

Basal sclerotized tubercle of seta 1-P and usually 2-P with prominent tooth or spine arising from posterodorsal margin

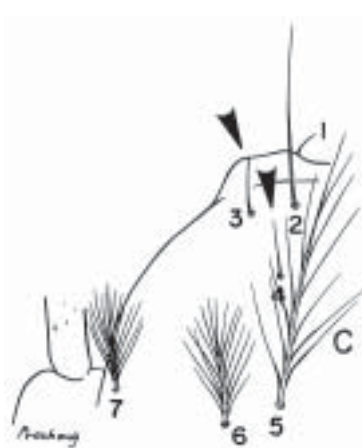
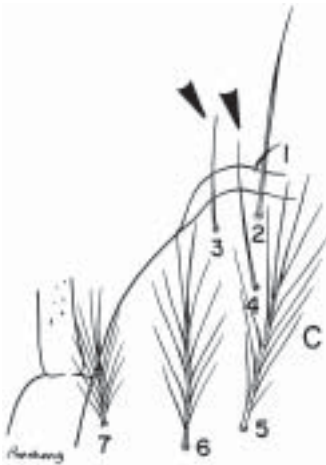
Basal sclerotized tubercle of setae 1,2-P without prominent tooth or spine arising from posterodorsal margin, usually with broad, short, apically rounded lip, or occasionally with small short pointed tooth



↳ To PLATE 29

Setae 3, 4-C long, 4-C always extending noticeable beyond base of 2-C, seta 3-C extending well beyond anterior margin of head

Setae 3, 4-C short, 4-C extending to point before or slightly beyond base of 2-C, seta 3-C extending to or only slightly beyond anterior margin of head



↳ To PLATE 30

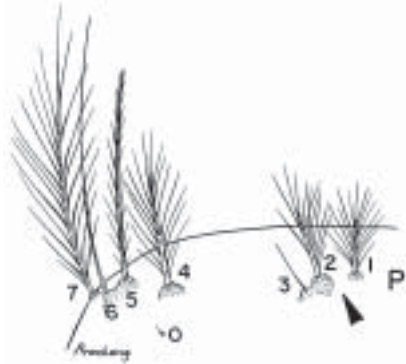
↳ To PLATE 31



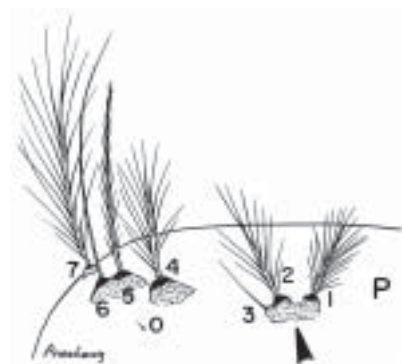
From PLATE 28: Basal sclerotized tubercle of seta 1-P without prominent tooth or spine arising from posterodorsal margin, usually with broad, short, apically rounded lip, or occasionally with small short pointed tooth

Basal tubercles of setae 1, 2-P usually separated, with base of seta 1-P much smaller than base of seta 2-P, distance between bases wide, equal to or greater than basal width of tubercle of 1-P

Basal tubercles of setae 1, 2-P broadly joined, rarely separate on one side, if bases not joined, then separated by less than basal width of tubercle of seta 1-P

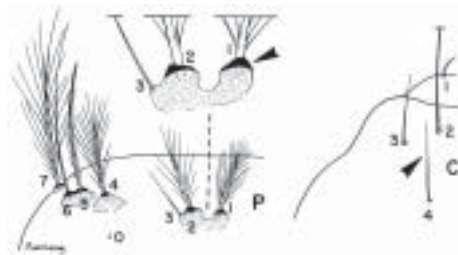


*An. latens*

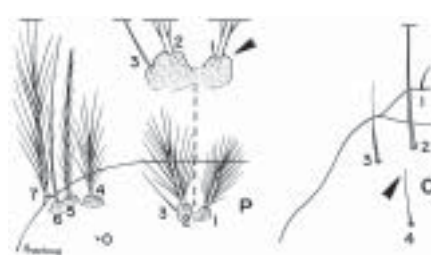


1. Basal sclerotized tubercle of seta 1-P with prominent, broad, apically rounded, posteroapical process or lip
2. Seta 4-C long, extending to or slightly beyond base of seta 2-C

1. Basal sclerotized tubercle of seta 1-P with at most very small, short, pointed tooth or none
2. Seta 4-C short, not extending to base of seta 2-C, usually only reaching 0.75 distance to base of seta 2-C



*An. macarthuri*



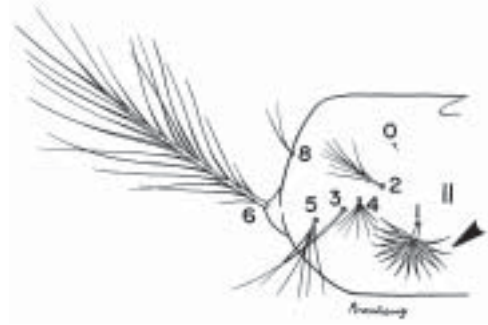
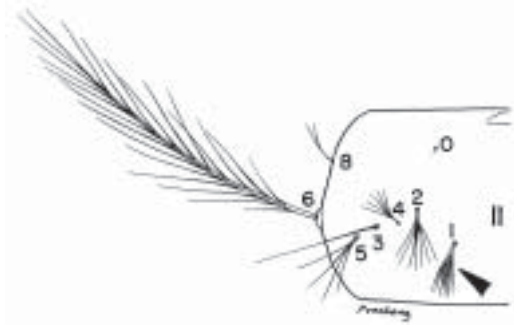
*An. pujutensis*<sup>a</sup>

<sup>a</sup> Occasional specimens of *An. pujutensis* with the basal tubercles separated have seta 14-P with more than 4 branches.

From PLATE 28: Setae 3, 4-C long, 4-C always extending noticeable beyond base of 2-C, seta 3-C extending well beyond anterior margin of head

Seta 1-II weakly developed, with very narrow, translucent, or very lightly pigmented leaflets, basal stem weak, not inflated

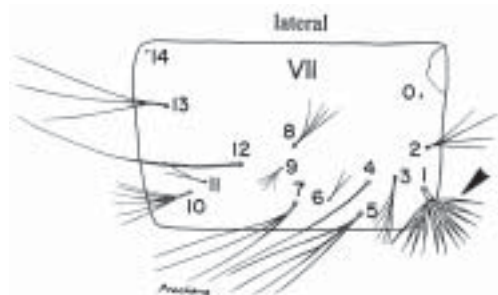
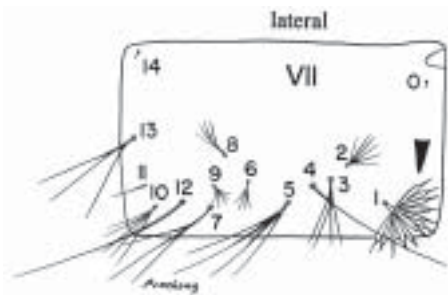
Seta 1-II moderately developed, with distinct, moderately broad leaflets, light to brown pigmented, and basal stem usually stout and distinctly inflated



*An. baimaii* (in part)

Individual leaflets of seta 1-VII with clearly differentiated apicolateral serrations and apical filament

Individual leaflets of seta 1-VII without apicolateral serrations or rarely few leaflets may exhibit weak apical serrations, apical filament not clearly differentiated



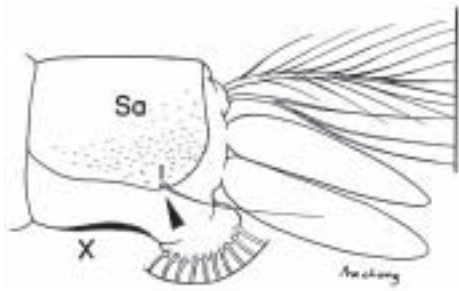
*An. introlatus*

*An. nemophilous*

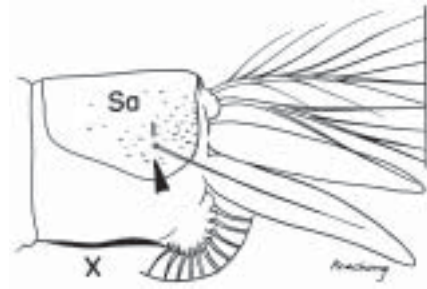
From PLATE 28: Setae 3, 4-C short, 4-C extending to point before or slightly beyond base of 2-C, seta 3-C extending to or only slightly beyond anterior margin of head

Seta 1-X inserted in marginal notch or beside edge of saddle

Seta 1-X clearly inserted on saddle, sometimes near margin



*An. cracens*  
and *An. baimai* (in part)

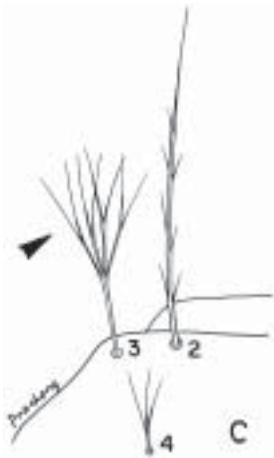


*An. dirus*

KEY TO THE SPECIES OF THE NEOCELLIA SERIES<sup>a</sup>  
FOURTH-INSTAR LARVAE

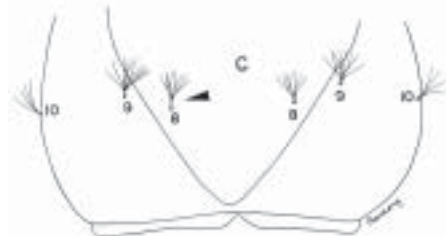
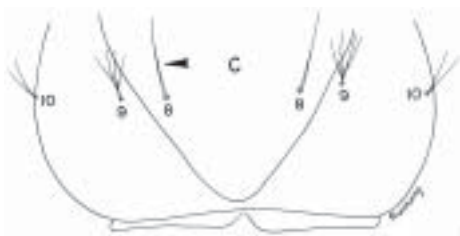
From PLATE 22: Setae 2,3-C with lateral barbs or branches (both simple in *An. stephensi*); setae 1,2-P with darkly sclerotized bases; seta 9-P long, branched, and 11-P short, branched, except *An. stephensi*; seta 9-M plumose, branched from base, setae 10-12-M simple

Seta 3-C with brush-like branches                      Seta 3-C simple or with short barbs



↳ To PLATE 34

Seta 8-C simple or bifid at tip                      Seta 8-C split near base into 2-8 branches



↳ To PLATE 33 (Above)

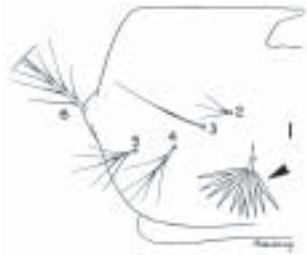
↳ To PLATE 33 (Below)

<sup>a</sup>Because of overlapping larval characters group notations are not used in this key. (see Table 3)

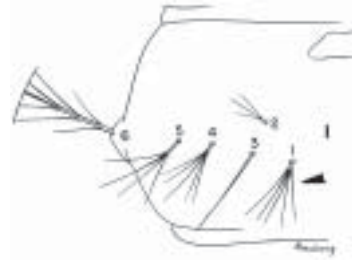
From PLATE 32: Seta 8-C simple or bifid at tip

Abdominal seta 1-I palmate, with well developed leaflets

Abdominal seta 1-I not palmate, with filamentous branches



Annularis Group (in part)  
*An. annularis*

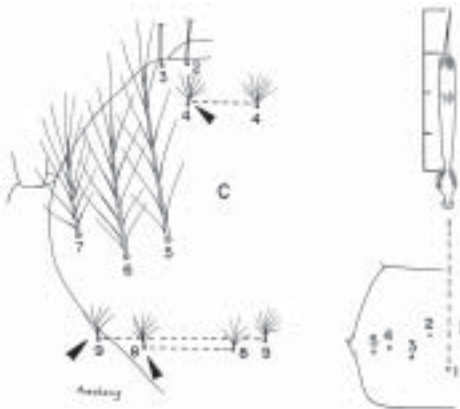


Jamesii Group (in part)  
*An. jamesii*  
(A and B)

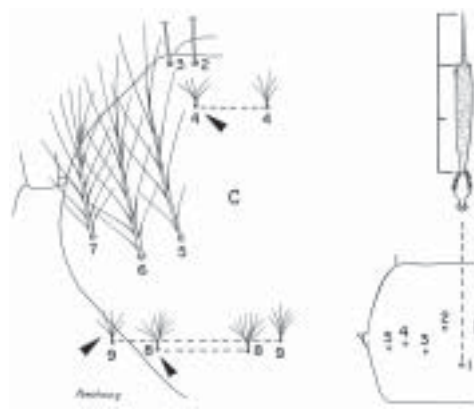
From PLATE 32: Seta 8-C split near base into 2-8 branches

1. Sum of branches on both seta 8-C, plus both seta 9-C, minus sum of both seta 4-C usually fewer than 15  $(8-C+8-C)+(9-C+9-C)-(4-C+4-C)$ = fewer than 15 branches)
2. Leaflets of abdominal seta 1 often with mottled pattern and slender filaments about 1/3 as long as blades

1. Sum of branches on both seta 8-C plus both seta 9-C minus sum of both seta 4-C usually 15 or more  $\{(8-C+8-C)+(9-C+9-C)-(4-C+4-C)\} = 15$  or more branches
2. Leaflets of abdominal seta 1 usually lightly pigmented and slender filaments about 1/2 as long as blades



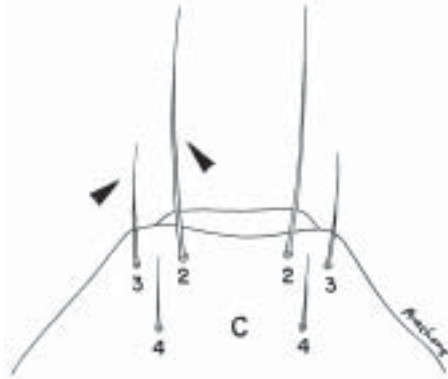
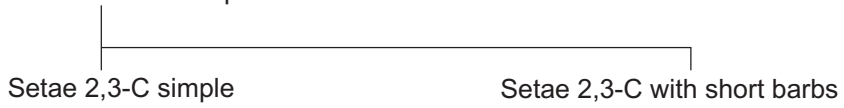
*An. philippinensis*<sup>a</sup>



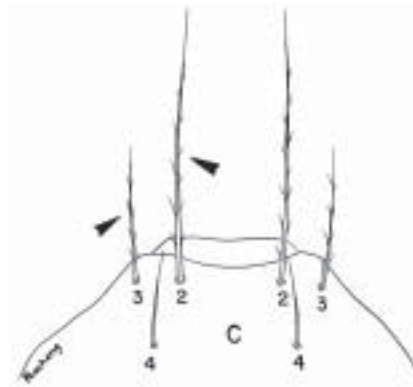
*An. nivipes*<sup>a</sup>  
(A and B)

<sup>a</sup> Differences between *An. philippinensis* and *An. nivipes* are clearest in the pupal stage. Only about 80% of the larvae can be identified by the above characters.

From PLATE 32: Seta 3-C simple or with short barbs

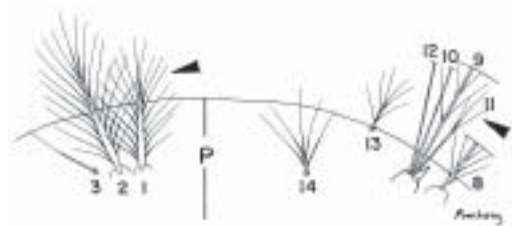
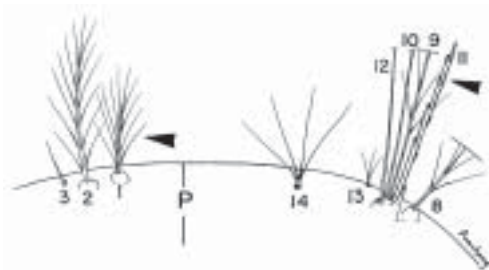


*An. stephensi*



1. Seta 1-P with fewer than 15 branches
2. Seta 11-P stout, spinulate with short blunt spines

1. Seta 1-P with 15 or more branches
2. Seta 11-P slender with fine branches

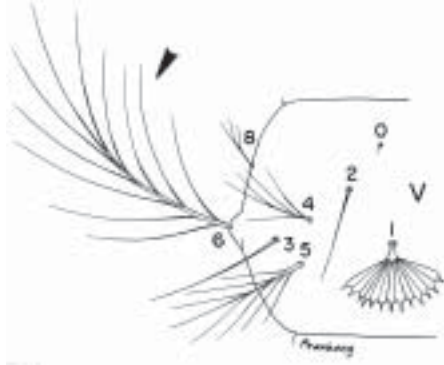


Jamesii Group  
*An. pseudojamesi*

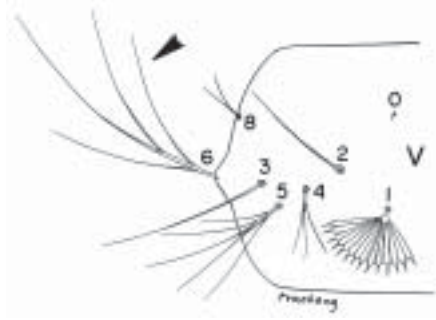
➤ To PLATE 35

From PLATE 34: Seta 1-P with 15 or more branches; seta 11-P slender with fine branches

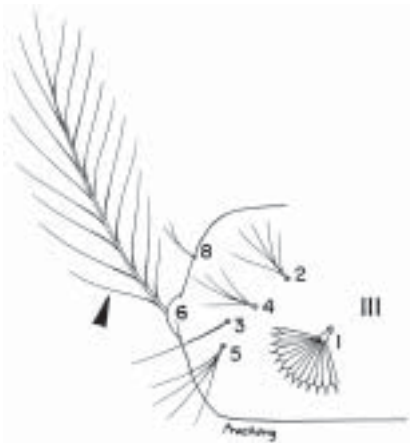
Abdominal seta 6-V,VI with 6-16 branches      Abdominal seta 6-V,VI with 3-6 branches<sup>a</sup>



*An. karwari*  
(A, B, and C)



Abdominal seta 6-III usually with 15-19 branches, rarely more than 20      Abdominal seta 6-III usually with 20 or more branches



Jamesii Group (in part)  
*An. splendidus*



Maculatus Group<sup>a</sup>

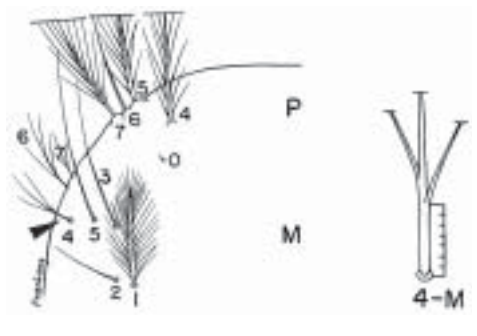
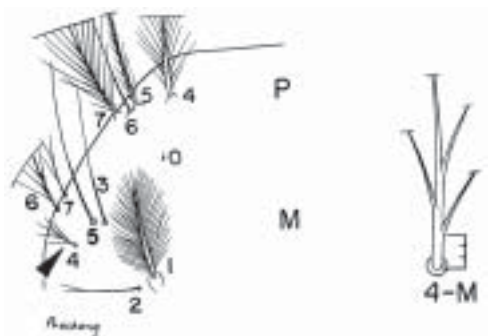
➡ To PLATE 36

<sup>a</sup>Infrequent specimens of the Maculatus Group have seta 6-V, VI with up to 9 branches. Normally *An. karwari* larvae that have seta 6-V,VI with only 6-9 branches on one side will have more than 9 branches on these setae on the other side. However, reared adults with associated laval and pupal exuviae are the best means of identification.

From PLATE 35: Abdominal seta 6-III usually with 20 or more branches

Basal stem of seta 4-M no longer than 4 times its width<sup>a</sup>

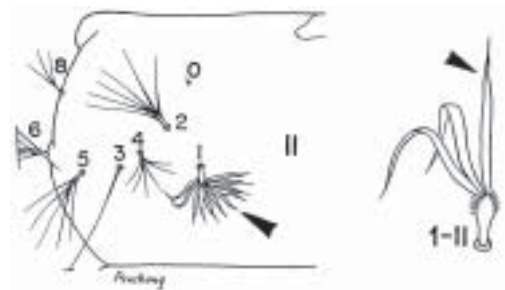
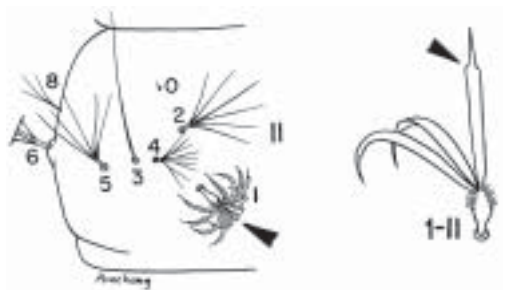
Basal stem of seta 4-M 5 times or more its width<sup>a</sup>



Sawadwongporni Subgroup<sup>b</sup>

Abdominal seta 1-II palmate, most leaflets with distinct serrated shoulders and short filament

Abdominal seta 1-II palmate, leaflets lanceolate, rarely with weakly serrated shoulders and distinct filament



*An. pseudowillmori* (in part)

➡ To PLATE 37

<sup>a</sup>Measure seta when it is in the same focal plane.

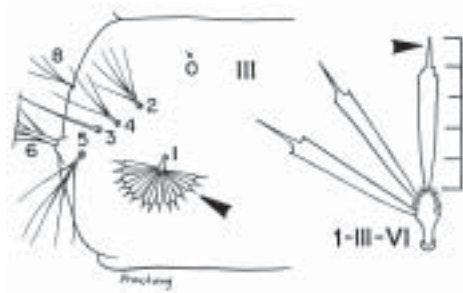
<sup>b</sup>*Anopheles sawadwongporni*, *An. notanandai*, and *An. maculatus* (K).



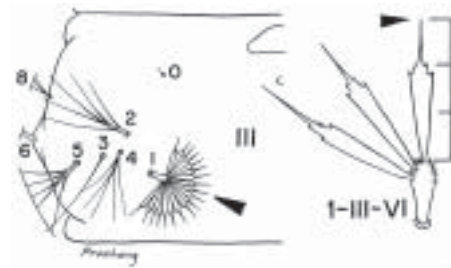
From PLATE 36: Abdominal seta 1-II palmate, leaflets lanceolate, rarely with weakly serrated shoulders and distinct filament

Leaflets of abdominal seta 1-III-VI with short slender filaments, about 1/4 as long as blade

Leaflets of abdominal seta 1-III-VI with long slender filaments, very sharply pointed, 1/3-1/2 as long as blade (species on high elevation mountains)



*An. maculatus*, *An. maculatus* (E),  
and *An. dravidicus*



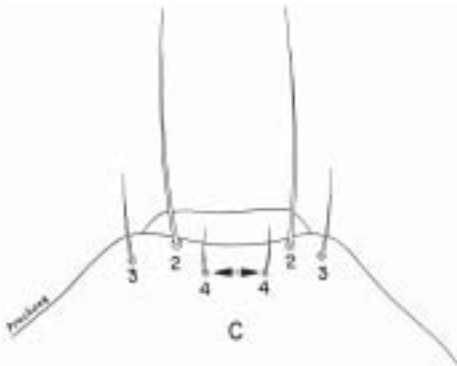
*An. willmori* and  
*An. pseudowillmori* (in part)

KEY TO THE SPECIES OF THE PYRETOPHORUS SERIES  
FOURTH-INSTAR LARVAE

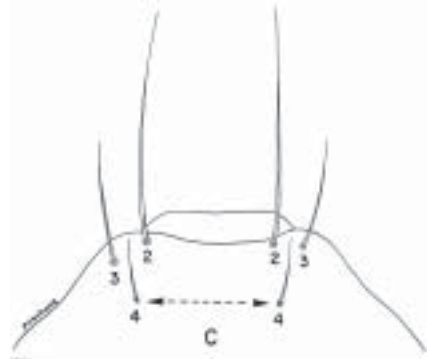
From PLATE 22: Setae 2,3-C simple; setae 1,2-P with lightly sclerotized bases; setae 9-12-P all simple, or one with 2 or 3 distal branches; setae 9,10-M simple, or 9-M with 2 or 3 distal branches

Seta 4-C short, arising near seta 2-C and with bases closer together than bases of seta 2-C

Seta 4-C usually long, arising far back from seta 2-C and with bases wide apart

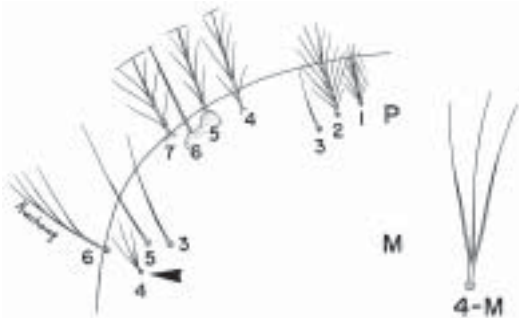


*An. vagus*  
(A and B)

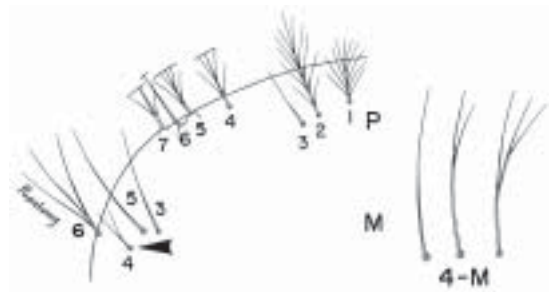


Seta 4-M split into 3 or 4 branches from near base

Seta 4-M with 1 or 2 branches, if third branch present, it arises about half way along one of other branches



Sundaicus Complex  
*An. epiroticus*



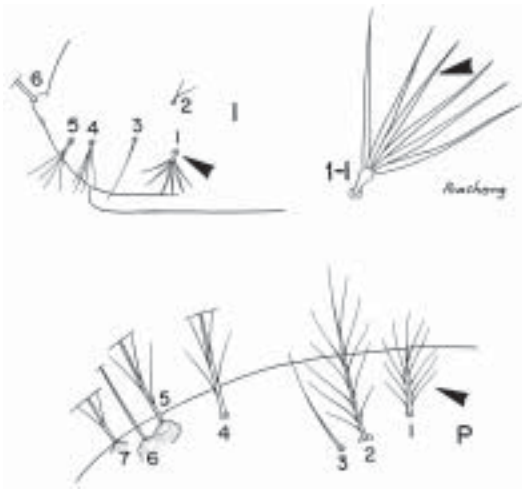
Subpictus Complex

➔ To PLATE 39

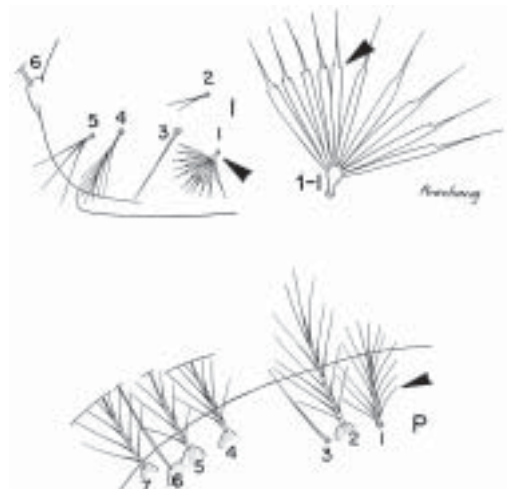
From PLATE 38: Seta 4-M with 1 or 2 branches, if third branch present, it arises about half way along one of other branches

1. Abdominal seta 1-I palmate, usually with 6 or fewer leaflets, leaflets lanceolate without distinct serrated shoulders
2. Seta 1-P usually with fewer than 13 branches

1. Abdominal seta 1-I palmate, seldom with fewer than 7 leaflets, or most leaflets with distinct serrated shoulders
2. Seta 1-P usually with 13 or more branches



*An. subpictus*  
(B, C, and D)



*An. indefinitus*