

## เอกสารอ้างอิง

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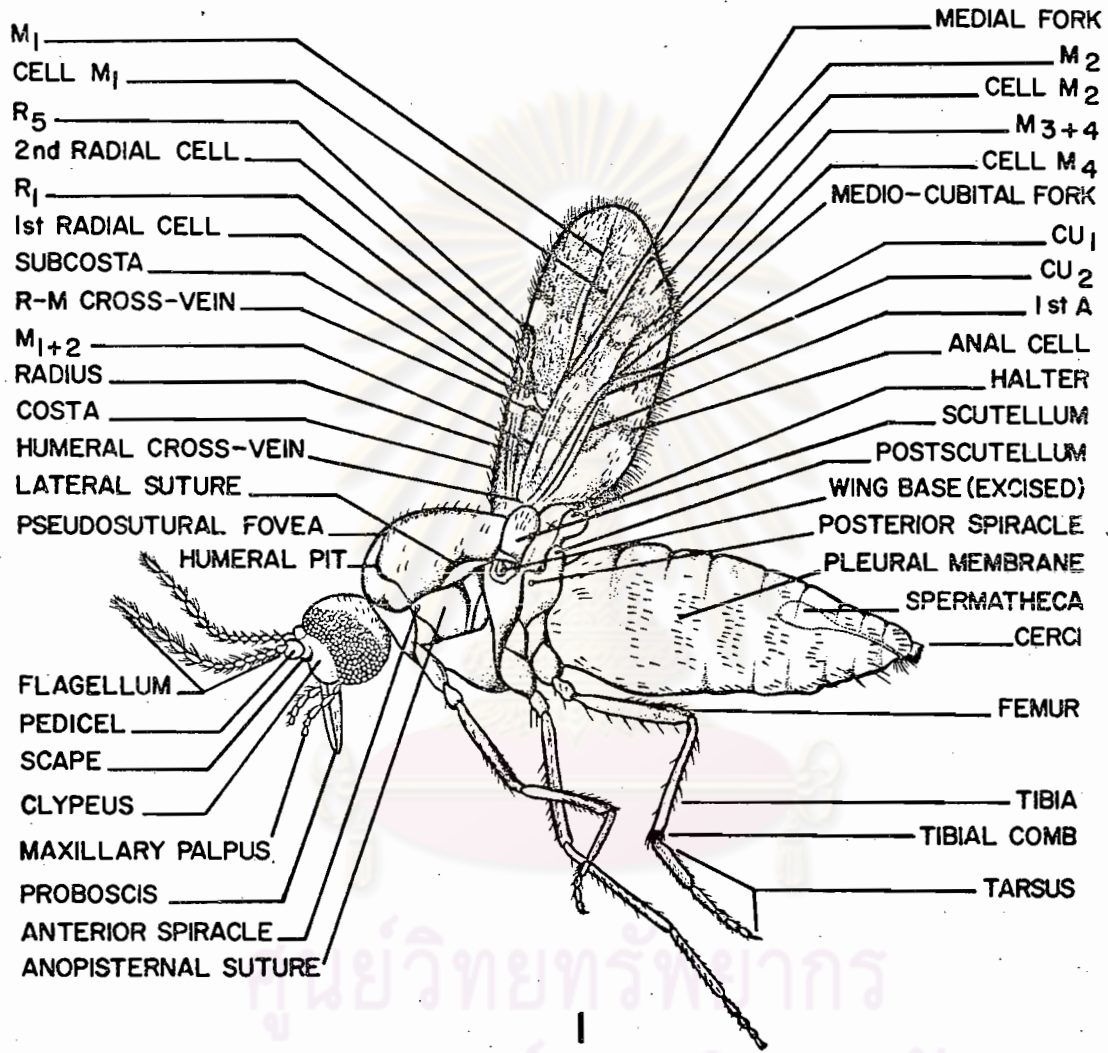
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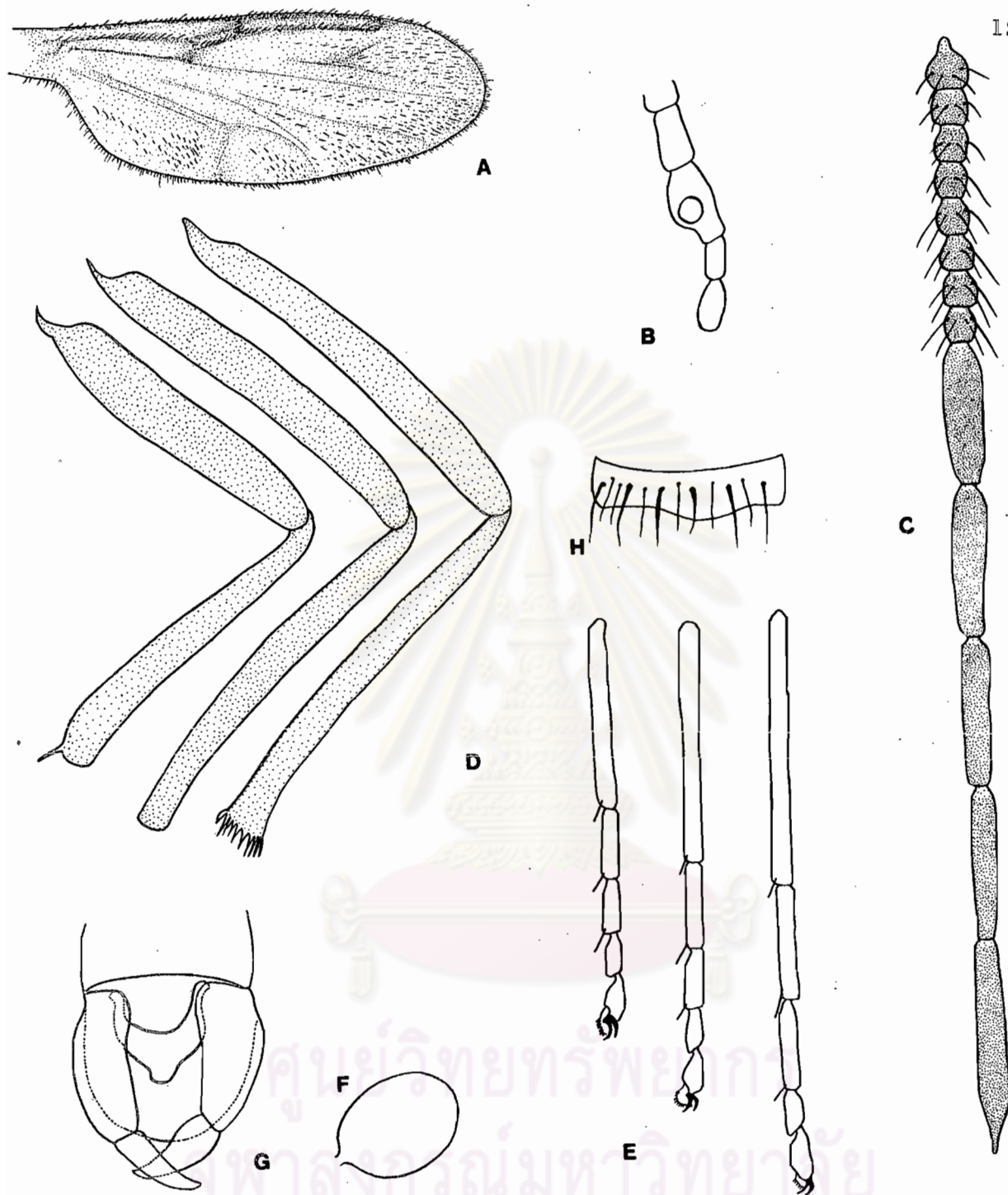
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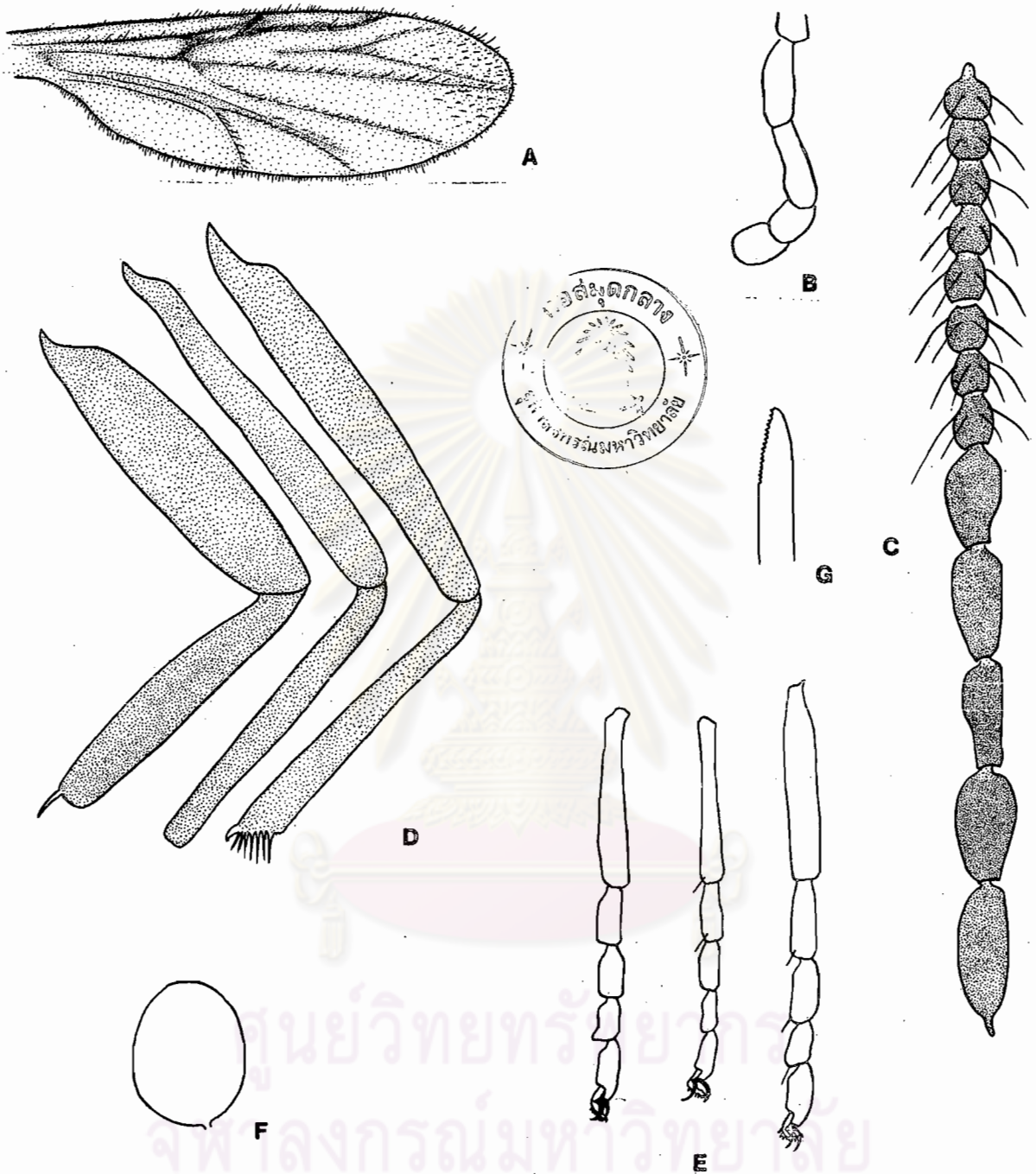
รูปที่ 1 แสดงก้านข้างของวัน



รูปที่ ๒ Atrichopogon jacobsoni ( de Meijere )

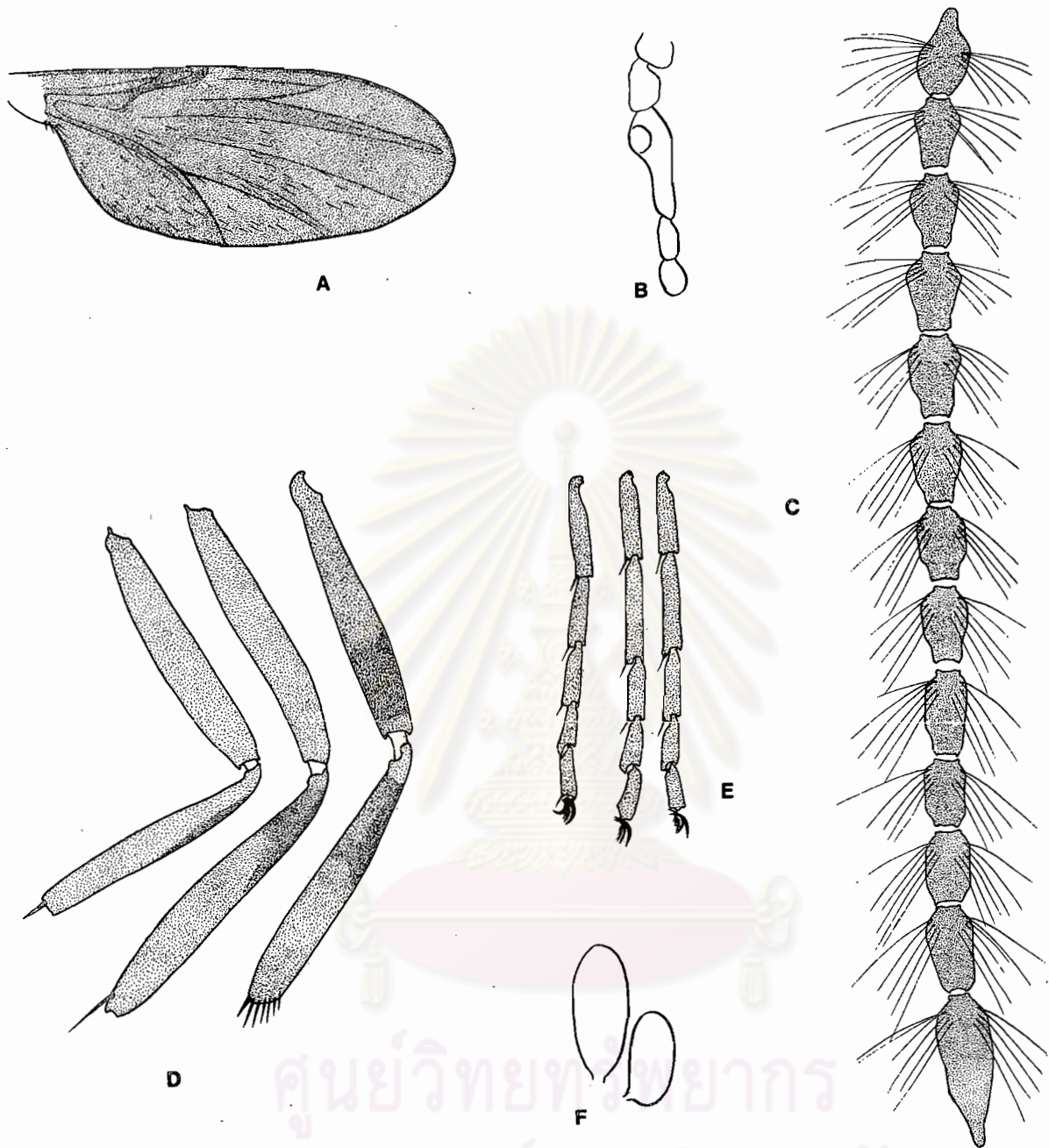
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |
| G. male genitalia | H. scutellum               |





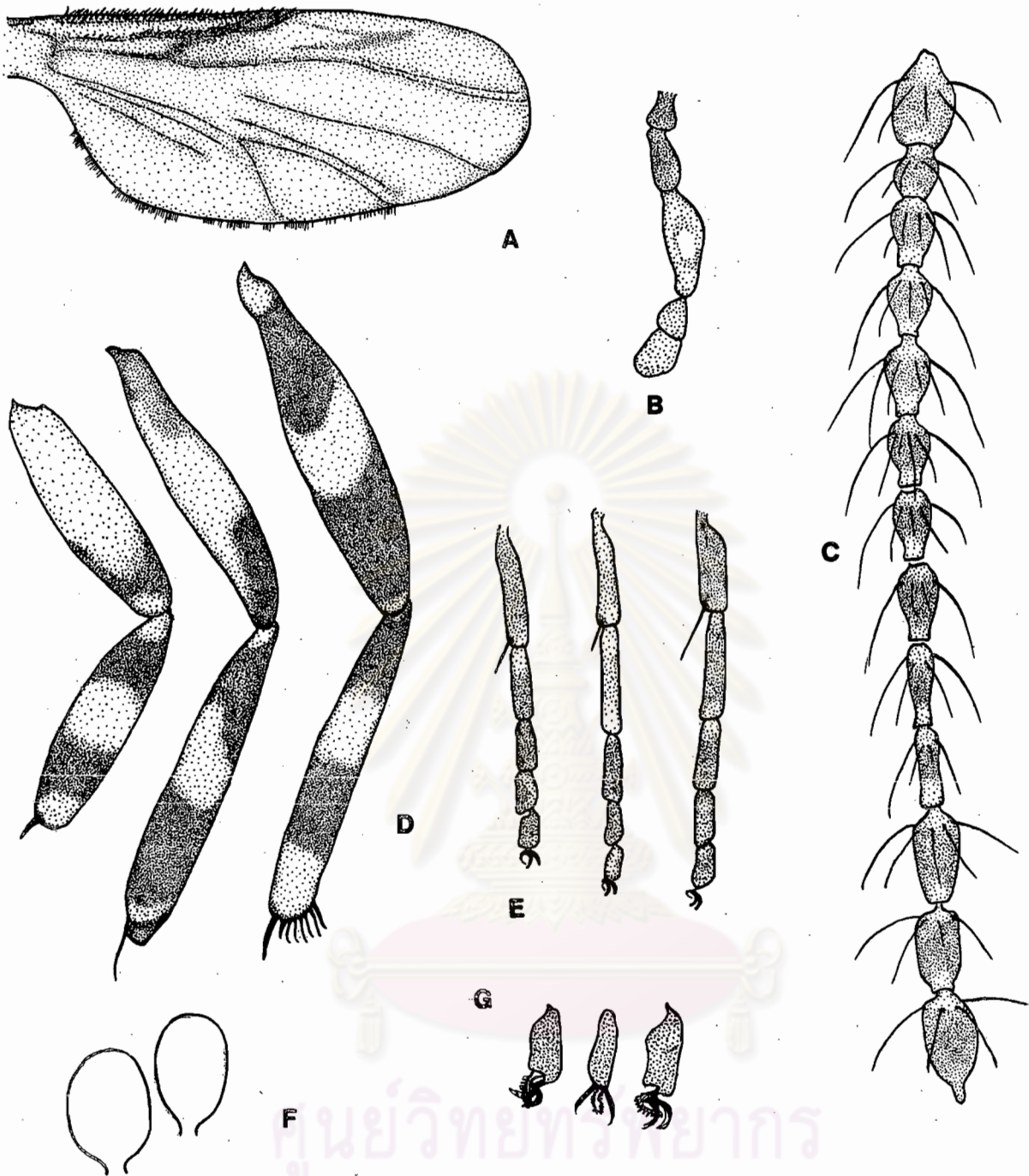
รูปที่ ๓ Atrichopogon sp.1

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |
| G. mandible       |                            |



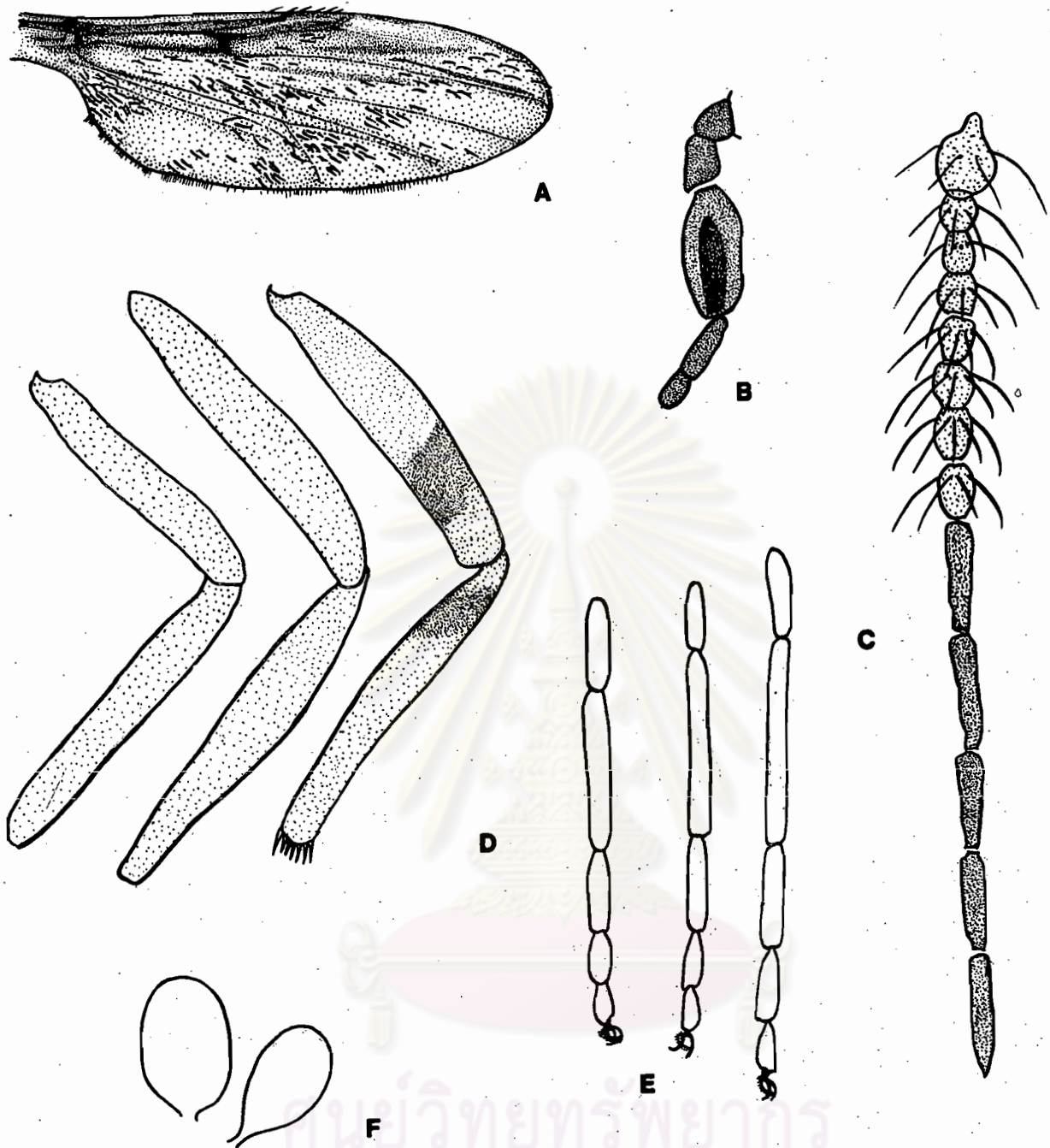
**รูปที่ ๔ Forcipomyia sp.1**

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



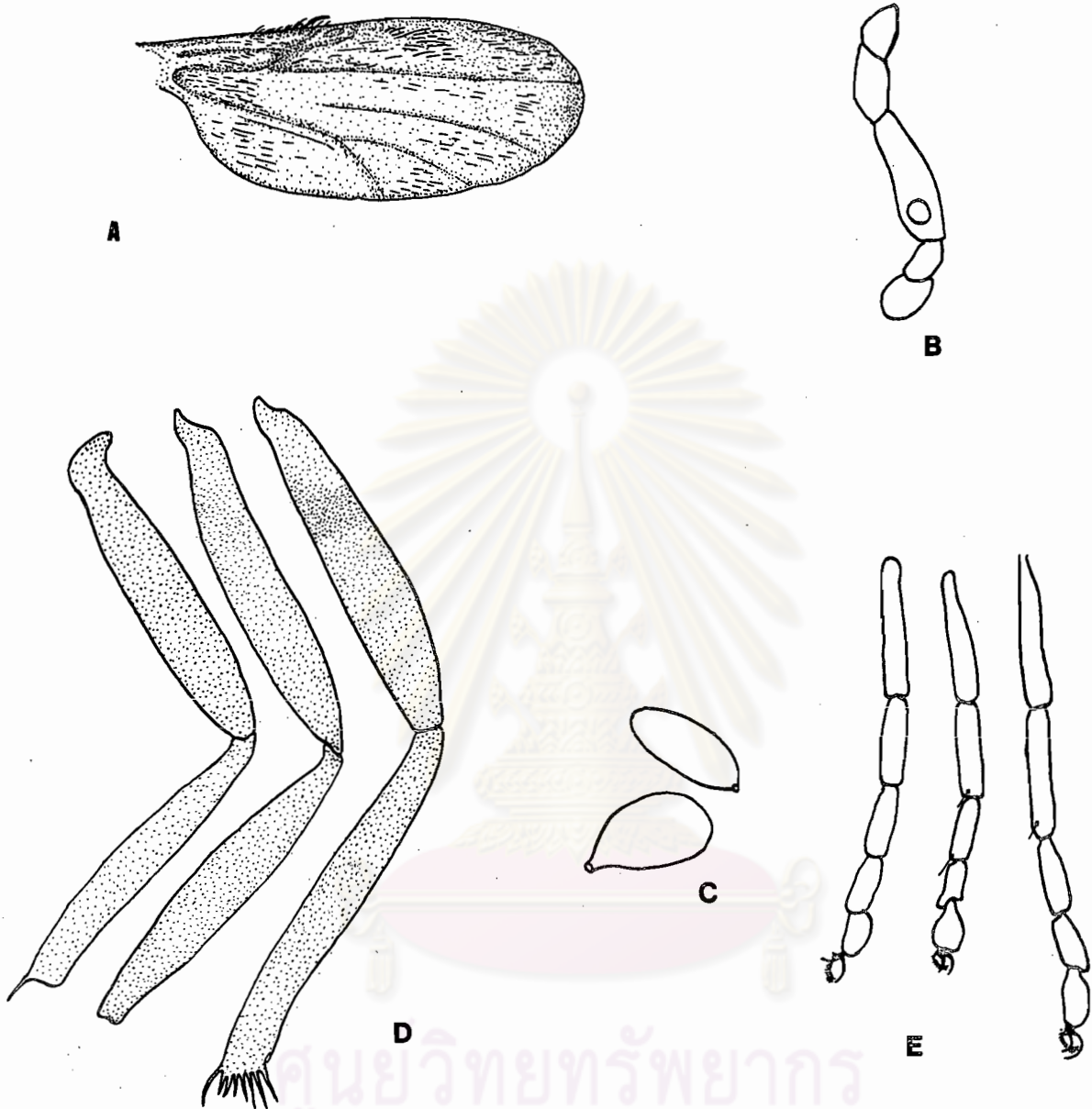
รูปที่ ๕ Forcipomyia sp. 2

- |                           |                            |
|---------------------------|----------------------------|
| A. female wing            | B. female palp             |
| C. female antenna         | D. femur and tibia, female |
| E. female tarsi           | F. female spermathecae     |
| G. female fifth tarsomere |                            |



รูปที่ ๕ Forcipomyia sp. 3

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



รูปที่ 7 Forcipomyia sp. 4

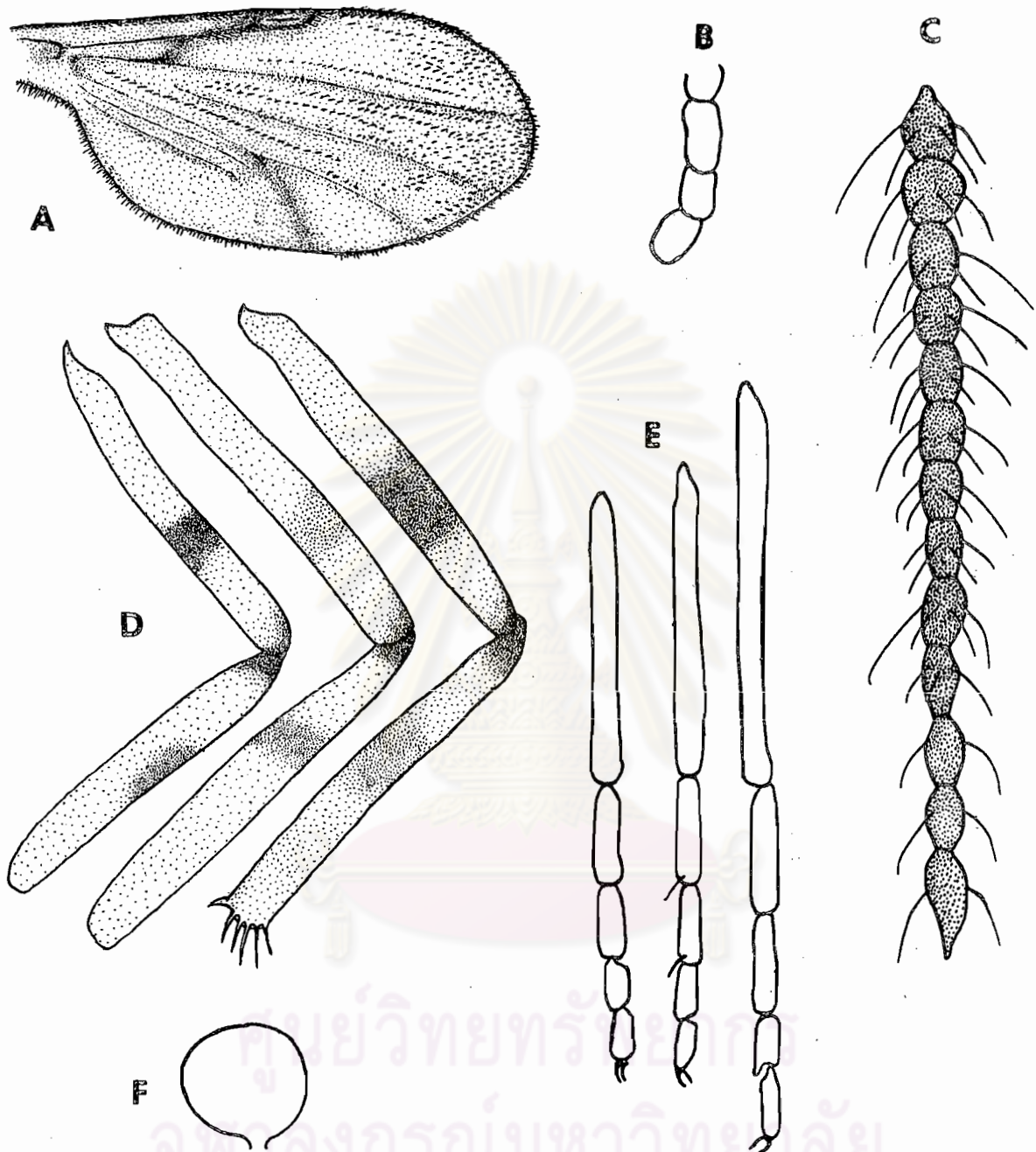
A. female wing

B. female palp

C. female spermathecae

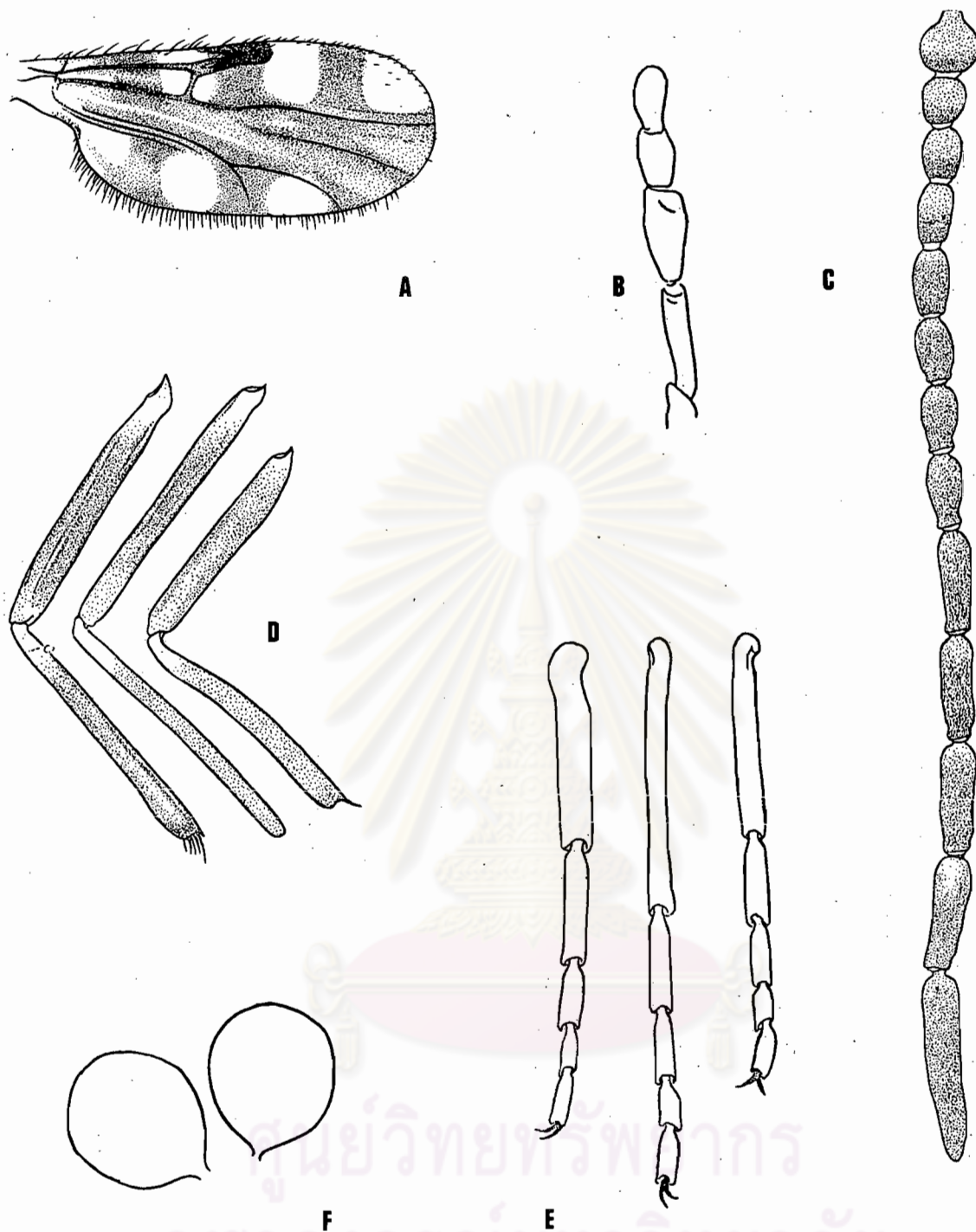
D. femur and tibia, female

E. female tarsi



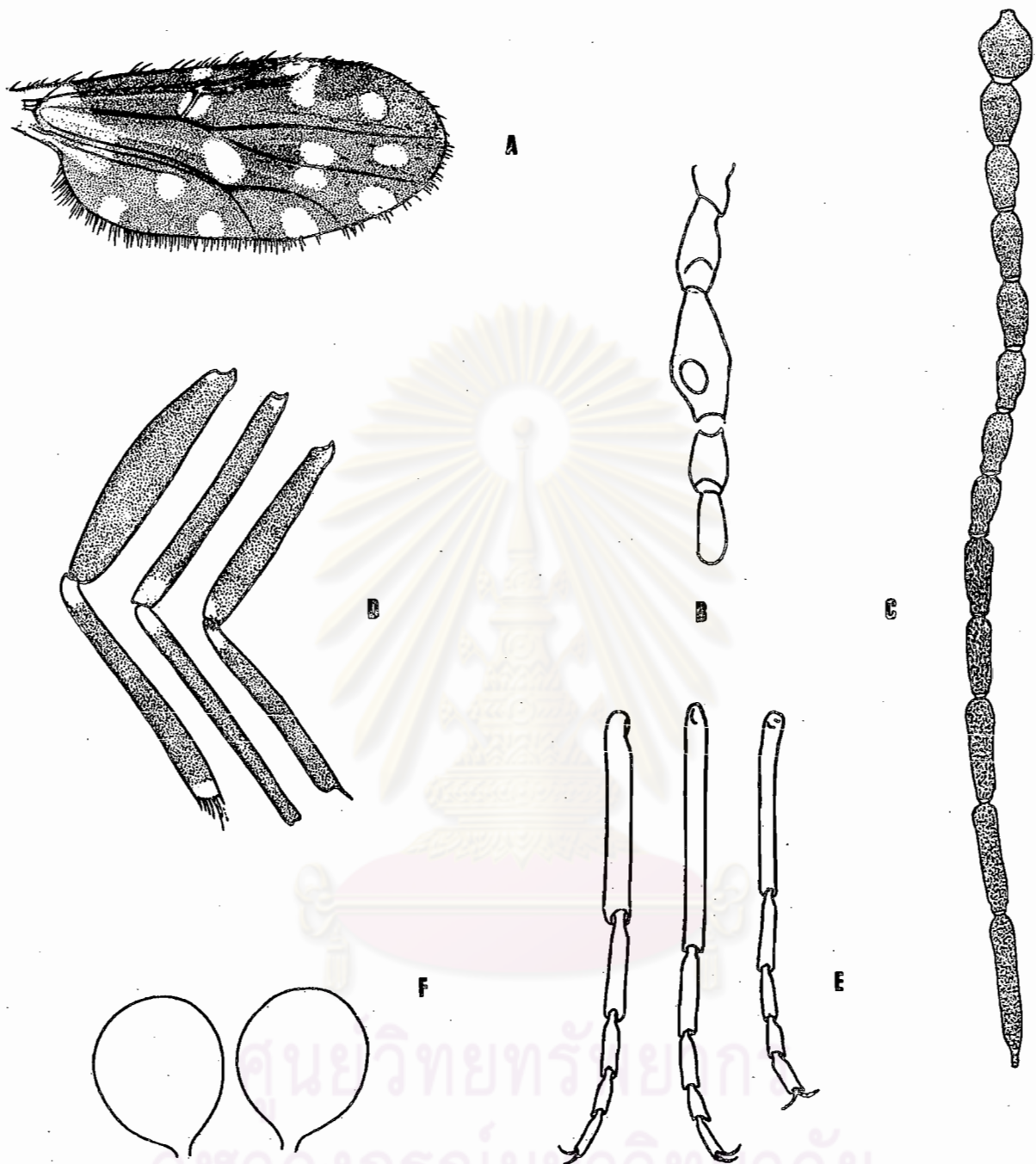
**รูปที่ ๔** Dasyhelea sp.1

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



รูปที่ ๔ Culicoides actoni Smith

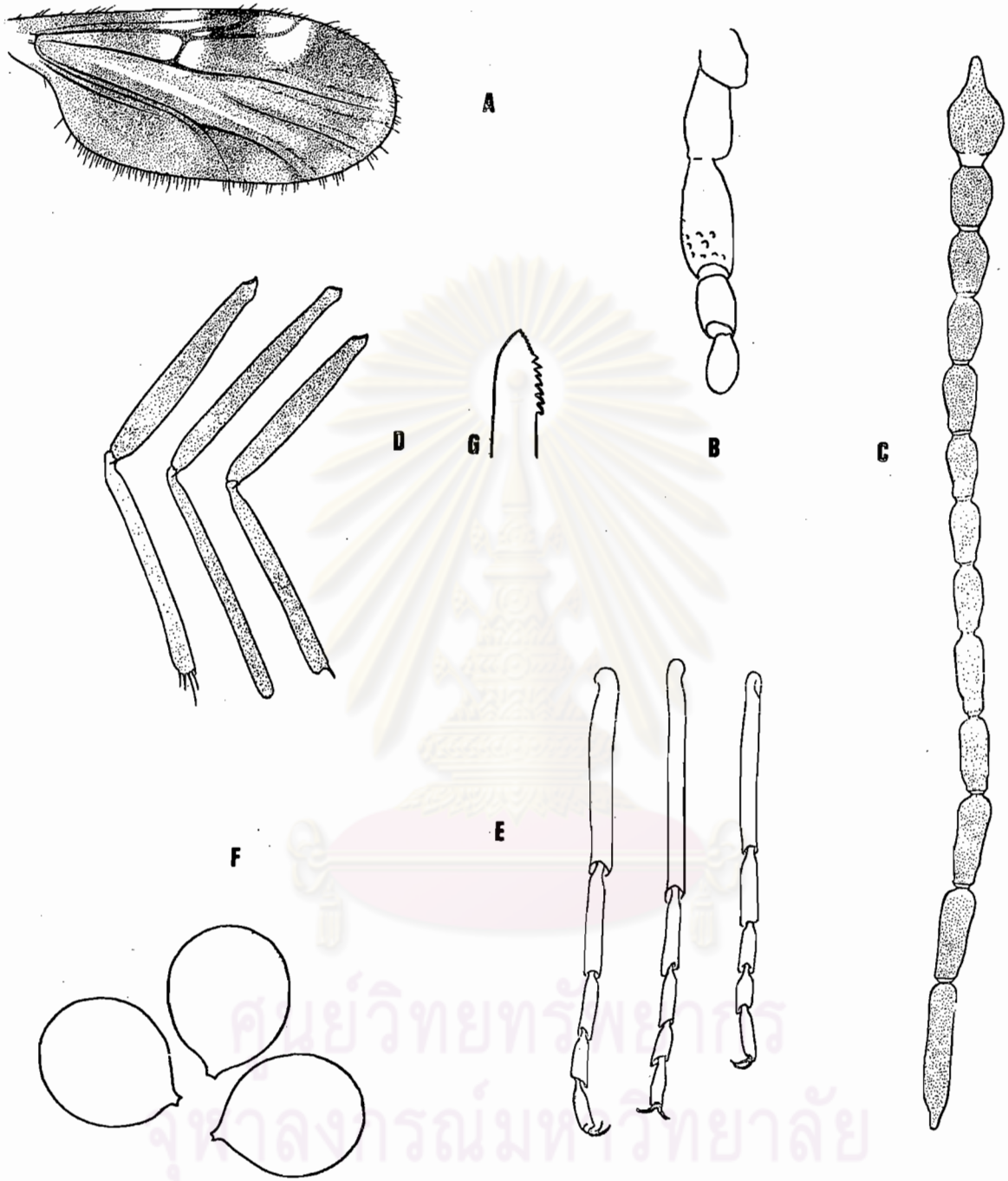
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



**รูปที่ ๑๐** Culicoides amamiensis Tokunaga

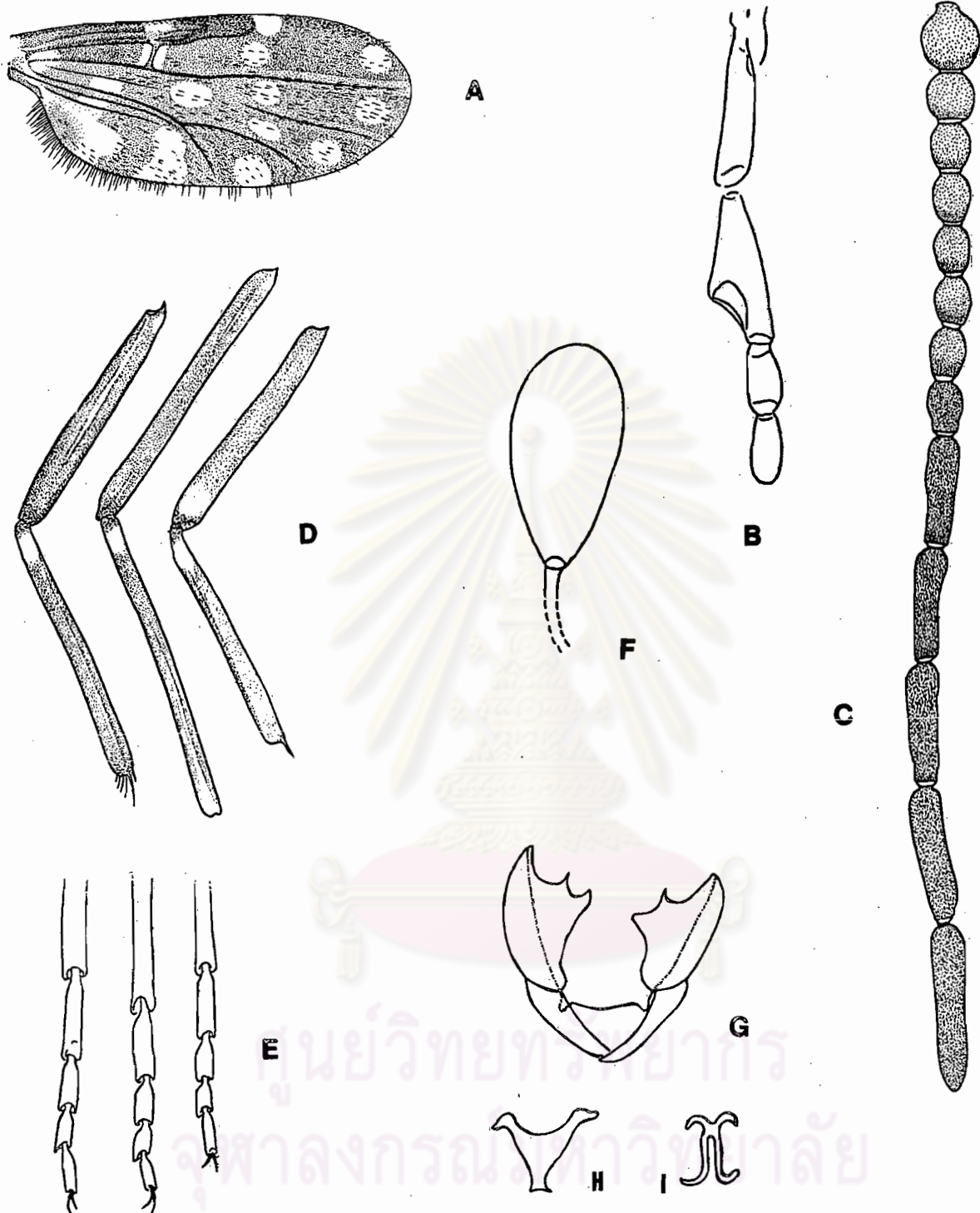
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |





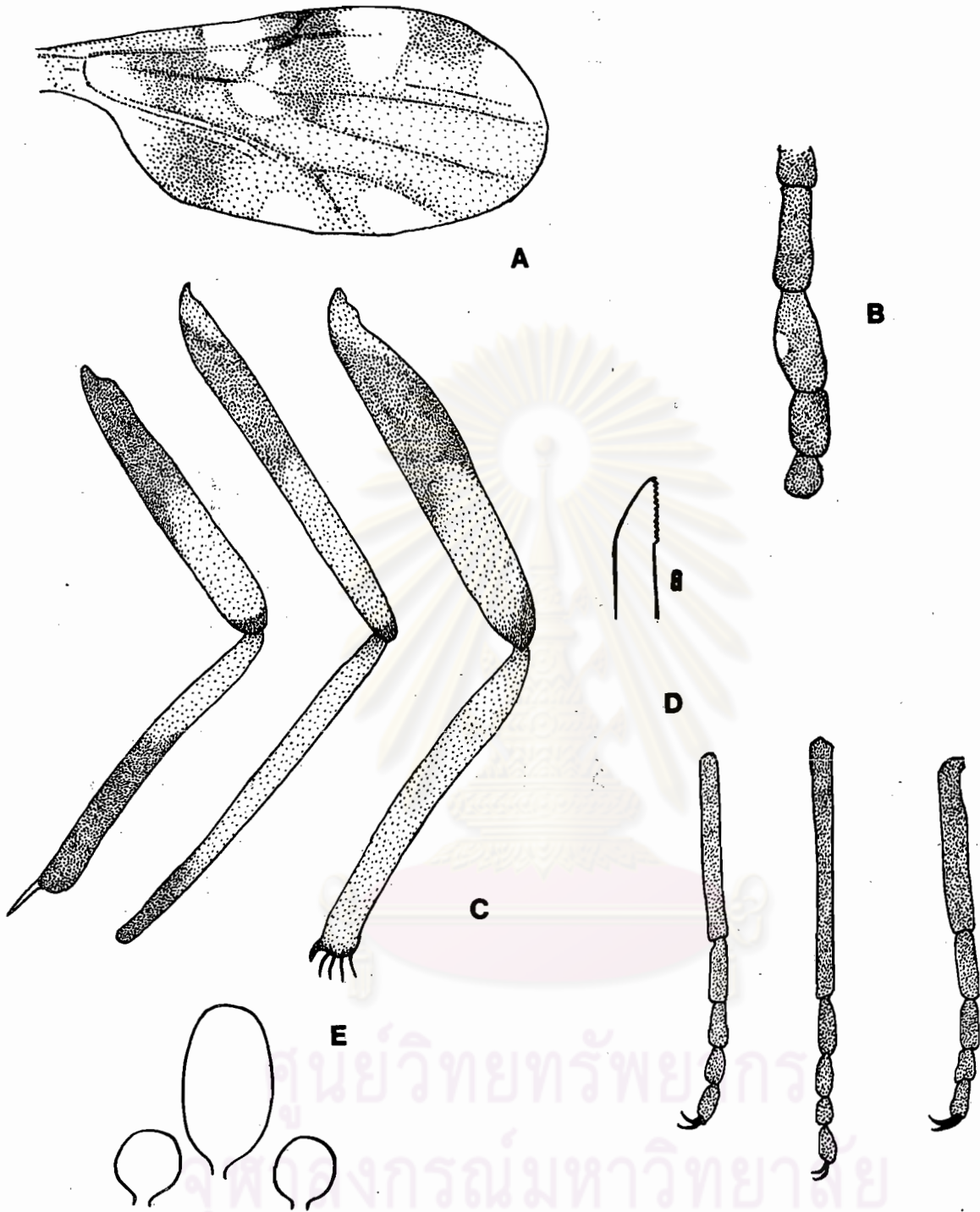
รูปที่ ๑๑ Culicoides anophelis Edwards

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



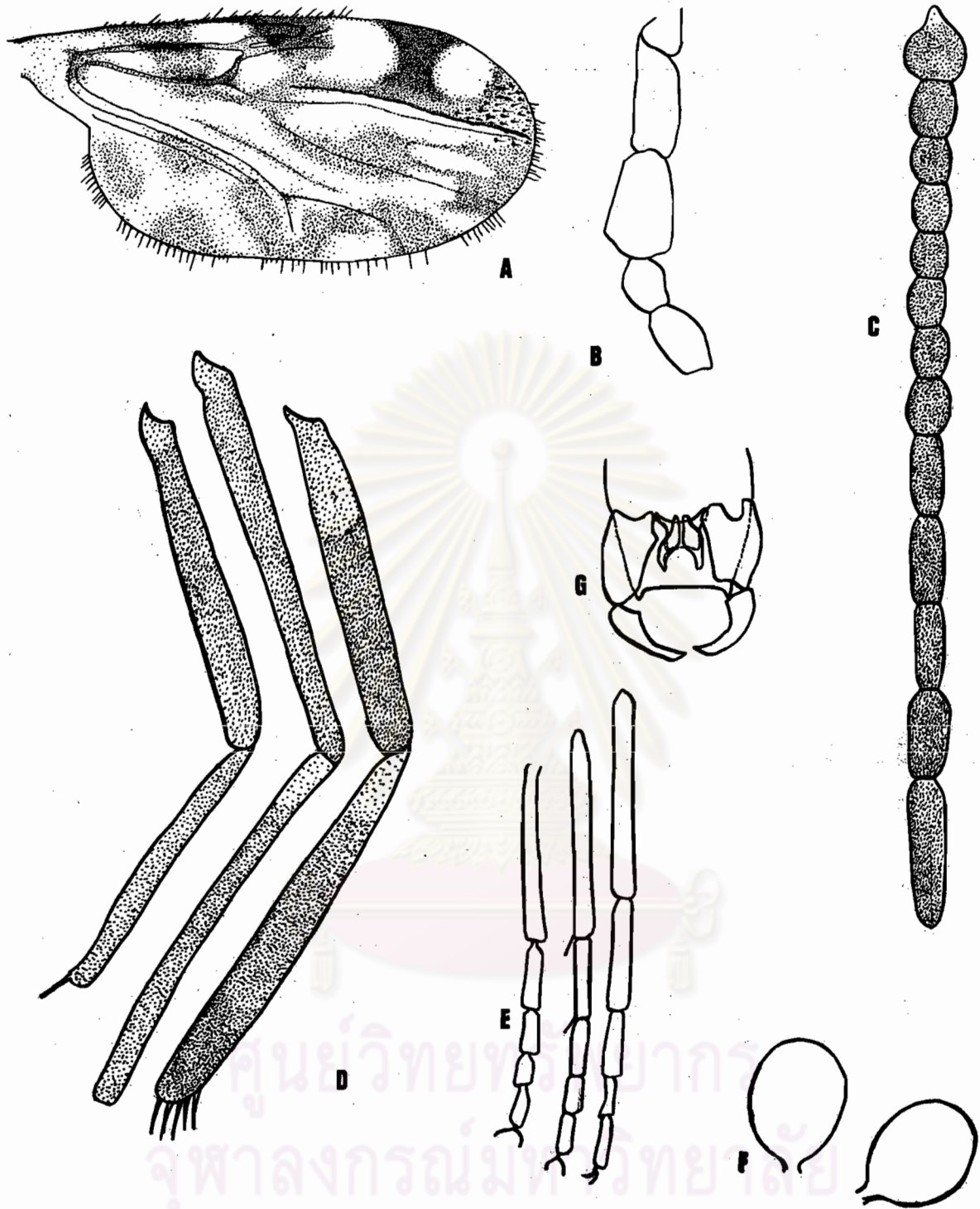
**รูปที่ ๒๒** *Culicoides arakawai* ( Arakawa )

- |                       |                            |
|-----------------------|----------------------------|
| A. female wing        | B. female palp             |
| C. female antenna     | D. femur and tibia, female |
| E. female tarsi       | F. female spermatheca      |
| G,H,I. male genitalia |                            |



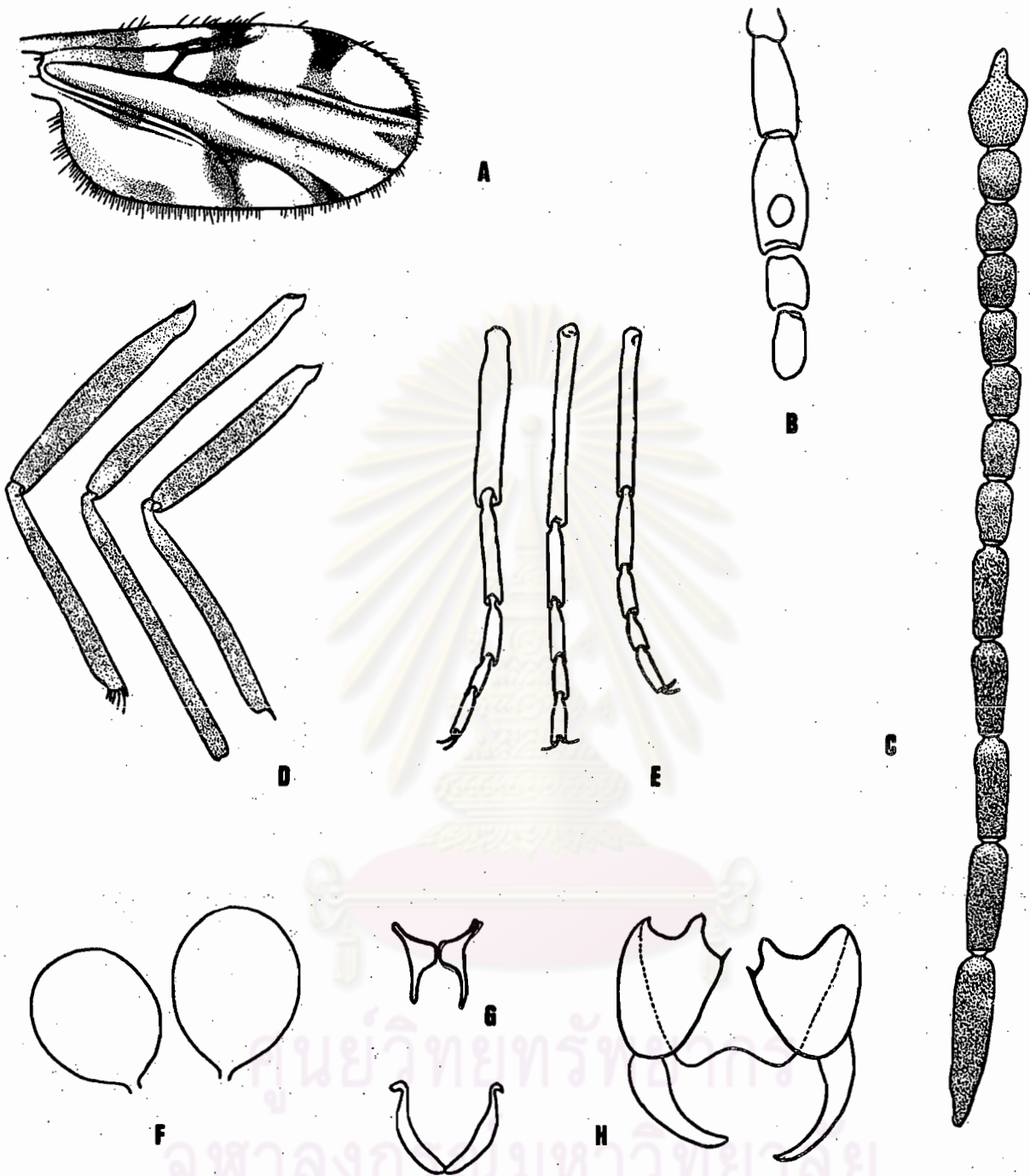
รูปที่ ๑๓ Culicoides barnetti Wirth and Hubert

- A. female wing                      B. female palp  
 c. femur and tibia, female      D. female tarsi  
 E. female spermathecae



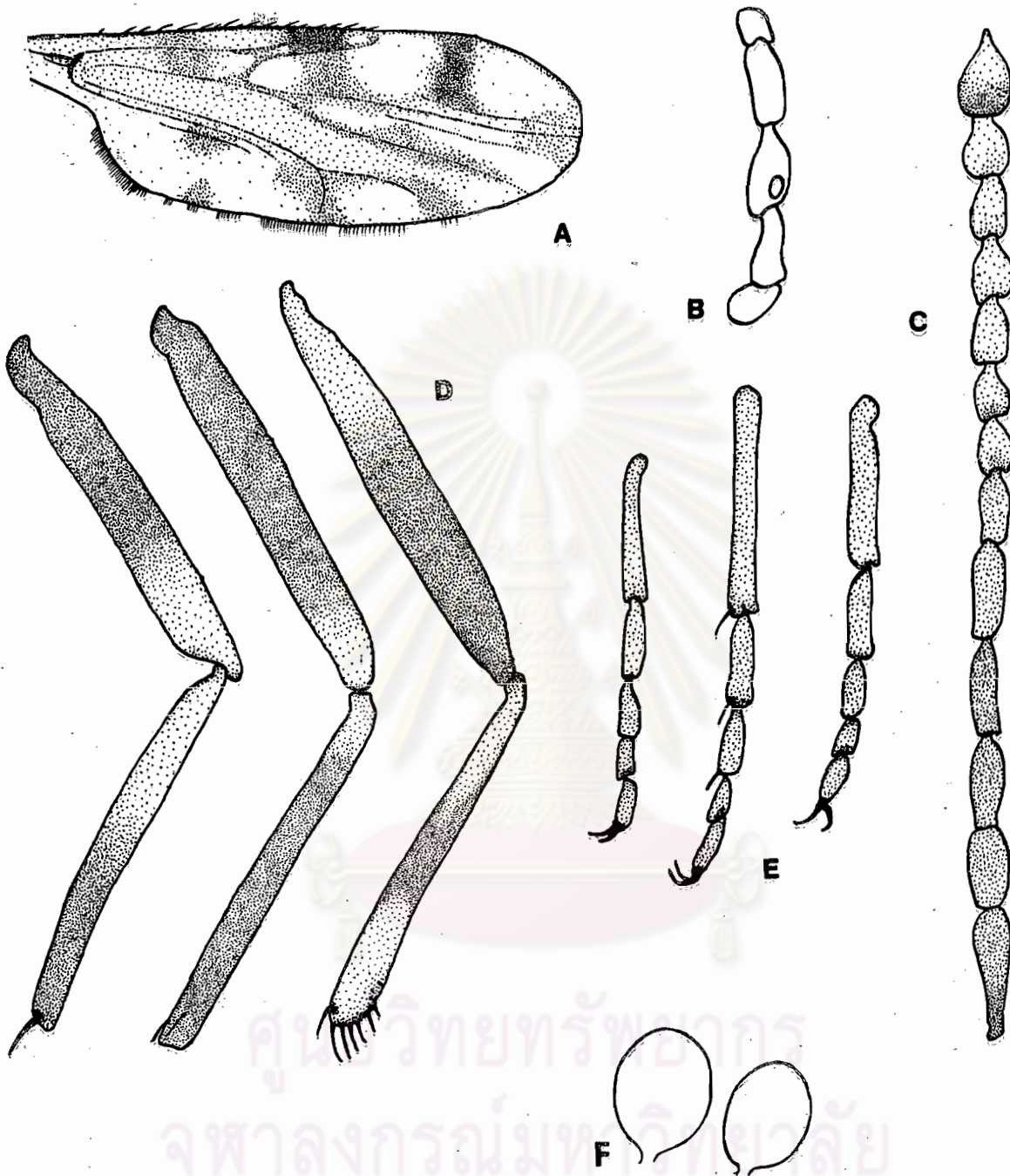
*Culicoides boophagus* Macfie

- |                    |                            |
|--------------------|----------------------------|
| A. female wing     | B. female palp             |
| C.. female antenna | D. femur and tibia, female |
| E. female tarsi    | F. female spermathecae     |
| G. male genitalia  |                            |



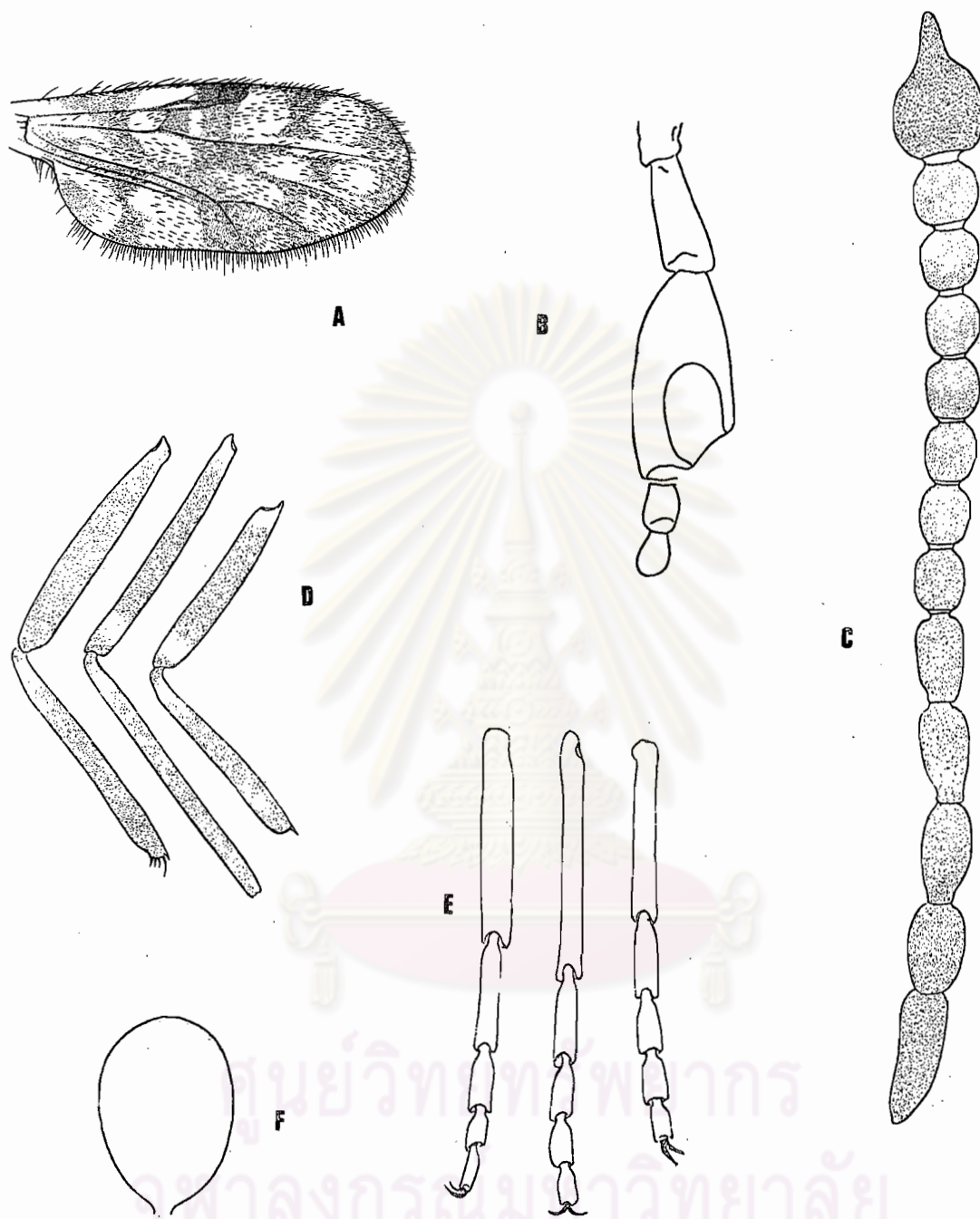
รูปที่ ๑๔ Culicoides brevipalpis Delfinado

- |                     |                            |
|---------------------|----------------------------|
| A. female wing      | B. female palp             |
| C. female antenna   | D. femur and tibia, female |
| E. female tarsi     | F. female spermathecae     |
| G,H. male genitalia |                            |



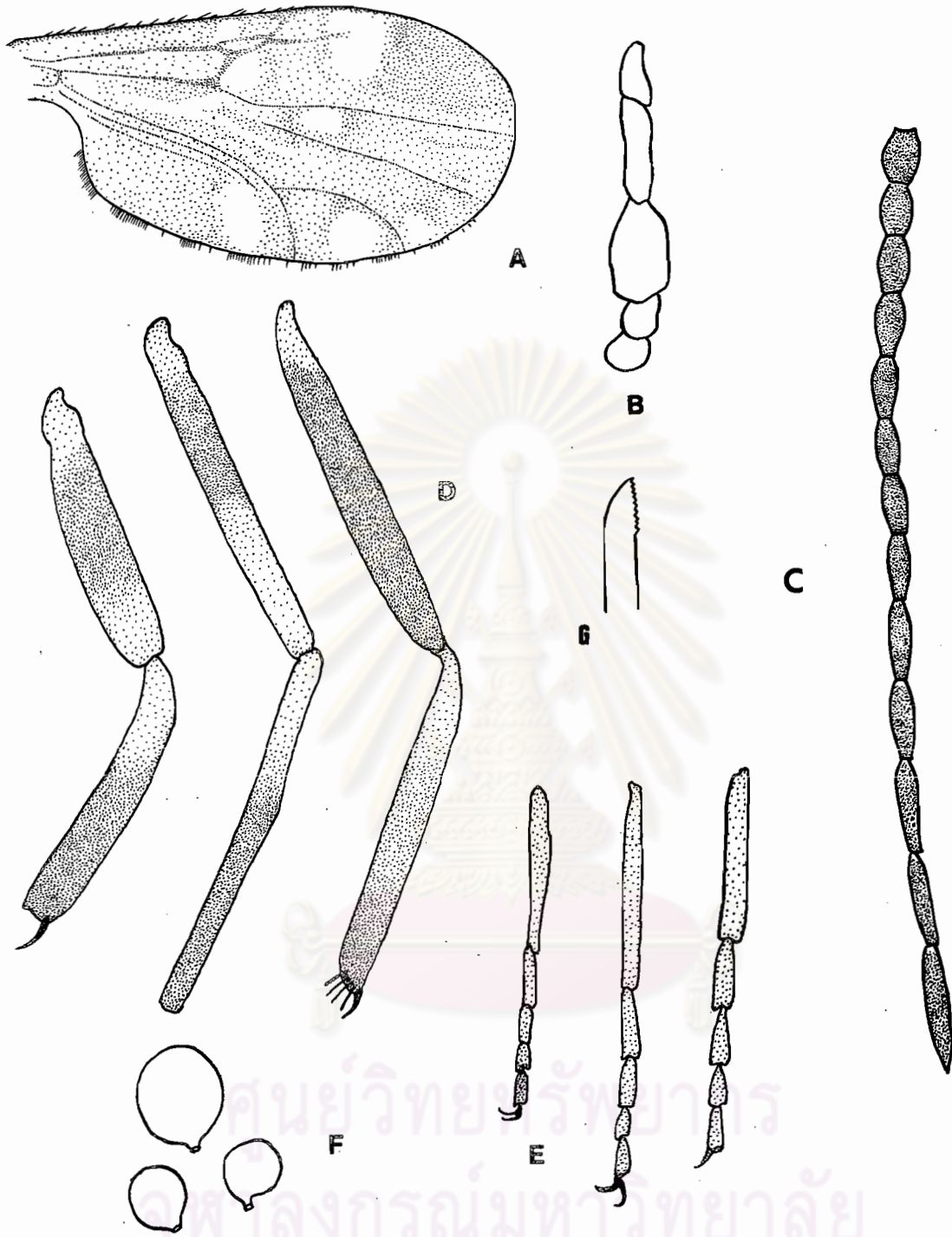
รูปที่ ๑๖ Culicoides brevitarsis Kieffer

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



รูปที่ ๑๗ Culicoides circumscriptus Kieffer

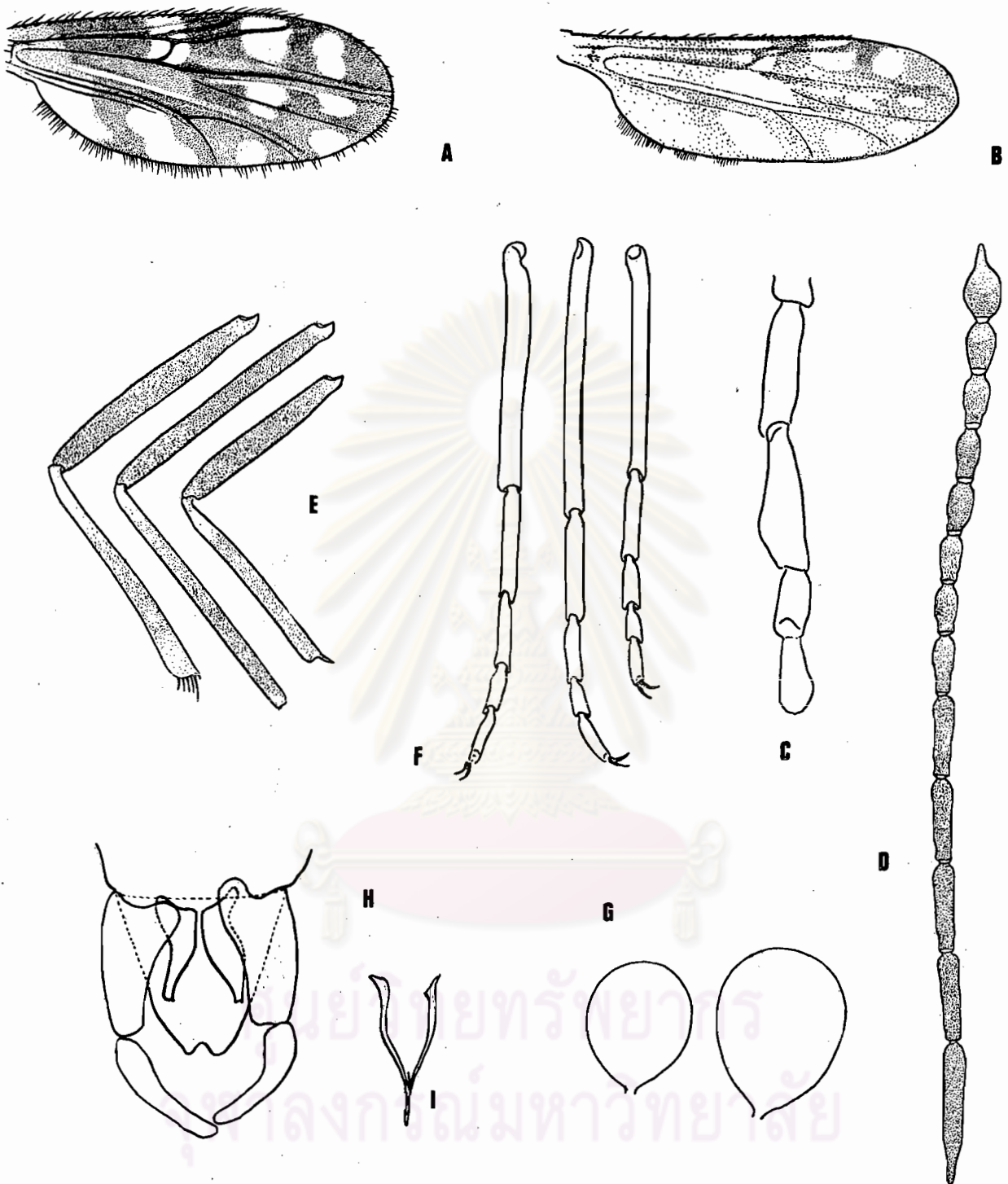
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



รูปที่ ๑๑ Culicoides flaviscutatus Wirth and Hubert

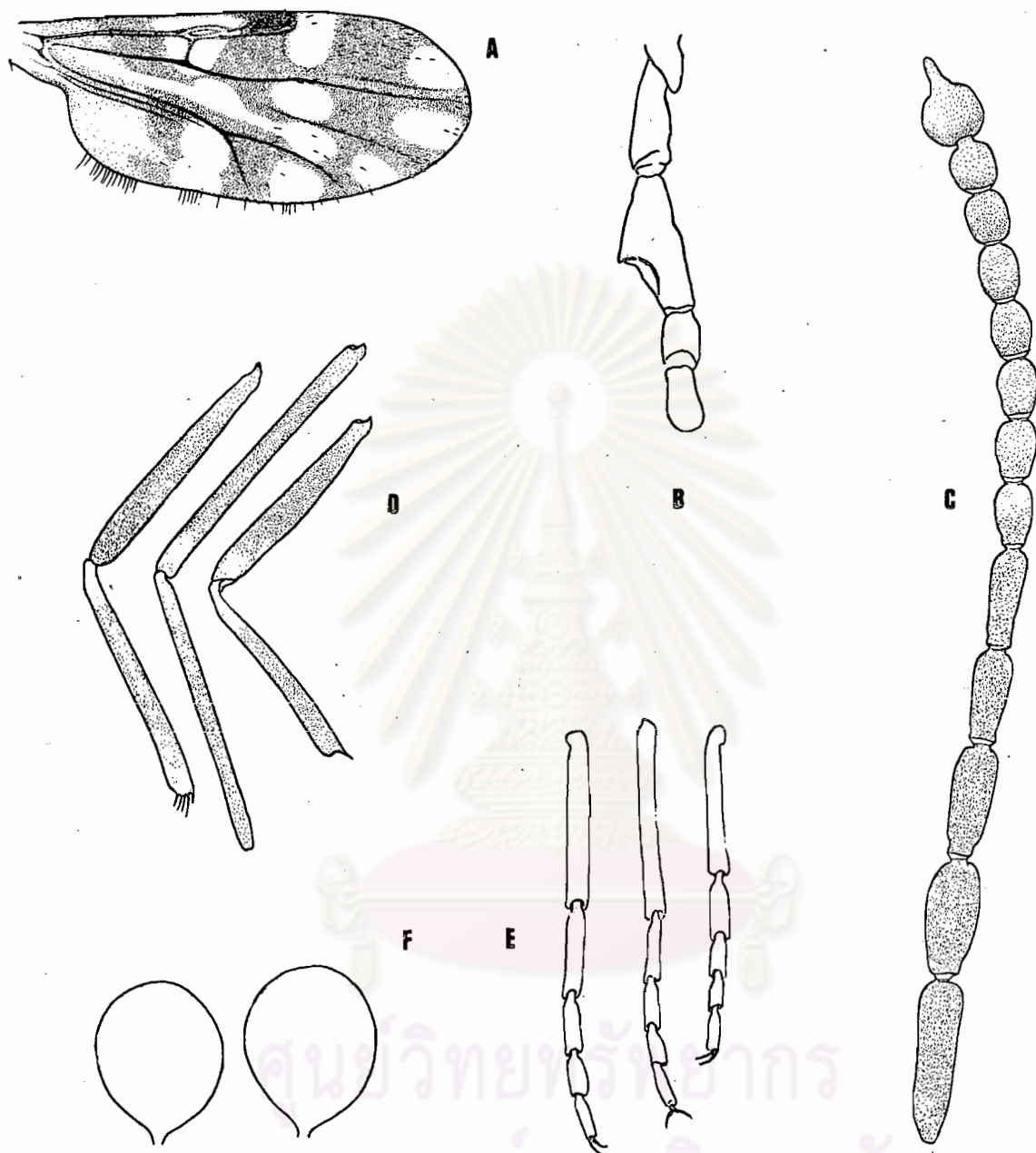
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |





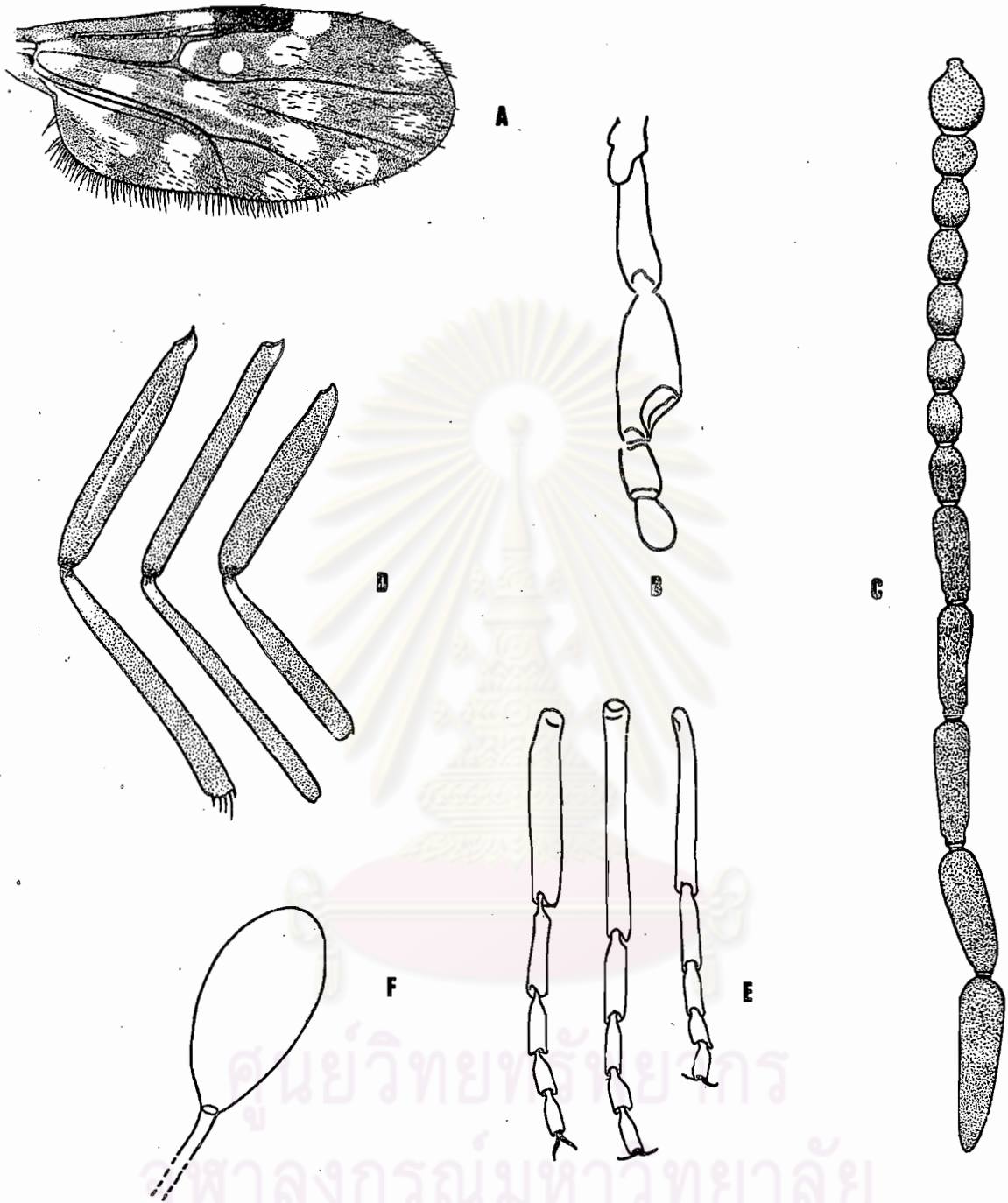
รูปที่ ๑๑ Culicoides gemellus Macfie

- |                            |                     |
|----------------------------|---------------------|
| A. female wing             | B. male wing        |
| C. female palp             | D. female antenna   |
| E. femur and tibia, female | F. female tarsi     |
| G. female spermathecae     | H.I. male genitalia |



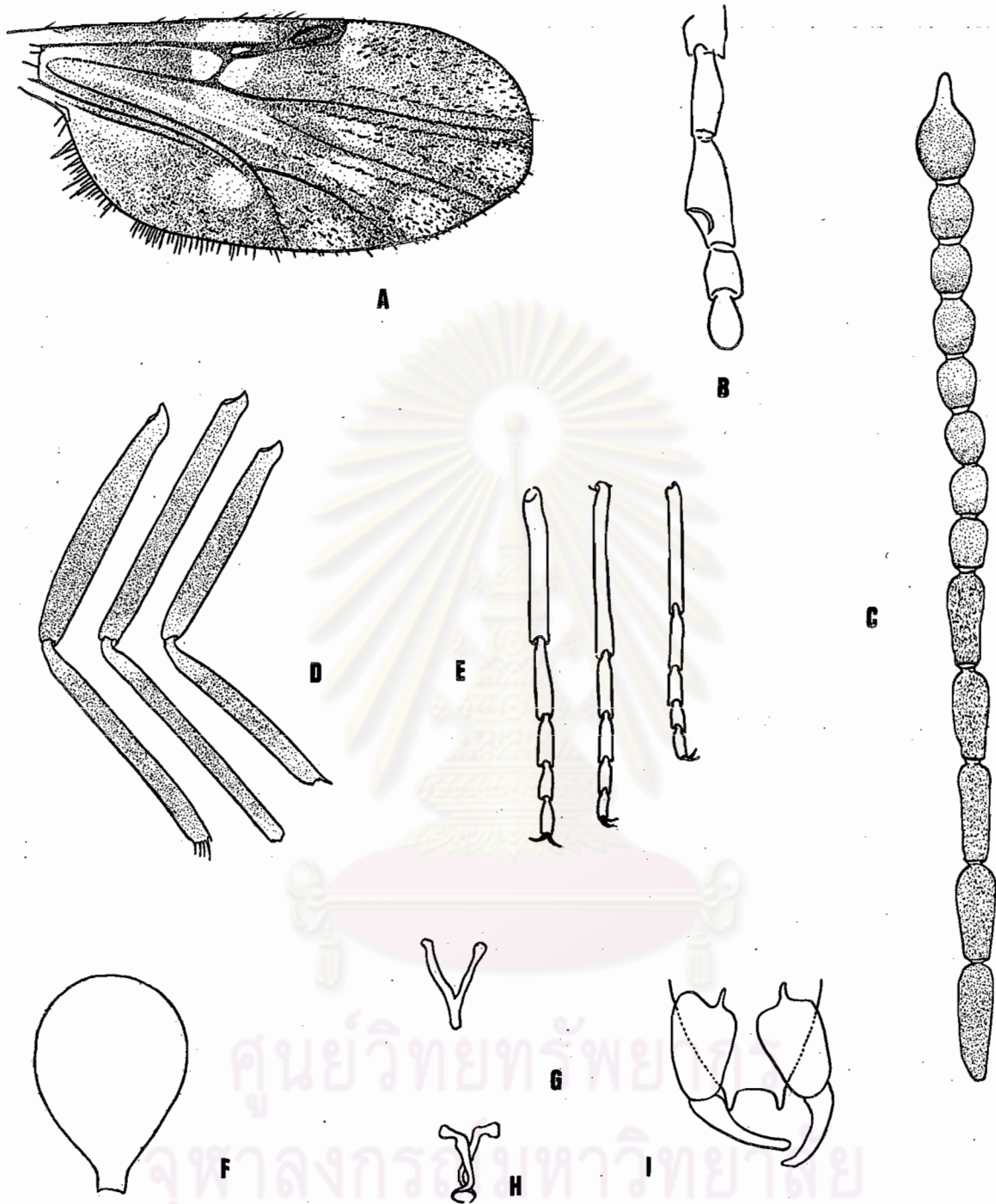
*Culicoides* *geminus* Macfie

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



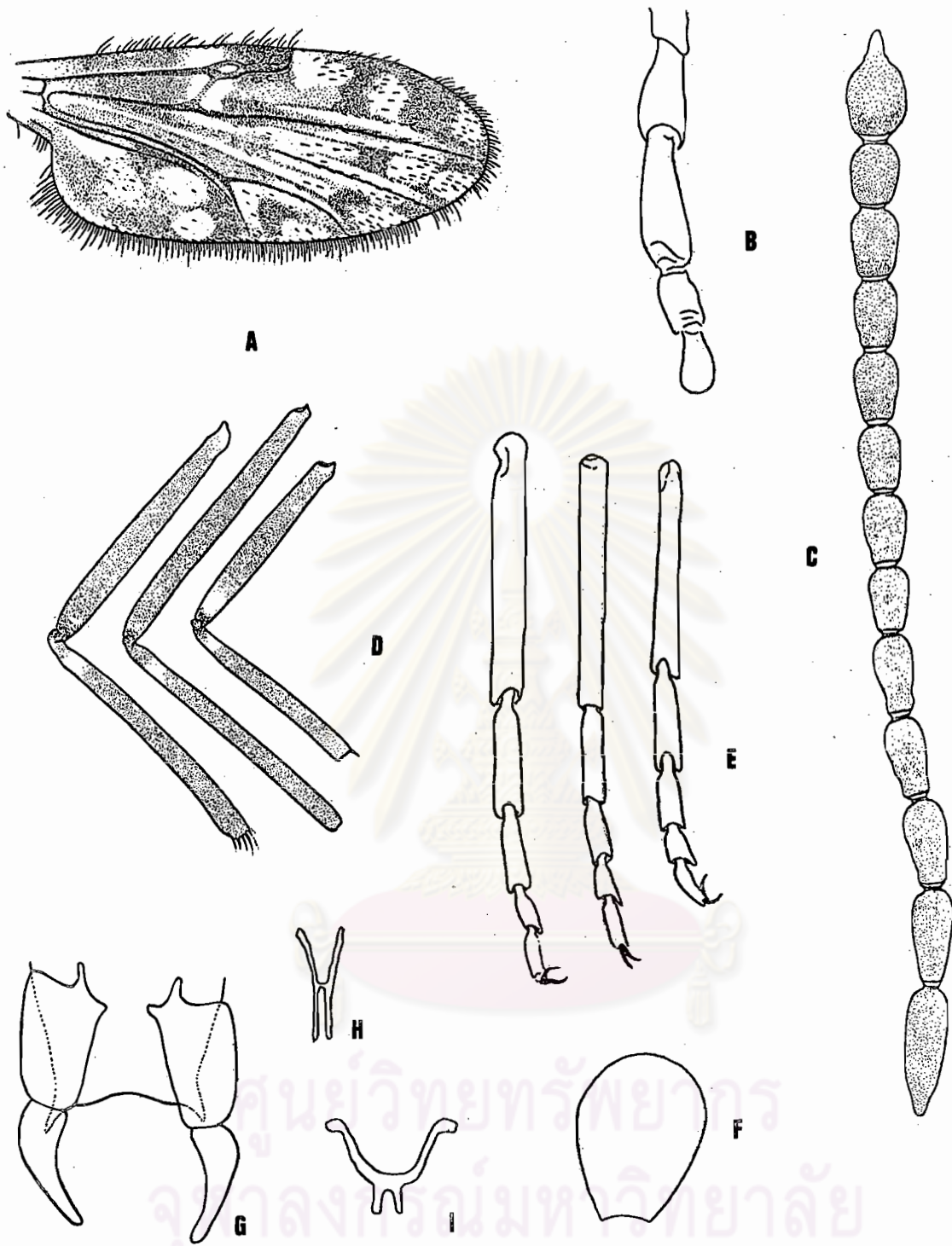
รูปที่ ๓๐ Culicoides guttifer de Meijere

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



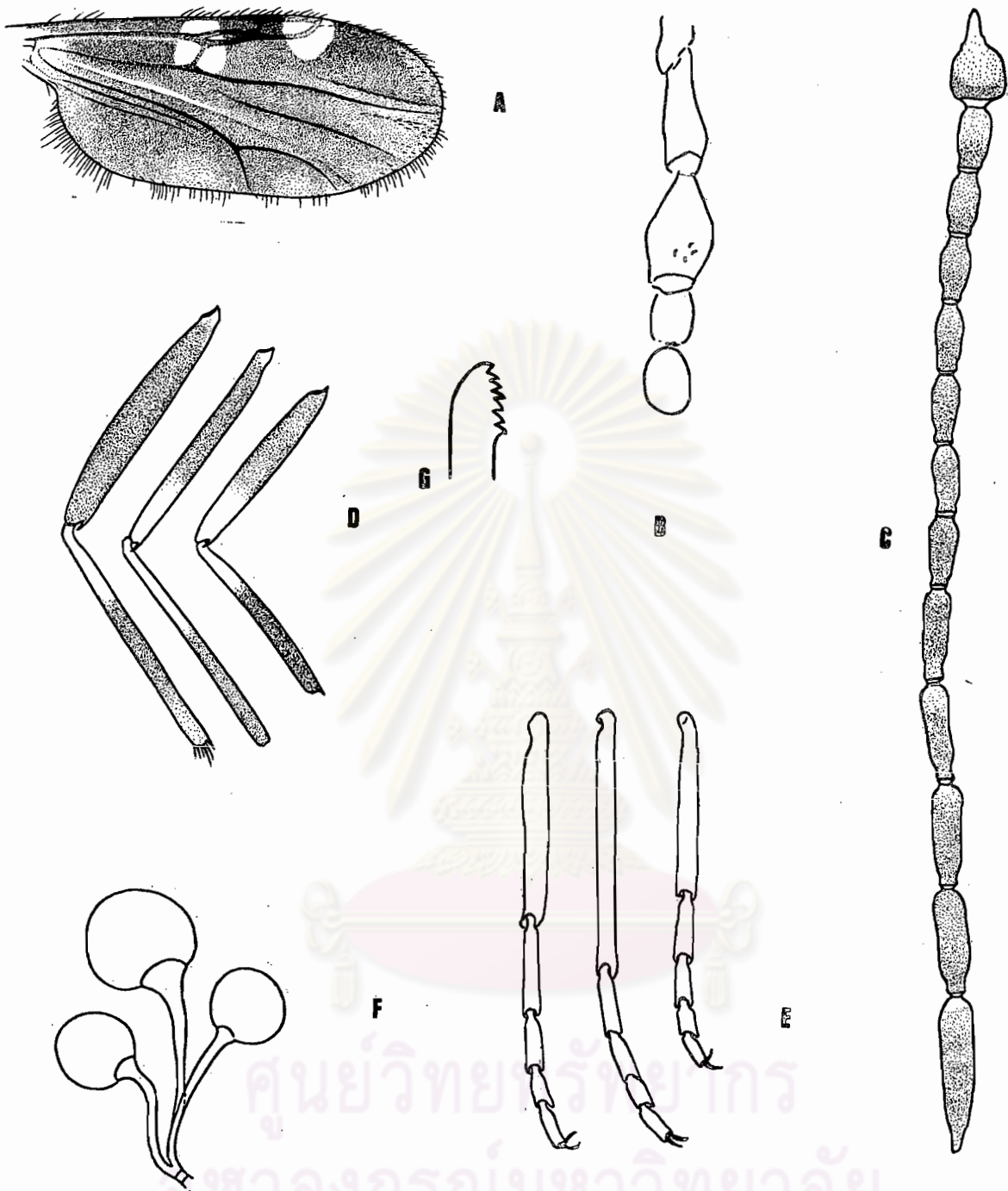
รูปที่ ๒๒ Culicoides hegneri Causey

- |                       |                            |
|-----------------------|----------------------------|
| A. female wing        | B. female palp             |
| C. female antenna     | D. femur and tibia, female |
| E. female tarsi       | F. female spermatheca      |
| G,H,I. male genitalia |                            |



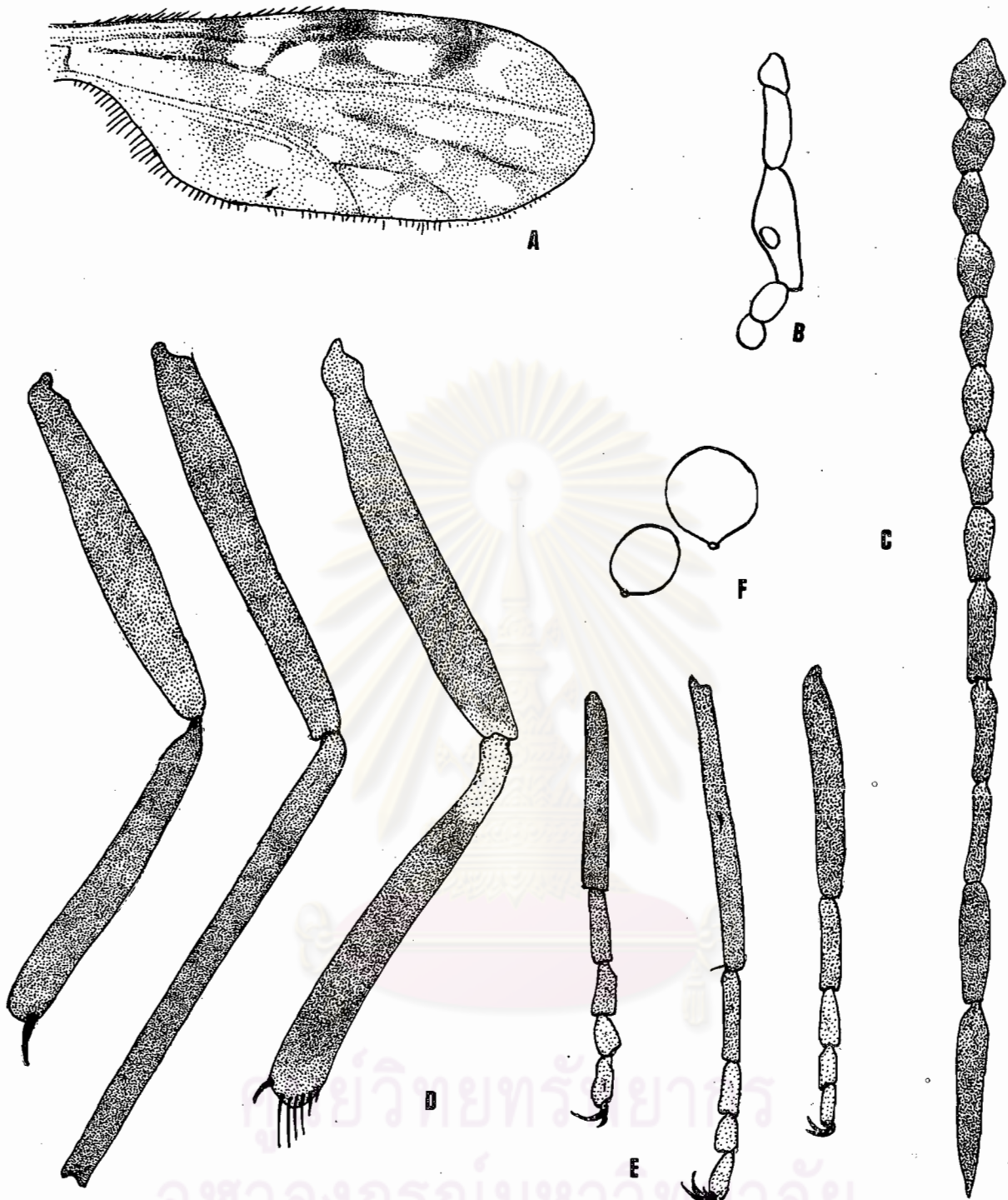
รูปที่ ๒๓๓ Culicoides homotomus Kieffer

- |                       |                            |
|-----------------------|----------------------------|
| A. female wing        | B. female palp             |
| C. female antenna     | D. femur and tibia, female |
| E. female tarsi       | F. female spermatheca      |
| G,H,I. male genitalia |                            |



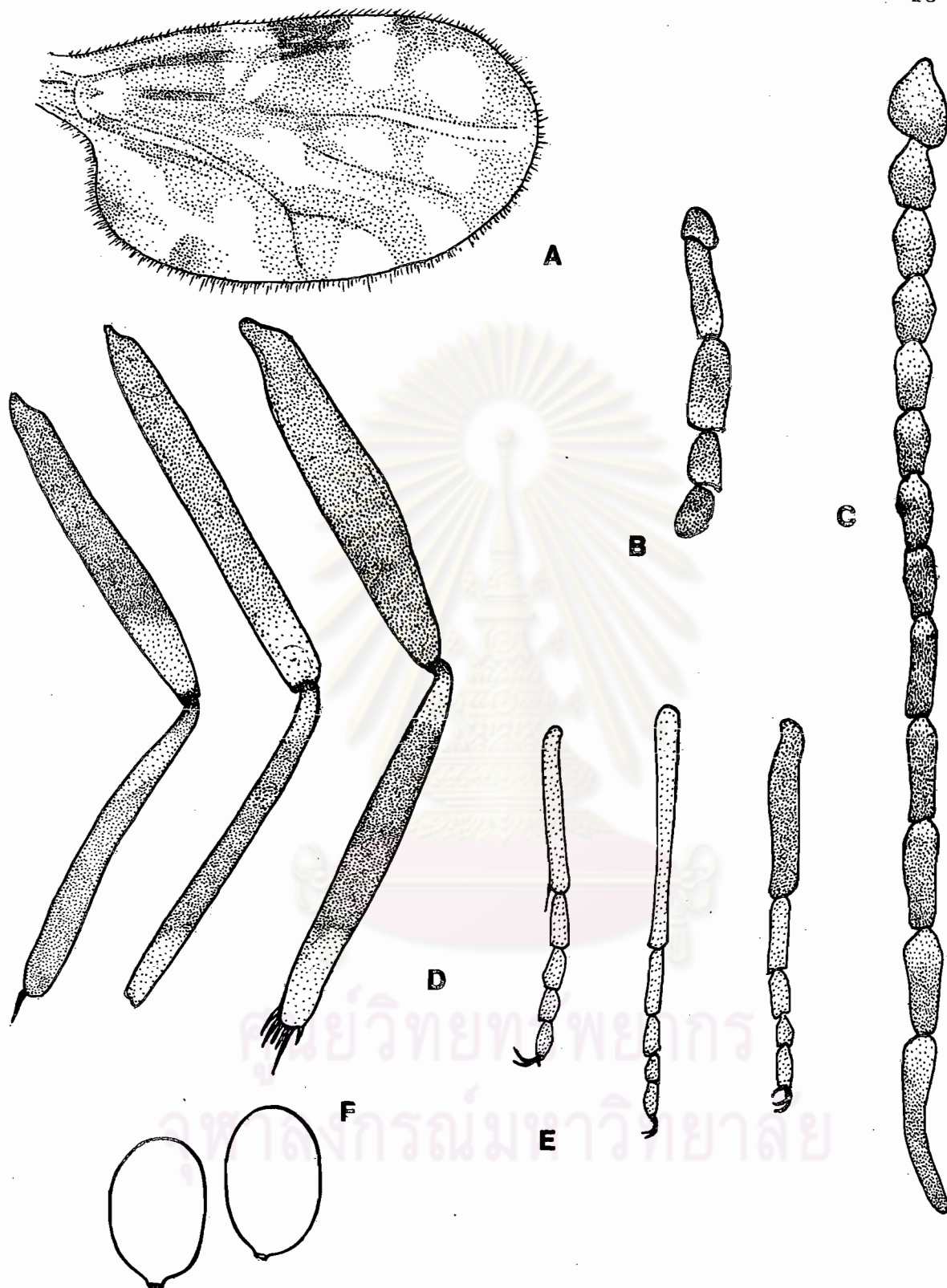
**รูปที่ ๘** Culicoides humeralis Okada

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



รูปที่ ๕ Culicoides insignipennis Macfie

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



 Culicoides jacobsoni de Meijere

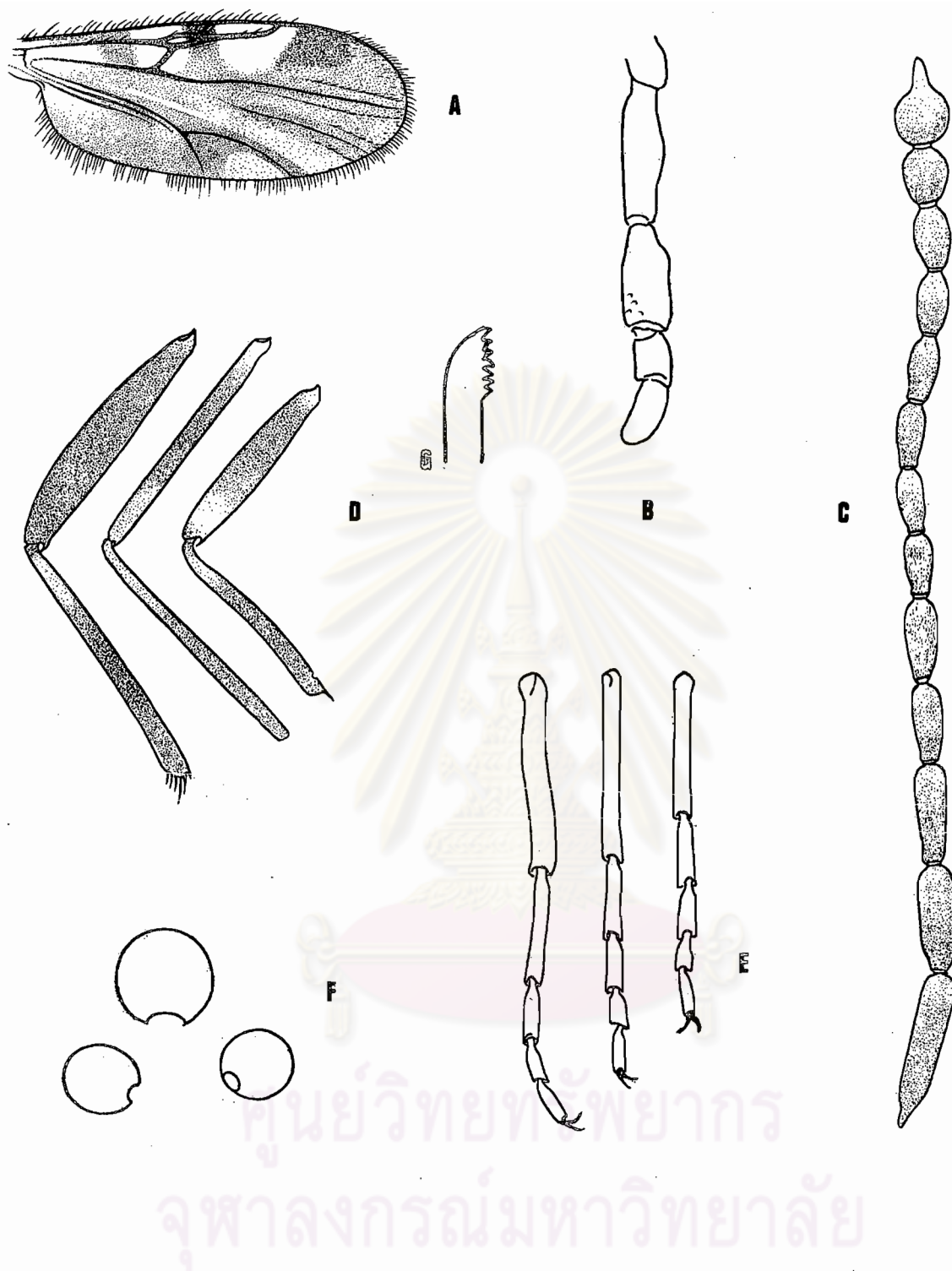
A. female wing

B. female palp

C. female antenná

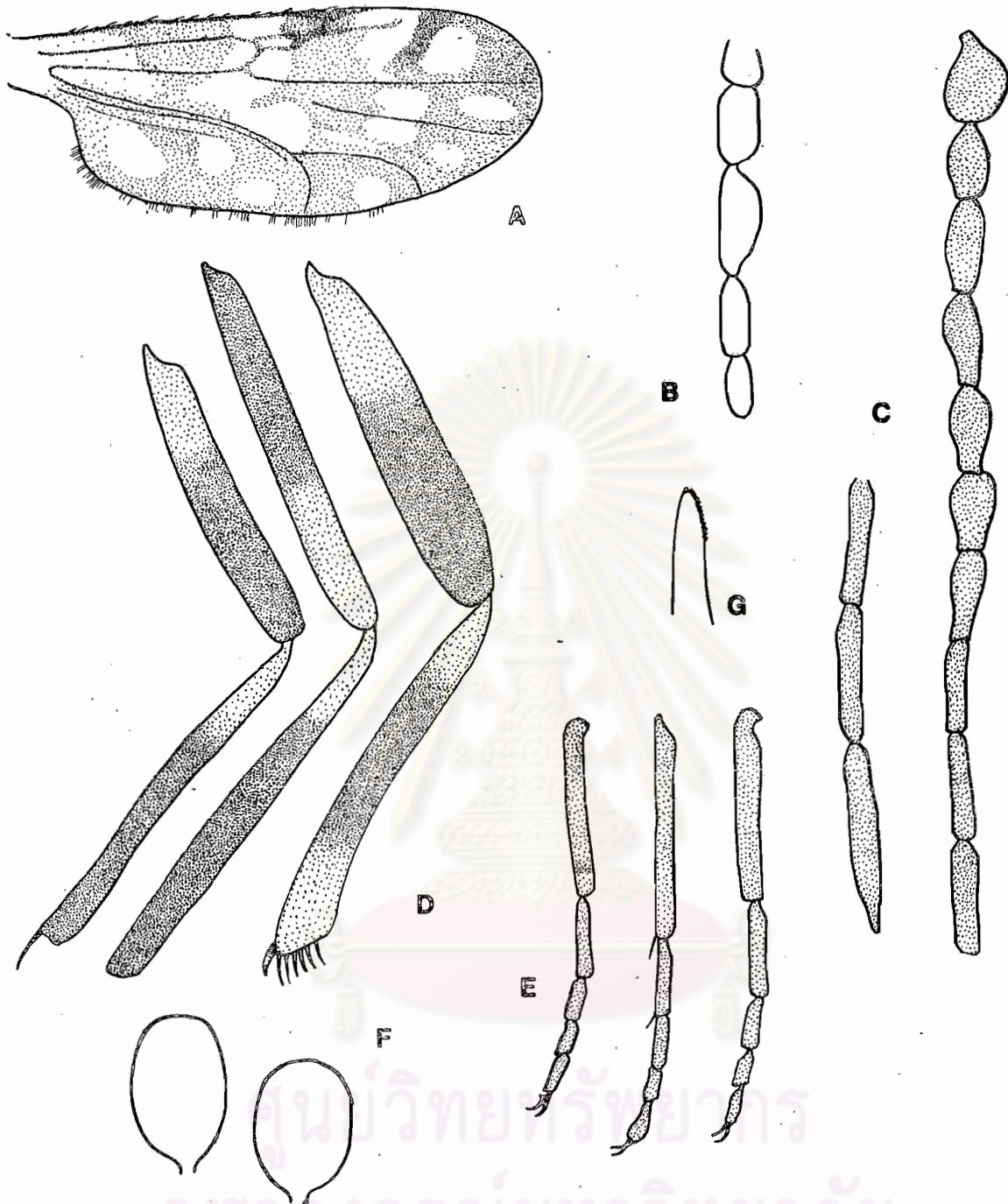
D. femur and tibia, female





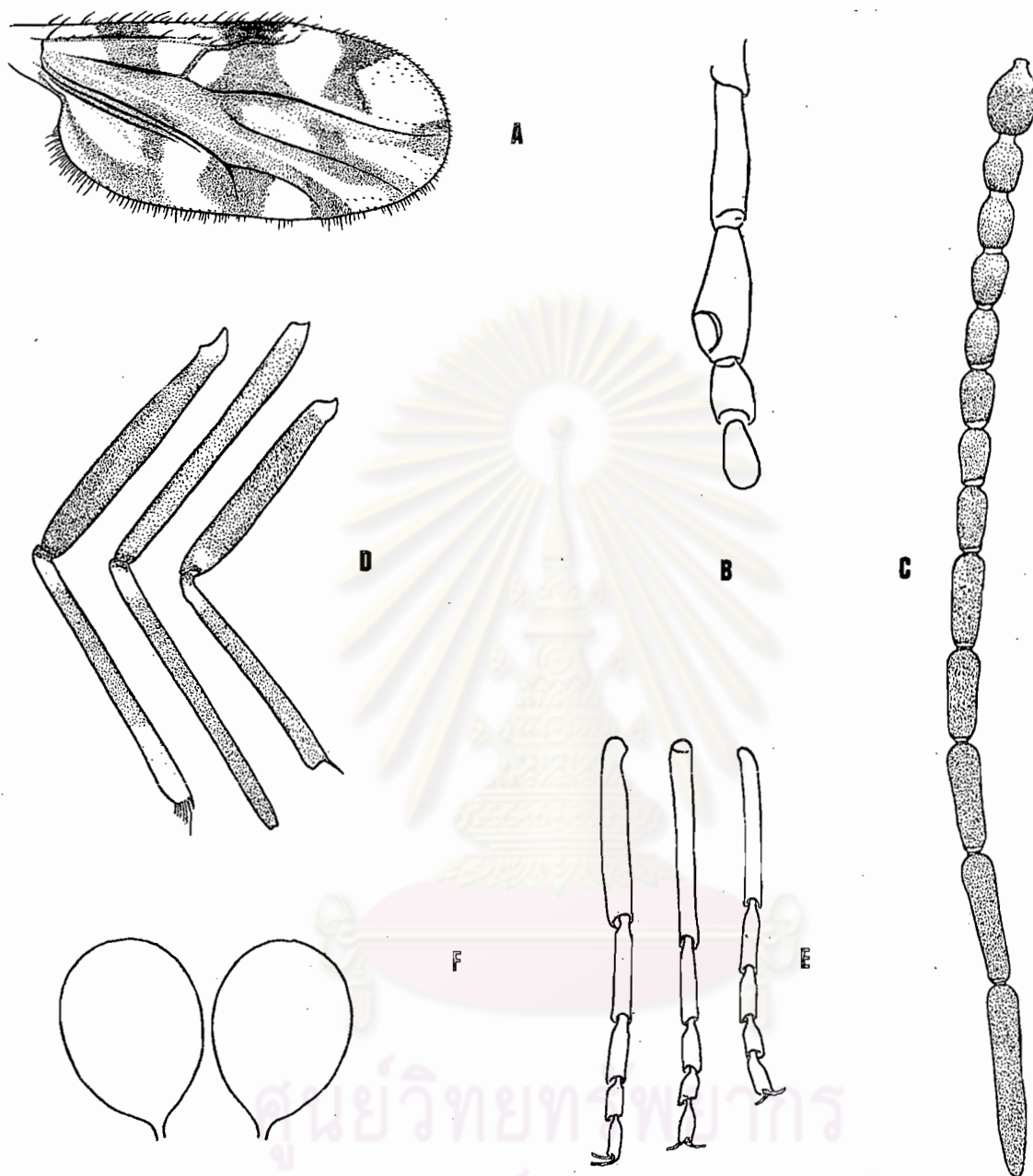
**รูปที่ ๑๗** Culicoides macfieii Causey

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



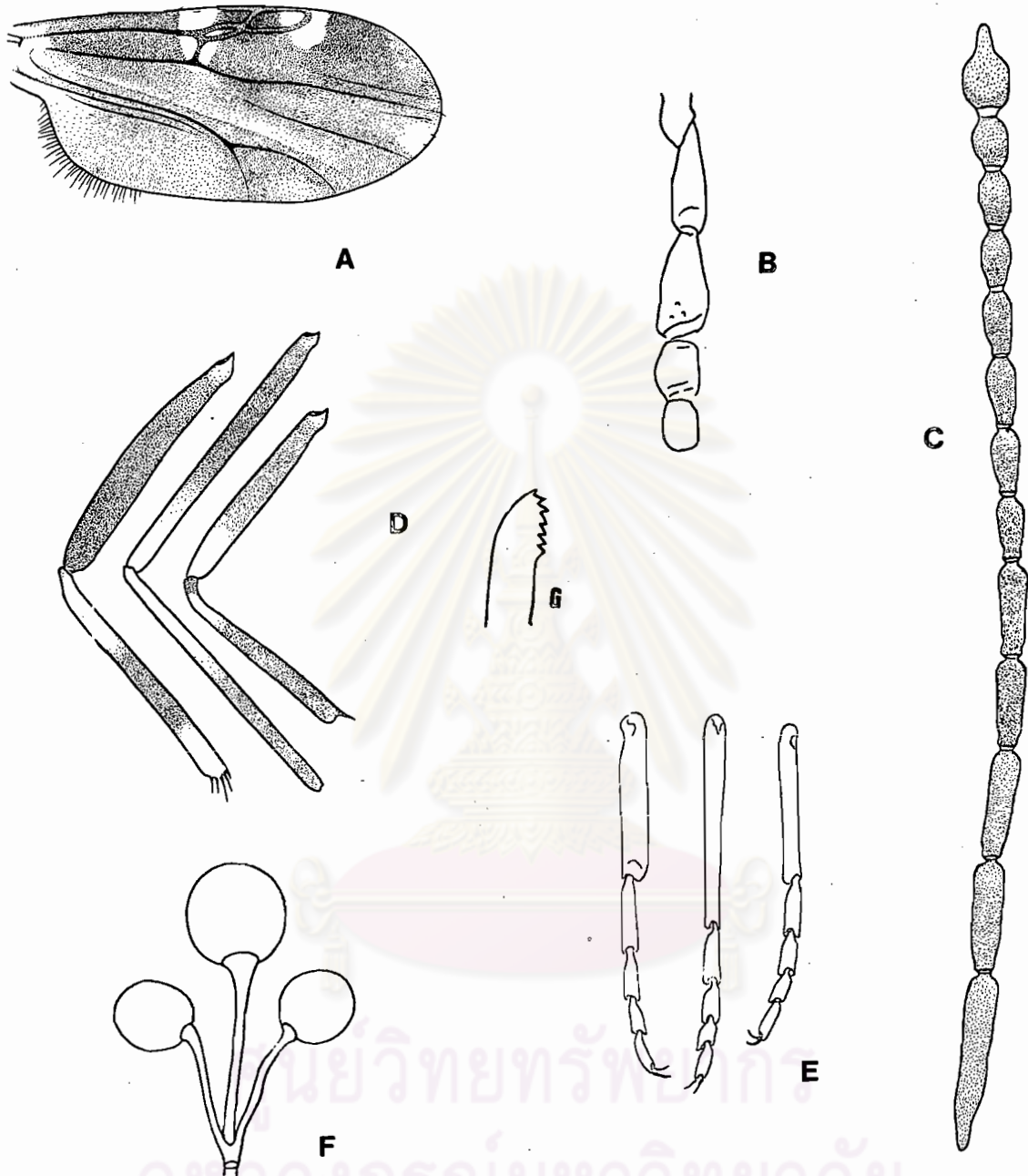
*Culicoides malayae* Macfie

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



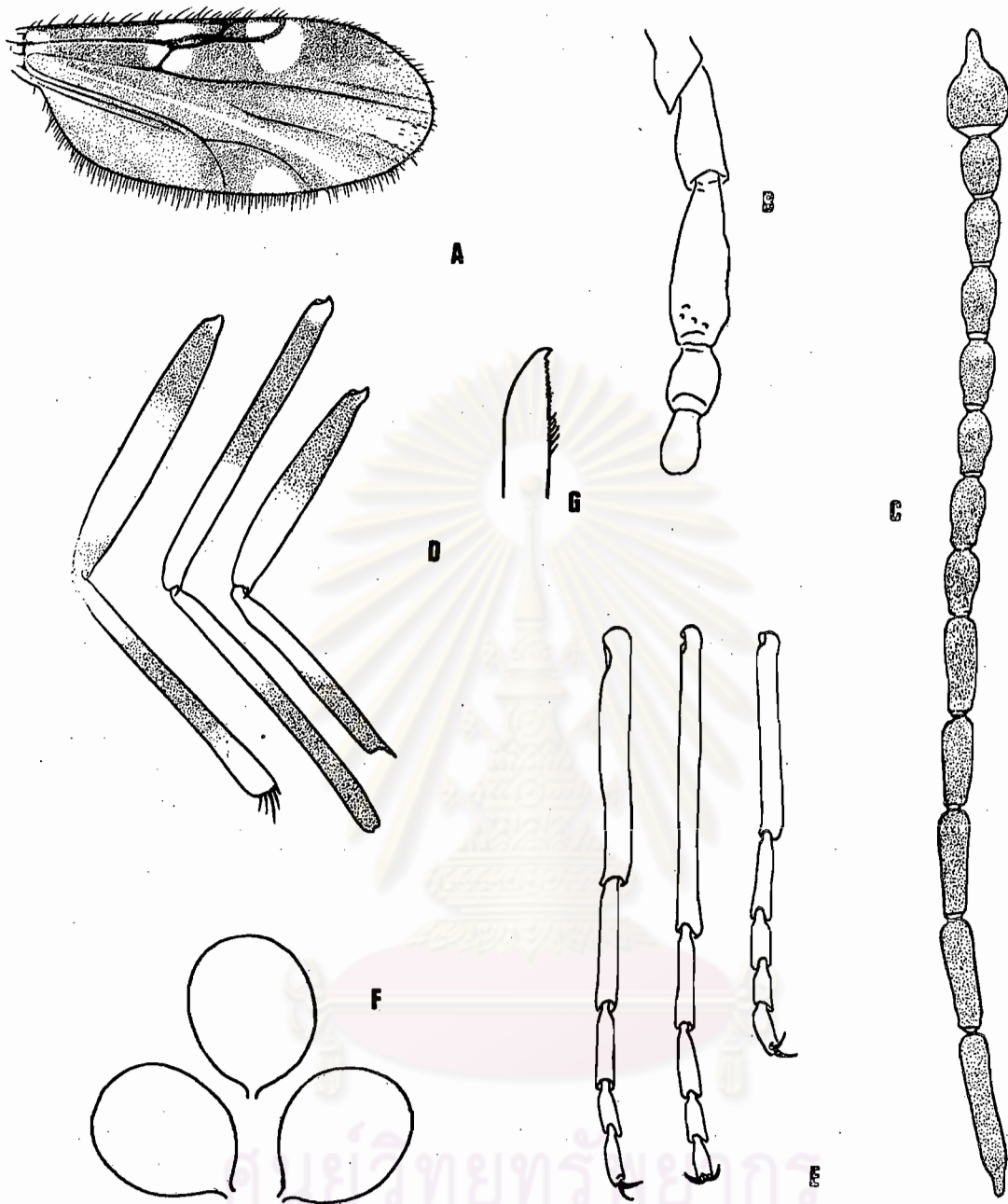
รูปที่ ๒๔ Culicoides orientalis Macfie

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



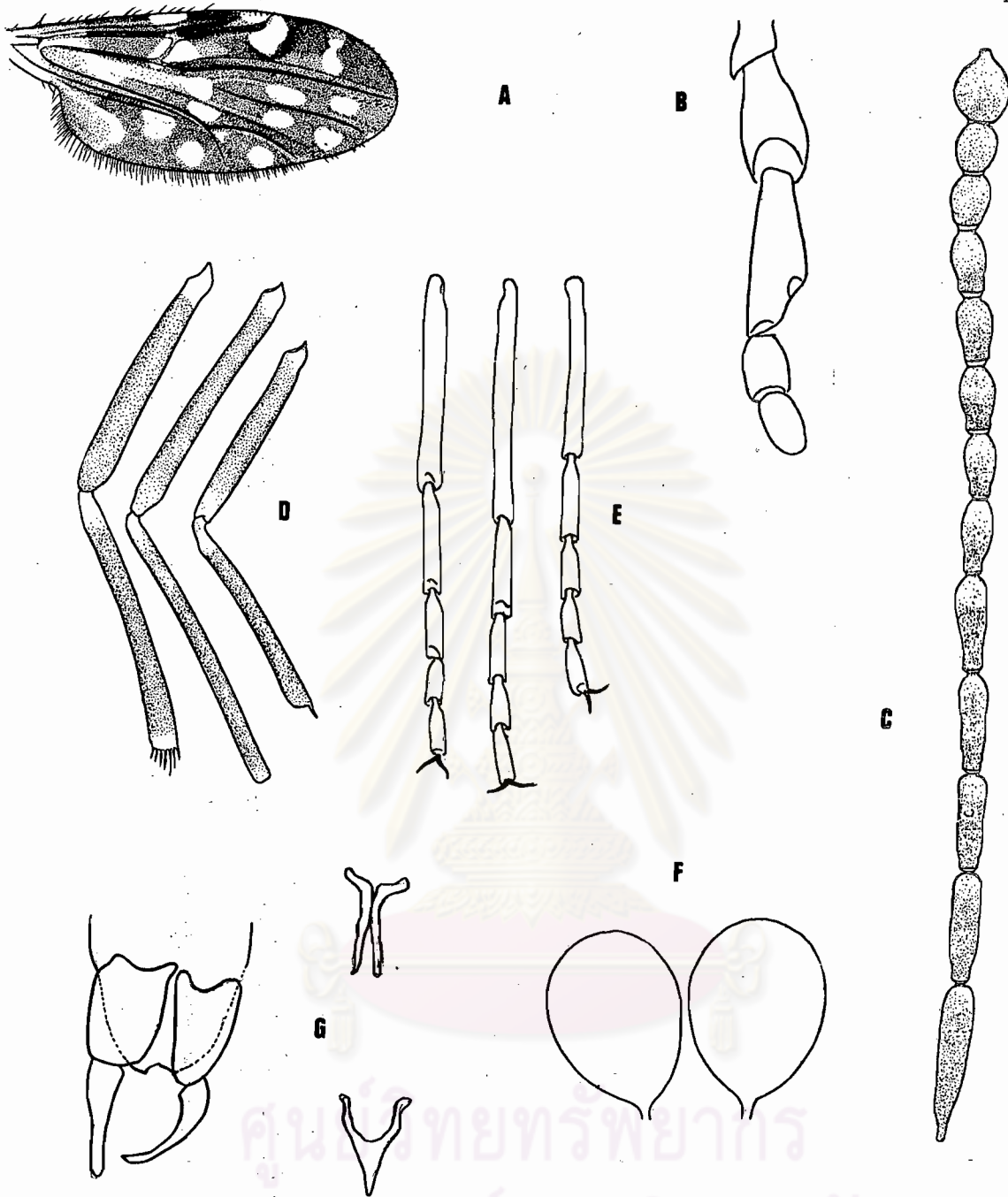
รูปที่ ๓๐ Culicoides palpifer Das Gupta and Ghosh

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



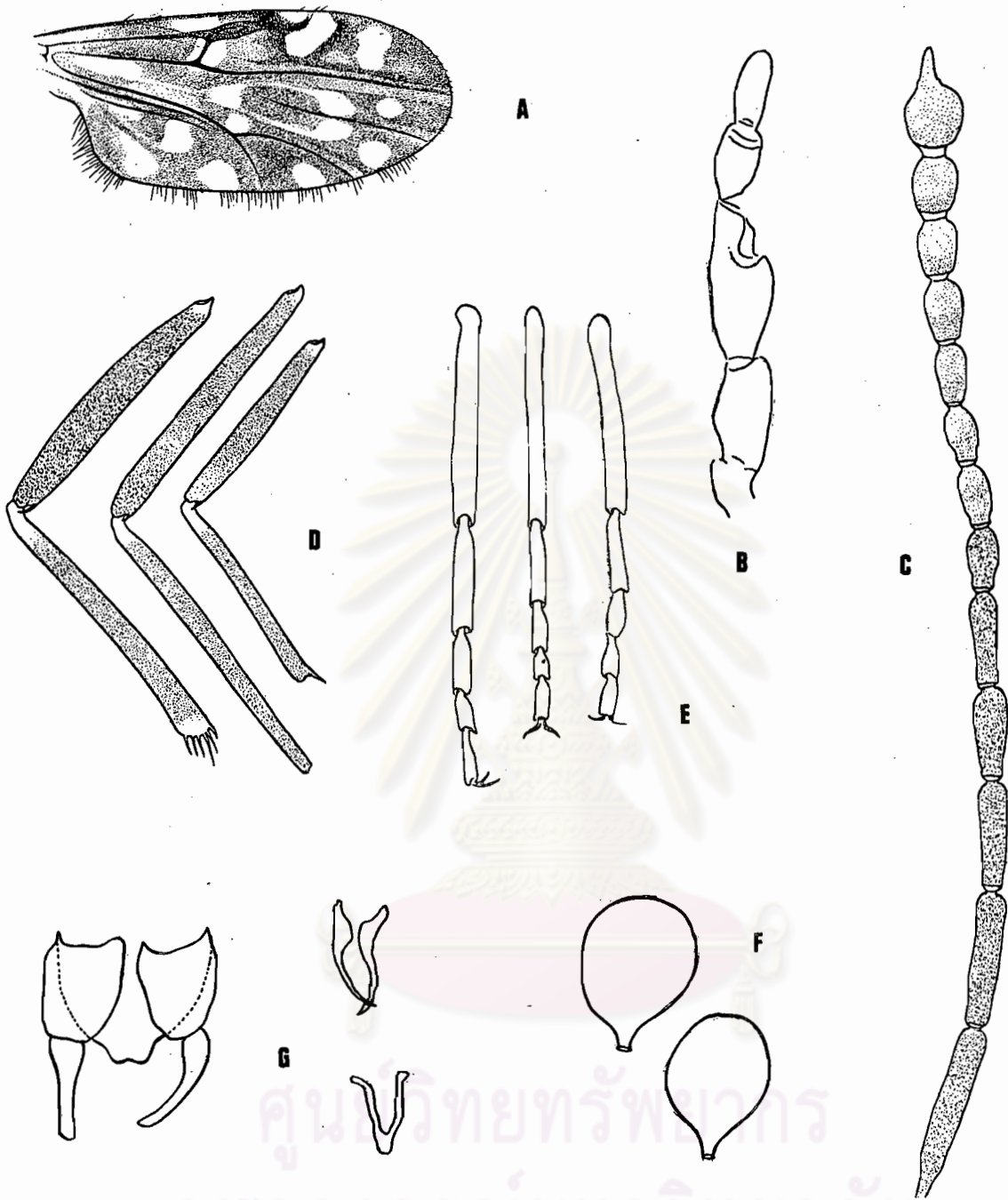
รูปที่ ๓๓ Culicoides paraflavescens Wirth and Hubert

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



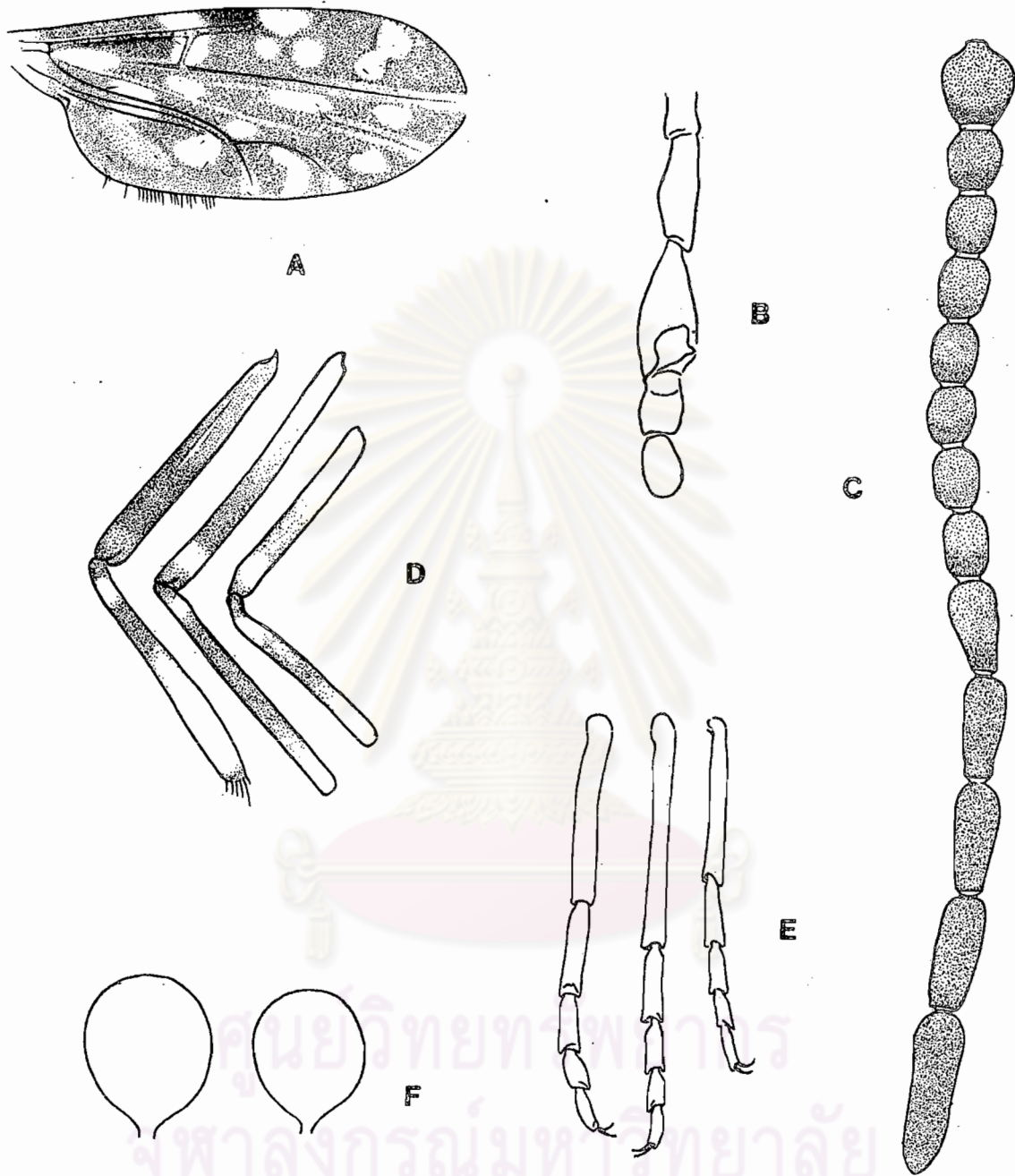
รูปที่ ๑๓๓ Culicoides perigrinus Kieffer

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. male genitalia |                            |



รูปที่ ๓๓๓ Culicoides recurvus Delfinado

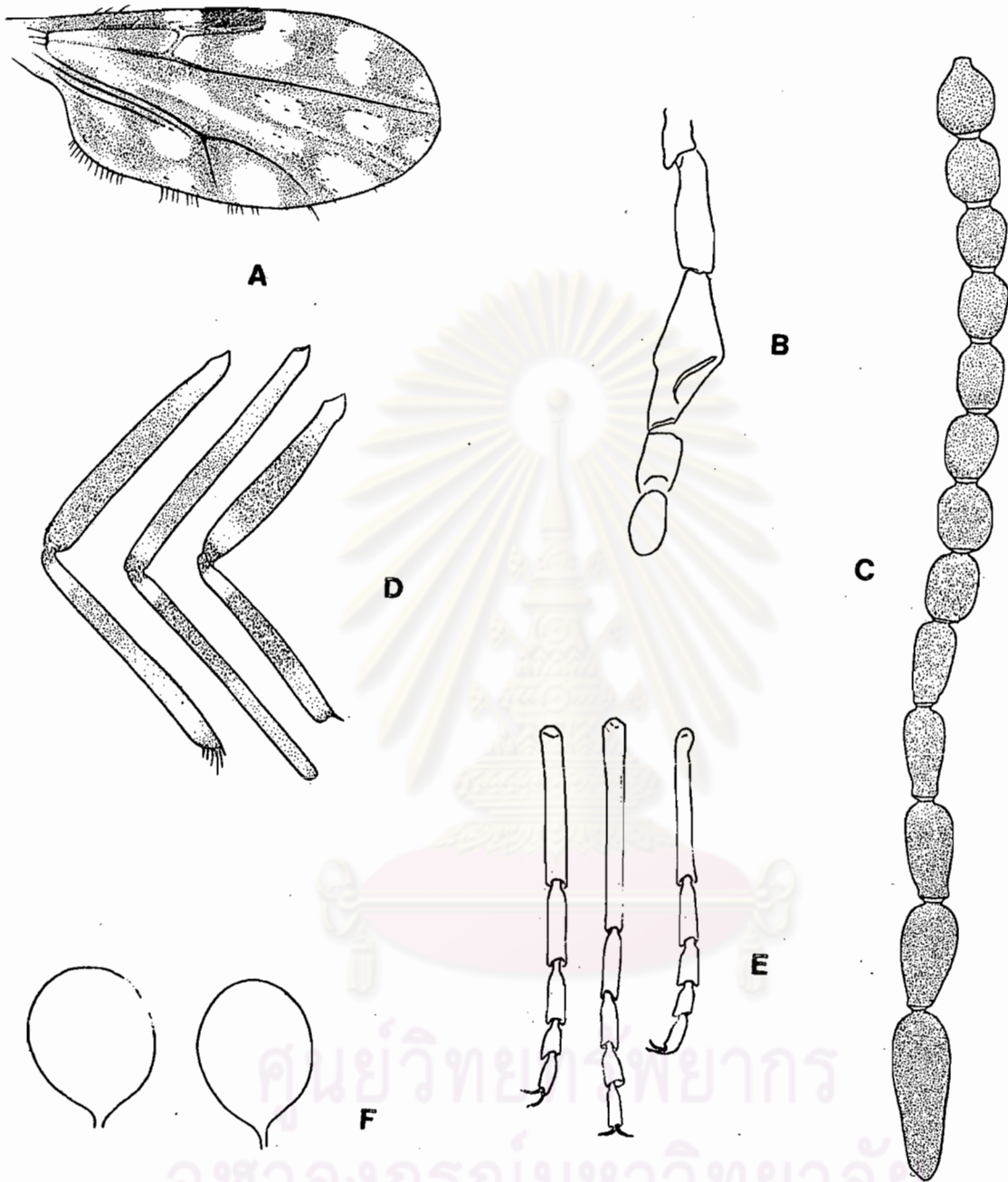
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. male genitalia |                            |



**รูปที่ ๓** Culicoides schultzei Enderlein

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |

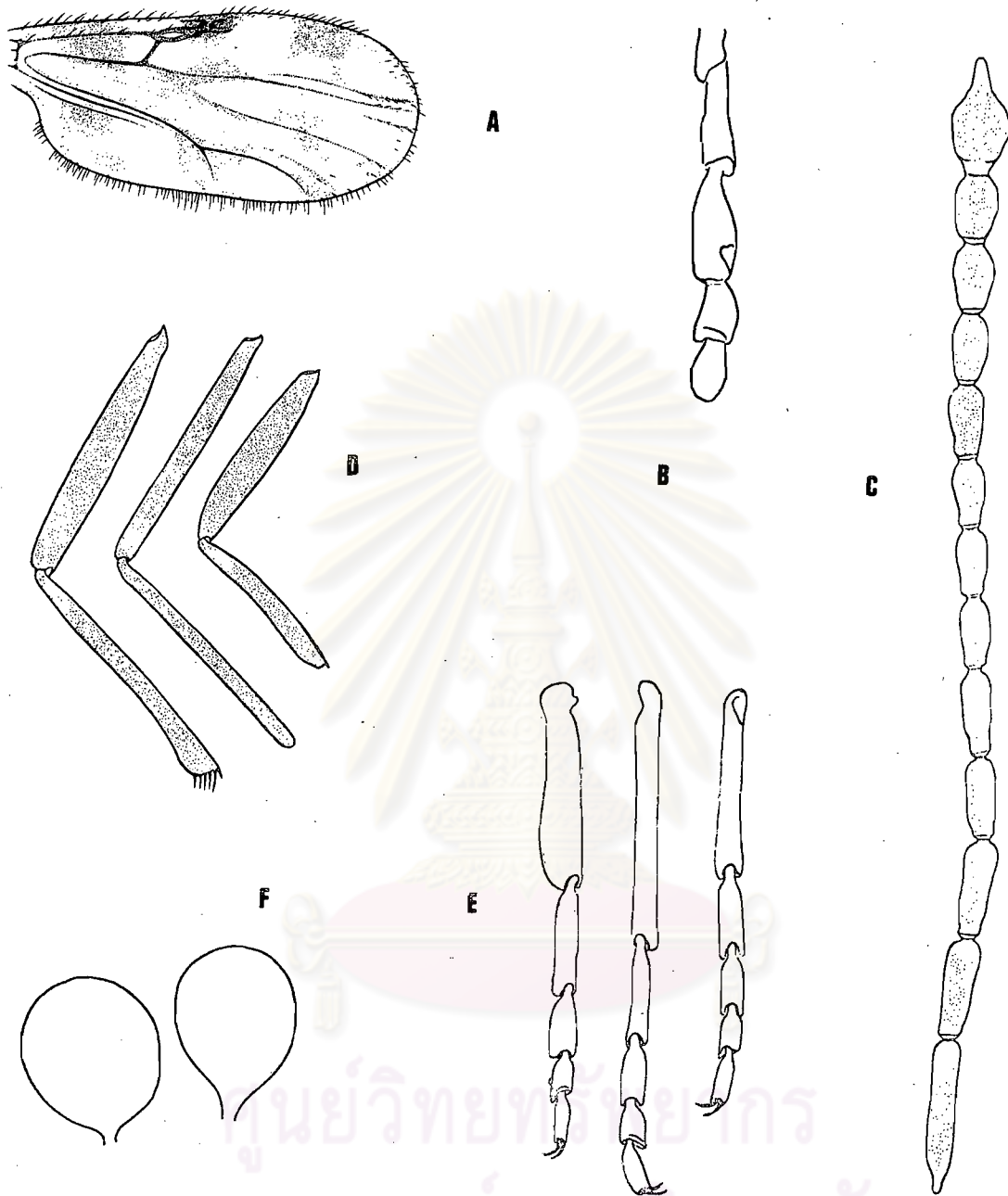




รูปที่ ๓๕

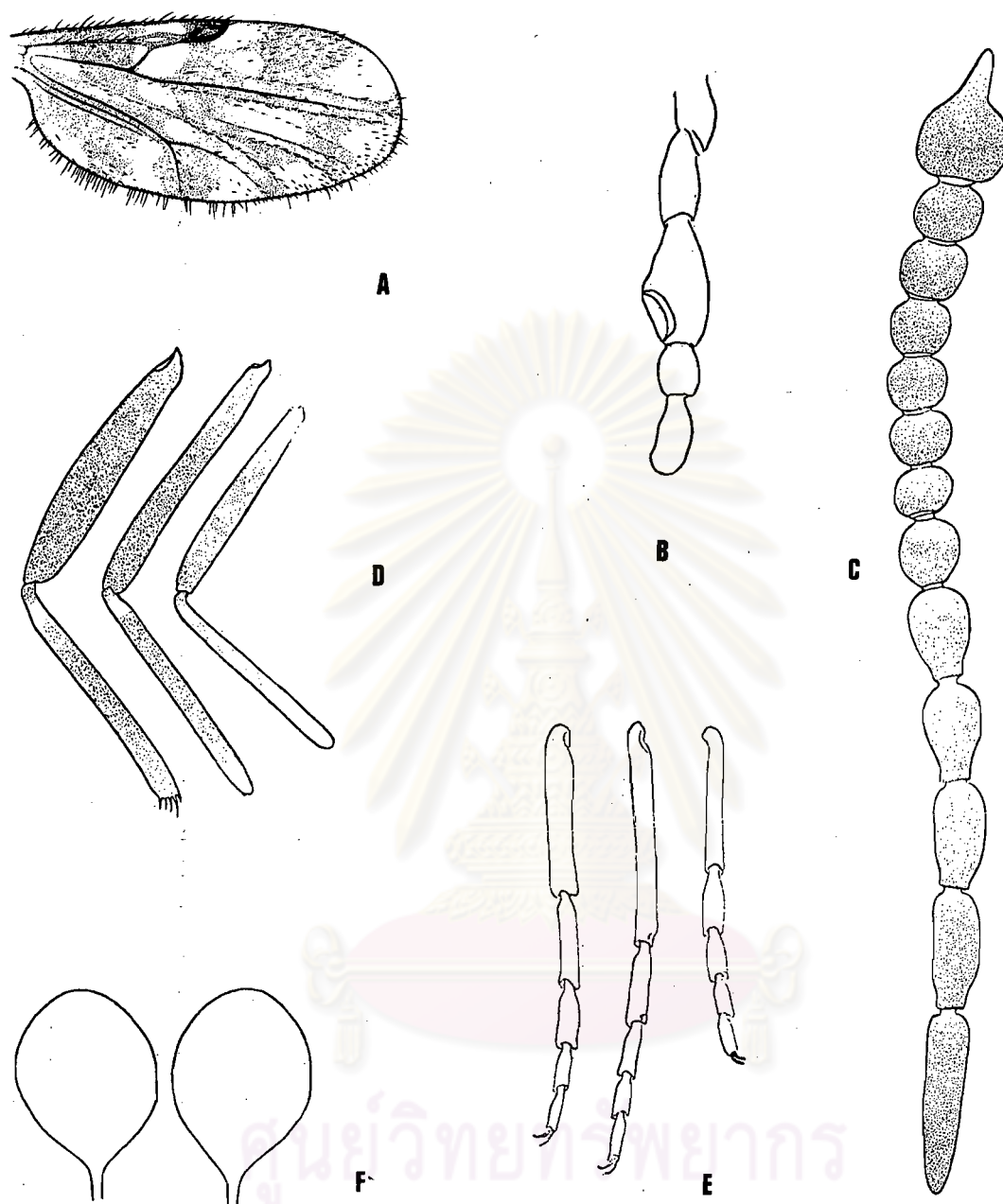
Culicoides shortti Smith and Swaminath

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



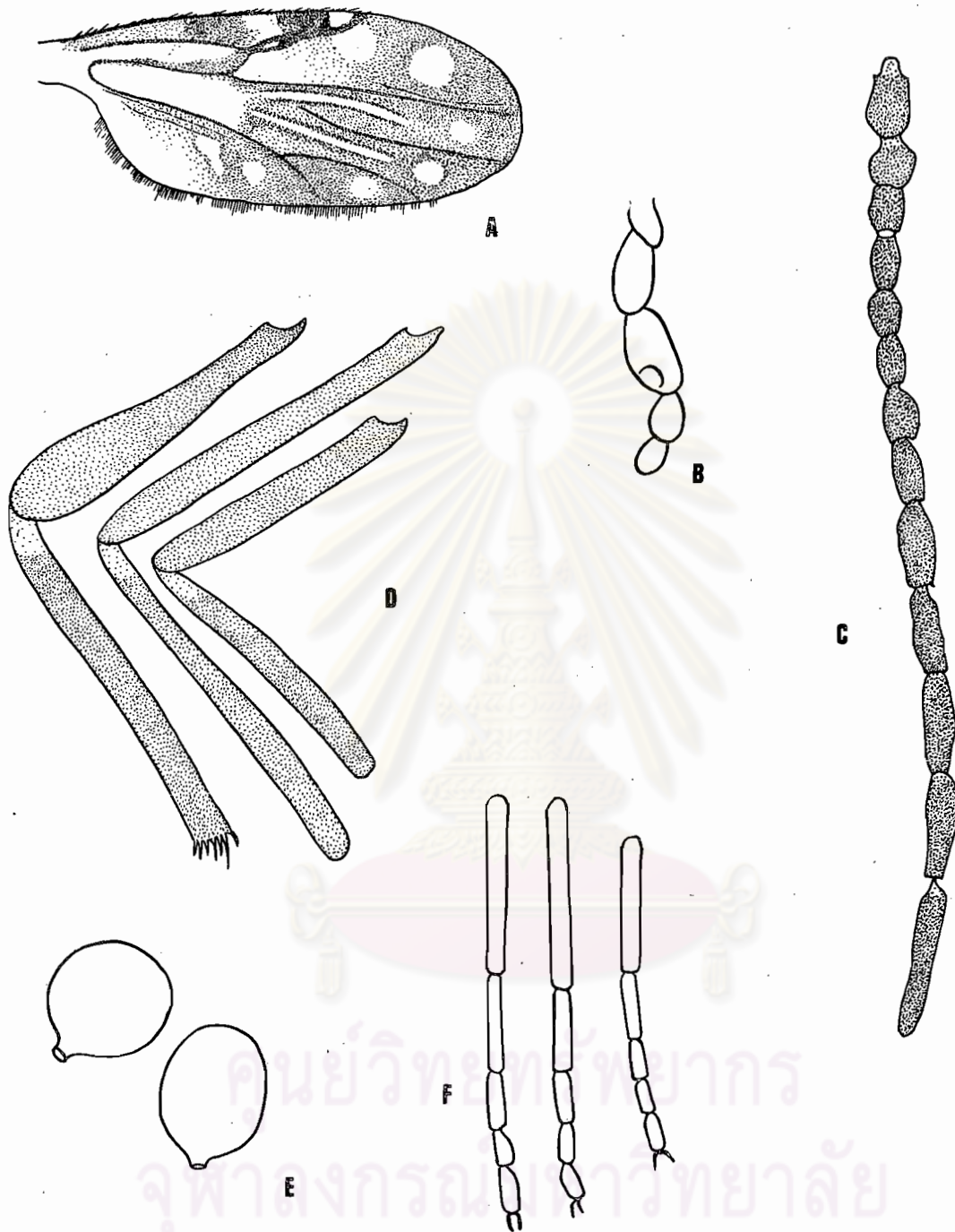
รูปที่ ๓๖ Culicoides sigaensis Tokunaga

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



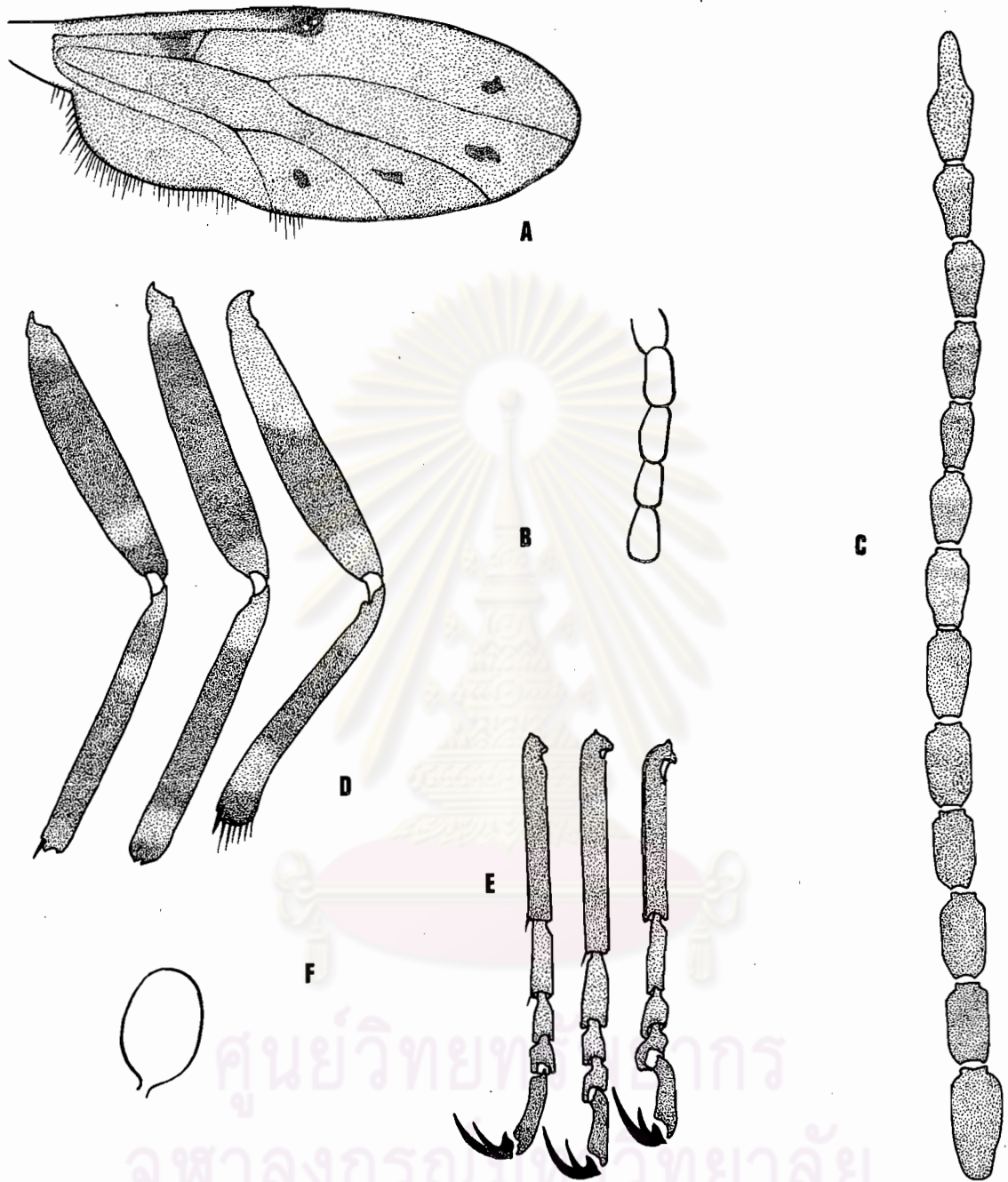
รูปที่ ๓๗ Culicoides similis Carter Ingram and Macfie

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



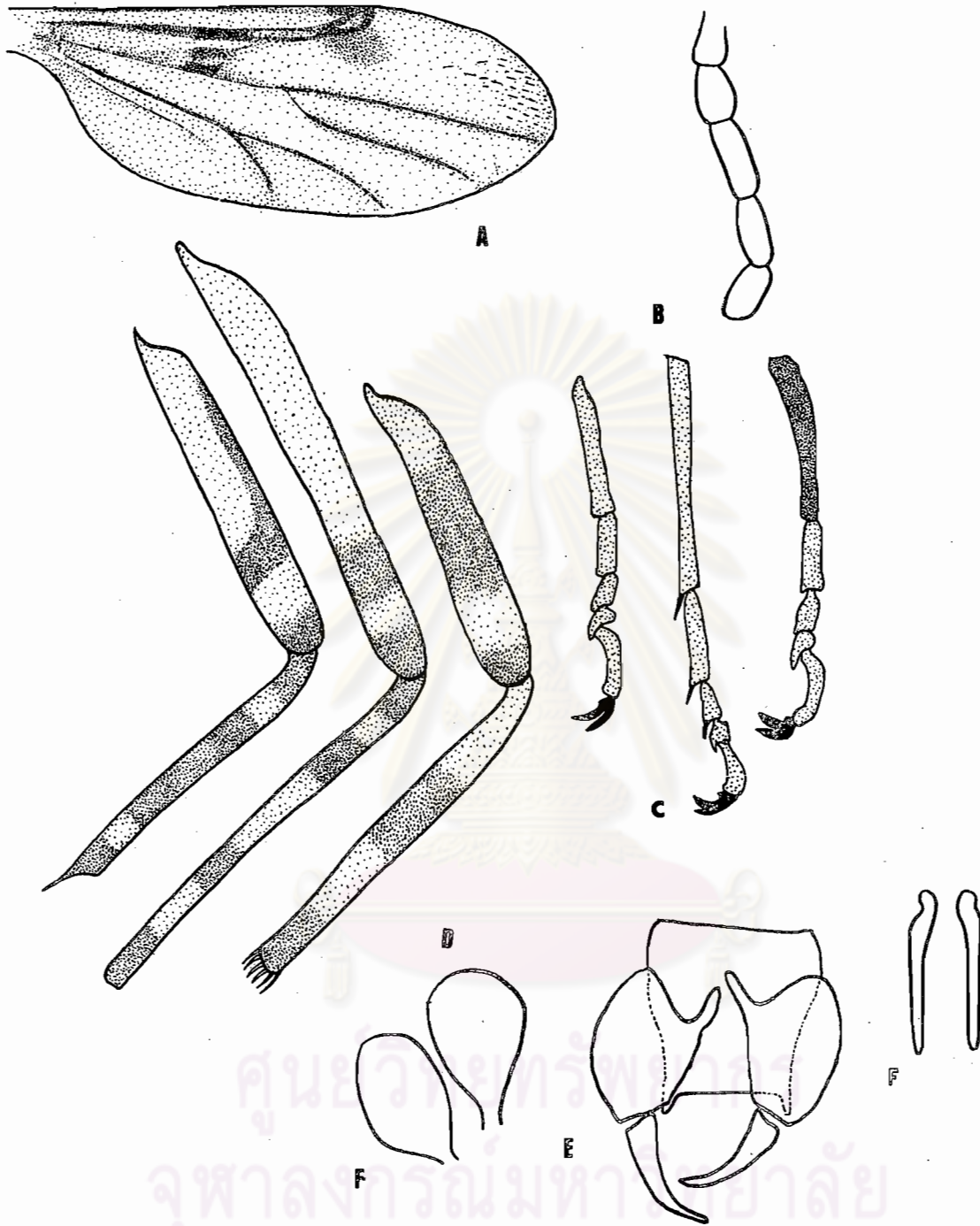
รูปที่ ๓๔ Culicoides sp.1

- |                        |                            |
|------------------------|----------------------------|
| A. female wing         | B. female palp             |
| C. female antenna      | D. femur and tibia, female |
| E. female spermathecae | F. female tarsi            |



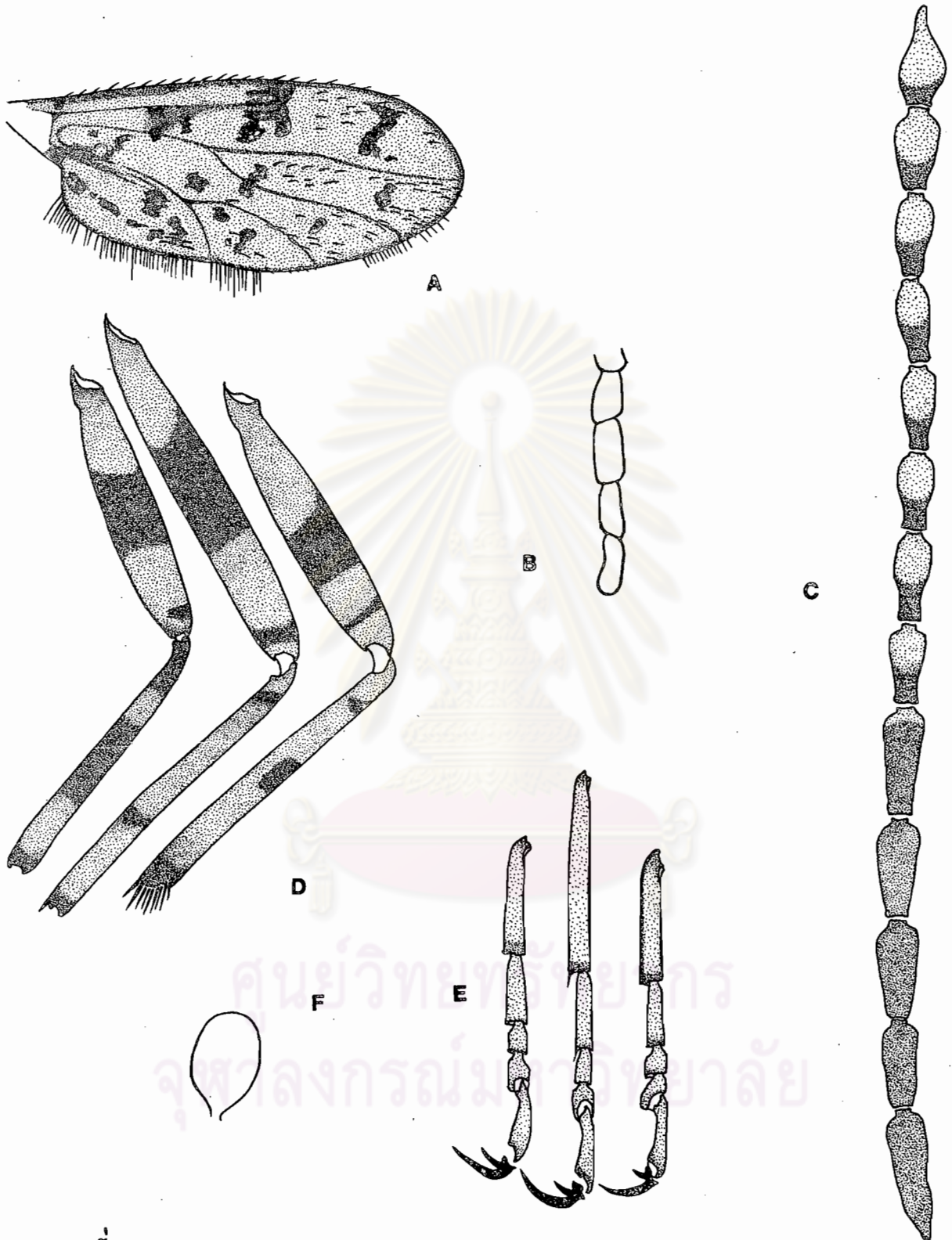
รูปที่ ๓๘ Alluaudomyia formosana Okada

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



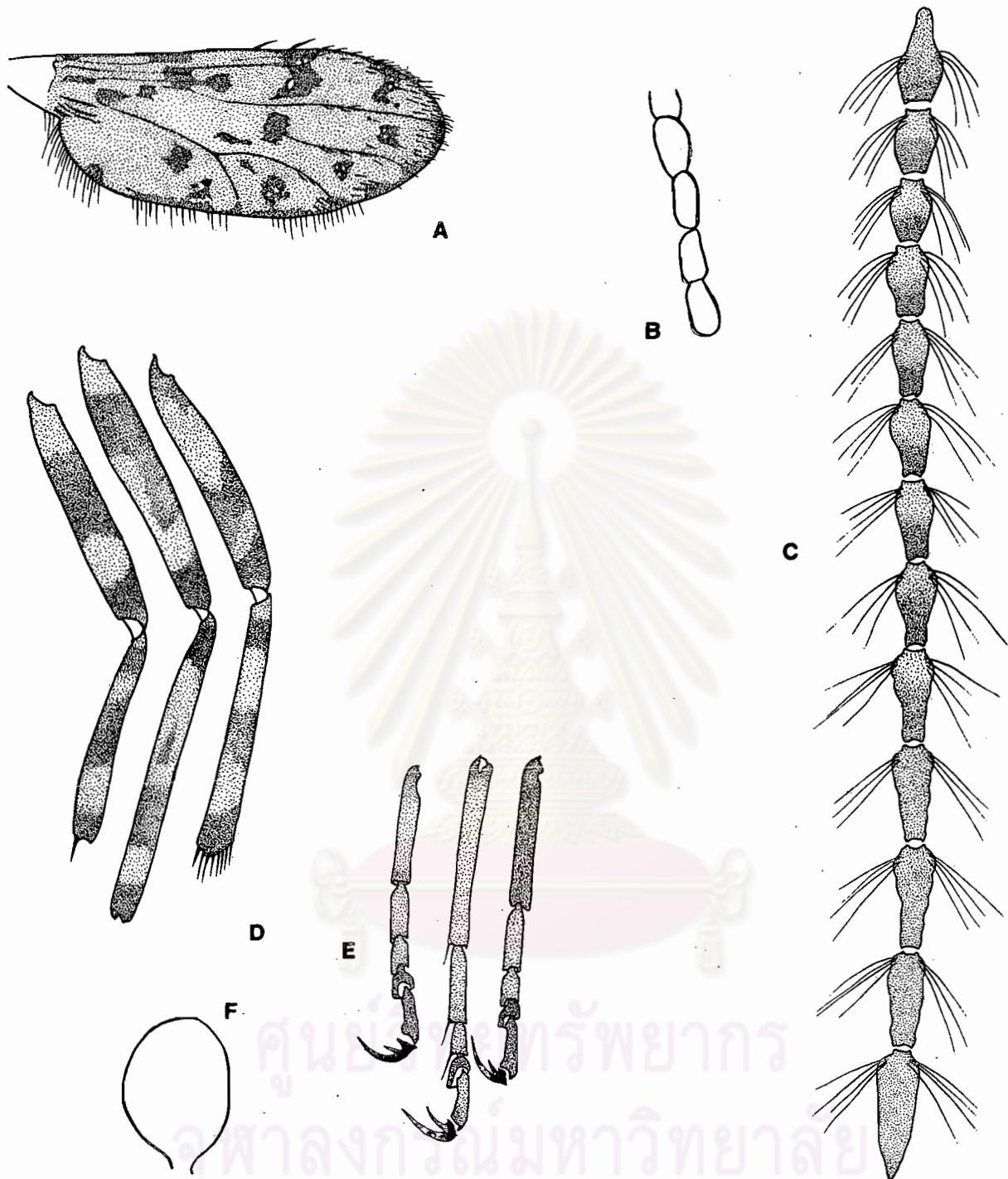
รูปที่ ๔๐ Alluaudomyia inequalis Wirth and Delfinado

- |                 |                            |
|-----------------|----------------------------|
| A. female wing  | B. female palp             |
| C. female tarsi | D. femur and tibia, female |
| E. mandible     | F. female spermatheca      |



รูปที่ ๘. Alluaudomyia maculosipennis Tokunaga

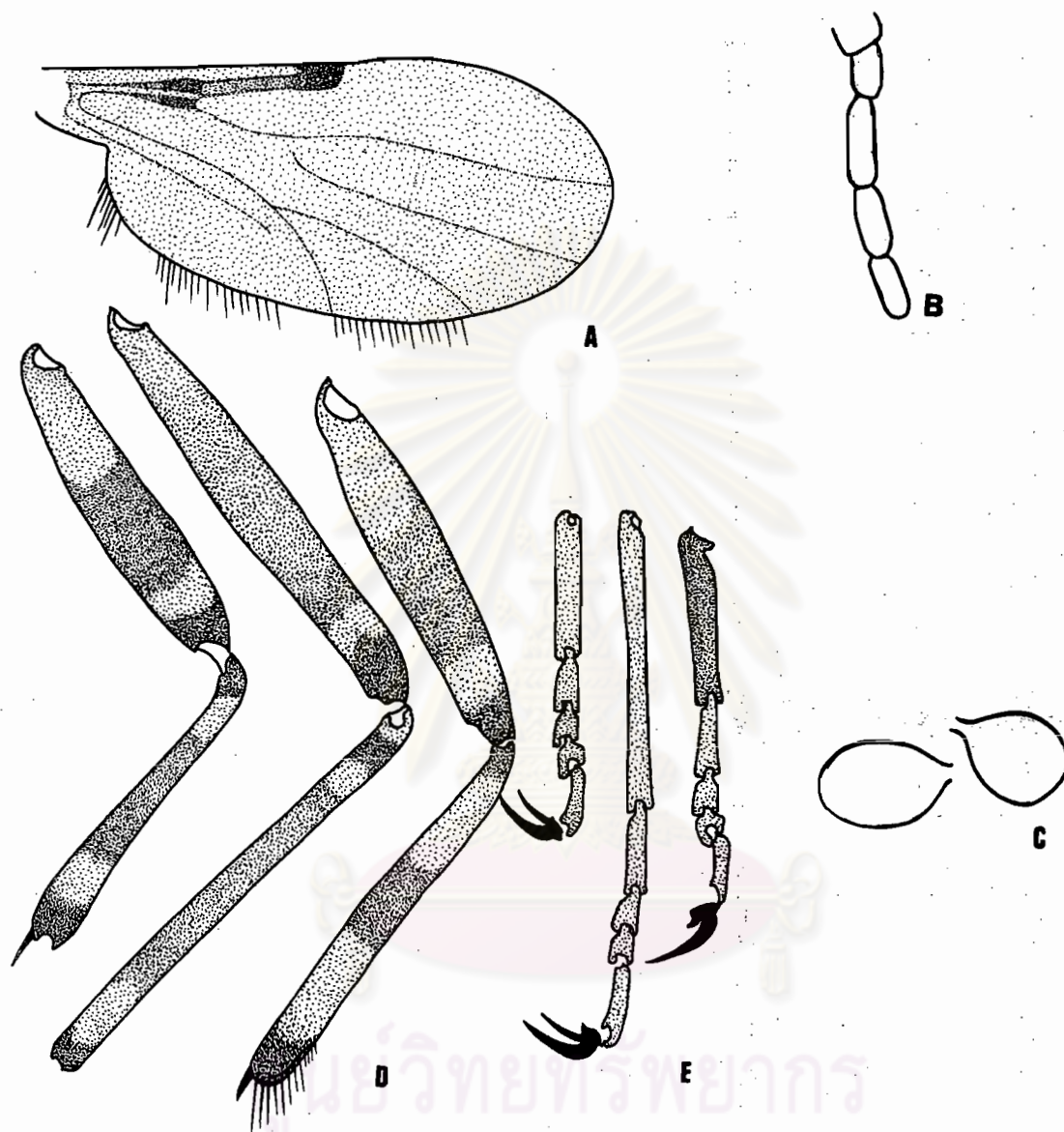
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |



รูปที่ ๒ Alluaudomyia marginalis Wirth and Delfinado

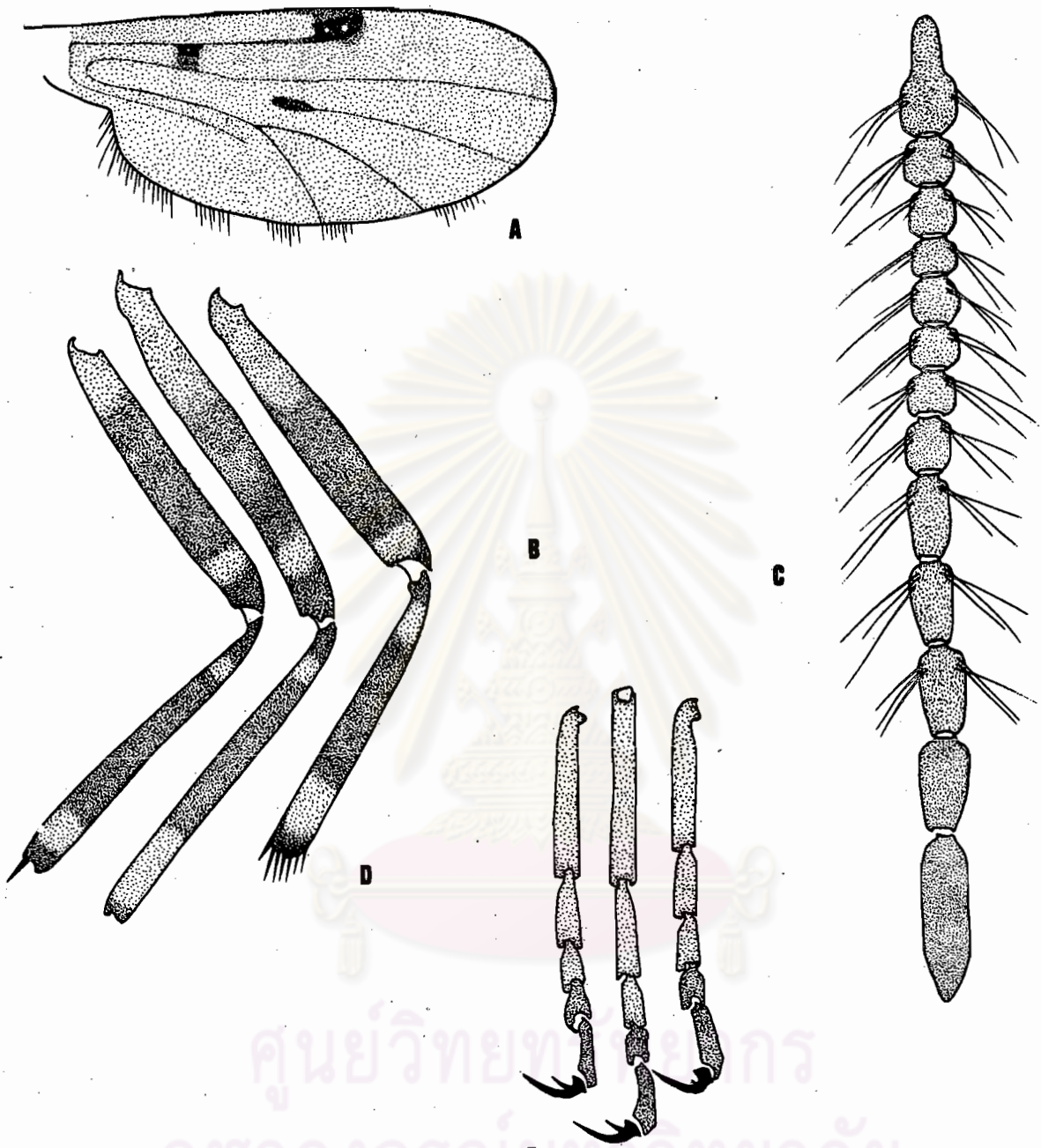
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |





รูปที่ ๓๓ Alluaudomyia spinosipes Tokunaga

- |                        |                            |
|------------------------|----------------------------|
| A. female wing         | B. female palp             |
| C. female spermathecae | D. femur and tibia, female |
| E. female tarsi        |                            |



รูปที่ ๔๔ Alluauatomyia xanthocoma ( Kieffer )

A. female wing

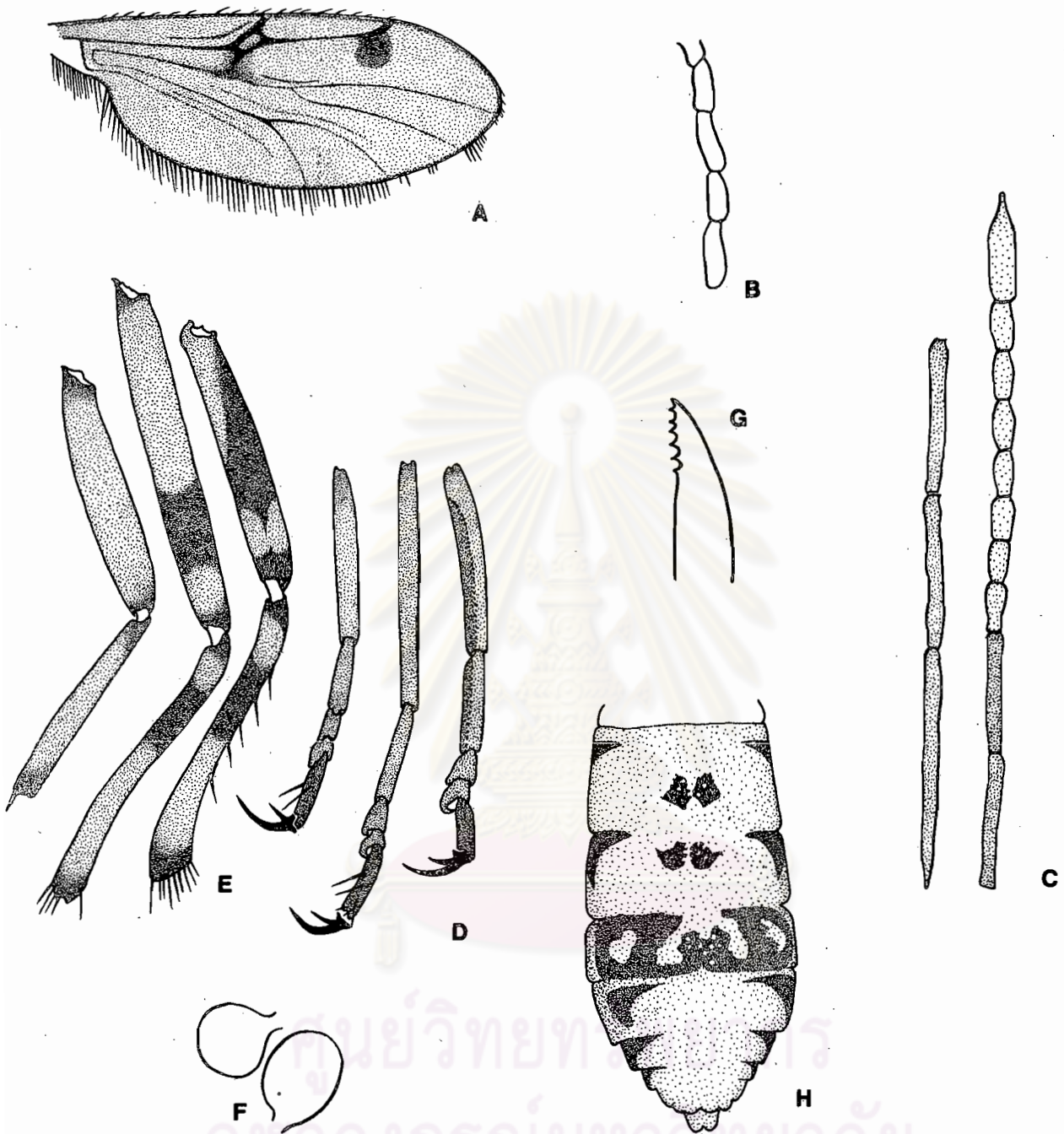
C. female antenna

E. female tarsi

B. female palp

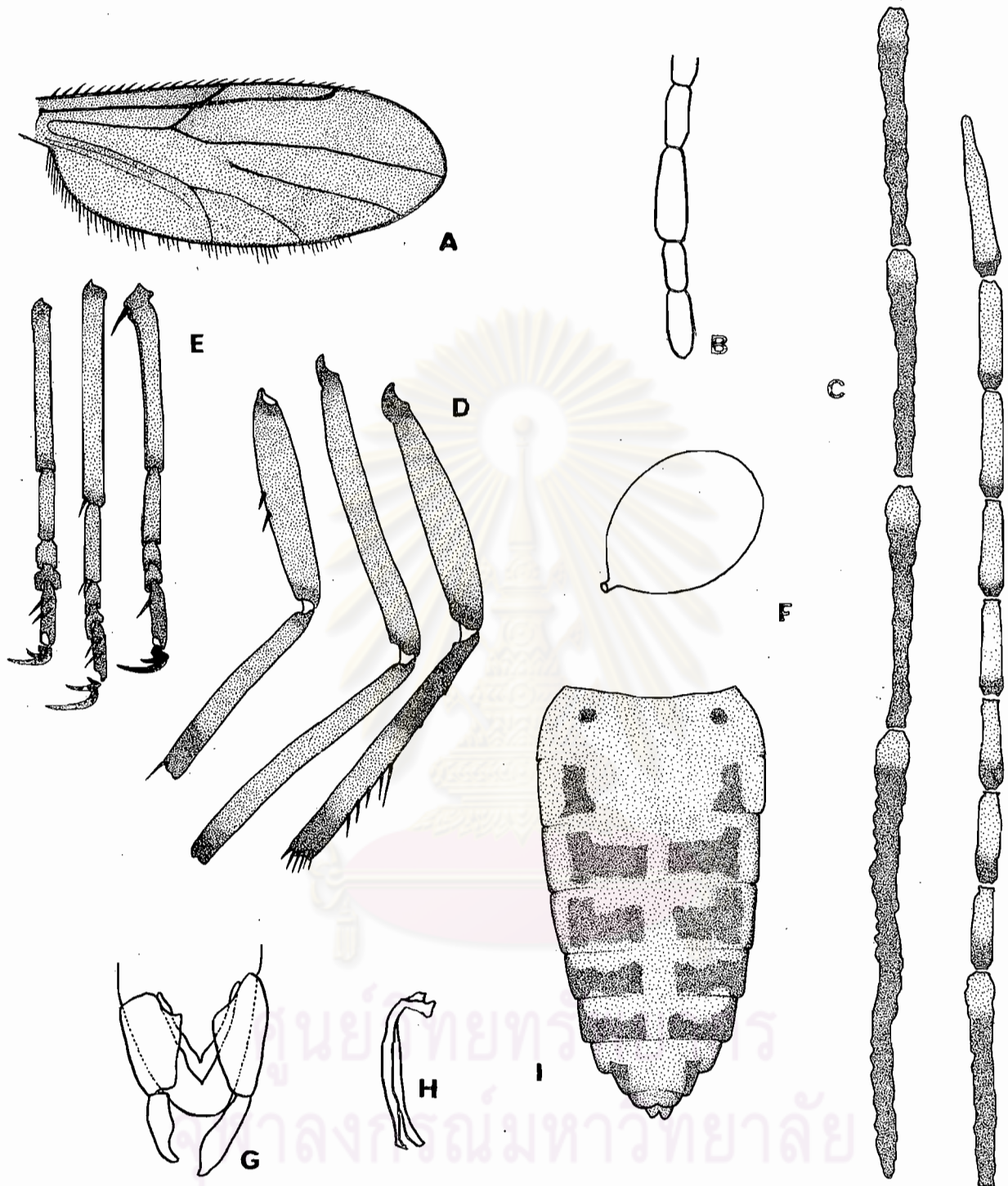
D. femur and tibia, female

F. female spermatheca



รูปที่ ๘๘ Stilobezzia festiva Kieffer

- |                            |                        |
|----------------------------|------------------------|
| A. female wing             | B. female palp         |
| C. female antenna          | D. female tarsi        |
| E. femur and tibia, female | F. female spermathecae |
| G. mandible                | H. female abdomen      |



รูปที่ ๘ *Stilobezzia fuscipes* Das Gupta and Wirth

A. female wing

B. female palp

C. female antenna

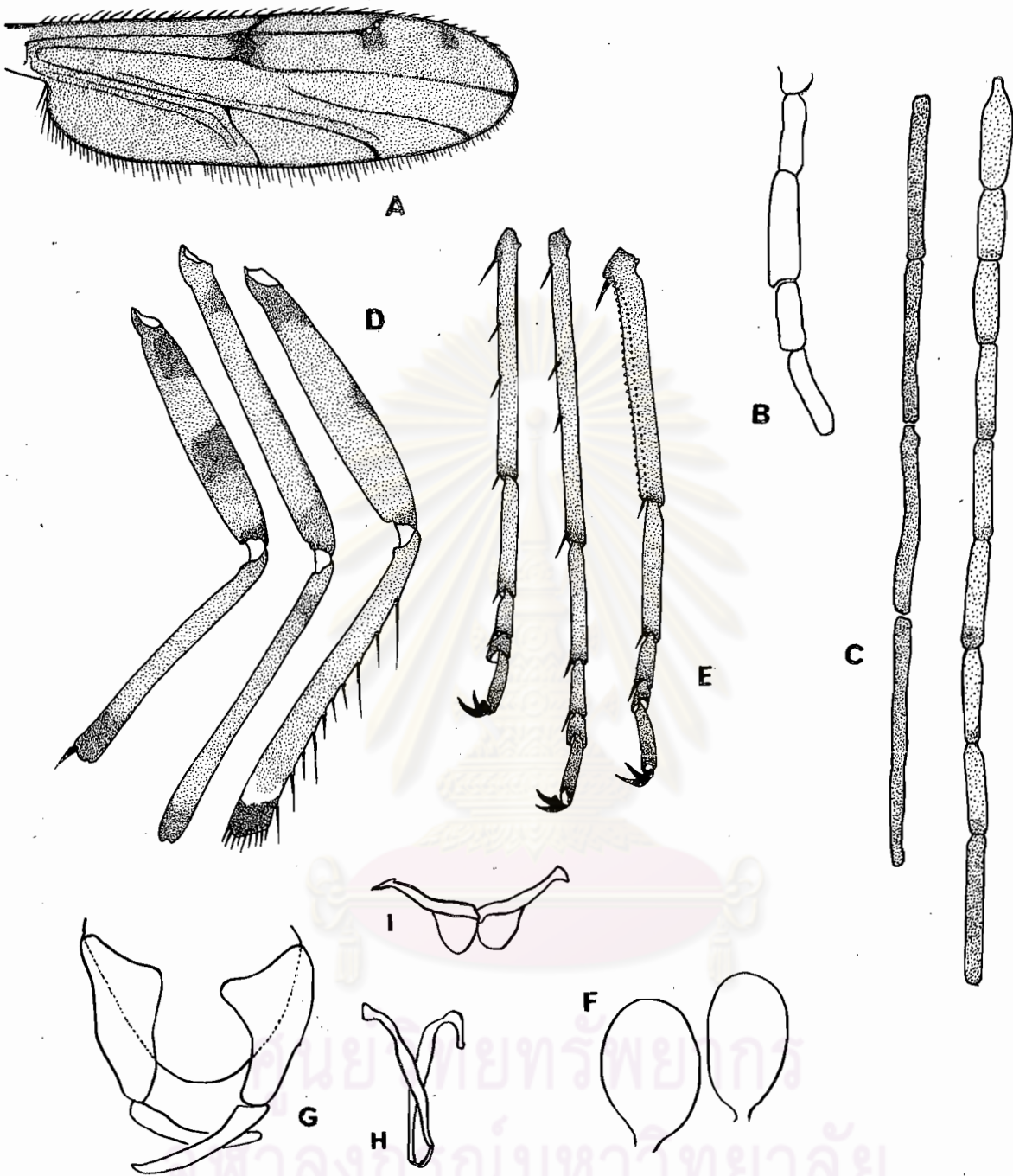
D. femur and tibia, female

E. female tarsi

F. female spermatheca

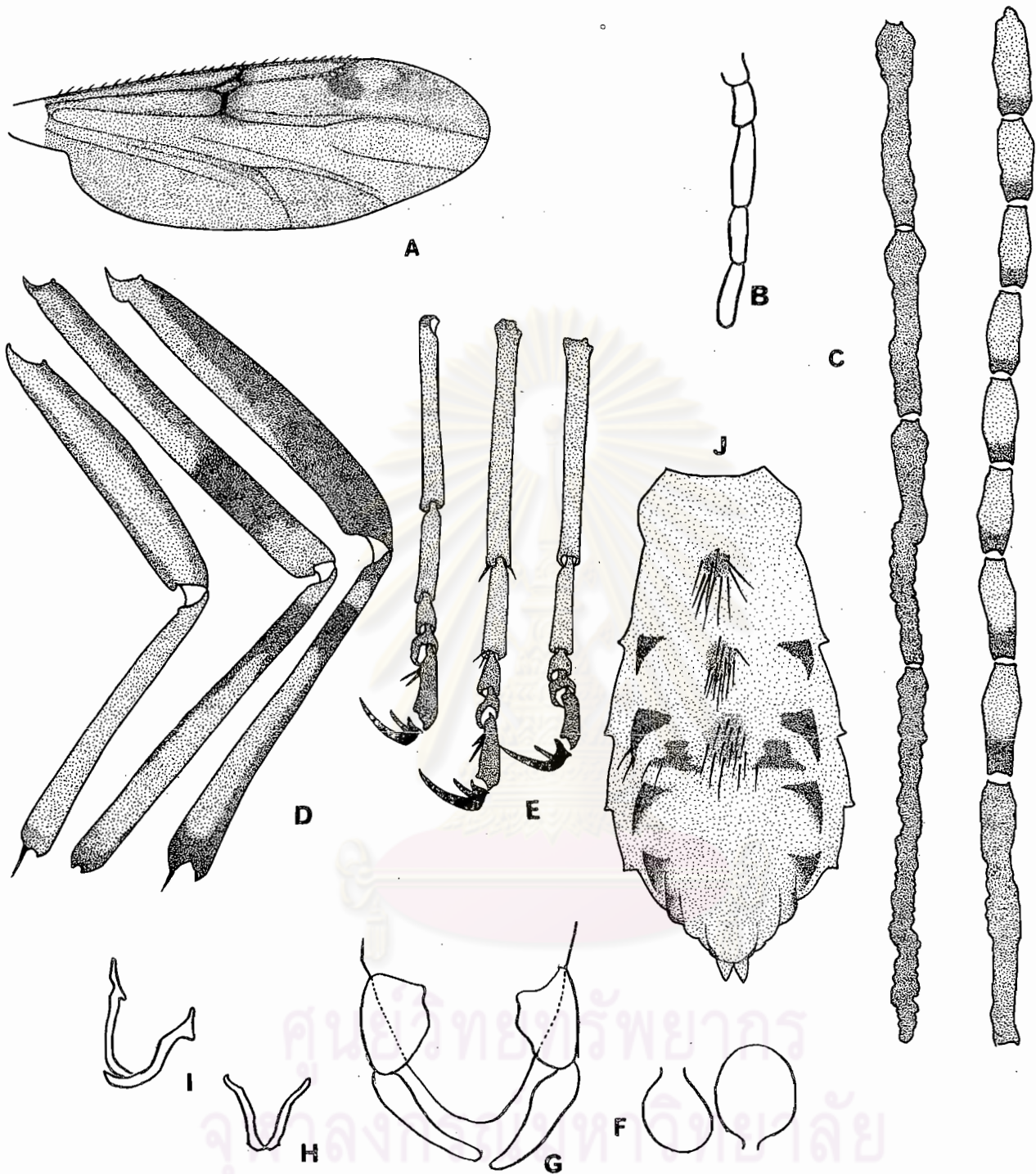
G,H. male genitalia

I. female abdomen



รูปที่ ๘๗ *Stilobezzia inermipes* Kieffer

- |                       |                            |
|-----------------------|----------------------------|
| A. female wing        | B. female palp             |
| C. female antenna     | D. femur and tibia, female |
| E. female tarsi       | F. female spermathecae     |
| G,H,I. male genitalia |                            |



รูปที่ ๔๔ Stilobezzia notata ( de Meijere )

A. female wing

C. female antenna

E. female tarsi

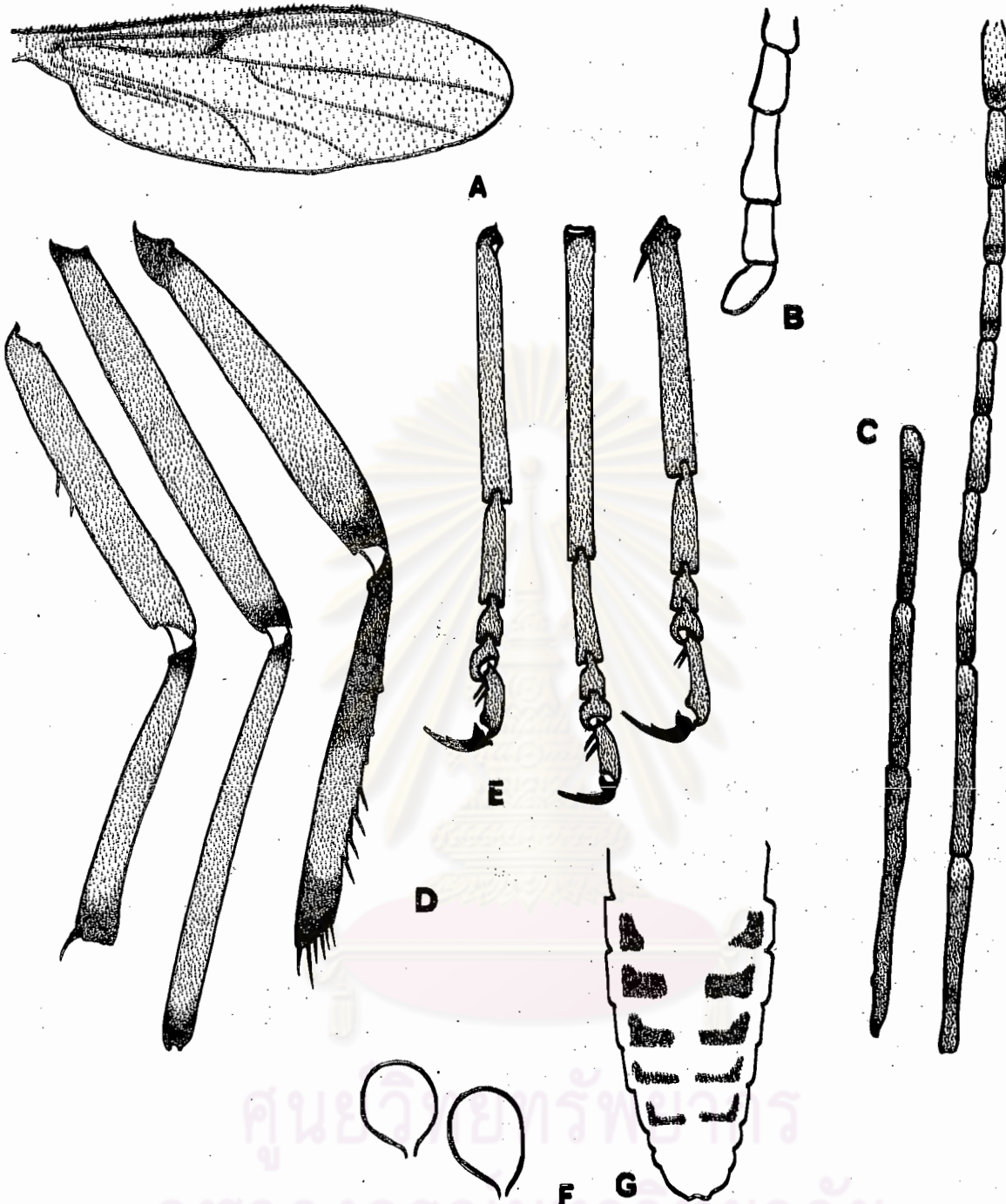
G,H,I. male genitalia

B. female palp

D. femur and tibia, female

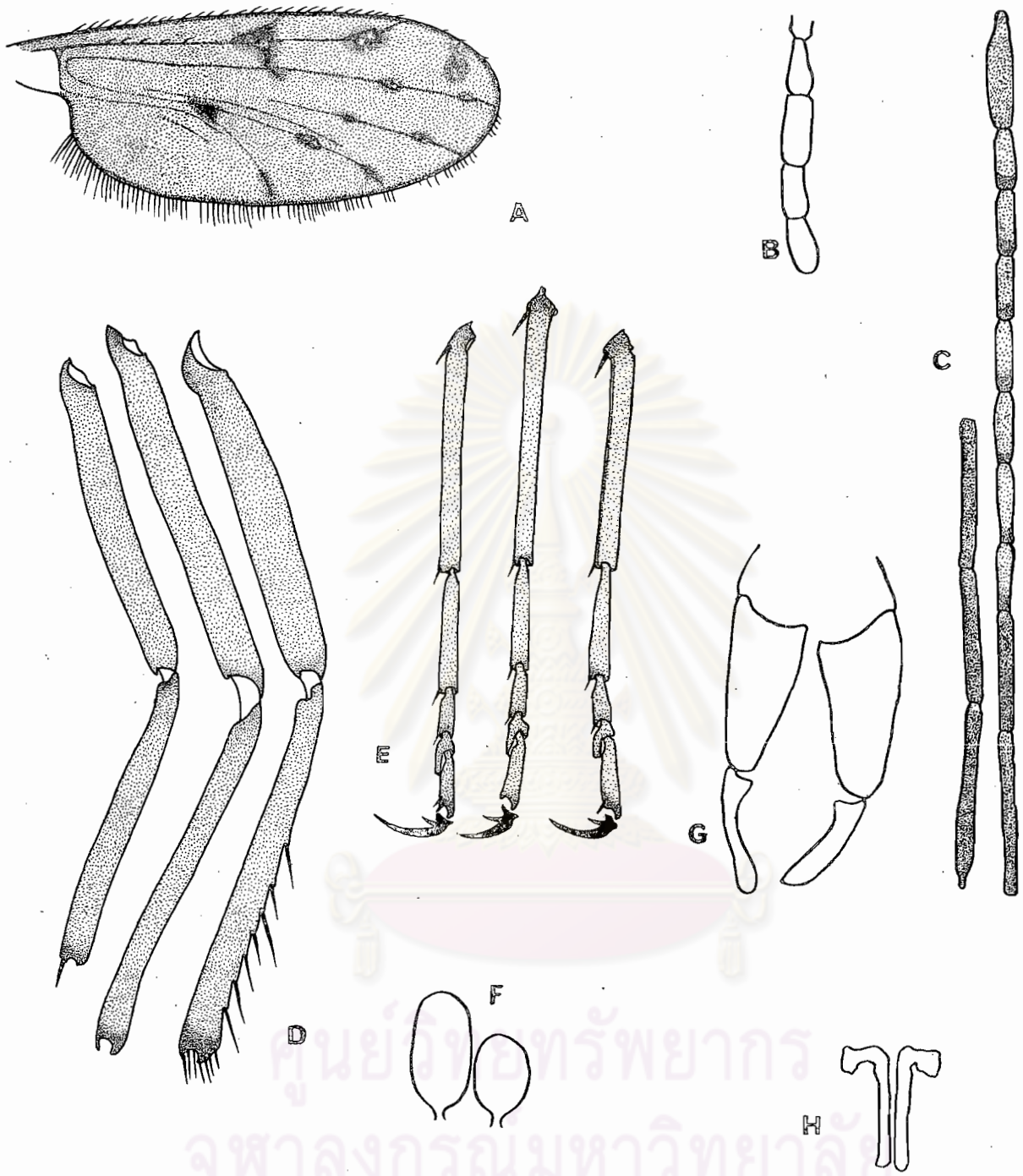
F. female spermathecae

J. female abdomen



*Stilobezzia punctifemorata* Das Gupta and Wirth

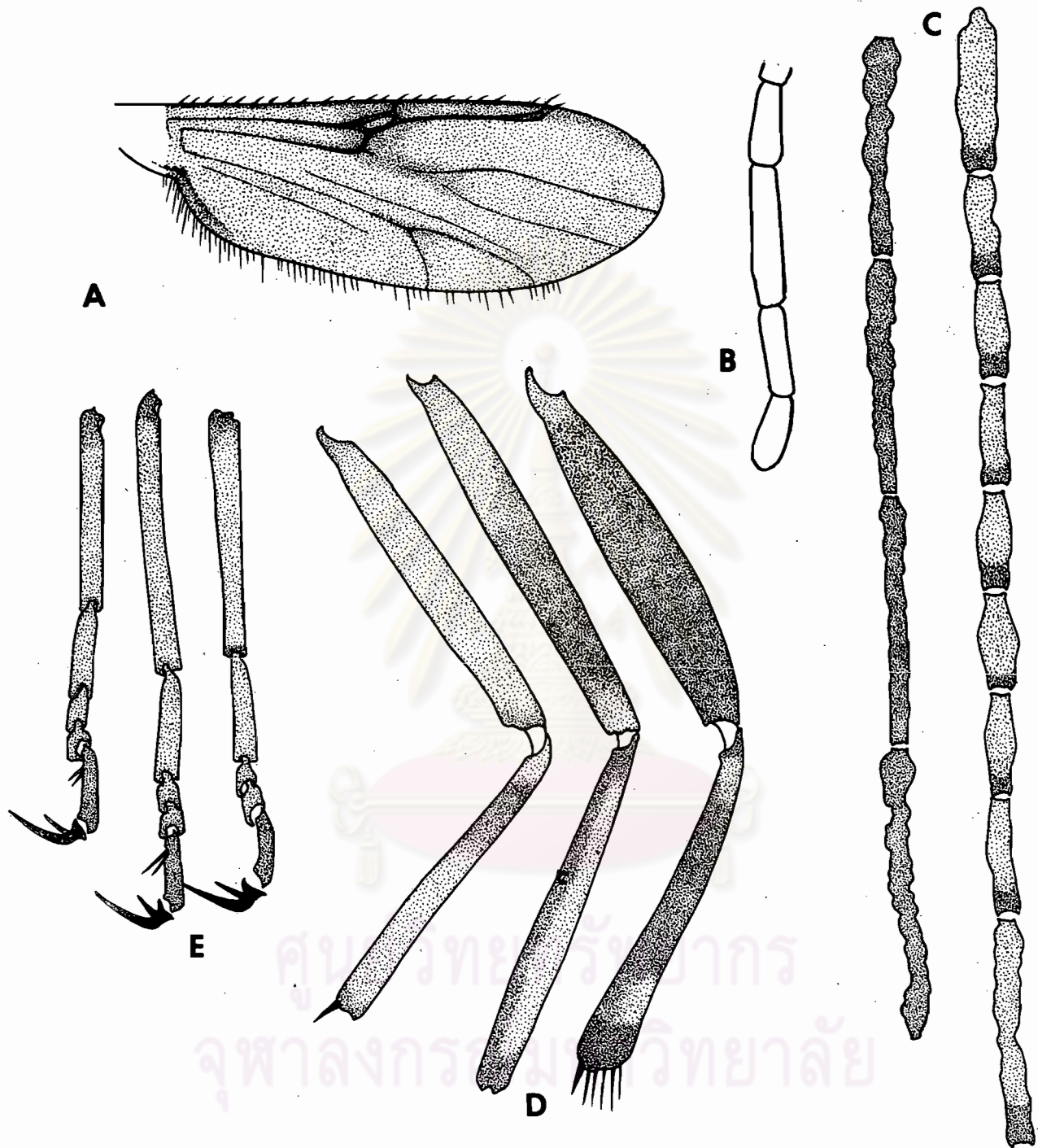
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. female abdomen |                            |



รูปที่ ๘๖ Stilobezzia punctivenosa ( Das Gupta and Wirth )

- |                     |                            |
|---------------------|----------------------------|
| A. female wing      | B. female palp             |
| C. female antenna   | D. femur and tibia, female |
| E. female tarsi     | F. female spermathecae     |
| G,H. male genitalia |                            |

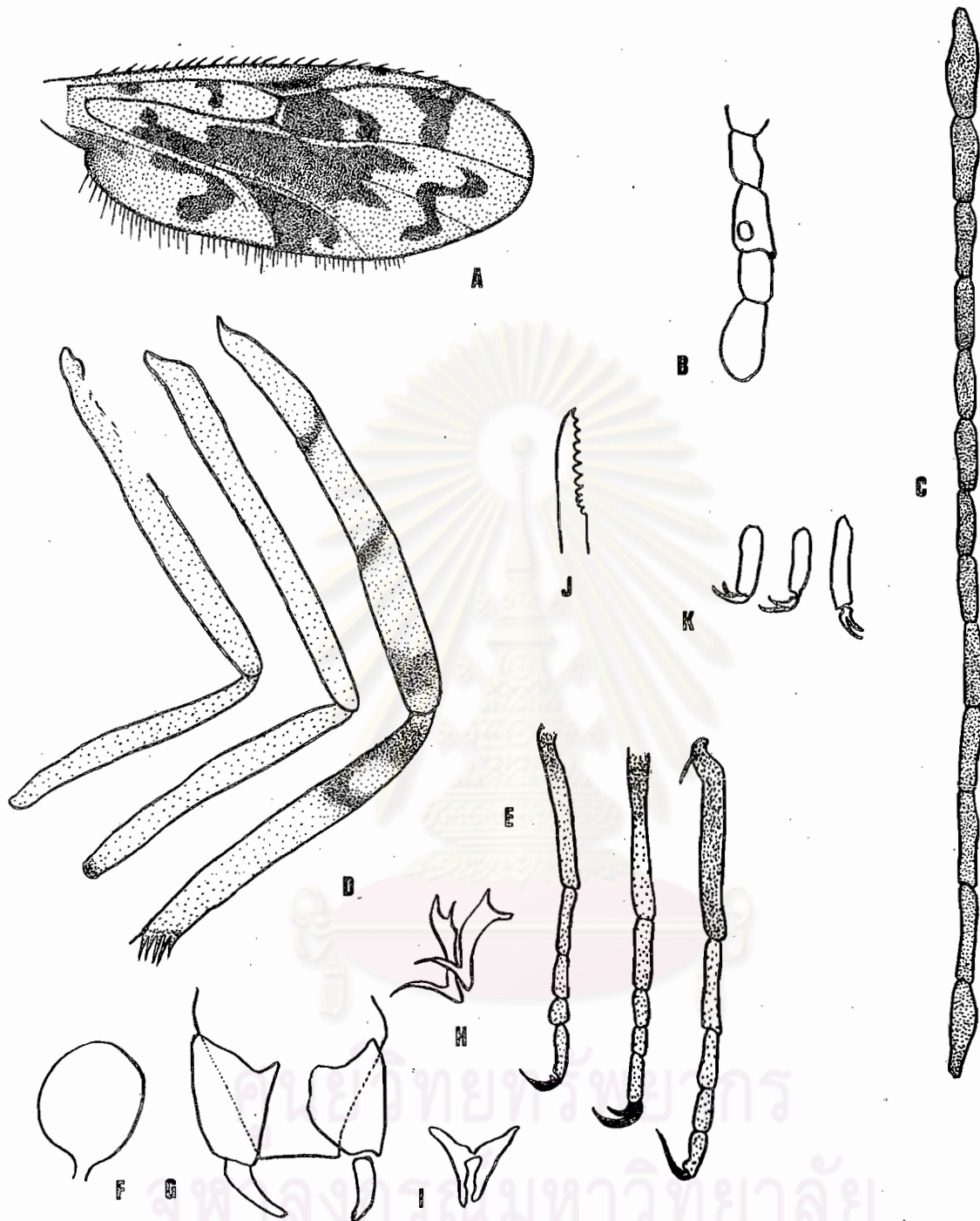




รูปที่ ๔. Stilobezzia subvirides Macfie

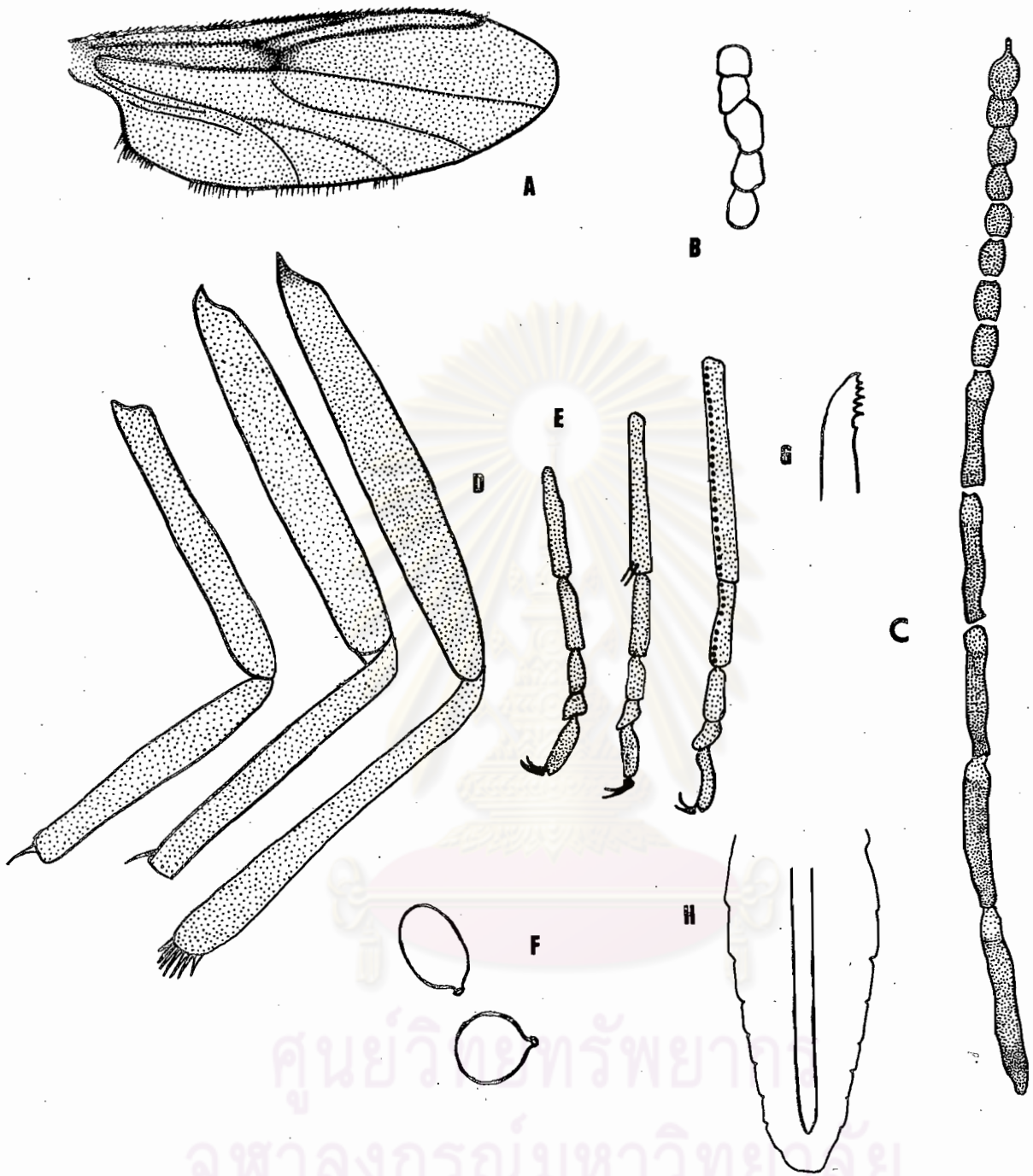
A. female wing  
C. female antenna  
E. female tarsi

B. female palp  
D. femur and tibia, female



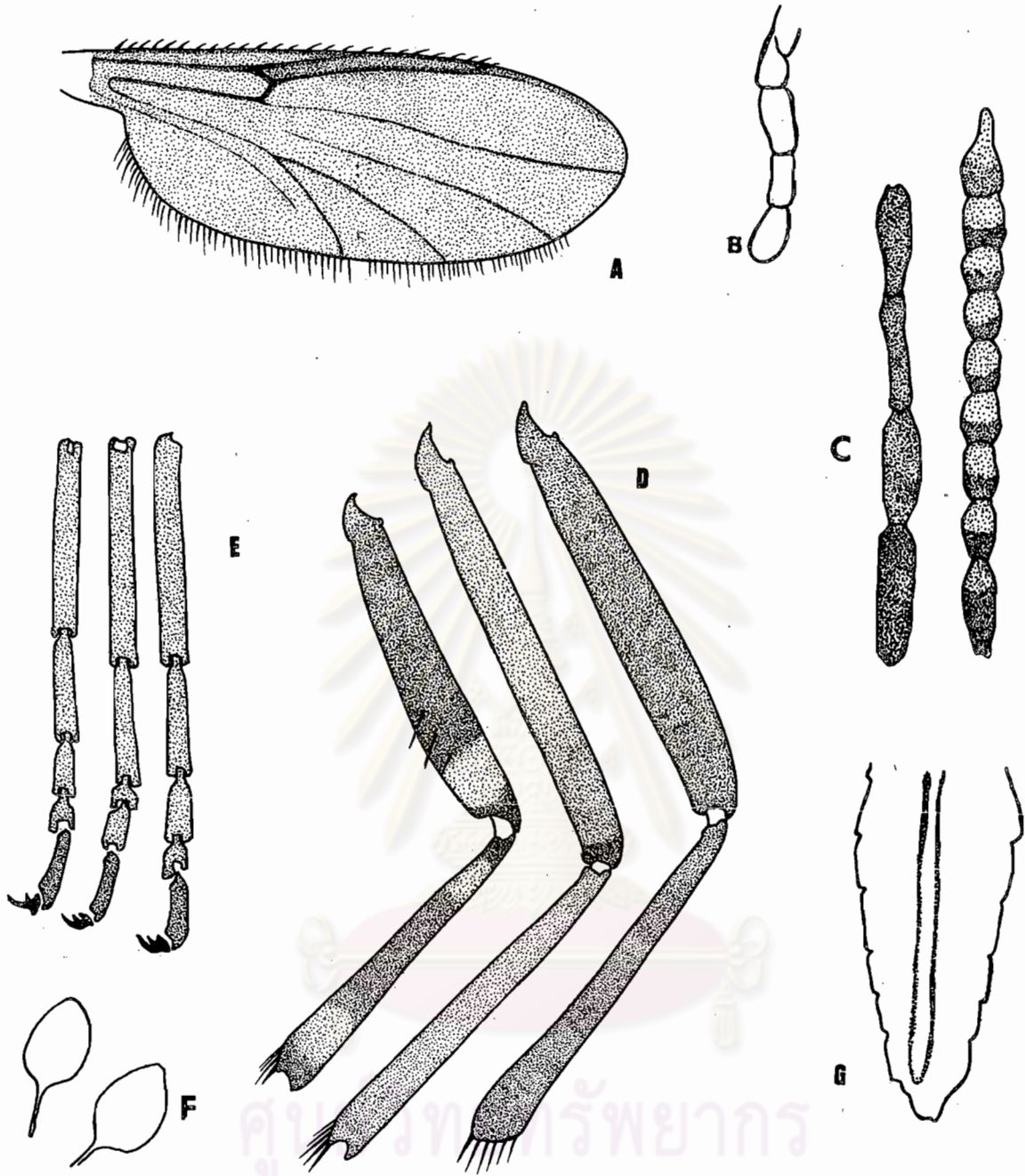
รูปที่ ๕๖ Monohelia orientalis Ratanaworabhan and Wirth

- |                           |                            |
|---------------------------|----------------------------|
| A. female wing            | B. female palp             |
| C. female antenna         | D. femur and tibia, female |
| E. female tarsi           | F. female spermatheca      |
| G,H,I. male genitalia     | J. mandible                |
| K. female fifth tarsomere |                            |



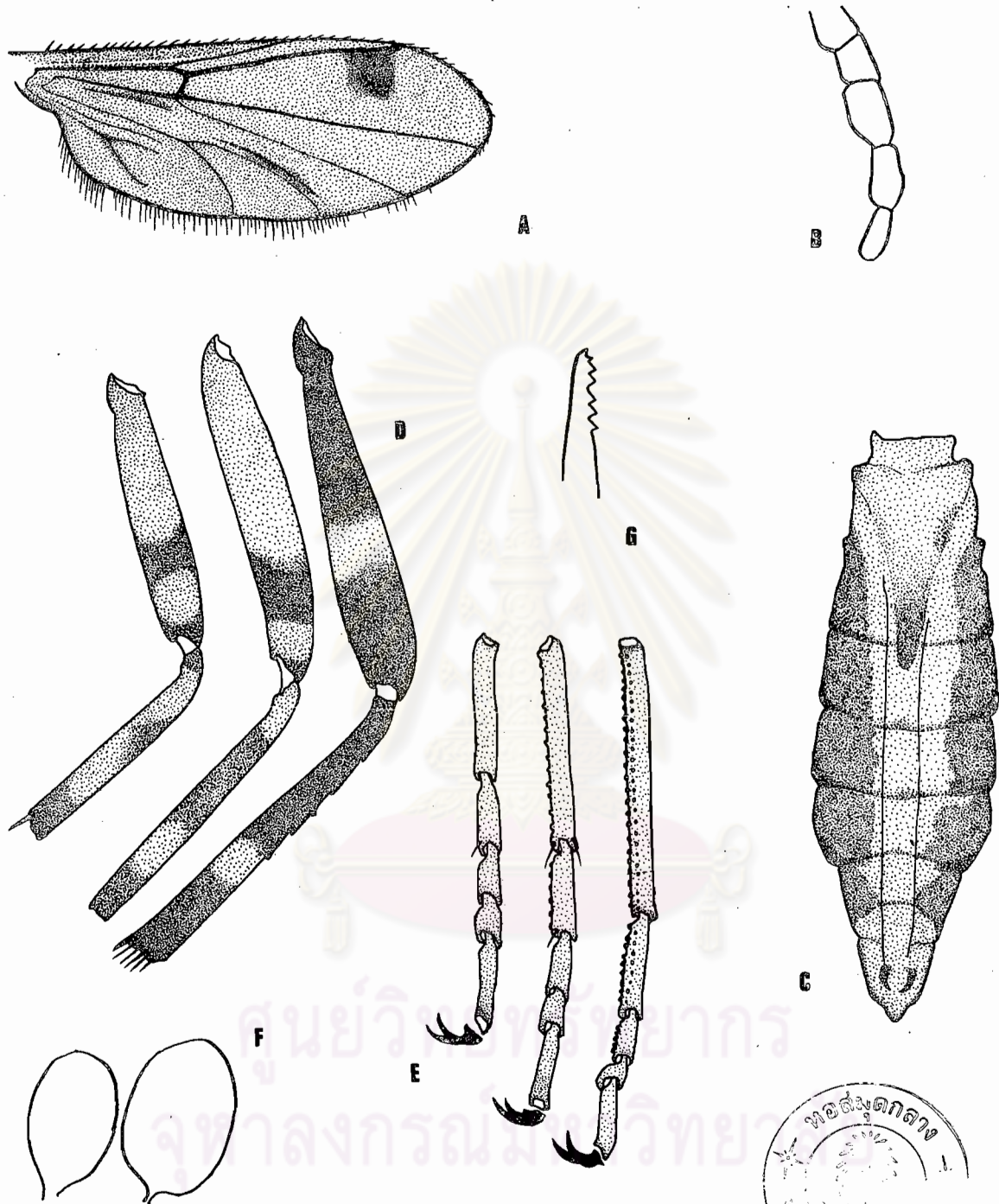
รูปที่ ๕๓ Bazzia sp.1

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       | H. female abdomen          |



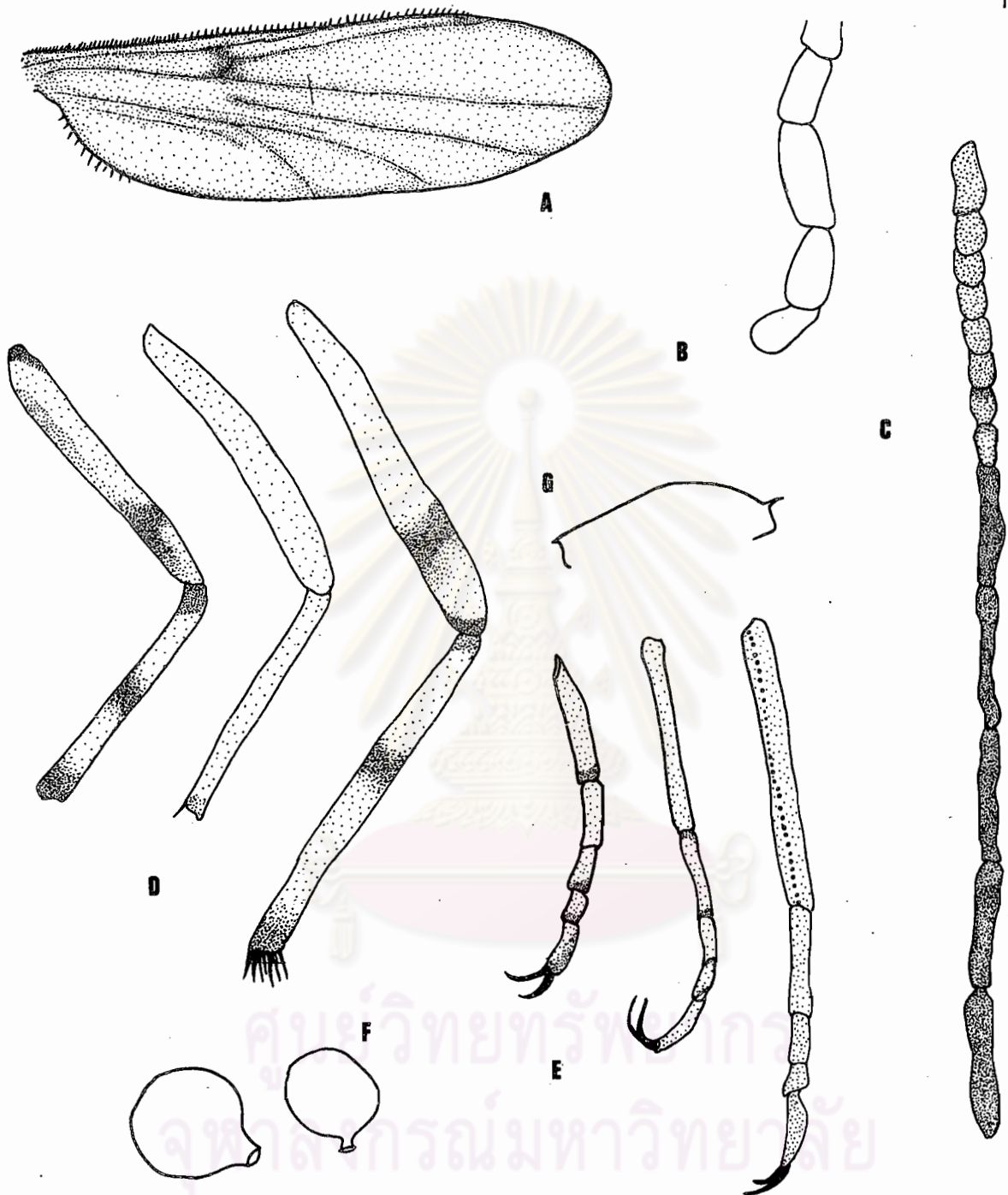
รูปที่ ๕๔ Bezzia sp.2

- A. female wing
- B. female palp
- C. female antenna
- D. female spermathecae
- E. female leg
- F. female mandible
- G. female abdomen



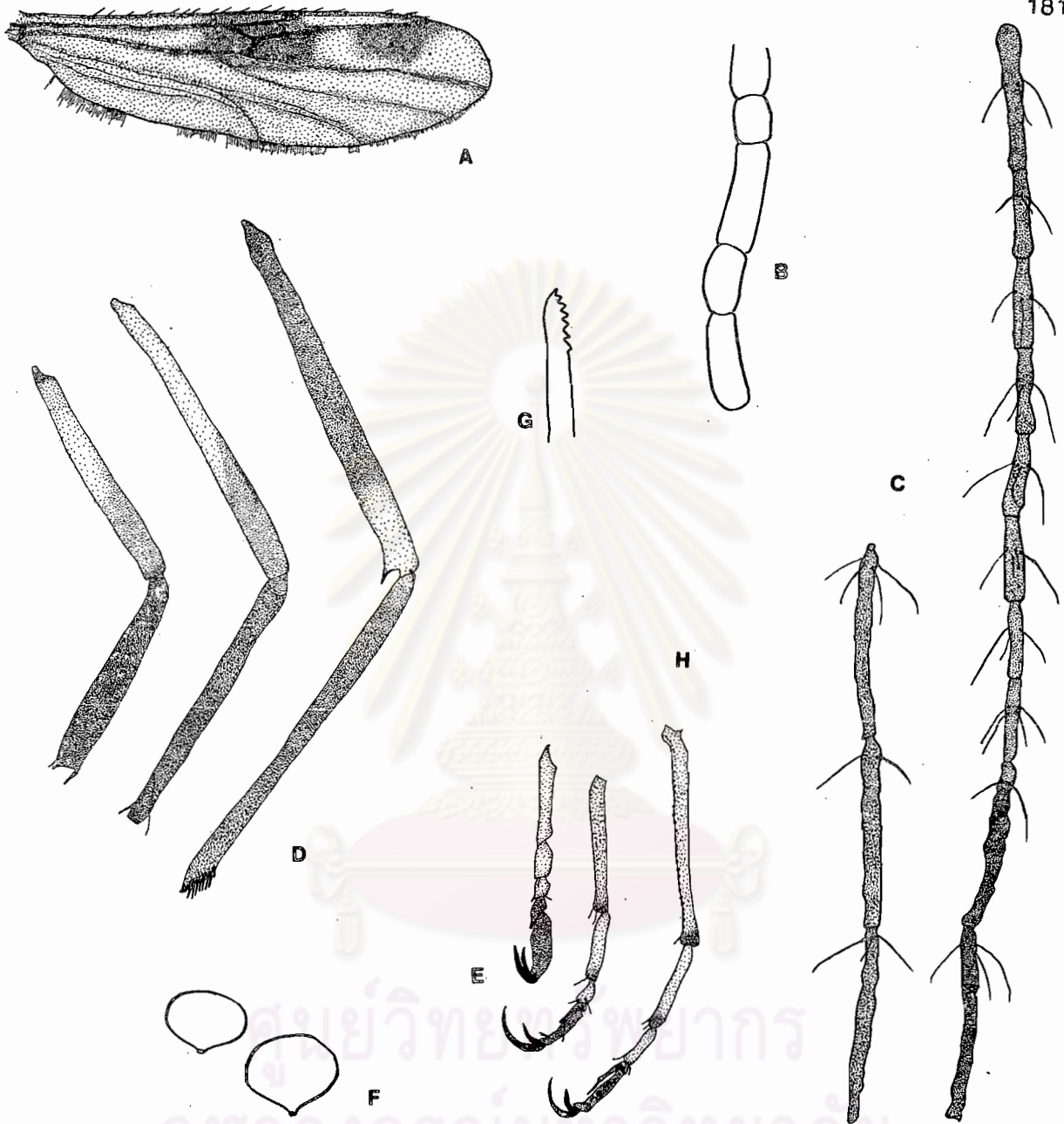
~~Juncea~~ Bezzia sp.3

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female abdomen | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |



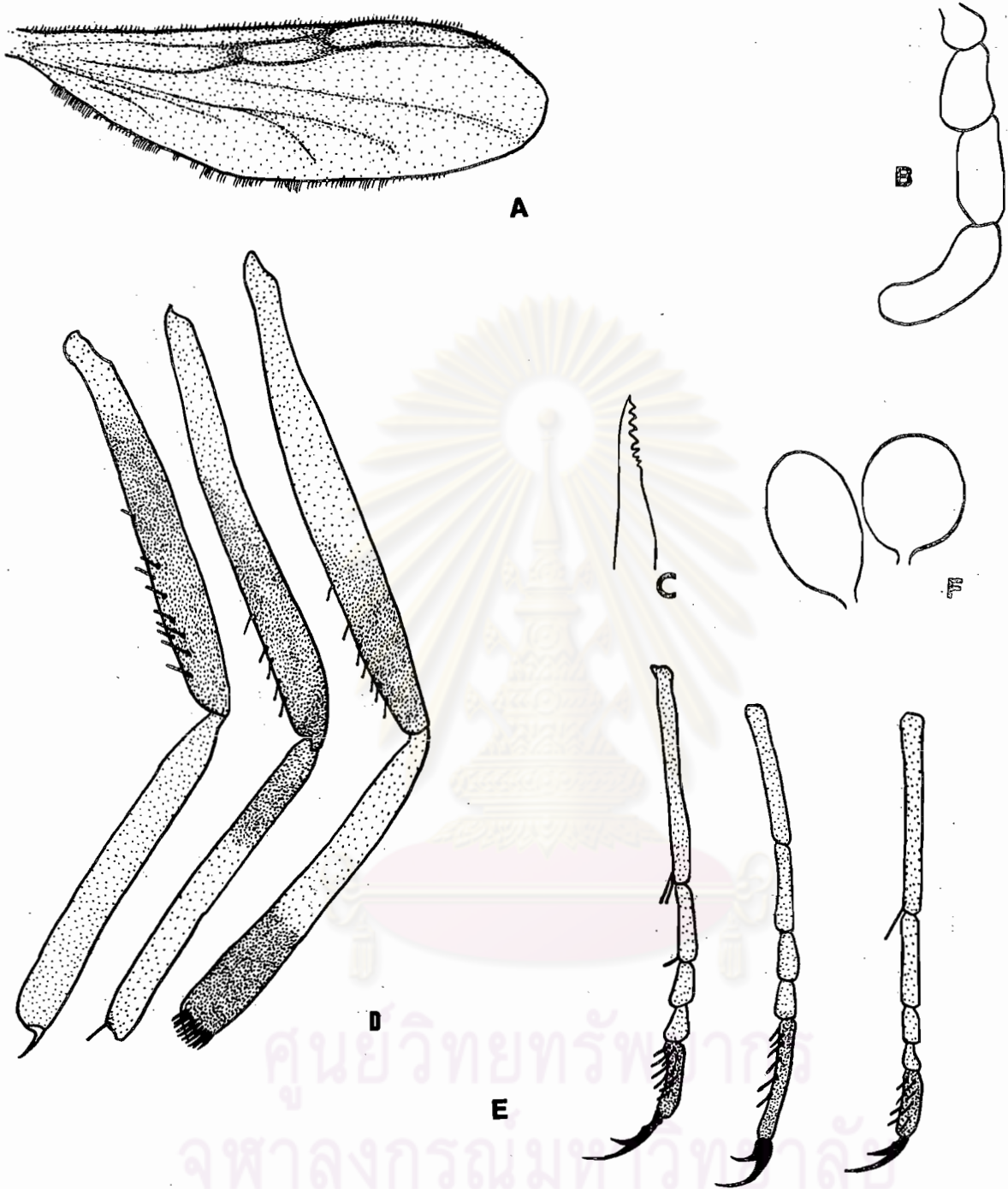
รูปที่ ๔๖ Bezzia sp.4

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. scutum         |                            |



รูปที่ ๕๓ Chinohelia sp.1

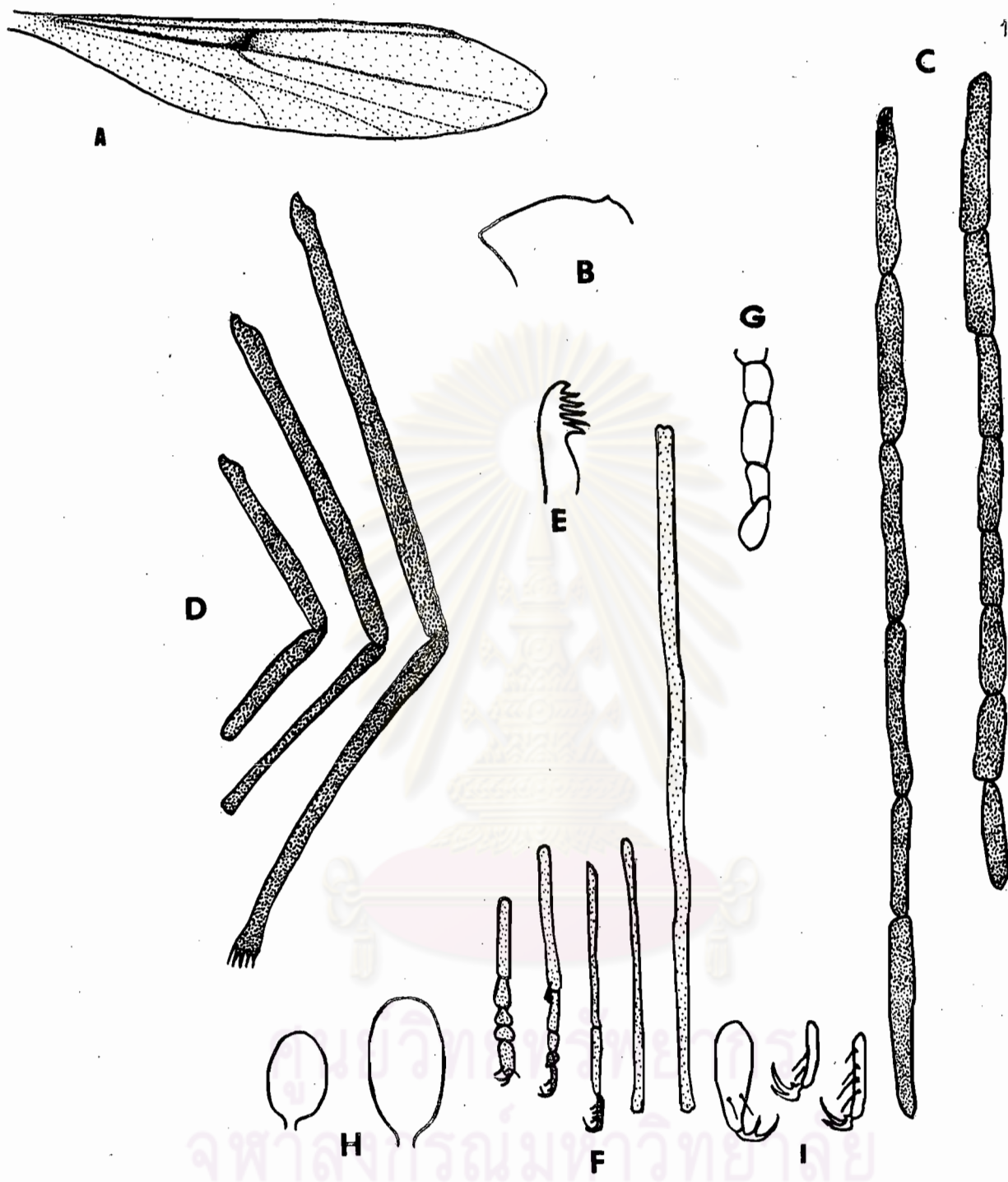
- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       | H. scutum                  |



รูปที่ ๕๔ Xenohelena sp.1

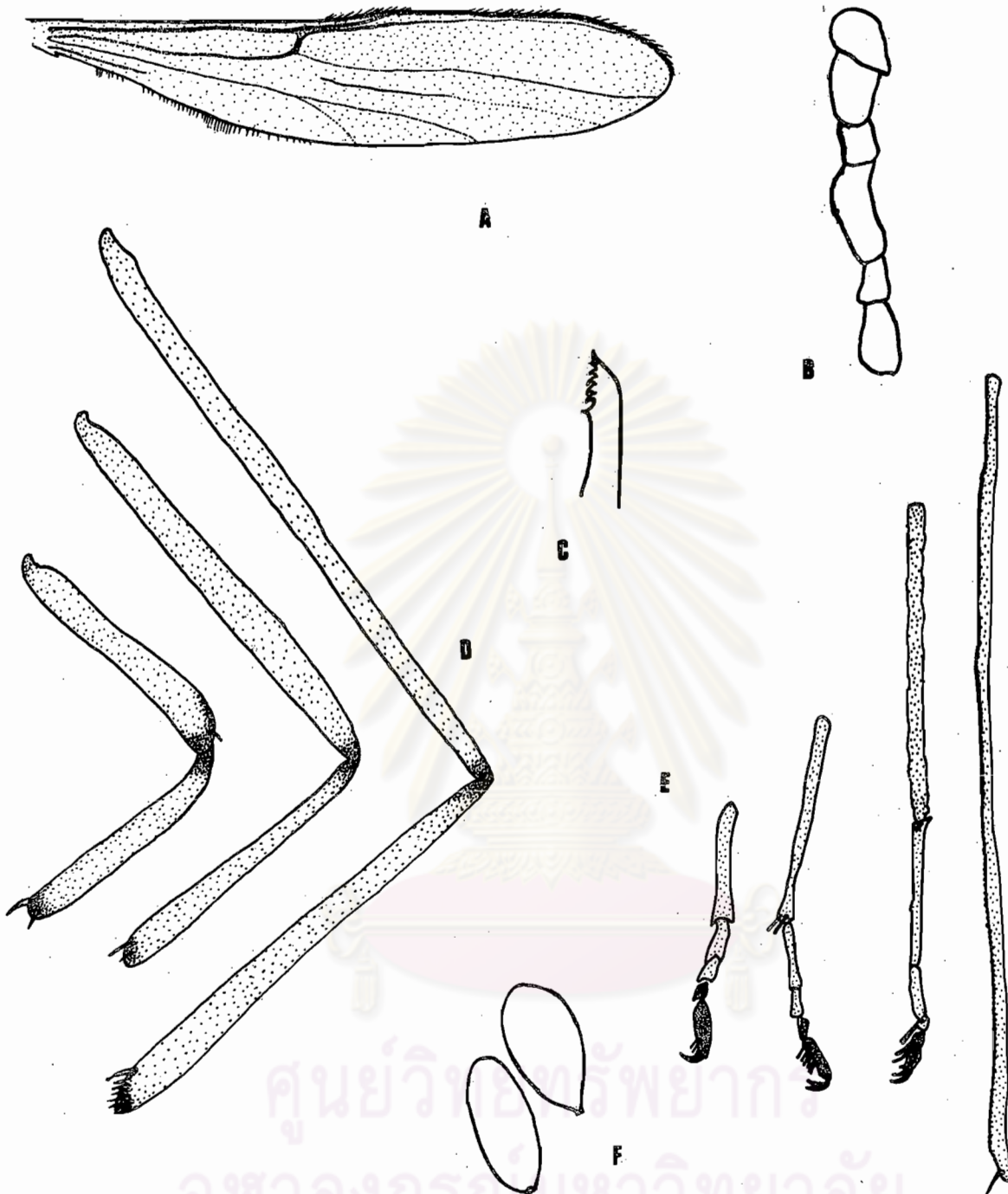
- |                 |                            |
|-----------------|----------------------------|
| A. female wing  | B. female palp             |
| C. mandible     | D. femur and tibia, female |
| E. female tarsi | F. female spermathecae     |





รูปที่ ๕๕ Calyptopogon sp.1

- |                           |                            |
|---------------------------|----------------------------|
| A. female wing            | B. scutum                  |
| C. female antenna         | D. femur and tibia, female |
| E. mandible               | F. female tarsi            |
| G. female palp            | H. female spermathecae     |
| I. female fifth tarsomere |                            |



รูปที่ ๒๐ Calyptopogon sp. 2

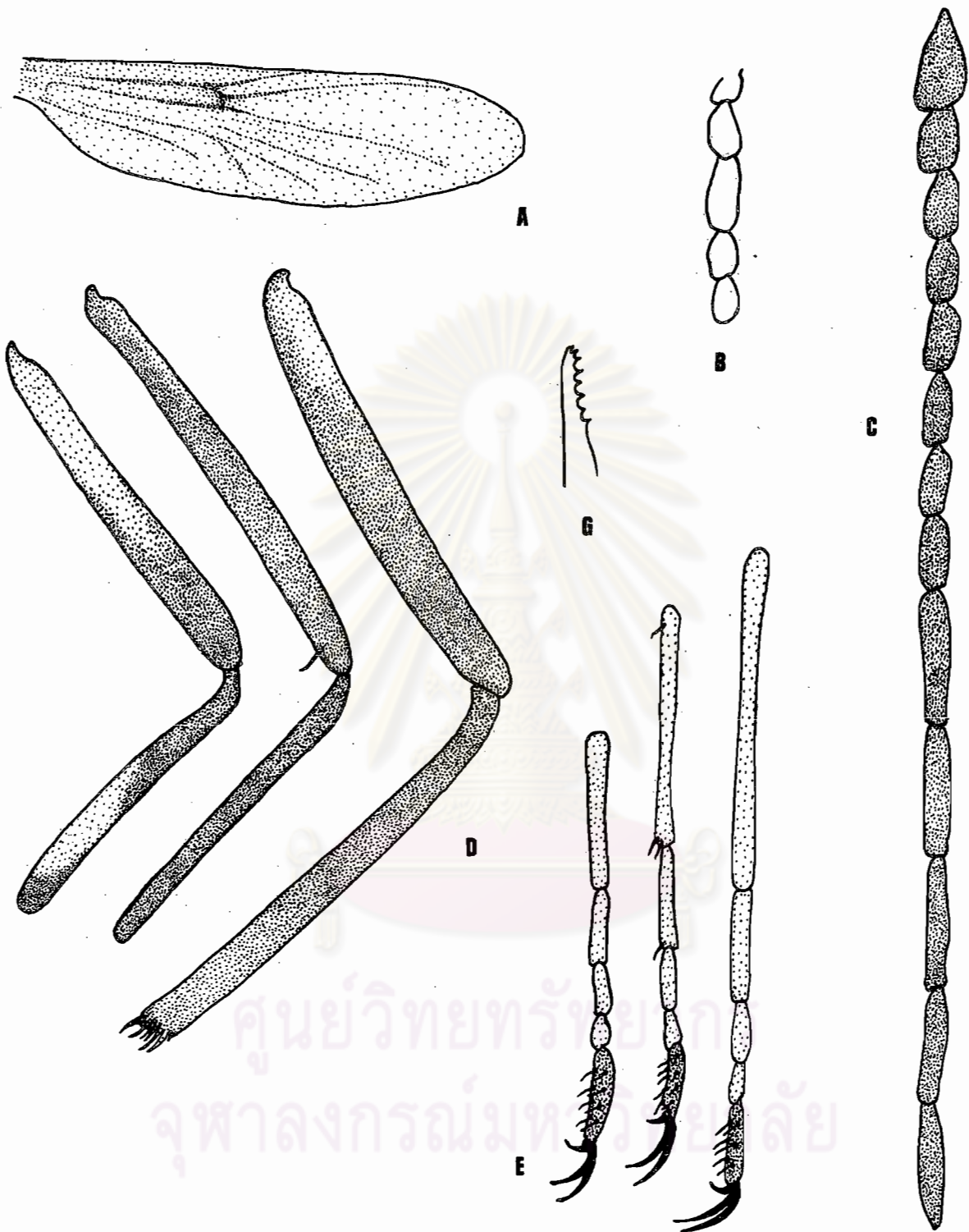
- |                 |                            |
|-----------------|----------------------------|
| A. female wing  | B. female palp             |
| C. mandible     | D. femur and tibia, female |
| E. female tarsi | F. female spermathecae     |



รูปที่ ๖ Calyptopogon sp. 3

A. female wing  
 C. mandible  
 E. female tarsi

B. female palp  
 D. femur and tibia, female  
 F. female spermathecae



รูปที่ ๖๓ Probezzia sp.1

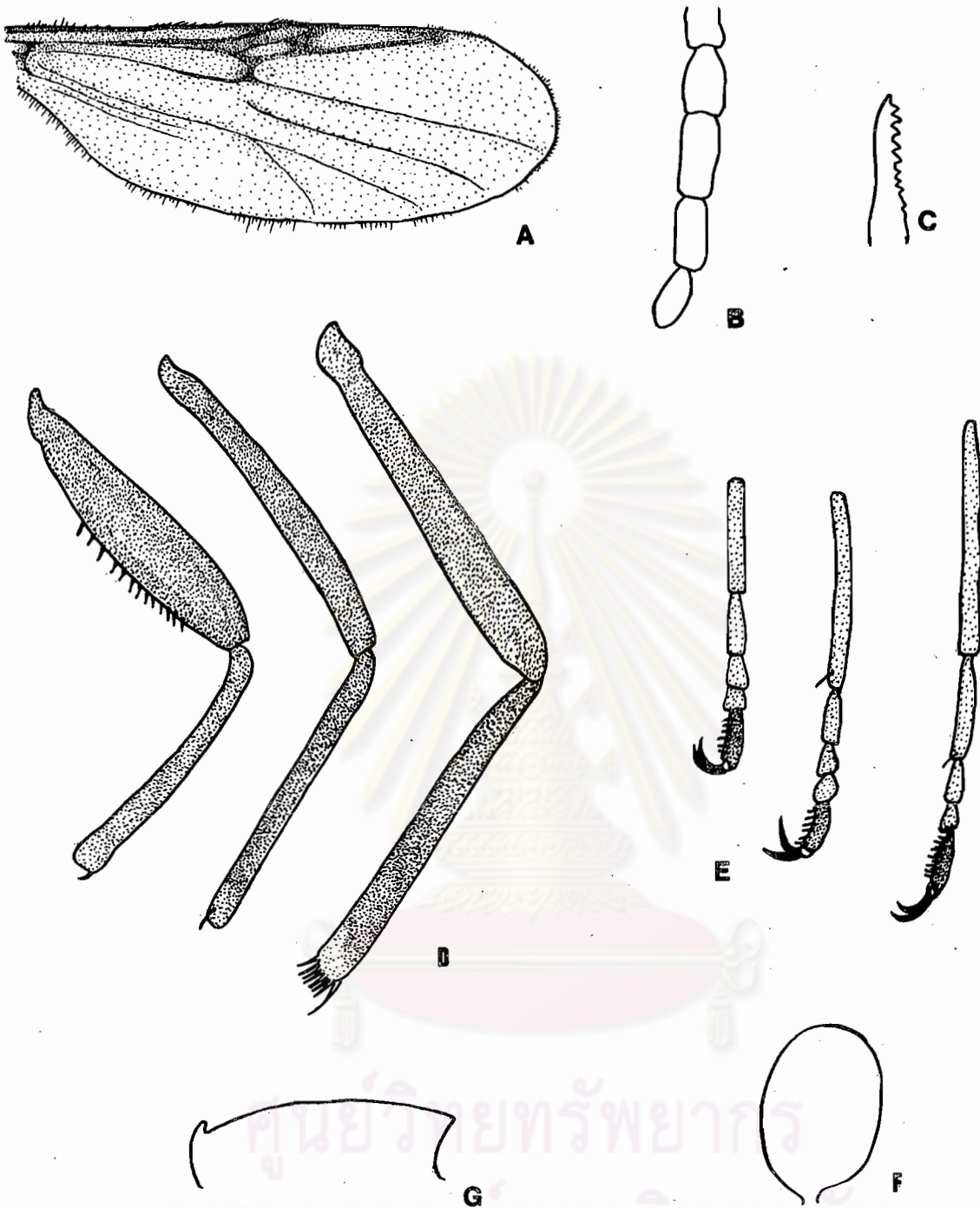
A. female wing

C. female antenna

E. female tarsi

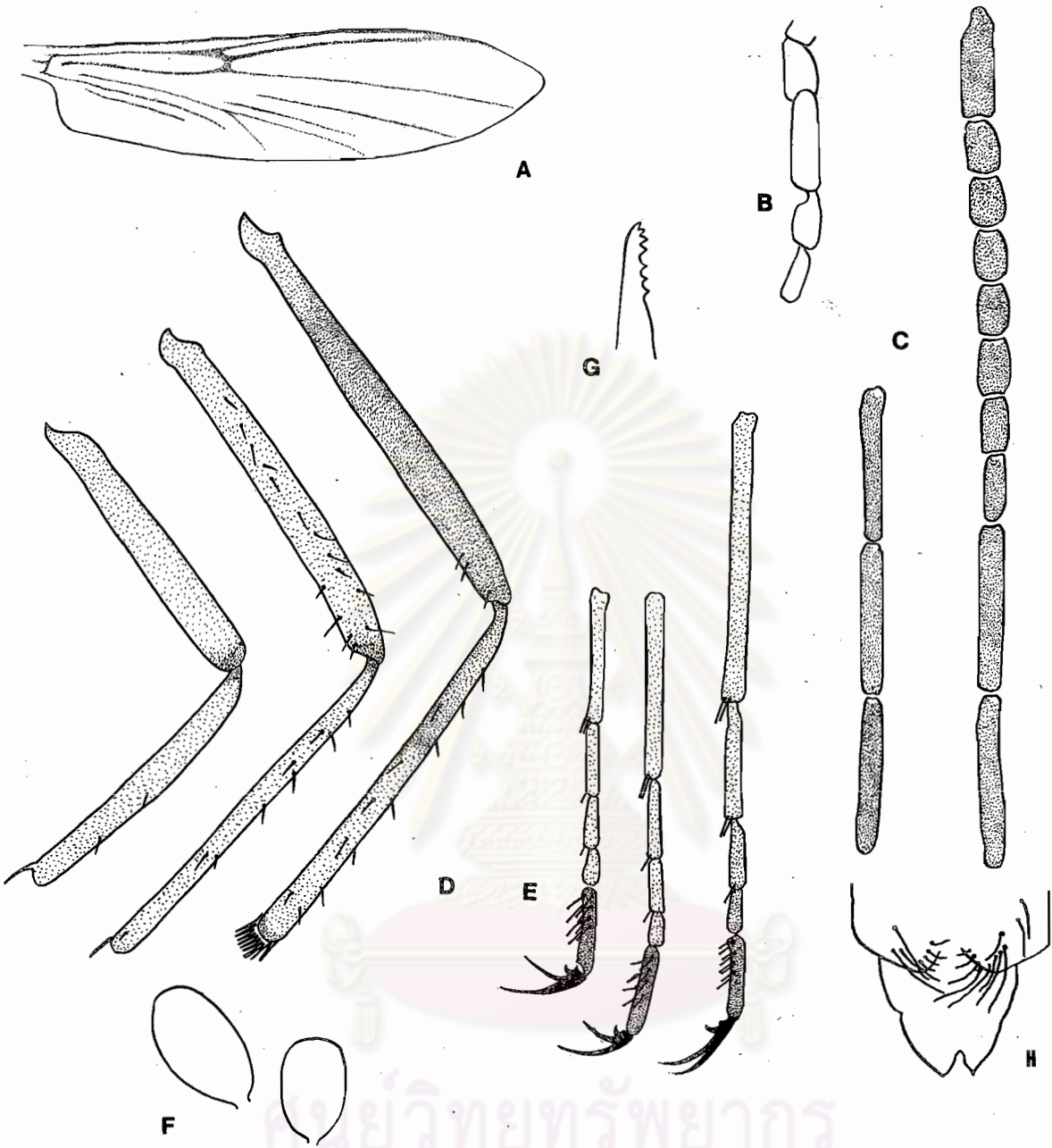
B. female palp

D. femur and tibia, female



รูปที่ ๒๓ Neospharomias sp.1

- |                 |                            |
|-----------------|----------------------------|
| A. female wing  | B. female antenna          |
| C. mandible     | D. femur and tibia, female |
| E. female tarsi | F. female spermatheca      |
| G. scutum       |                            |



รูปที่ ๒๔

Nilobezzia sp.1

A. female wing

B. female palp

C. female antenna

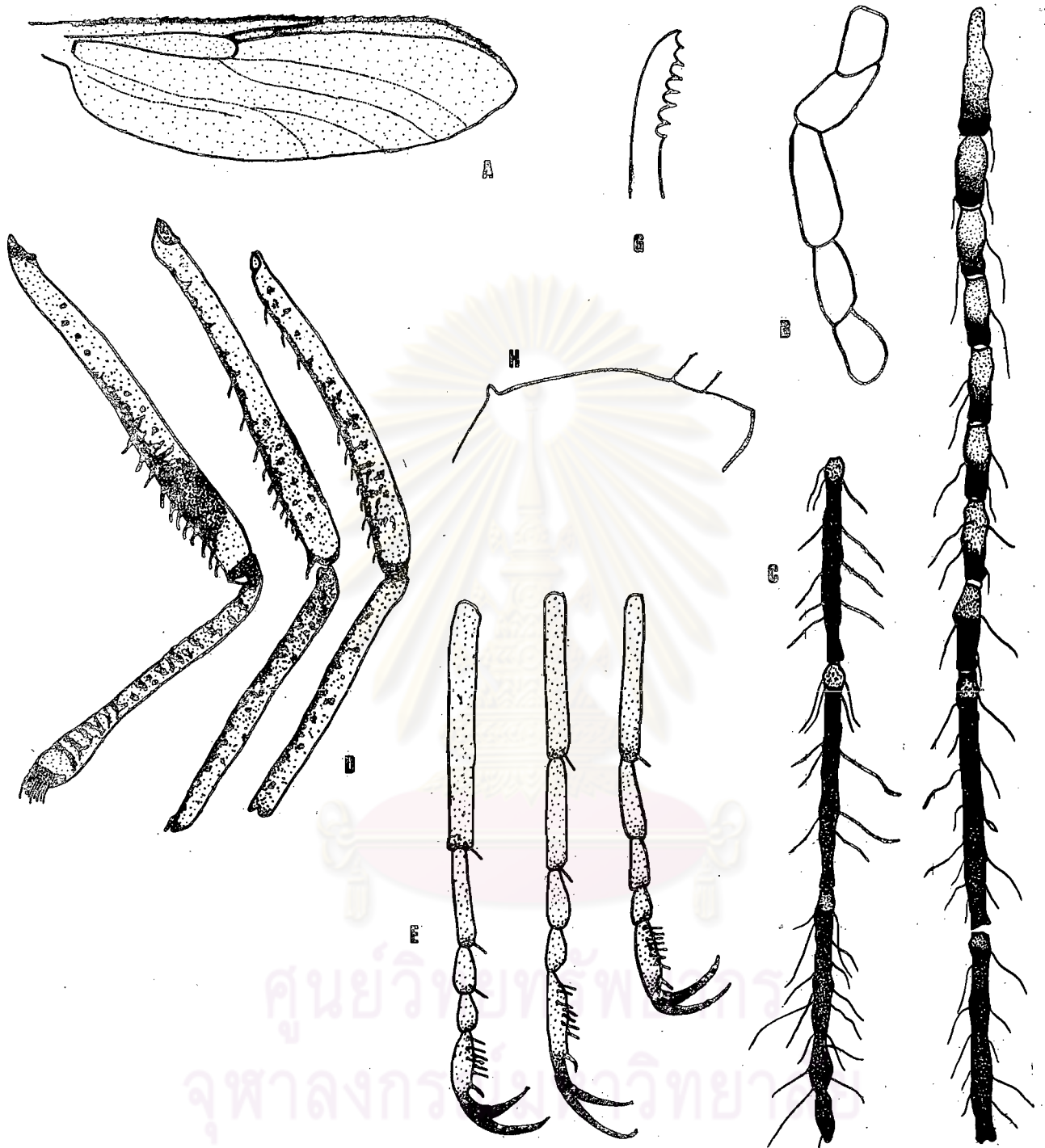
D. femur and tibia, female

E. female tarsi

F. female spermatheca

G. female mandible

H. ventral view of female abdomen



รูปที่ ๒๕ Sphaeromias sp.1

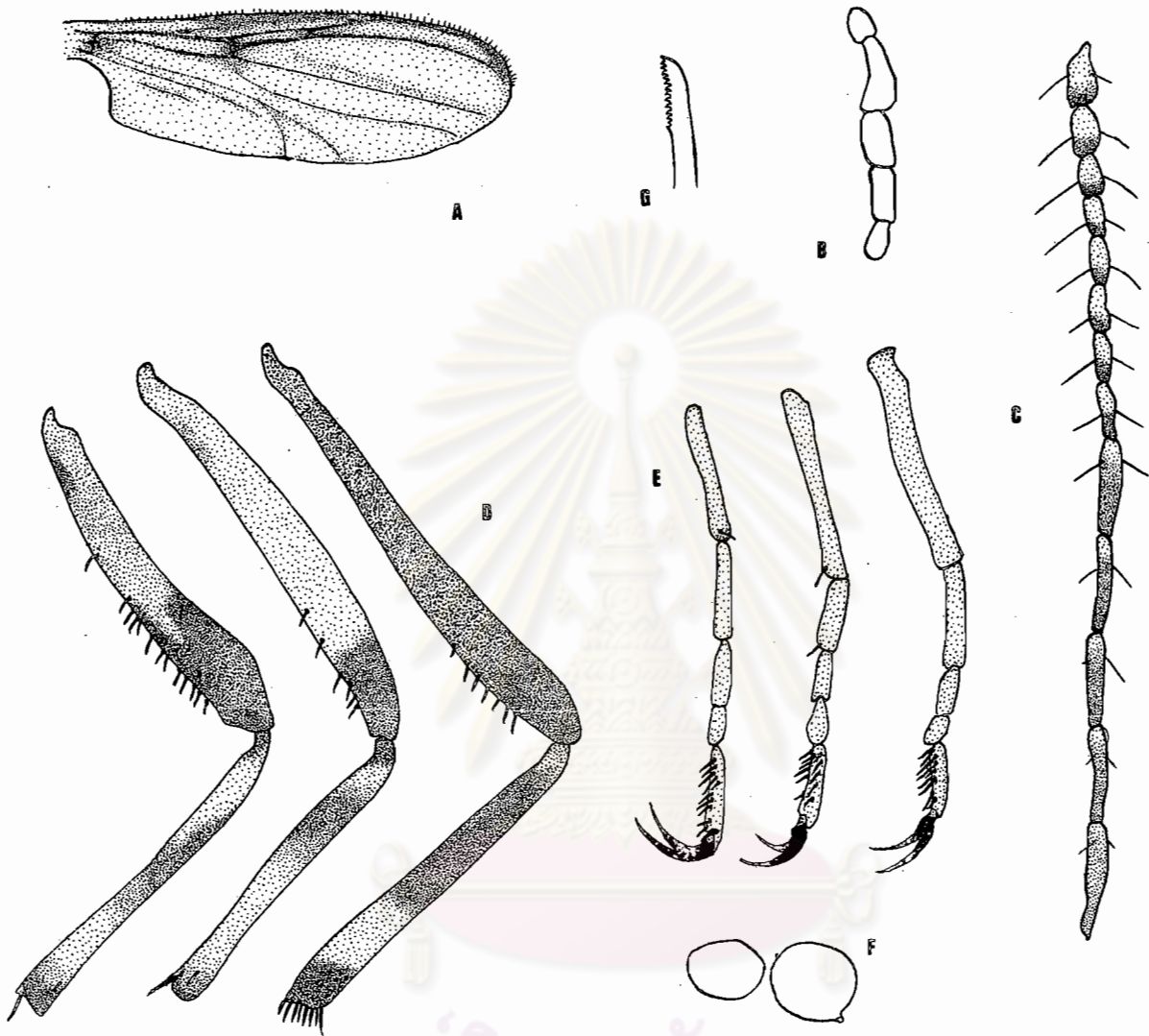
A. female wing

C. female antenna

E. female tarsi

B. female palp

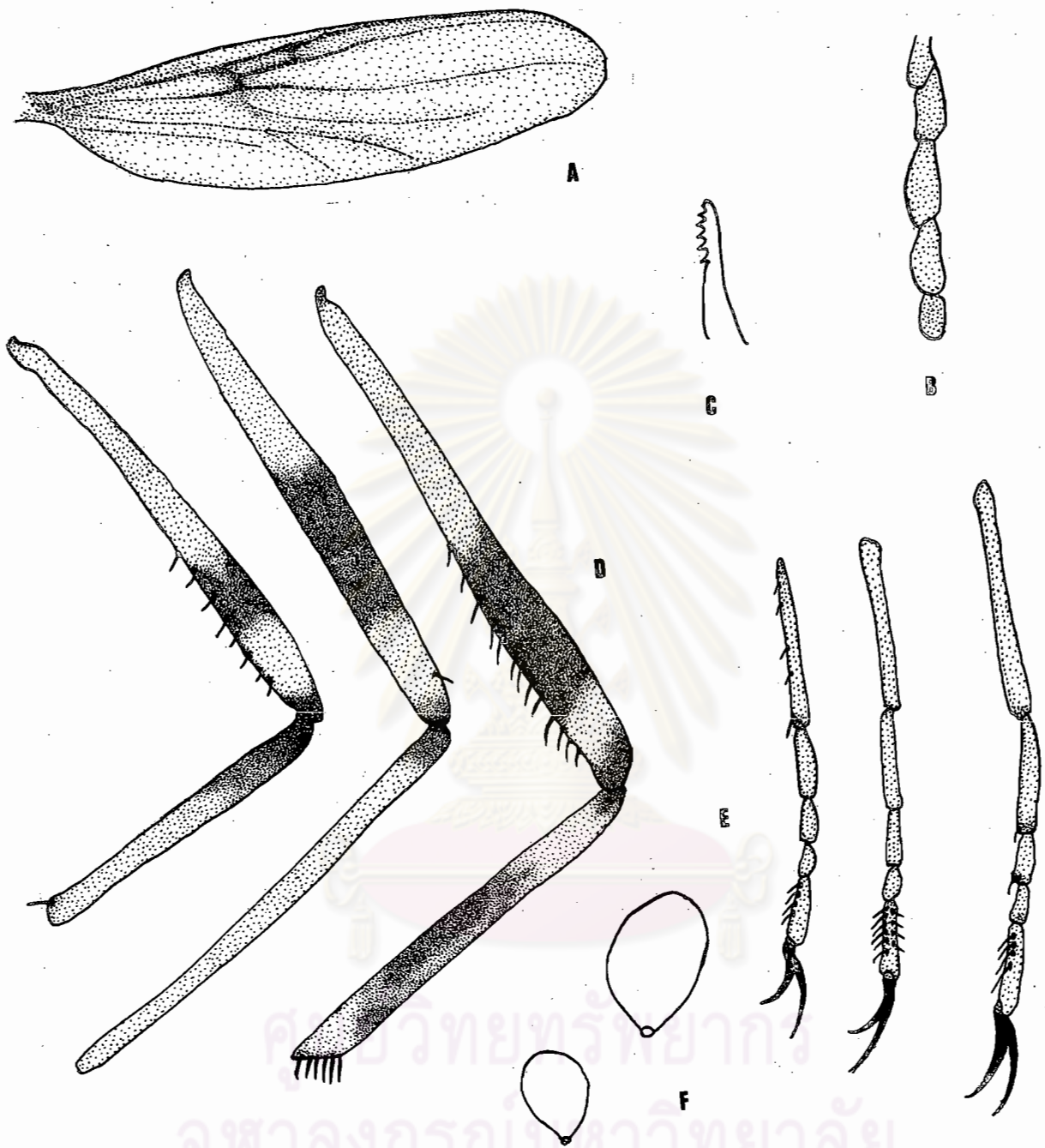
D. femur and tibia, female



รูปที่ ๒๒ Sphaeromias sp. 2

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |
| G. mandible       |                            |

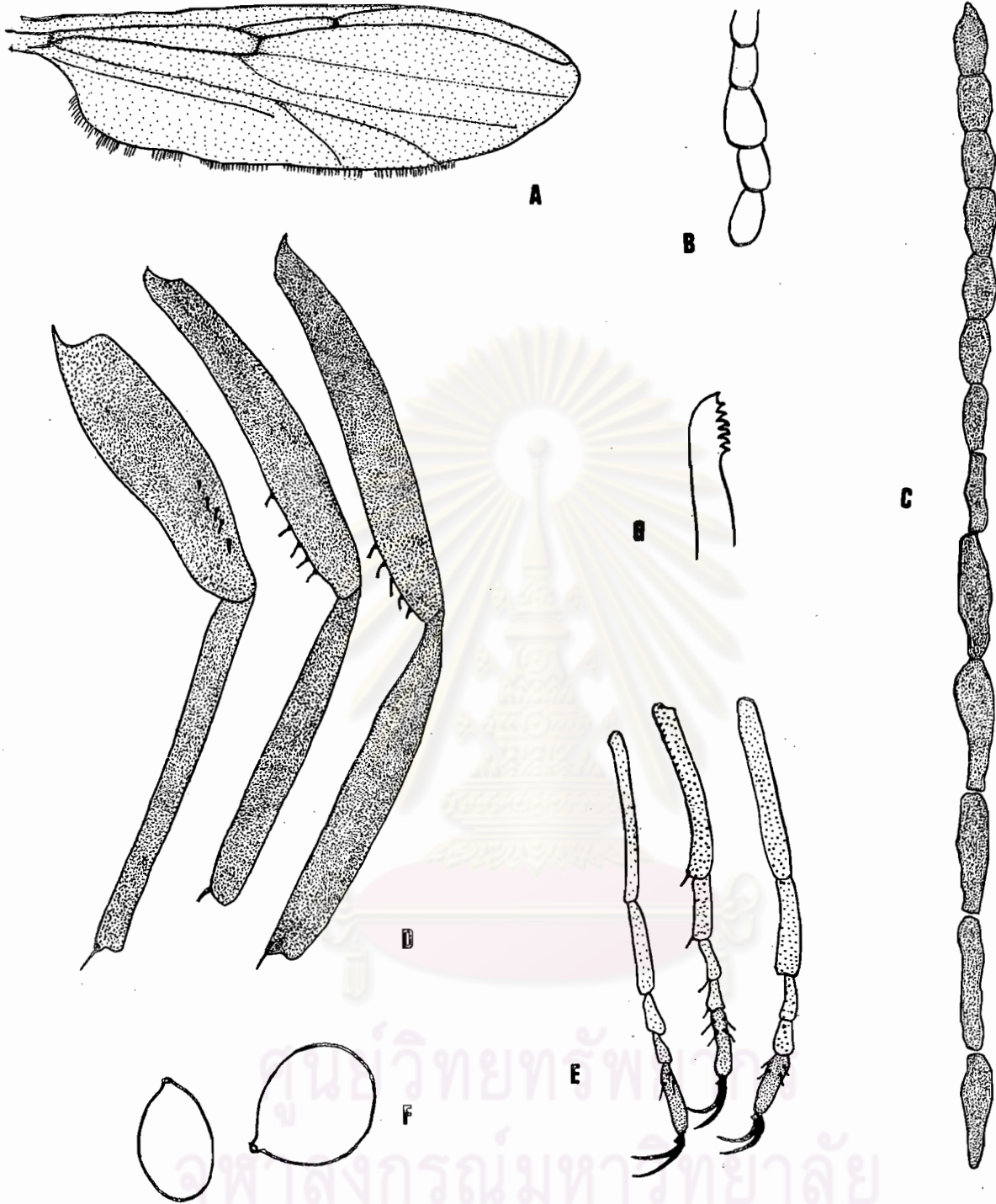




รูปที่ ๒๗ Sphaeromias sp. 3

A. female wing  
C. mandible  
E. female tarsi

B. female palp  
D. femur and tibia, female  
F. female spermathecae



รูปที่ ๒๔ Sphaeromias sp. 4

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermathecae     |



**รูปที่ ๔ Genus A**

- |                   |                            |
|-------------------|----------------------------|
| A. female wing    | B. female palp             |
| C. female antenna | D. femur and tibia, female |
| E. female tarsi   | F. female spermatheca      |
| G. mandible       |                            |

## ประวัติการศึกษา

นางสาว มนธิดา พรหมสาขา ณ.สกลนคร วิทยาศาสตร์บัณฑิต จุฬาลงกรณ์  
มหาวิทยาลัย ปีการศึกษา ๒๕๑๑ เข้าศึกษาต่อ บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิท-  
ยาลัย ในแผนกชีววิทยา คณะวิทยาศาสตร์ เมื่อปี พ.ศ. ๒๕๑๓



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย