

uniSZA



***ATLAS OF
PARASITOLOGY
(Part I)***

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Kandungan...

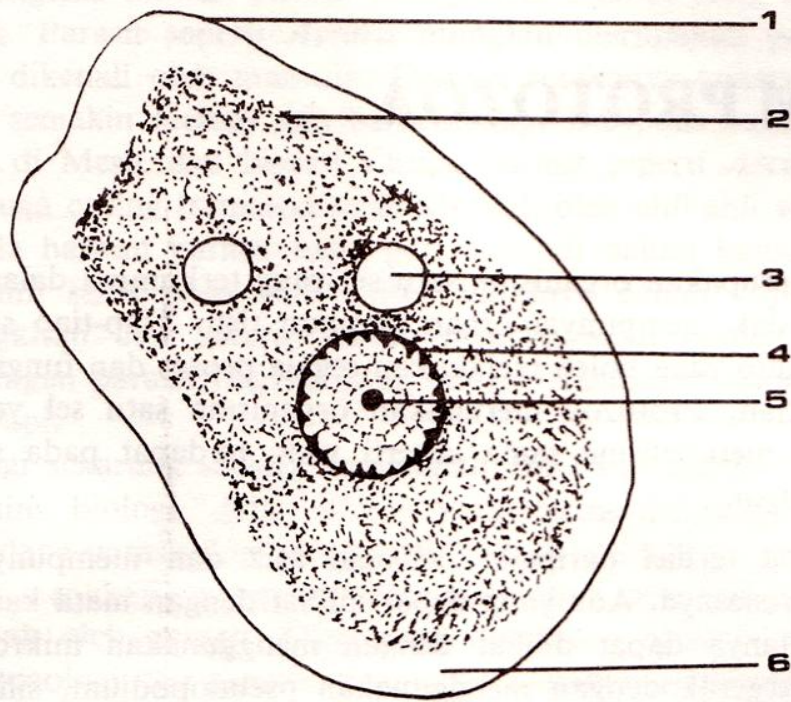
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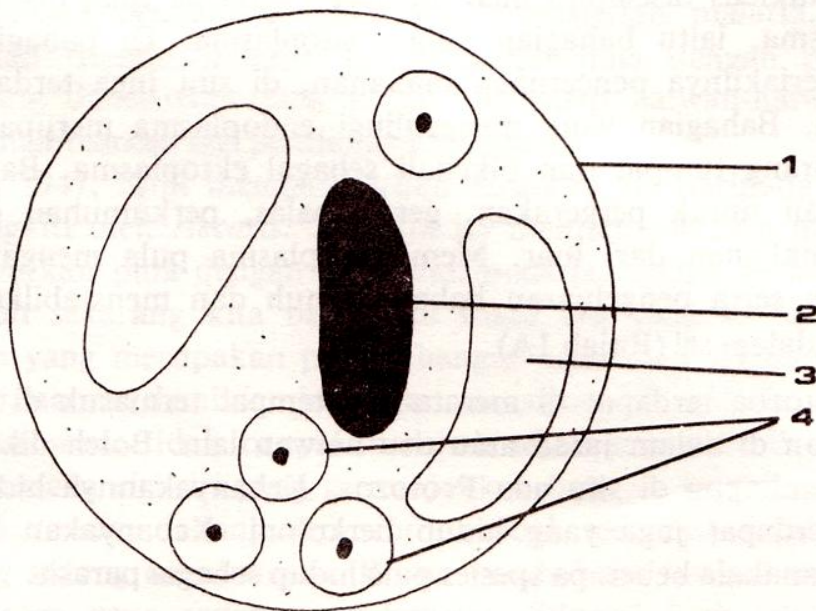
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A

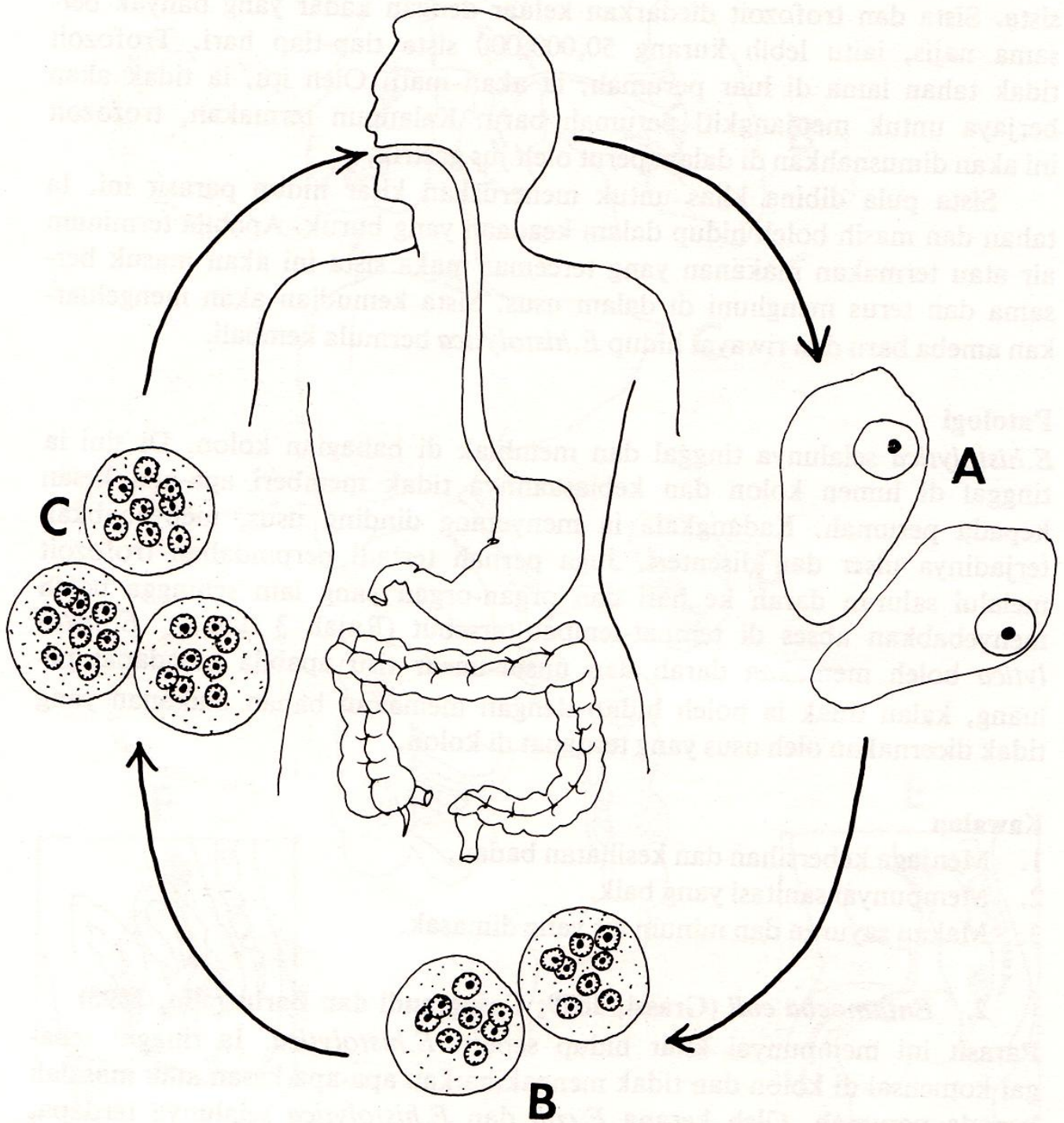


B

Rajah 1

A. *Entamoeba histolytica* – Trofozoit. 1. Pseudopodium. 2. Endoplasma. 3. Sel darah merah. 4. Membran nukleus. 5. Kariosom. 6. Ektoplasma.

B. *Entamoeba histolytica* – Sista. 1. Dinding sista. 2. Kromatin. 3. Lompang glikogen. 4. Nukleus.



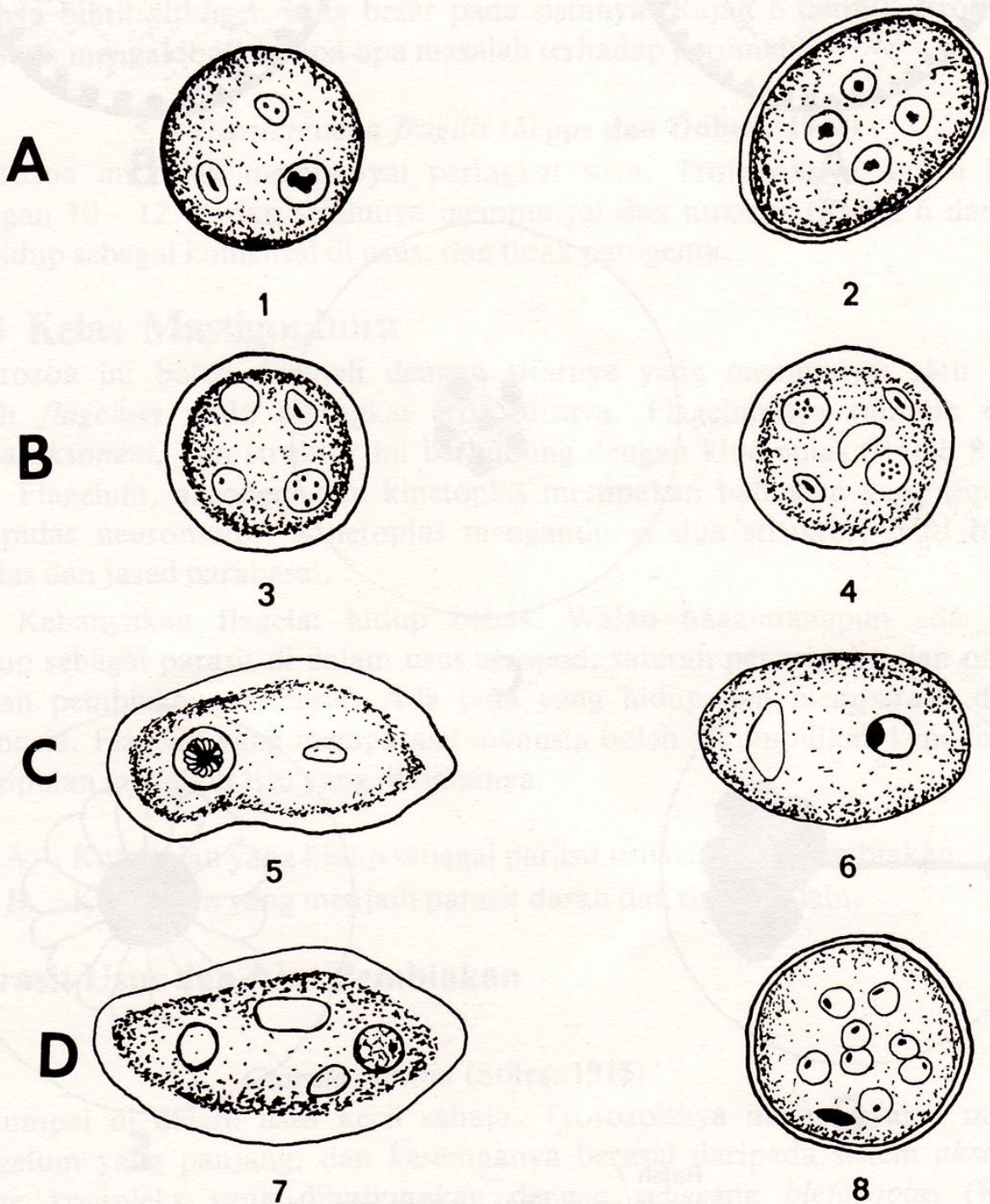
Rajah 5

Kita hidup *Entamoeba coli*.

A. Trofozoit di usus besar.

B. Sista keluar bersama najis.

C. Sista termasuk ke dalam badan manusia melalui air yang diminum atau makanan yang dimakan.



Rajah 6

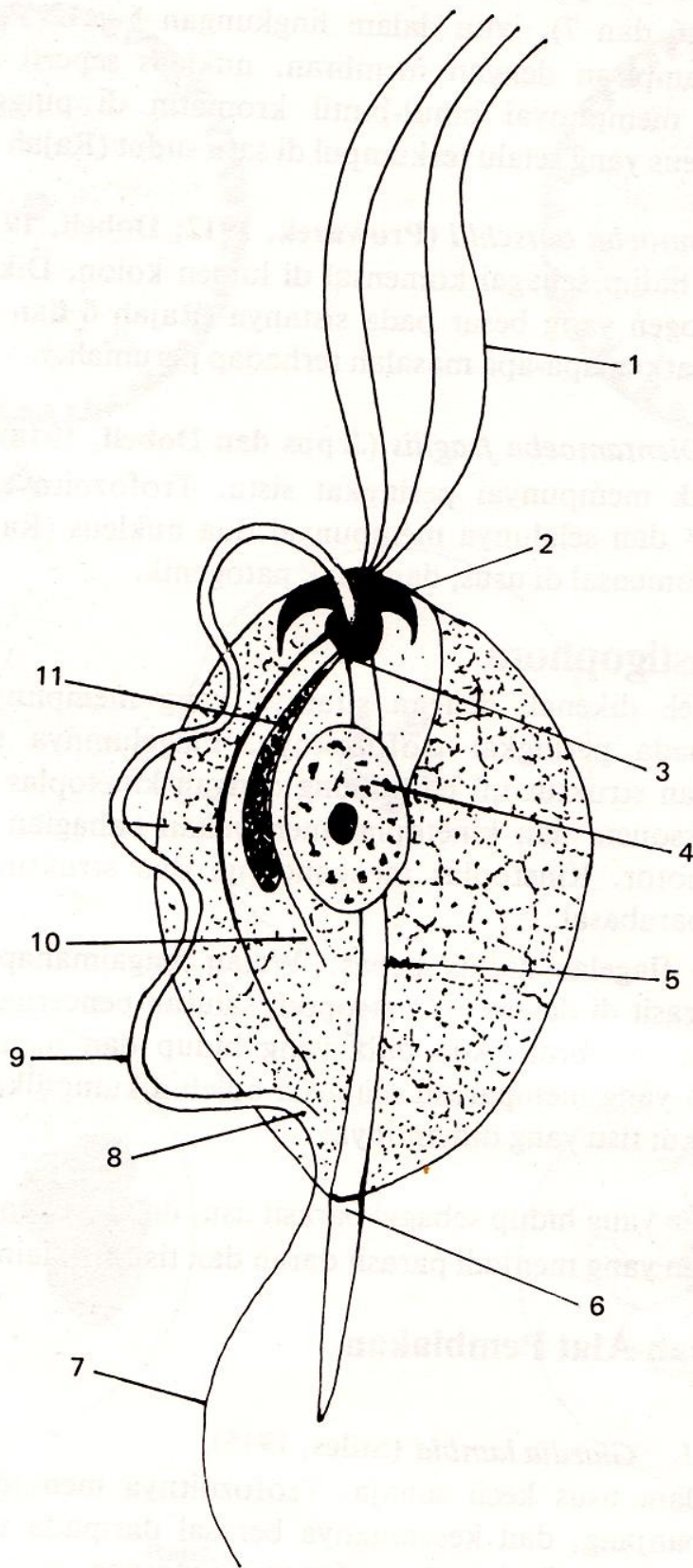
Parasit-parasit *Amoeba* manusia.

A. *Endolimax nana*. 1. Trofozoit. 2. Sista.

B. *Dientamoeba fragilis*. 3. Trofozoit (satu nukleus). 4. Trofozoit (dua nukleus).

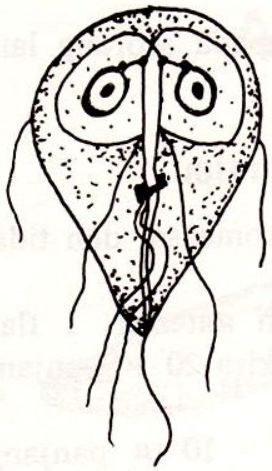
C. *Iodamoeba butschlii*. 5. Trofozoit. 6. Sista.

D. *Entamoeba coli*. 7. Trofozoit. 8. Sista.

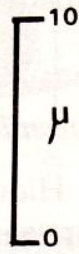


Rajah 8

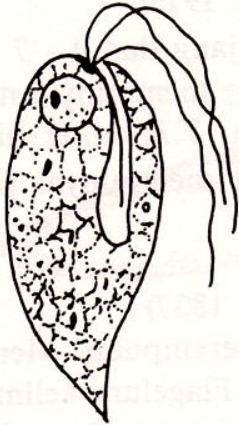
Struktur-struktur *Trichomonas*. 1. Flagelum anterior. 2. Pelta. 3. Jasad asas. 4. Nukleus. 5. Aksotil. 6. Cincin kromatik. 7. Flagelum bebas. 8. Filamen sekunder. 9. Membran bergelombang. 10. Filamen parabasal. 11. Jasad parabasal.



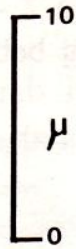
A



B



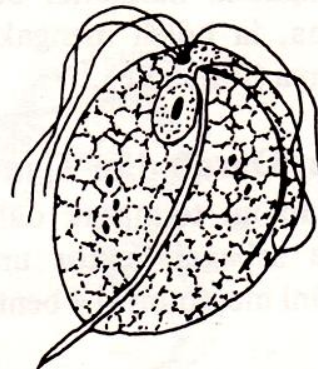
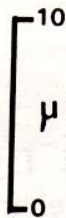
C



D



E



F

Rajah 9

Flagelat usus dan alat pembiakan manusia.

A. *Giardia lamblia* – trofozoit.

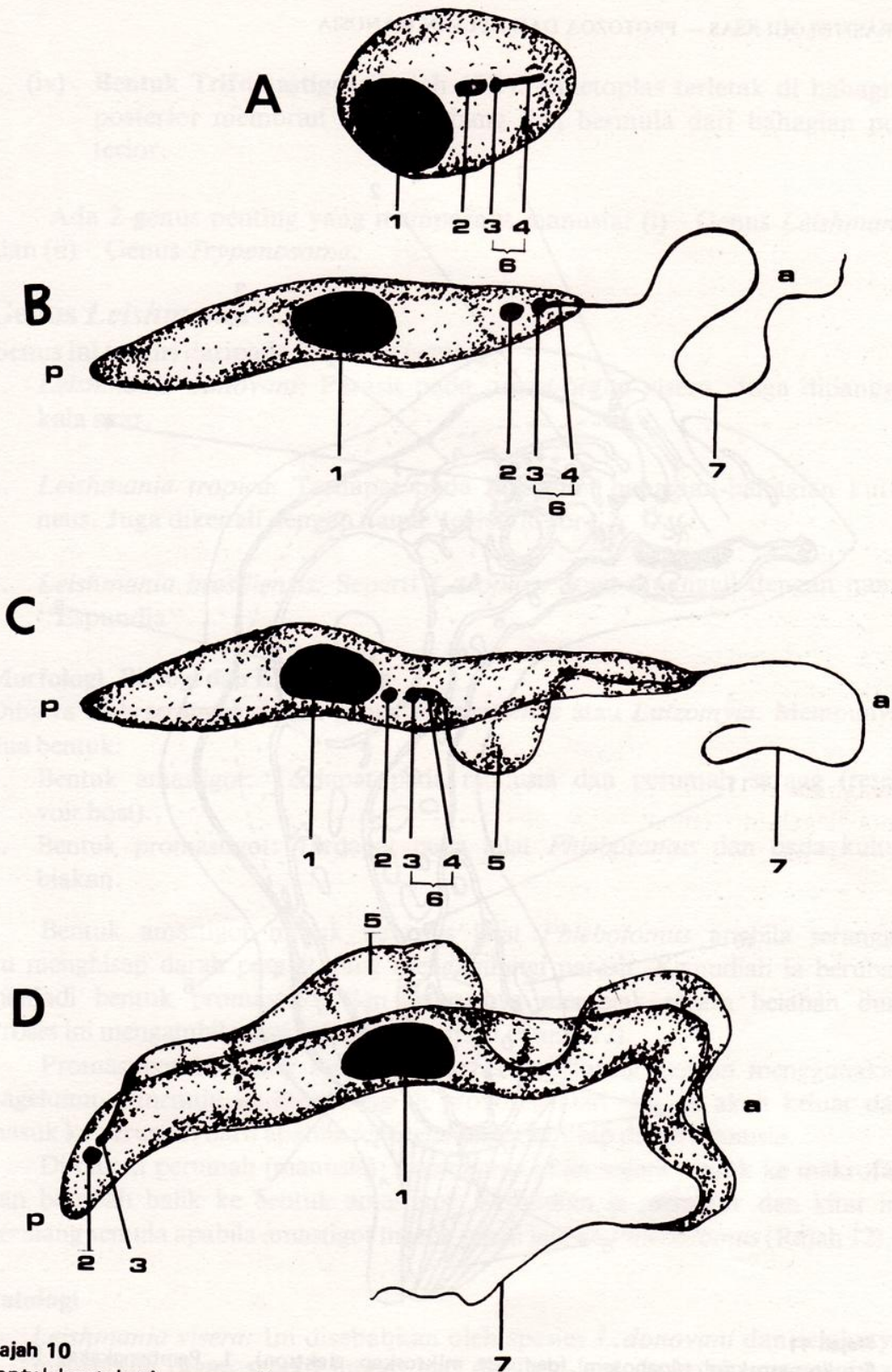
B. *Giardia lamblia* – sista.

C. *Chilomastix mesnili* – trofozoit.

D. *Chilomastix mesnili* – sista.

E. *Trichomonas hominis* – trofozoit.

F. *Trichomonas vaginalis* – trofozoit.



Rajah 10

Bentuk-bentuk tripanosom di dalam darah.

A. Amastigot.

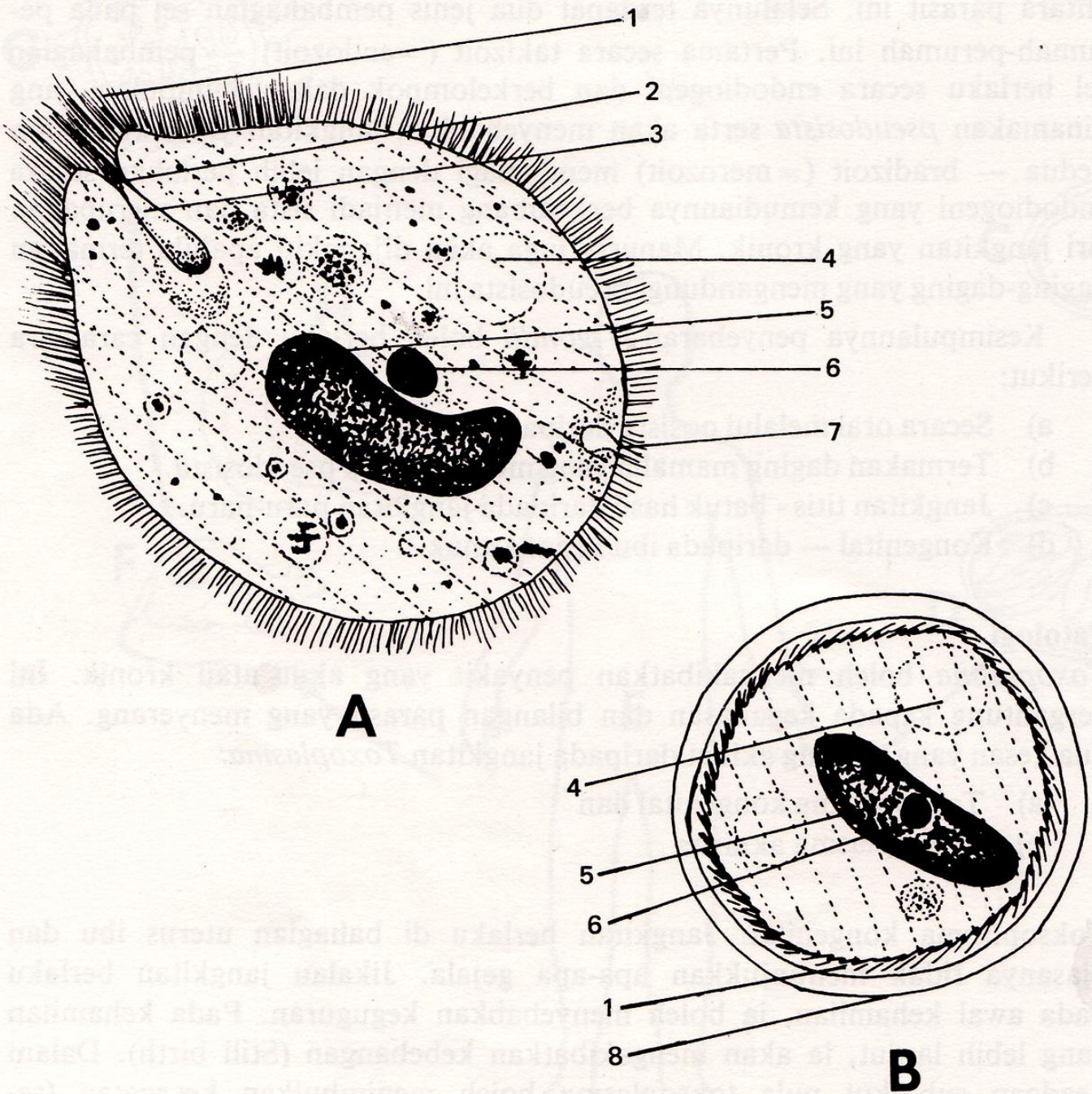
B. Promastigot.

C. Epimastigot.

D. Tripomastigot.

1. Nukleus. 2. Jasad parabasal. 3. Blefaroplas. 4. Aksonem. 5. Membran bergelombang. 6. Kinetoplas. 7. Flagelum.

a – anterior p – posterior



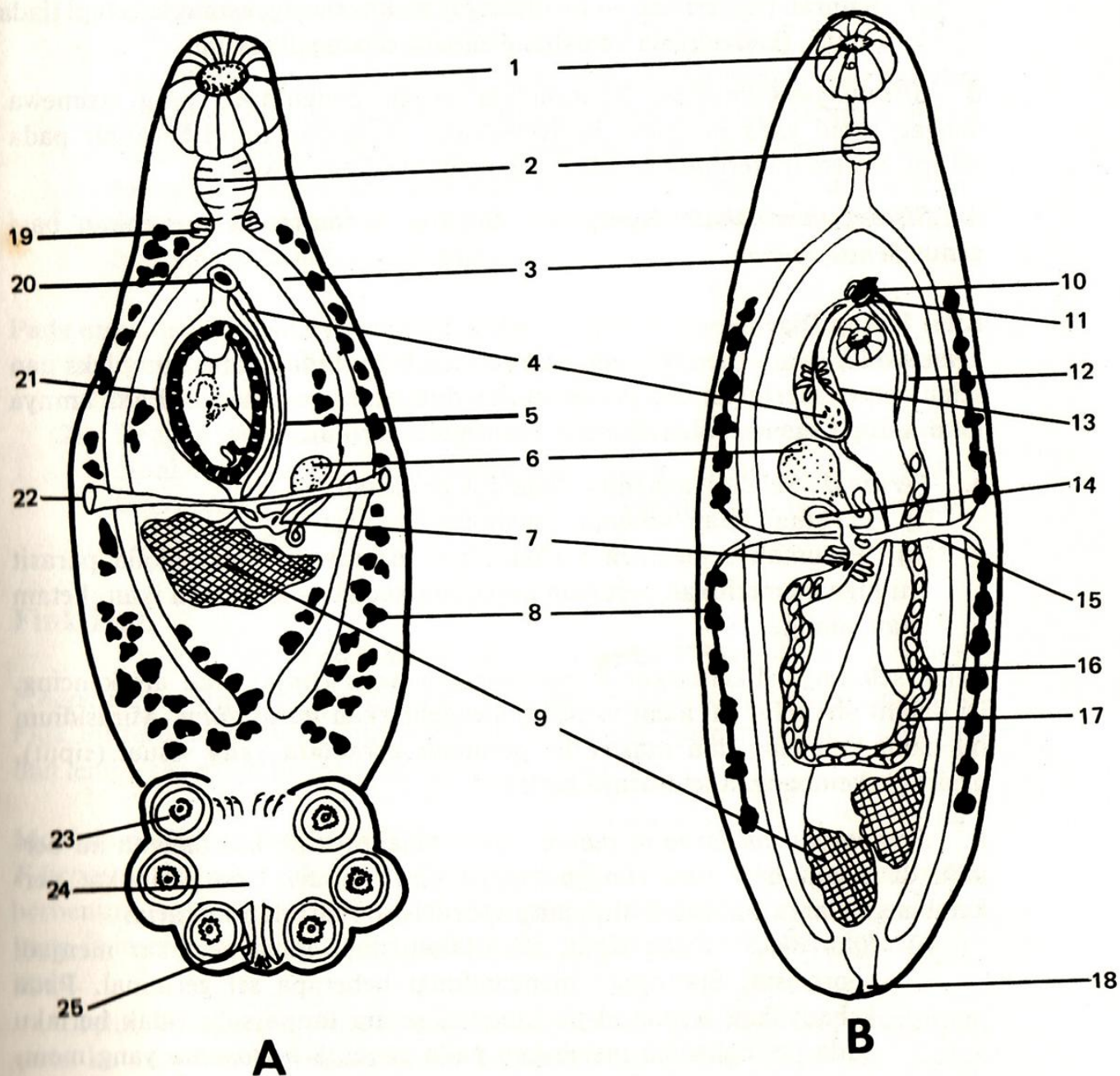
Rajah 18

Balantidium coli.

A. Trofozoit.

B. Sista.

1. Silia. 2. Sitostom. 3. Sitofaraks. 4. Lompang mengecut. 5. Makronukleus. 6. Mikronukleus. 7. Sitopij. 8. Dinding sista.



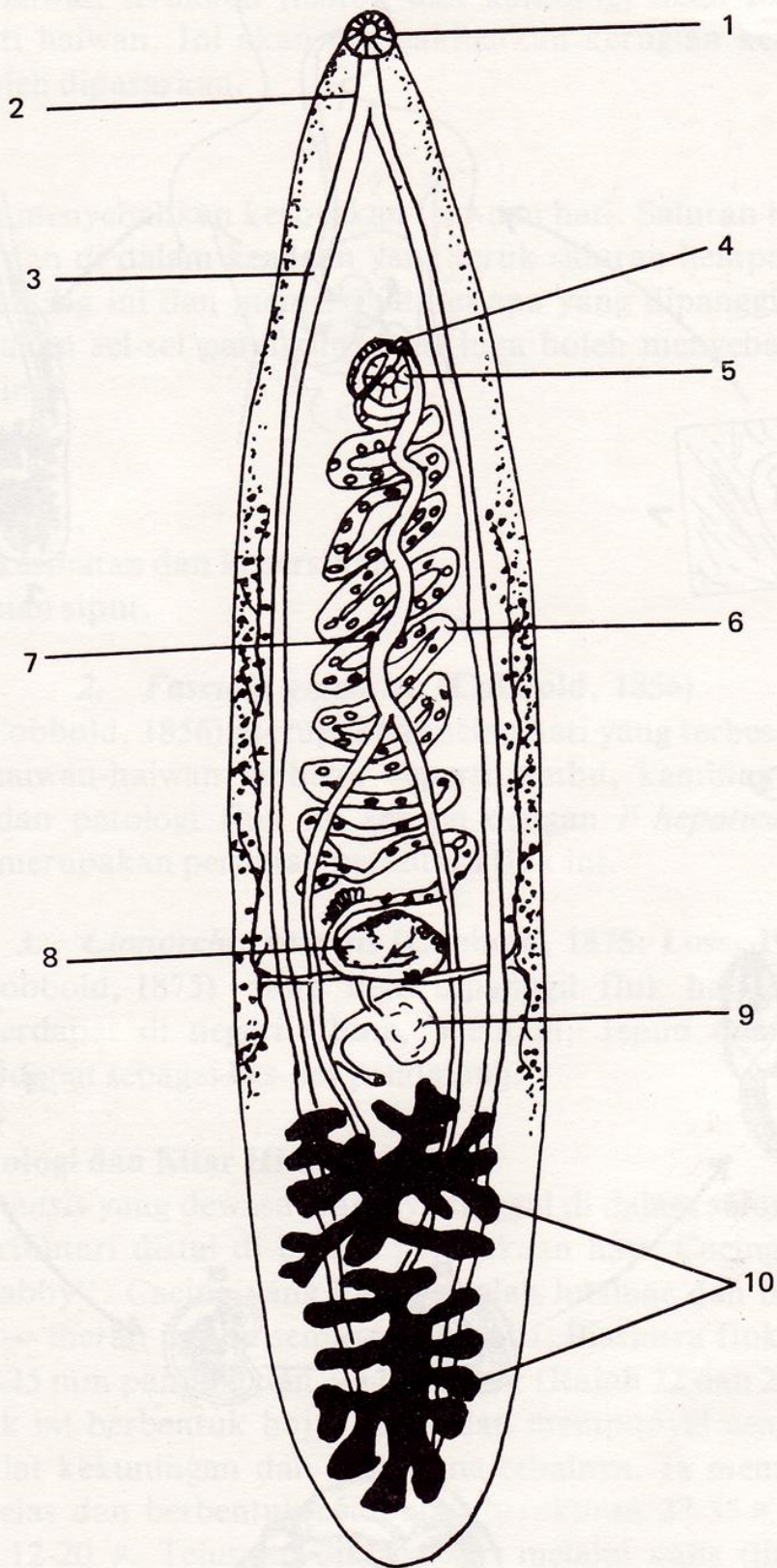
Rajah 20

Rajah skema trematod

A. Monogenea.

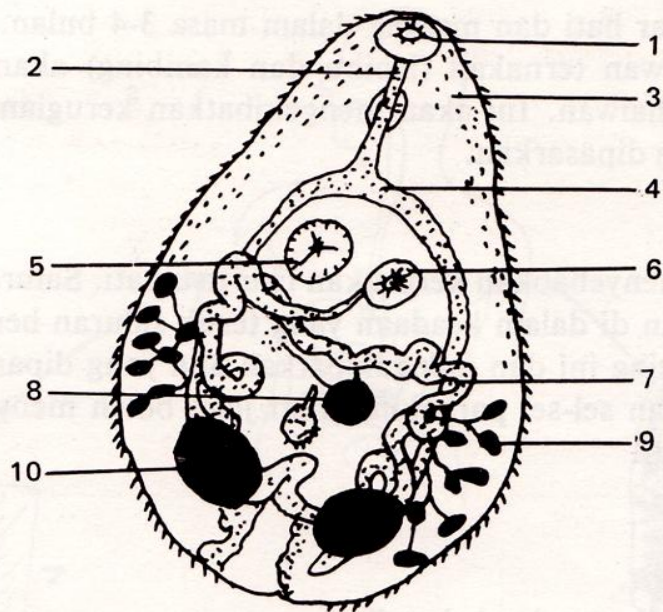
B. Digenea.

1. Pelekat oral. 2. Faring. 3. Sekum. 4. Vesikel seminal. 5. Duktus sperma. 6. Ovari.
 7. Ootaip. 8. Vitellaria. 9. Testis. 10. Sirus. 11. 'Genital atrium'. 12. Vagina. 13. Pundi sirus.
 14. Reseptakel seminal. 15. Duktus vitellaria. 16. Vas eferens. 17. Uterus. 18. Liang perkumuhan.
 19. Kelenjar esofagus. 20. Liang genital. 21. Uterus. 22. Vagina. 23. Pelekat. 24. 'Opisthaptor'. 25. Cangkuk (haptor).

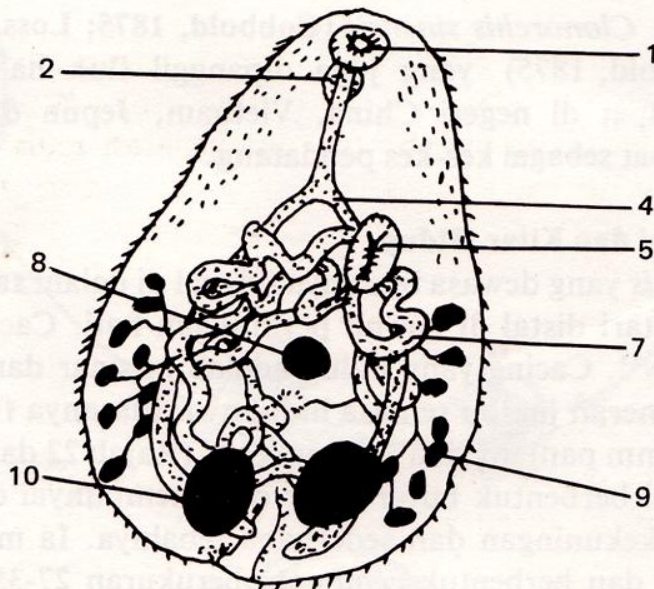


Rajah 22

Morfologi *Clonorchis sinensis*. 1. Pelekat oral. 2. Faring. 3. Usus. 4. Liang genital. 5. Pelekat ventral. 6. Uterus. 7. Vas deferentia. 8. Ovari. 9. Reseptakel seminal. 10. Testis.



A



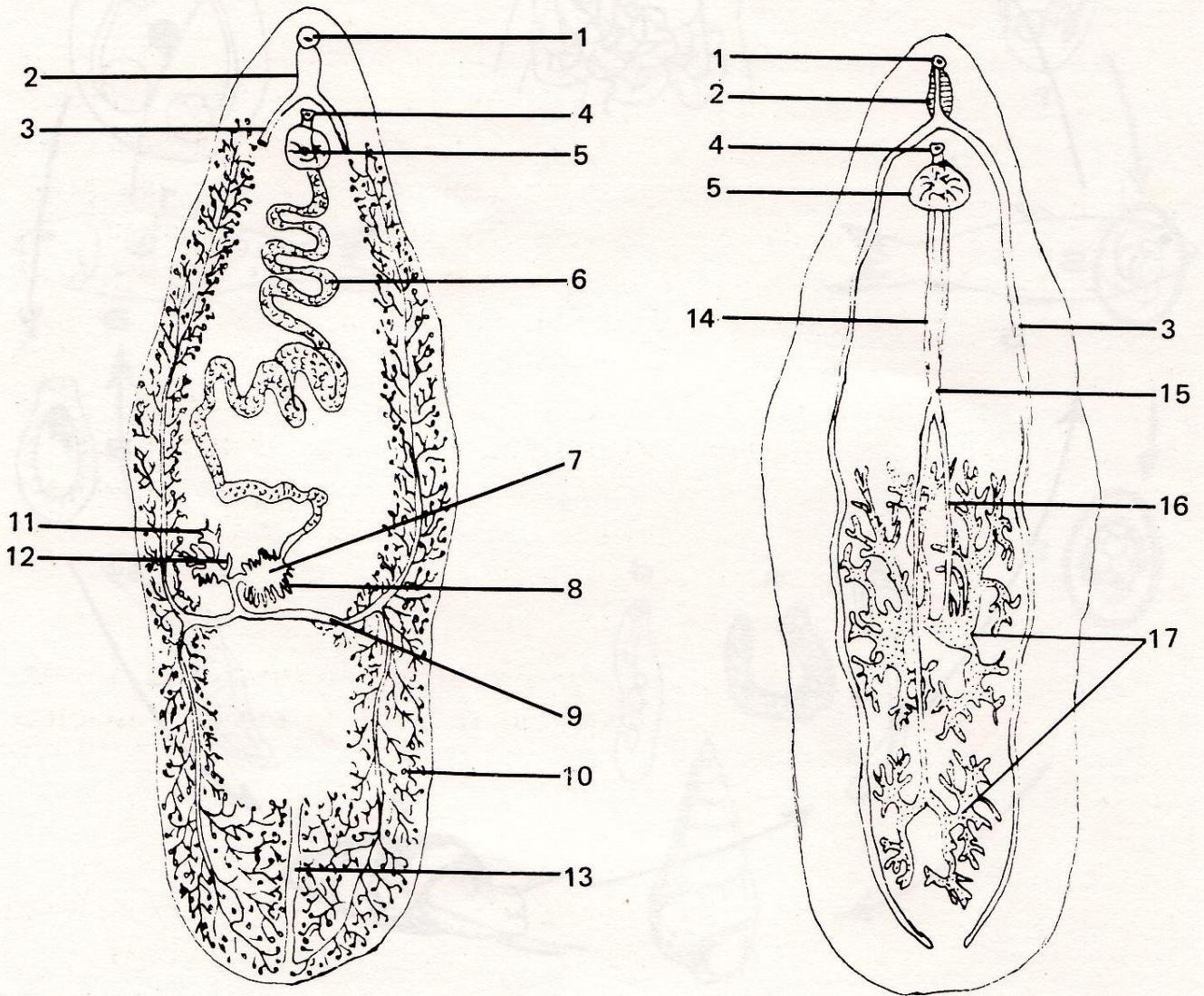
B

Rajah 24

A. Morfologi *Heterophyes heterophyes*.

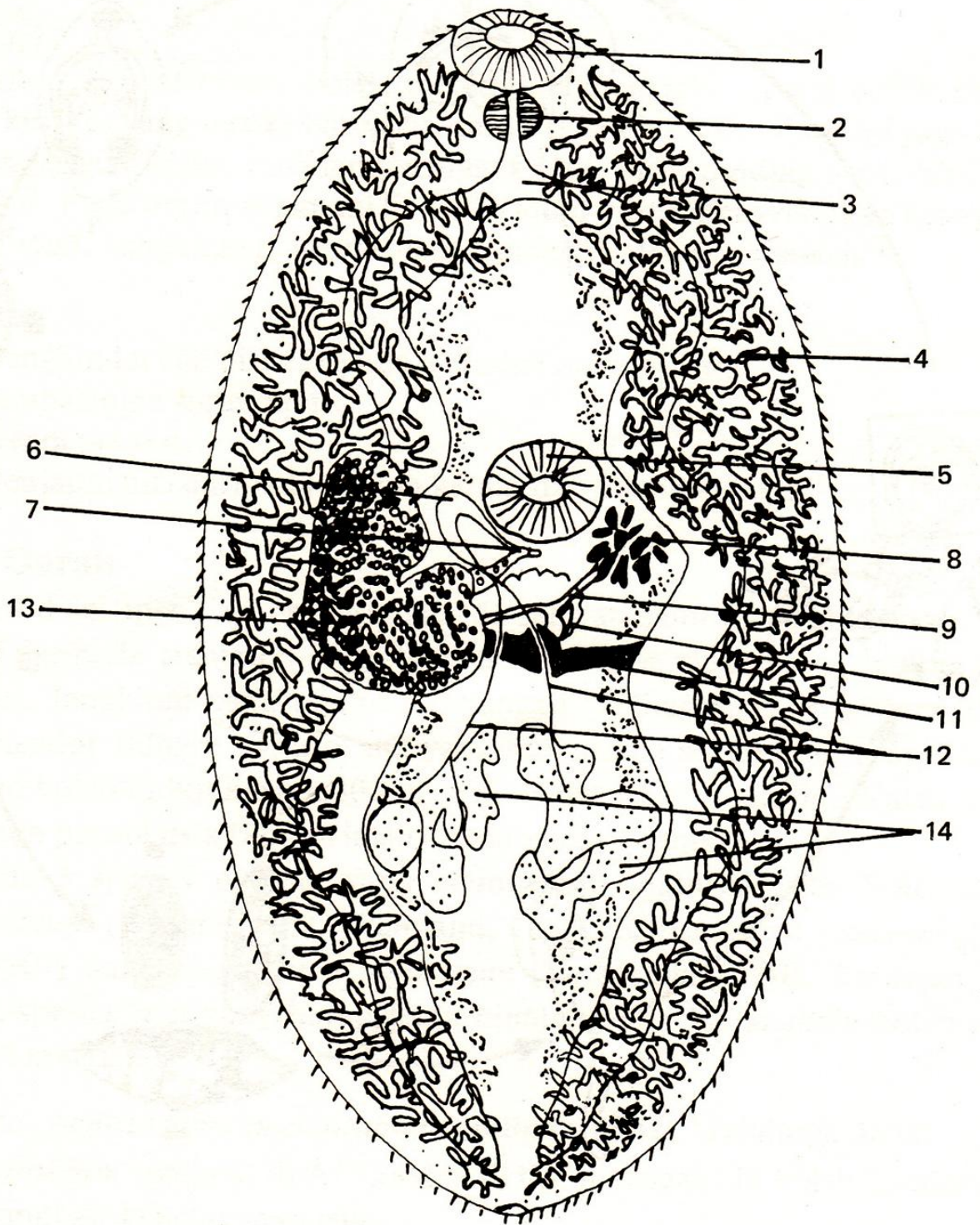
B. Morfologi *Metagonimus yokogawi*.

1. Pelekat oral. 2. Faring. 3. Sisik. 4. Sekum. 5. Pelekat ventral. 6. Pelekat genital. 7. Uterus. 8. Ovari. 9. Vitelaria. 10. Testis.



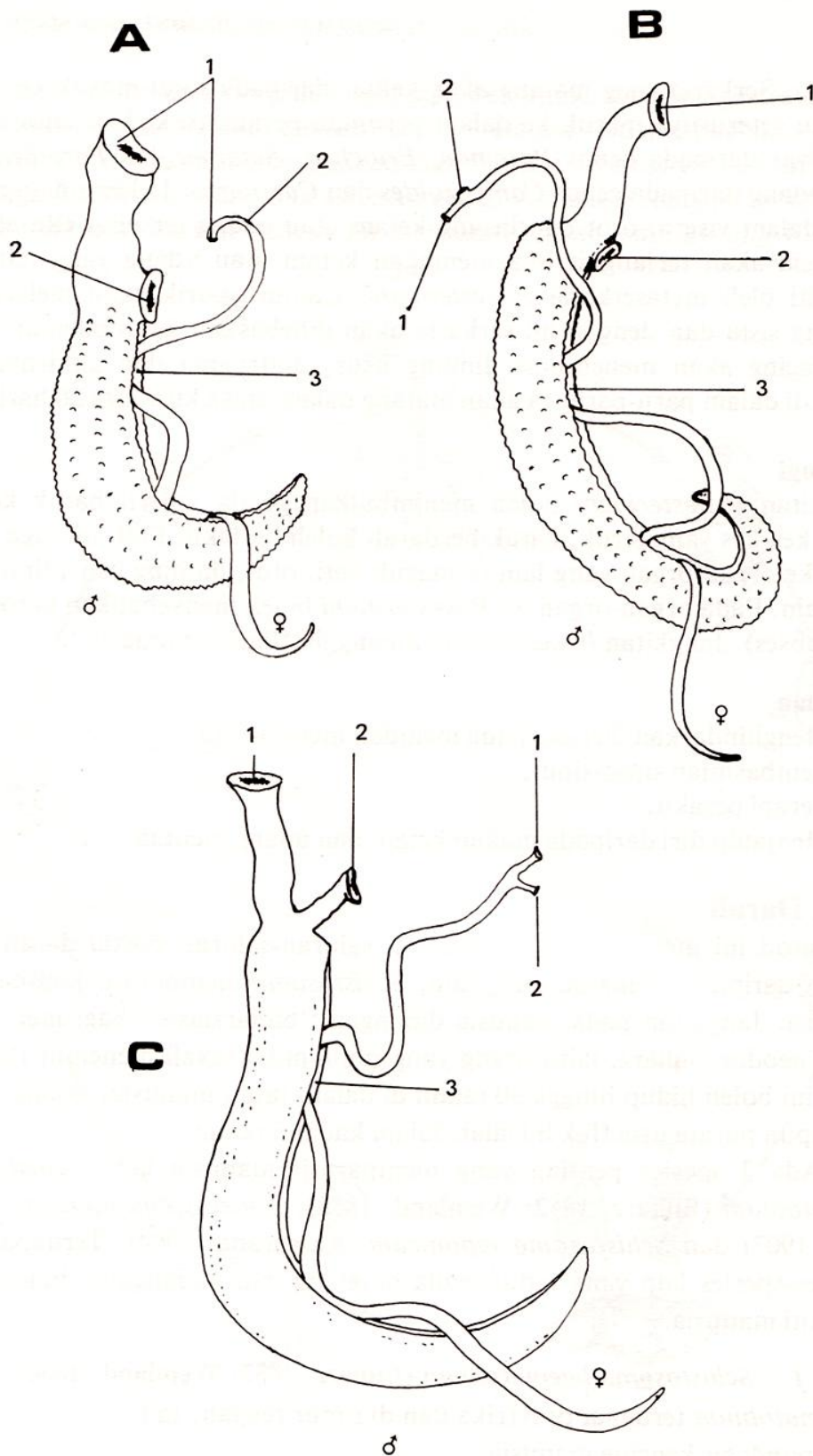
Rajah 27

Morfologi *Fasciolopsis buski*. 1. Pelekat oral. 2. Faring. 3. Sekum. 4. Genital atrium. 5. Pelekat ventral. 6. Uterus. 7. Ootaip. 8. Kelenjar Mahlis. 9. Duktus vitellaria. 10. Vetelarium. 11. Ovari. 12. Saluran Lamers. 13. Pundi. 14. Vesikel seminal. 15. Vas deferens. 16. Vas eferens. 17. Testis.



Rajah 29

Morfologi *Paragonimus westermani*. 1. Pelekat oral. 2. Faring. 3. Sekum. 4. Kelenjar yolka. 5. Asetabulum. 6. Pundi sirus. 7. Gonofor. 8. Ovari. 9. Oviduktus. 10. Ootaip. 11. Duktus yolka. 12. Duktus sperma. 13. Uterus. 14. Testis.



Rajah 31

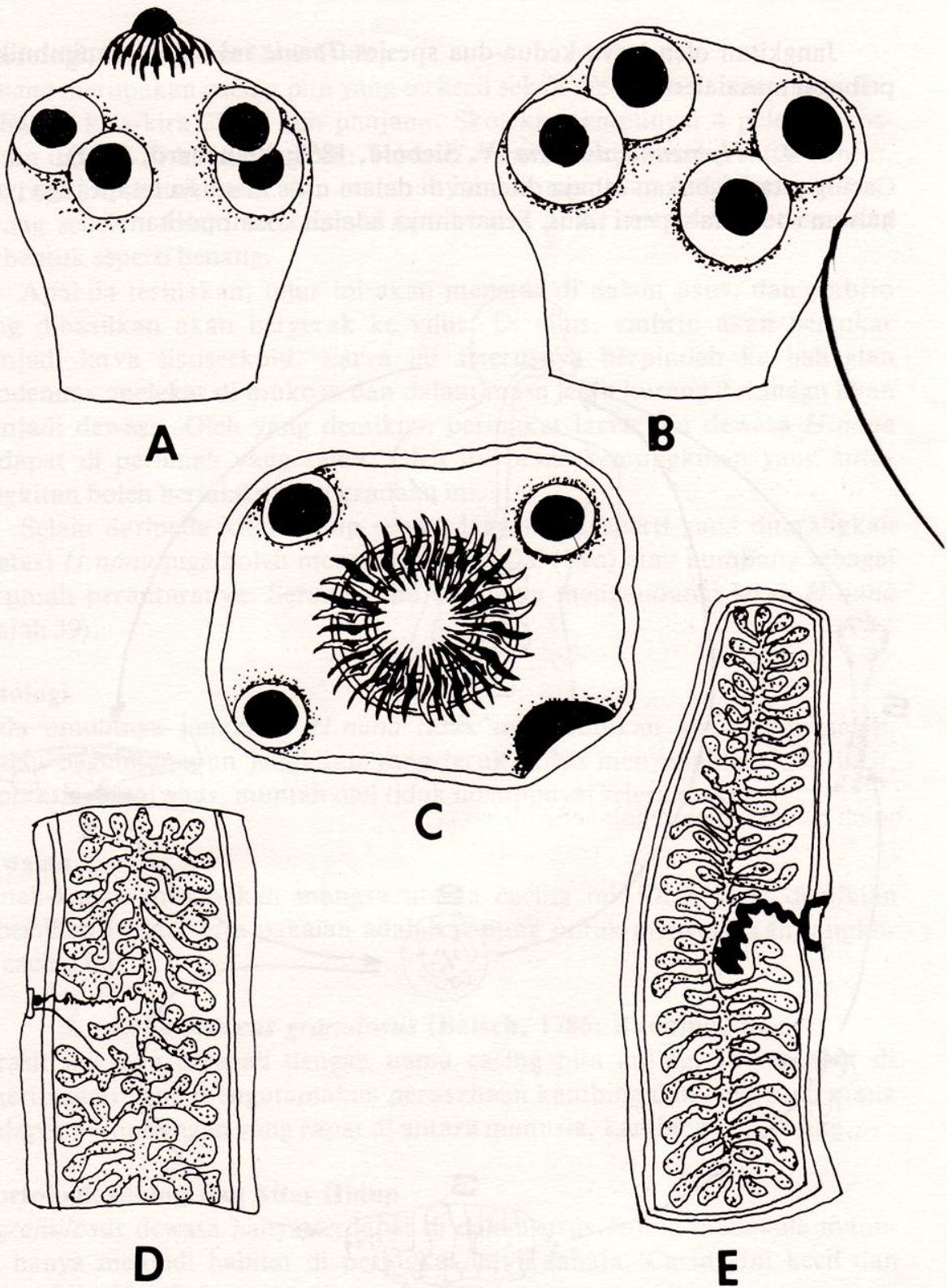
Morfologi *Schistosoma* manusia.

A. *Schistosoma haematobium*.

B. *Schistosoma mansoni*.

C. *Schistosoma japonicum*.

1. Pelekat oral. 2. Pelekat ventral. 3. Saluran ginekofor.



Rajah 38

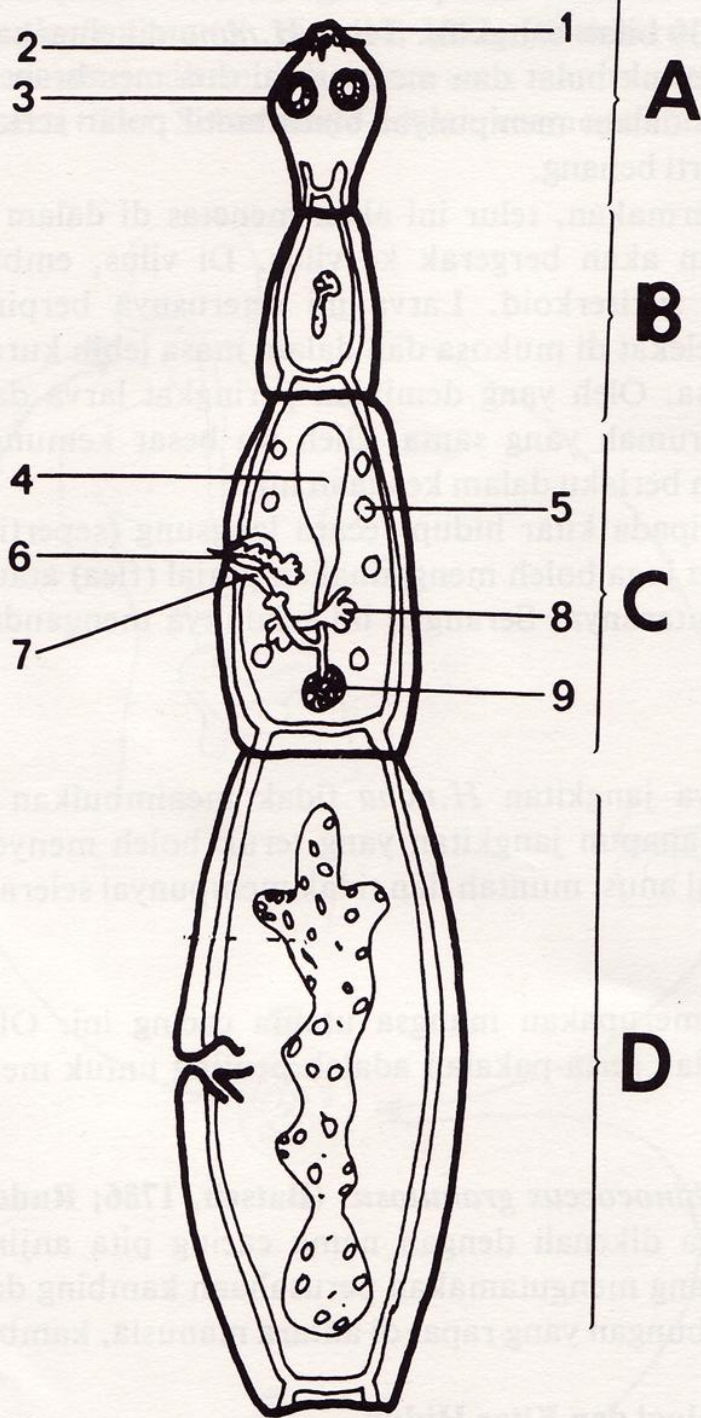
Morfologi skoleks dan proglotid gravid cacing pita.

A & C. Skoleks *Taenia solium*.

B. Skoleks *Taenia saginata*.

D. Proglotid *T. solium*.

E. Proglotid *T. saginata*.

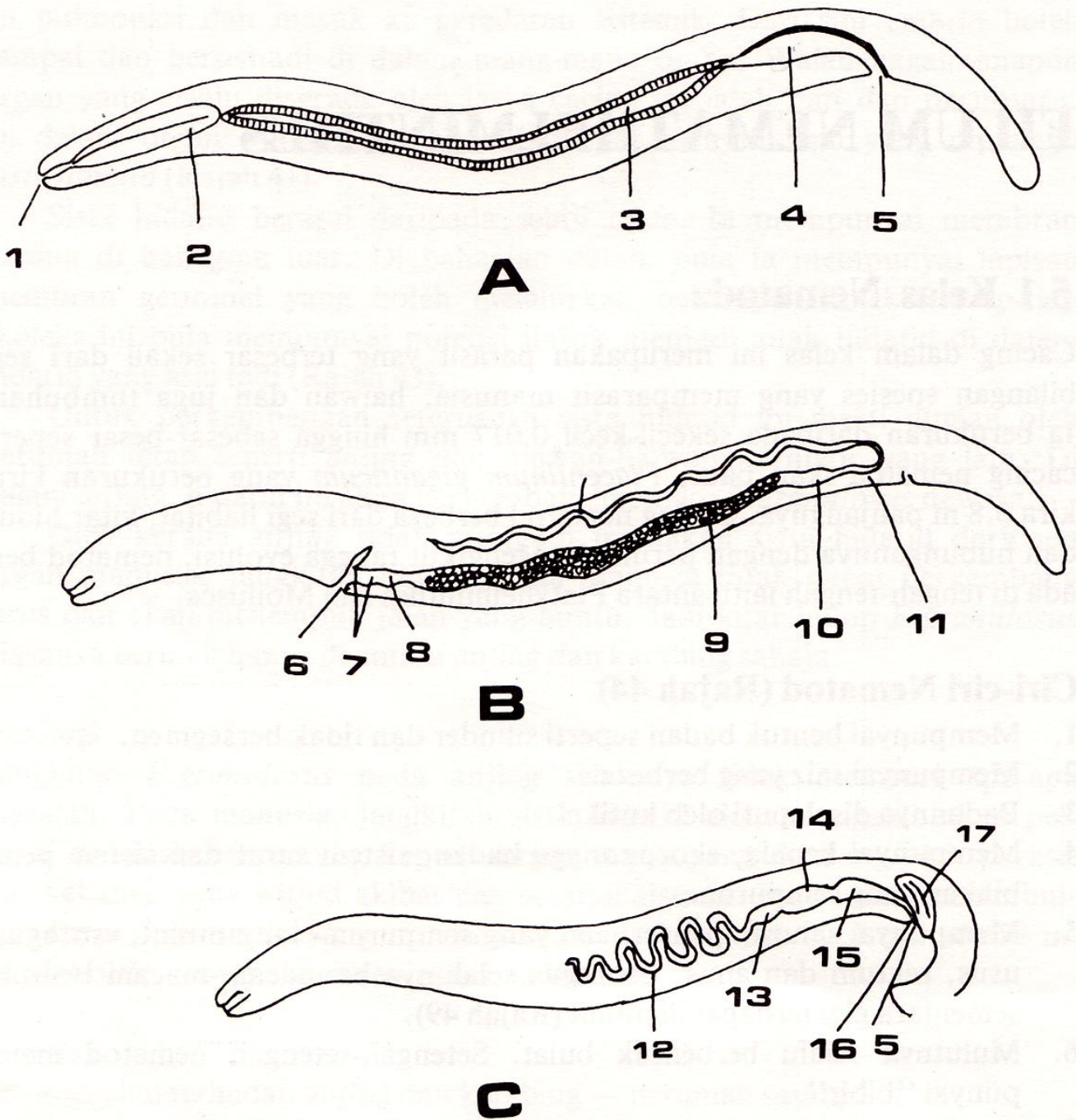


Rajah 40

Echinococcus granulosces.

- A. Skoleks.
- B. Proglotid muda.
- C. Proglotid matang.
- D. Proglotid gravid.

1. Rostelum. 2. Cangkuk. 3. Pelekat. 4. Uterus. 5. Testis. 6. Liang genital. 7. Vagina. 8. Ovari. 9. Kelenjar vitelin.



Rajah 44

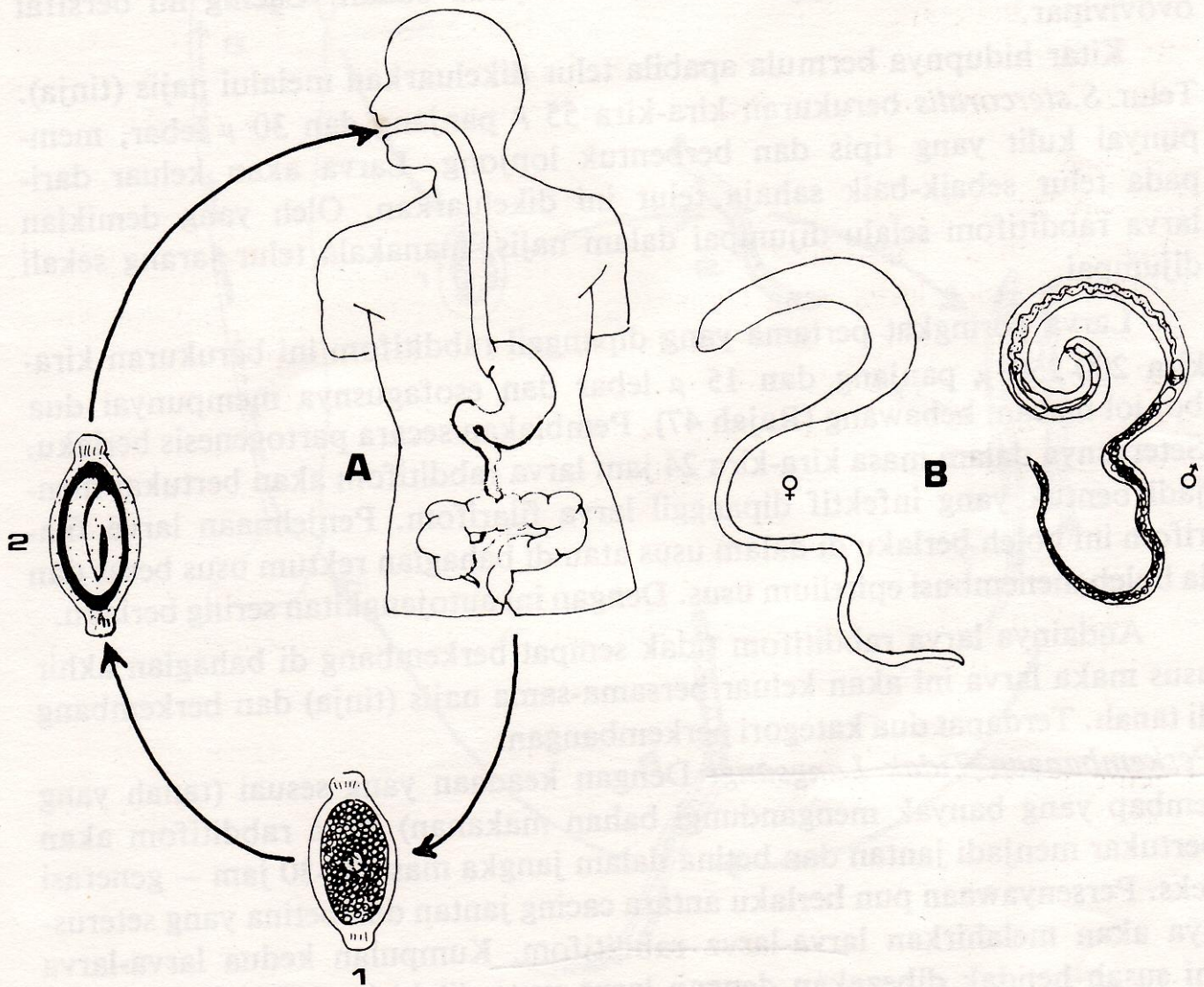
Marfologi cacing Nematoda.

A. Sistem pencernaan.

B. Sistem pembiakan ♀.

C. Sistem pembiakan ♂.

1. Mulut. 2. Esofagus. 3. Usus. 4. Rektum. 5. Anus. 6. Valva. 7. Vagina. 8. Ovejektor. 9. Uterus. 10. Reseptakel seminal. 11. Oviduk. 12. Testis. 13. Vas deferens. 14. Vesikel seminal. 15. Duktus pemancutan. 16. Kloaka. 17. Spikula.



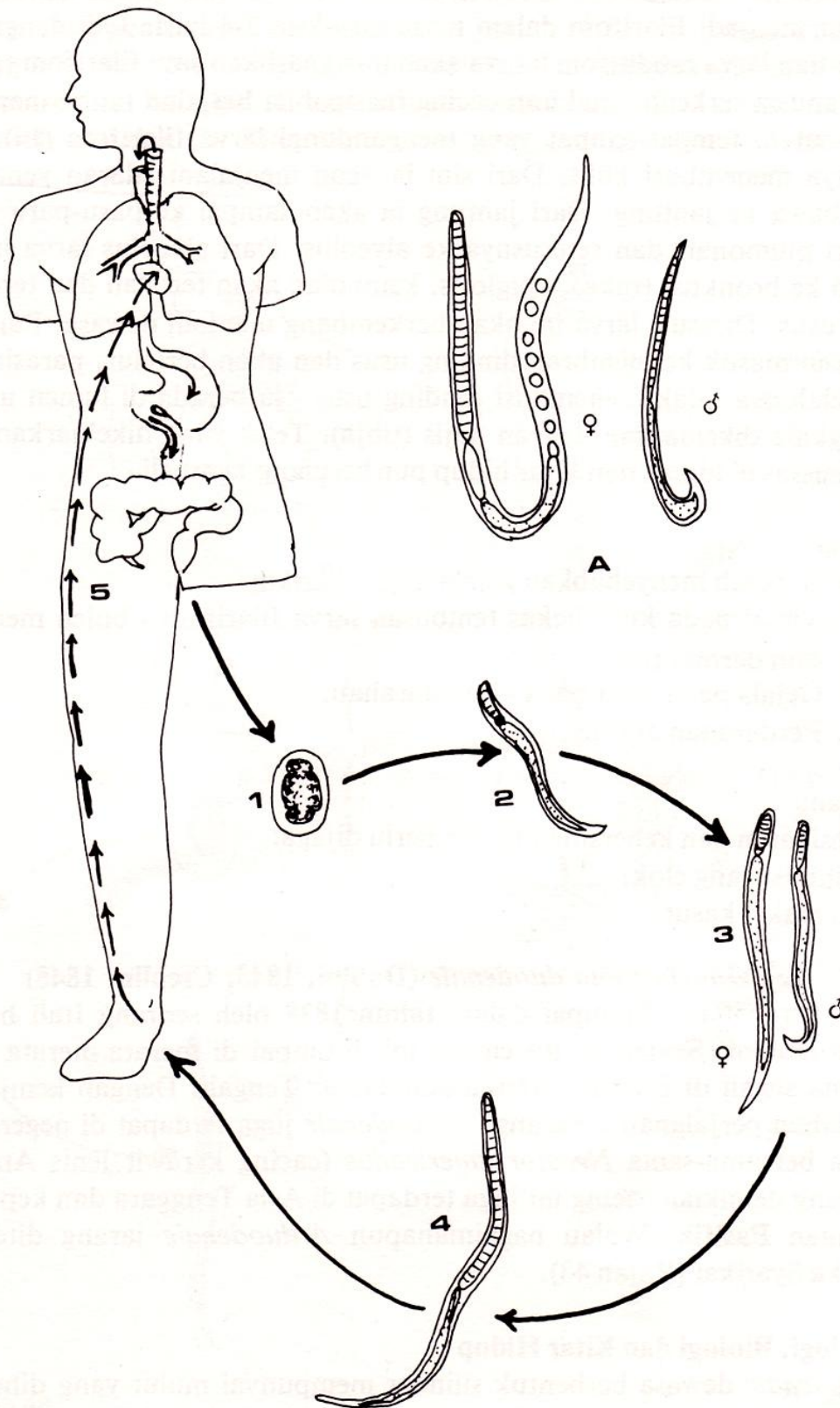
Rajah 46

Kitar hidup *Trichuris trichura*.

A. Kitaran pada manusia.

B. *T. trichura* dewasa.

1. Telur keluar bersama najis. 2. Jangkitan melalui mulut.

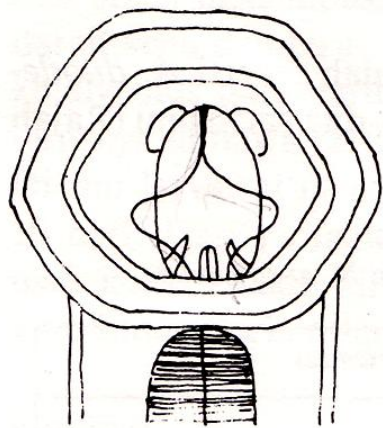


Rajah 47

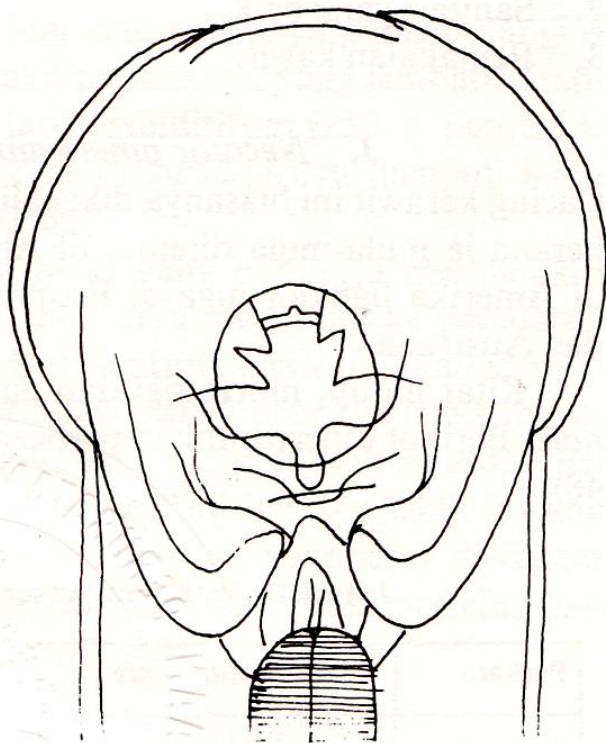
Kitar hidup *Strongyloides stercoralis*.

A. *S. stercoralis* dewasa.

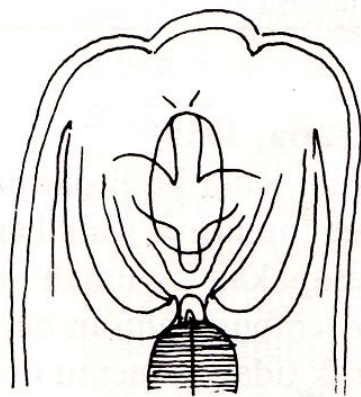
1. Telur keluar bersama-sama najis. 2. Larva rhabditiform. 3. Menjelma menjadi cacing jantan dan cacing betina. 4. Larva filariform. 5. Migrasi larva filariform sebelum menghuni di usus.



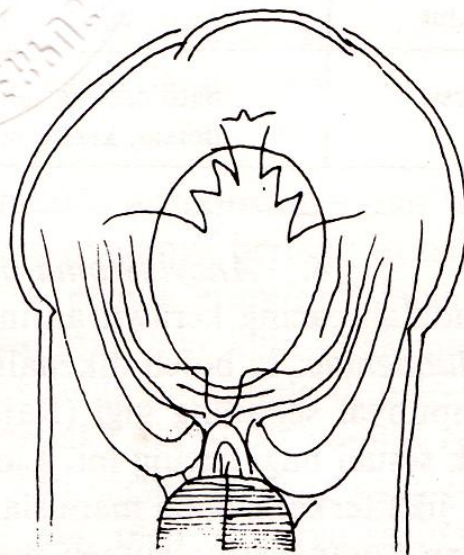
A



B



C



D

Rajah 49

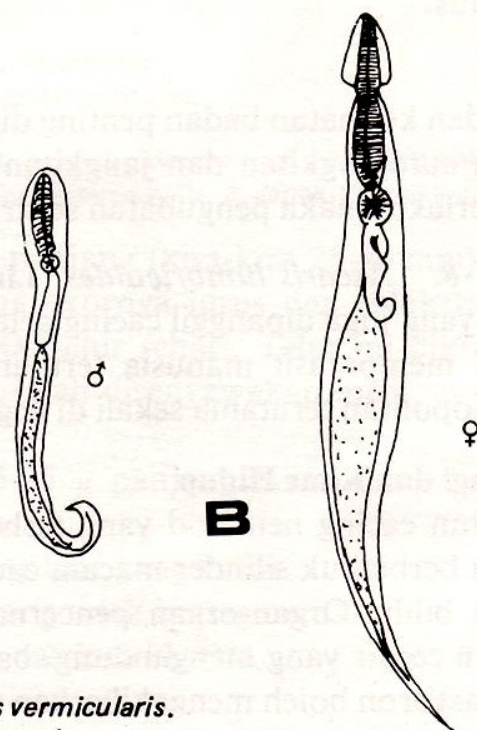
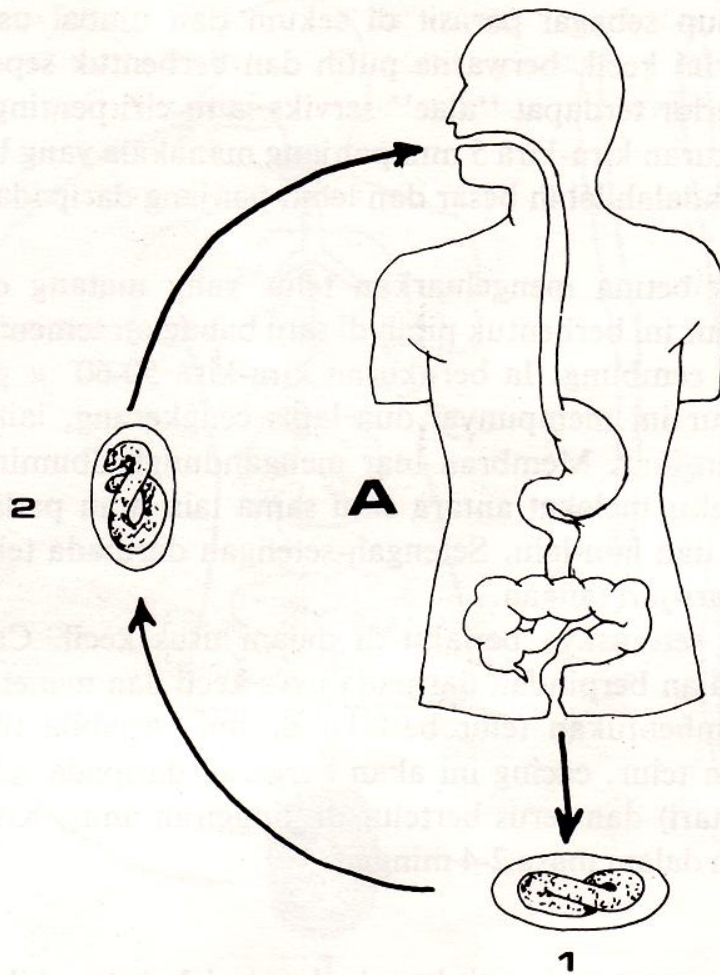
Anatomi rongga mulut cacing kerawit.

A. *Necator americanus*.

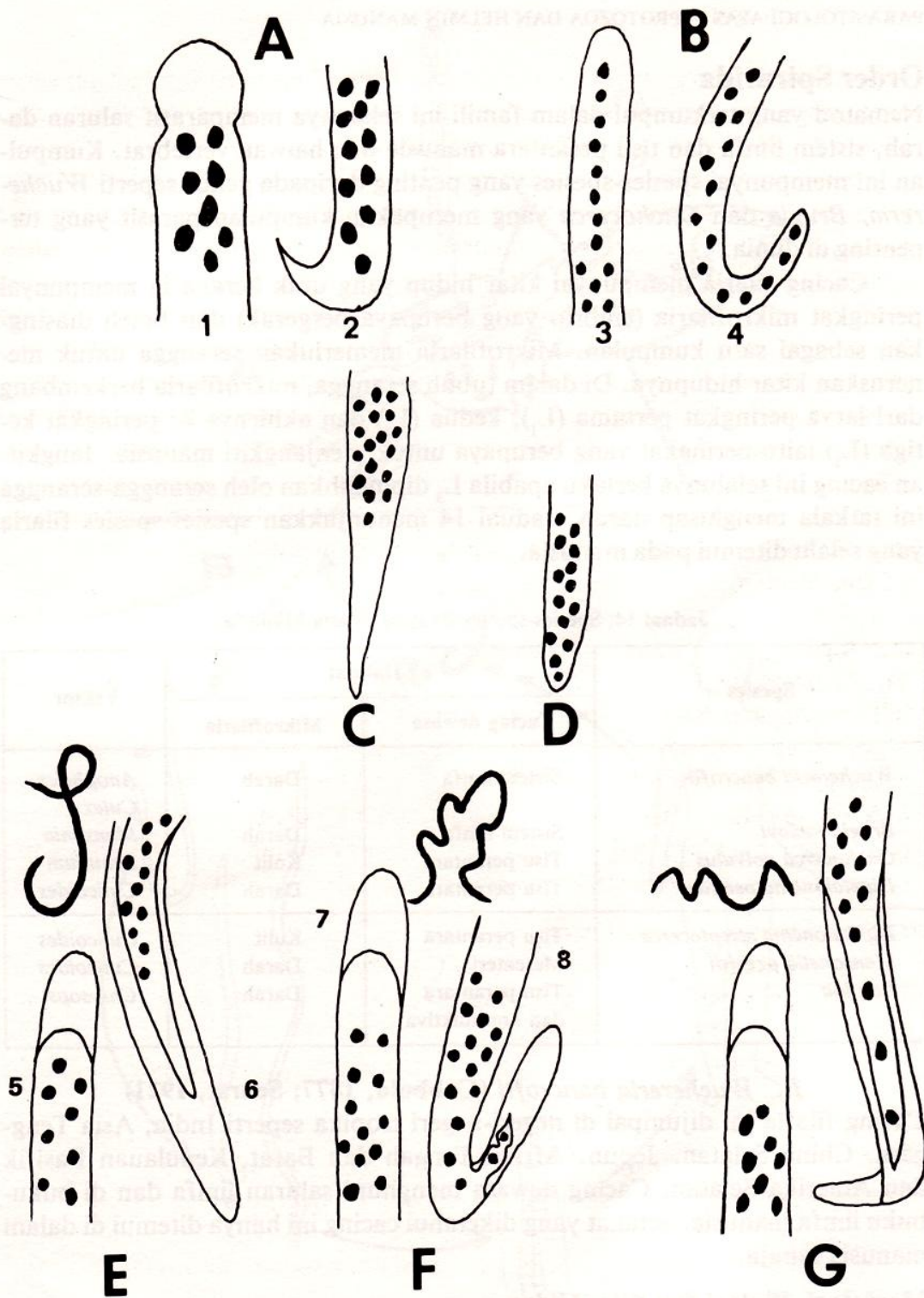
B. *Ancylostoma duodenale*.

C. *Ancylostoma braziliense*.

D. *Ancylostoma caninum*.



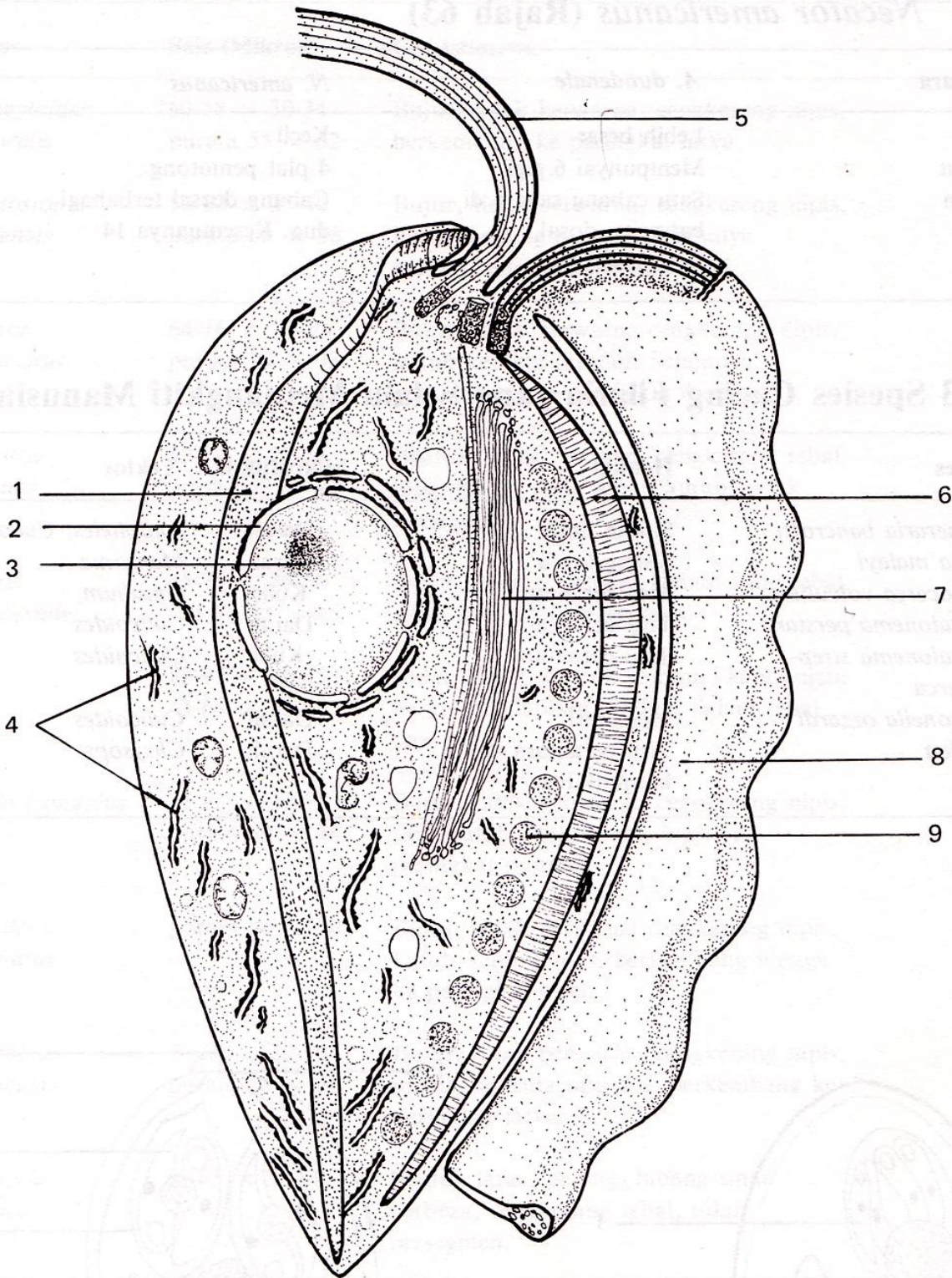
Rajah 50
Kitar hidup *Enterobius vermicularis*.
A. Kitaran di dalam manusia .
B. *E. vermicularis* dewasa.
1. Telur keluar bersama najis. **2.** Jangkitan melalui mulut.



Rajah 52

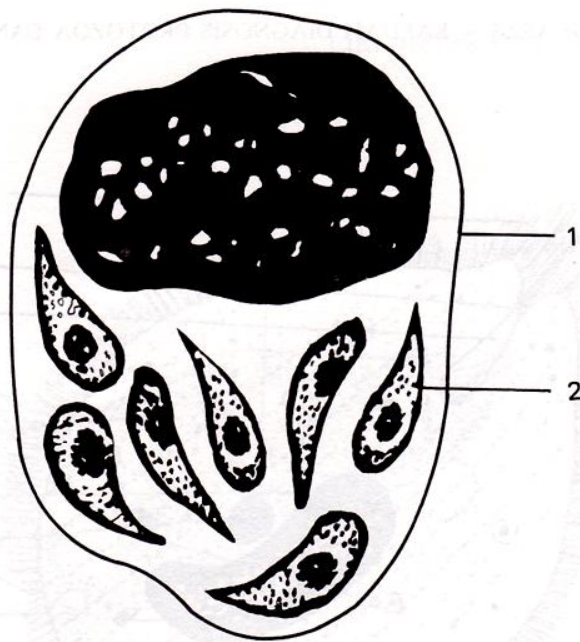
Morfologi 7 spesies mikrofilaria manusia.

- A. *O. vulvulus*. 1. Kepala: seperti sudu. 2. Ekor: nukleus tidak sampai ke hujung.
- B. *D. streptocerca*. 3. Kepala: nukleus satu baris. 4. Ekor: bengkok - nukleus sampai ke hujung.
- C. *M. ozzardi*. Ekor tajam tetapi nukleus tidak sampai ke hujung.
- D. *D. perstans*. Ekor tumpul dan nukleus sampai ke hujung.
- E. *W. bancrofti*. 5. Nukleus sampai ke kepala. 6. Ekor: nukleus tidak sampai ke hujung.
- F. *B. malayi*. 7. Nukleus sampai ke kepala. 8. Mempunyai dua nukleus di hujung ekor.
- G. *Loa loa*. Nukleus sampai ke hujung ekor.

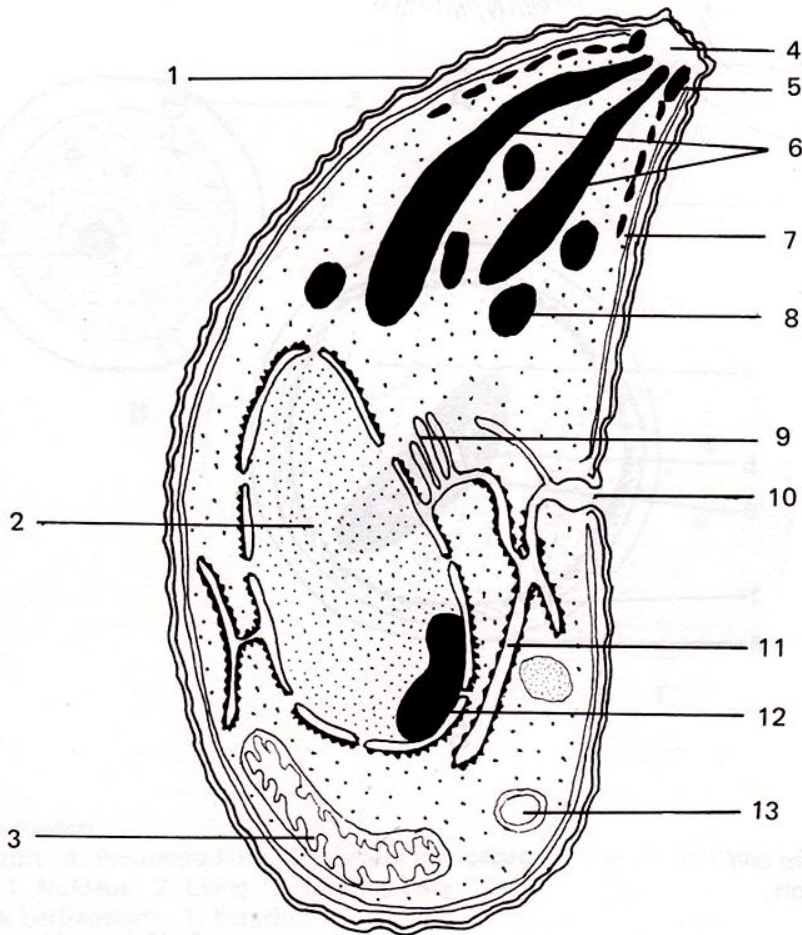


Rajah 12

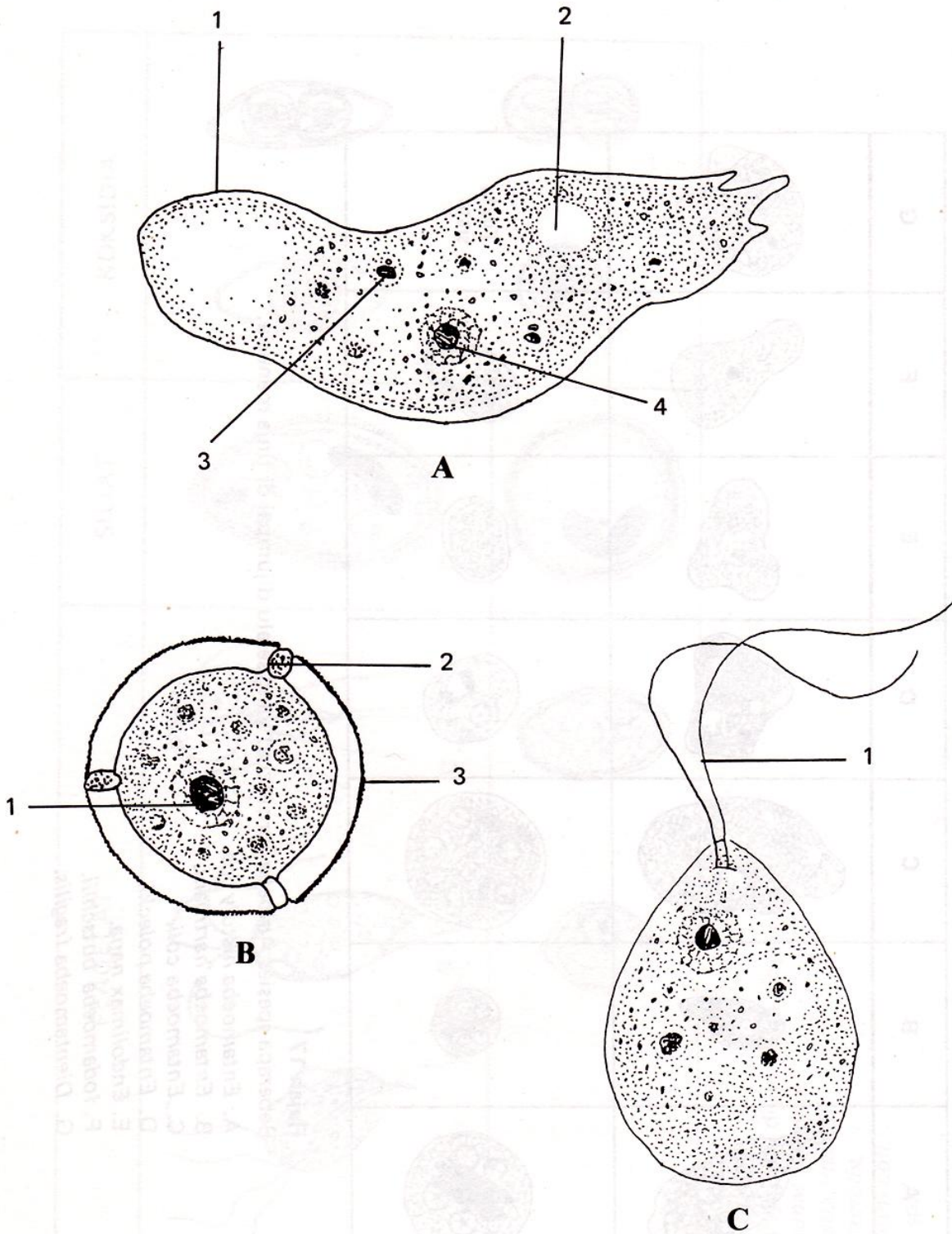
Struktur ultra *Trichomonas*. 1. Aksotil. 2. Membran nukleus. 3. Nukleus. 4. Retikulum endoplasma. 5. Flagelum anterior. 6. Kosta. 7. Jasad parabasal. 8. Membran bergelombang. 9. Jasad parakosta.



Rajah 13
Trofozoit *Toxoplasma gondii* dalam makrofag. 1. Makrofag. 2. Toksoplasma.



Rajah 14
Rajah skema struktur ultra *Toxoplasma gondii*. 1. Dinding sel. 2. Nukleus. 3. Mitokondrium. 4. Konoid. 5. Gentian pelikel. 6. Taksonem. 7. Membran sitoplasma. 8. Vakuol lipid. 9. Jasad Golgi. 10. Mikropil. 11. Retikulum endoplasma. 12. Nukleolus. 13. Vakuol.



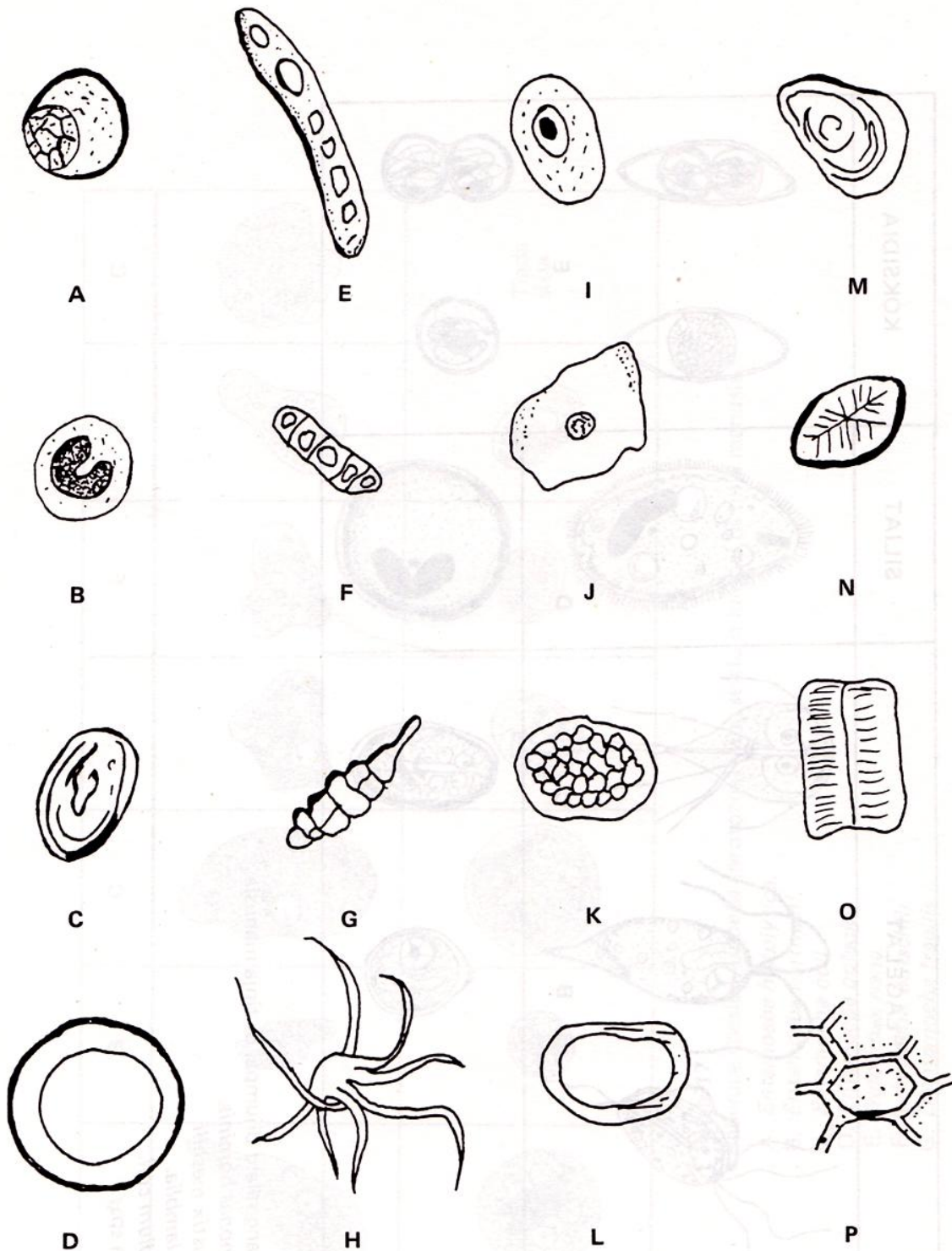
Rajah 16

Naegleria fowleri

A. Trofozoit. 1. Pseudopodium. 2. Vakuol mengecut. 3. Vakuol makanan. 4. Nukleus.

B. Sista. 1. Nukleus. 2. Liang 3. Dinding sista.

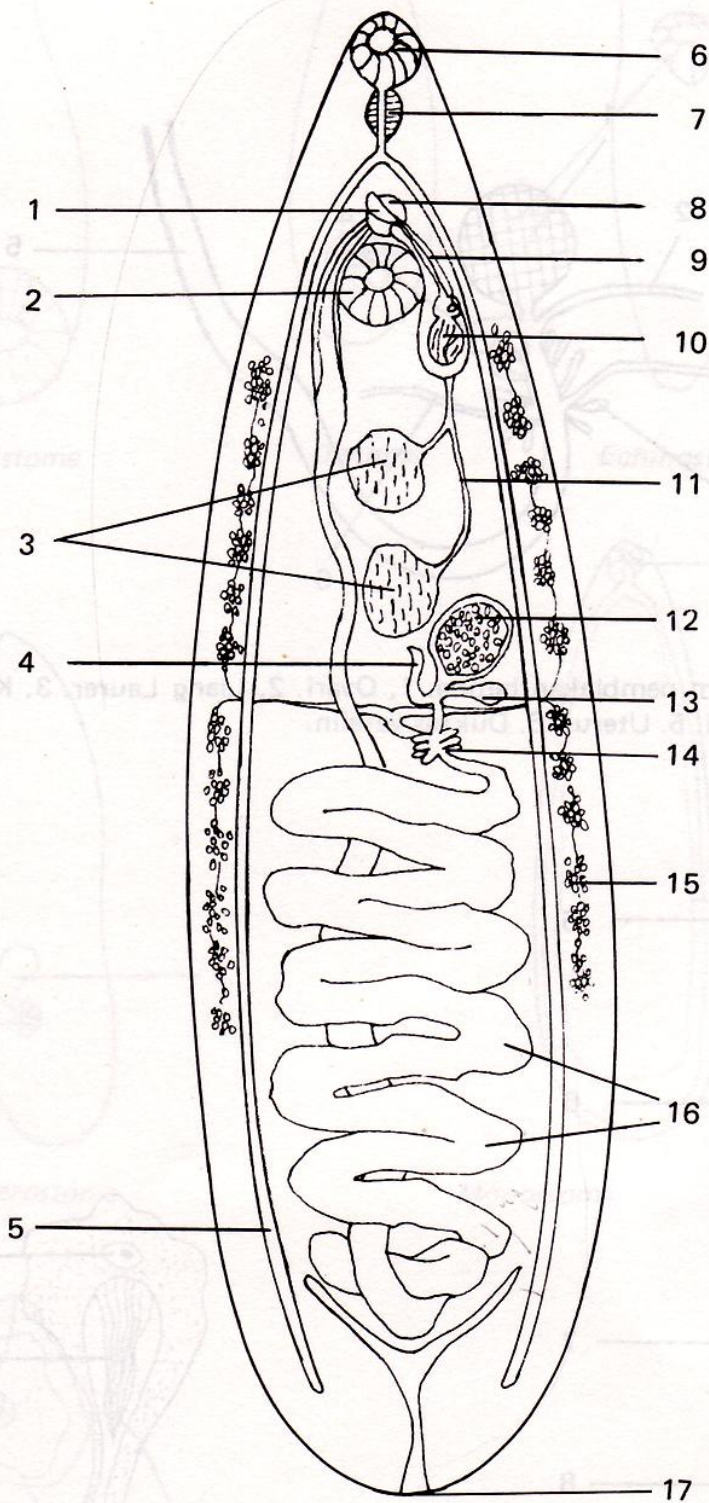
C. Bentuk berflagelum. 1. Flagelum.



Rajah 19

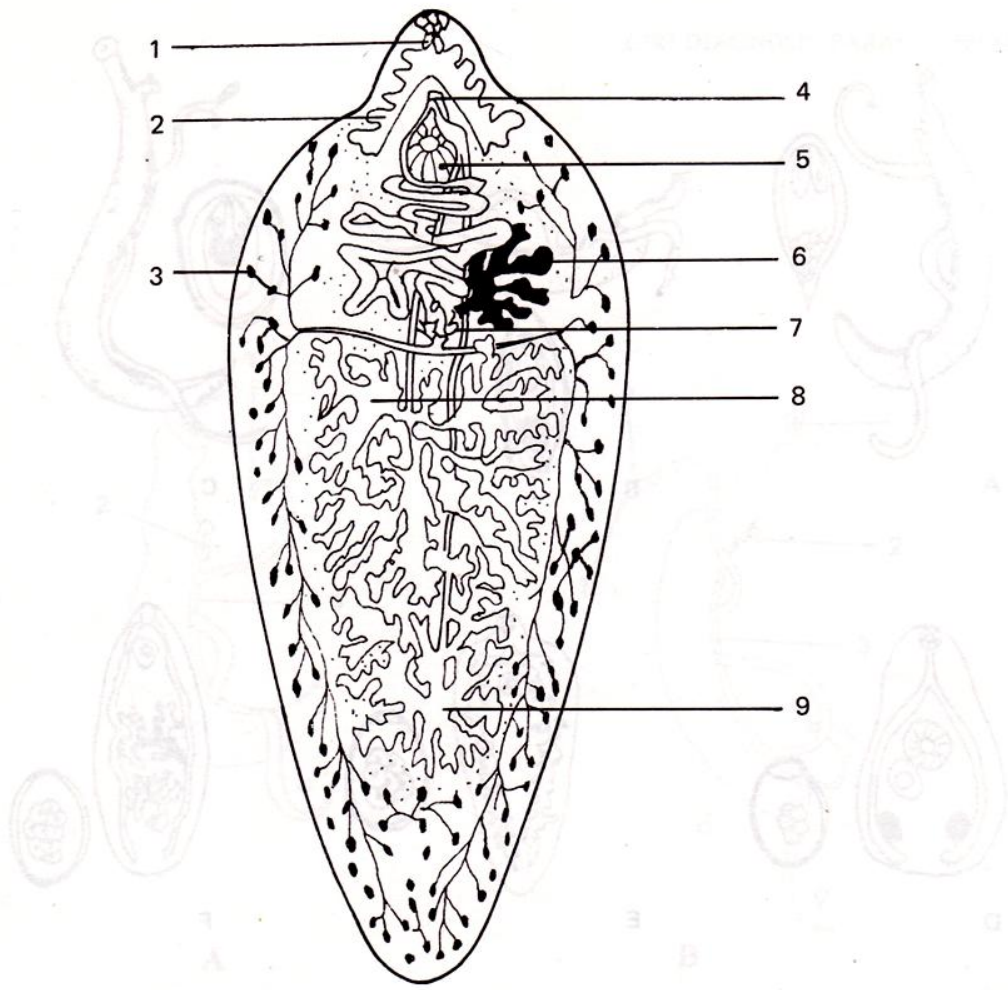
Objek-objek yang selalu dijumpai di tinja dan selalu tersalah cam sebagai telur atau sista parasit.

- | | |
|-----------------------|---------------------------|
| A. Blastosistis. | I. Sel epitelium. |
| B. Leukosit. | J. Sel skuamus epitelium. |
| C. Jasad selofen. | K. Sel sayuran. |
| D. Globul minyak. | L. Sel sayuran. |
| E. Helmintosporium. | M. Granul kanji. |
| F. Akrotesium. | N. Granul kanji. |
| G. Alternaria. | O. Gentian otot. |
| H. Rerambut tumbuhan. | P. Sel sayuran. |



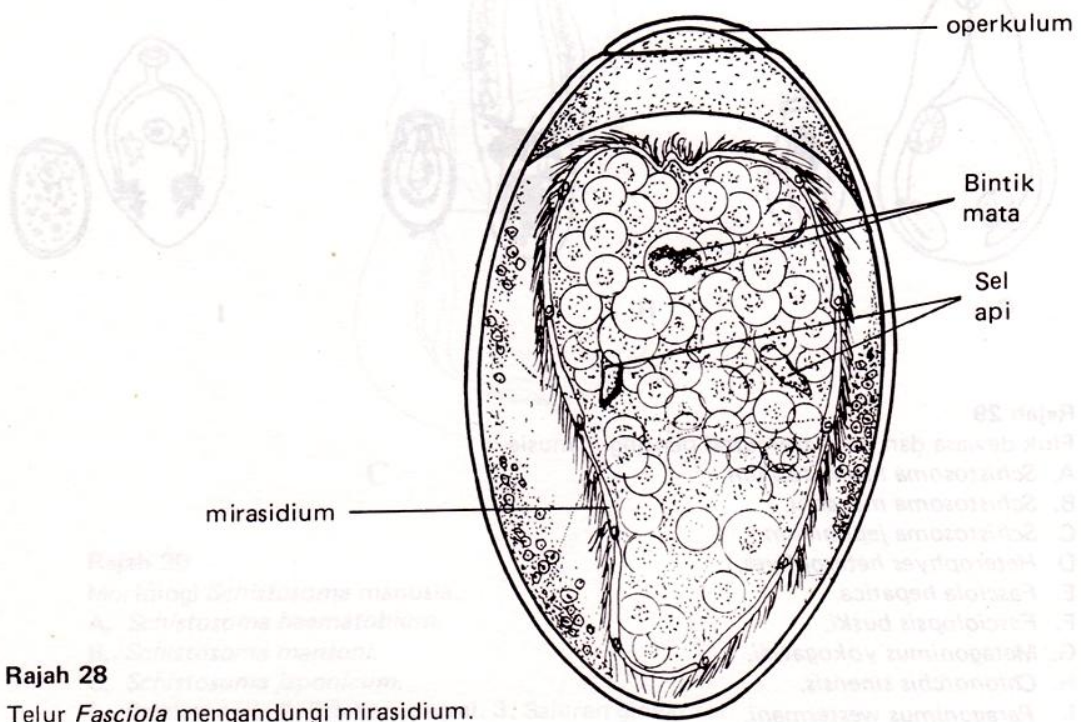
Rajah 20

Rajah skema trematod. 1. Sirus. 2. Pelekat ventral. 3. Testis. 4. Liang Laurer. 5. Usus. 6. Pelekat oral. 7. Farinks. 8. Genital atrium. 9. Pundi sirus. 10. Vesikel seminal. 11. Vas eferens. 12. Ovari. 13. Reseptakel seminal. 14. Kelenjar Mehlis. 15. Vitellaria. 16. Uterus.



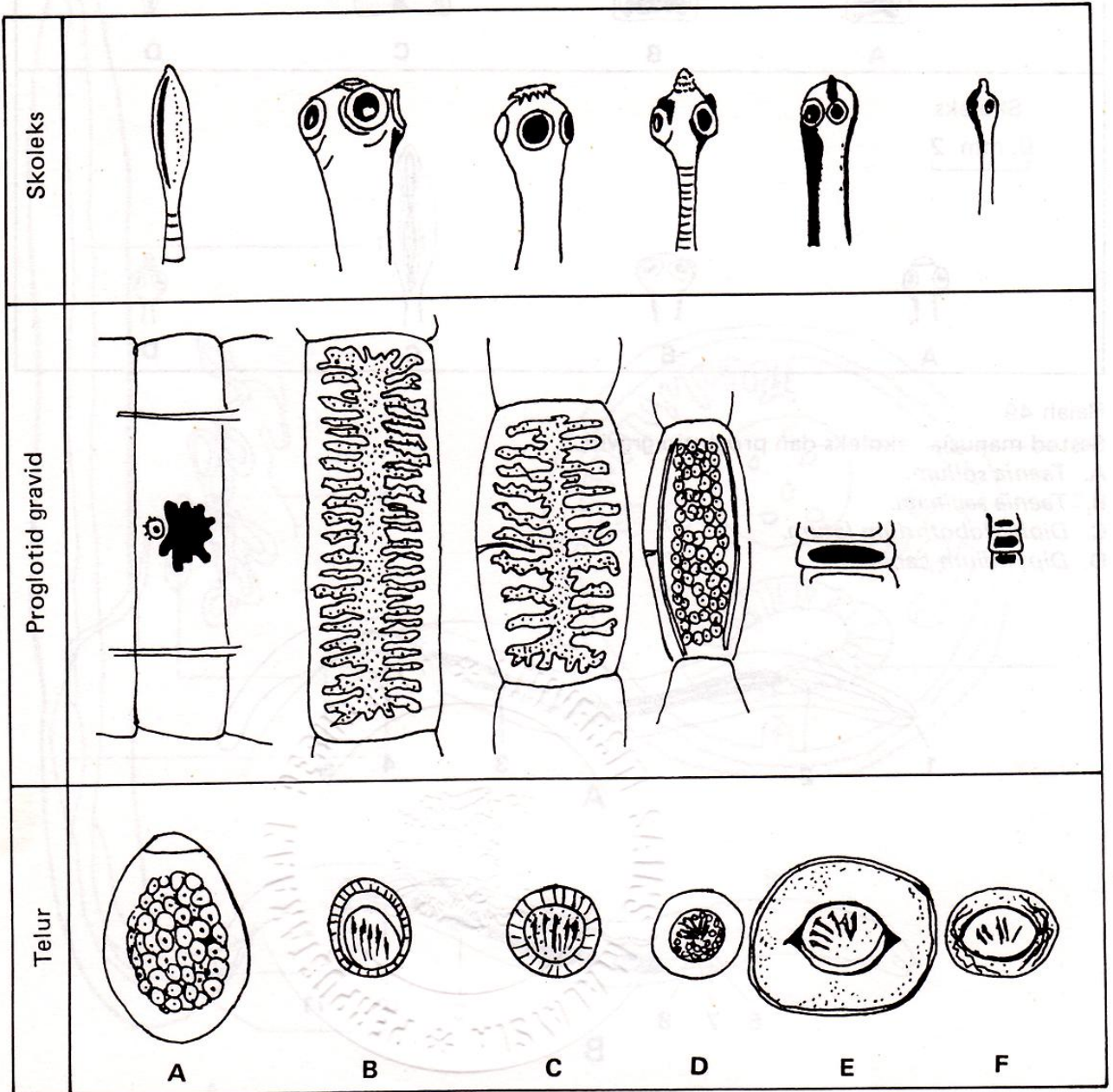
Rajah 27

Fasciola gigantica : Dewasa. 1. Farinks. 2. Usus. 3. Vitellaria. 4. Genital atrium 5. Pelekat ventral. 6. Ovari. 7. Ootaip. 8. Testis 1. 9. Testis 2.



Rajah 28

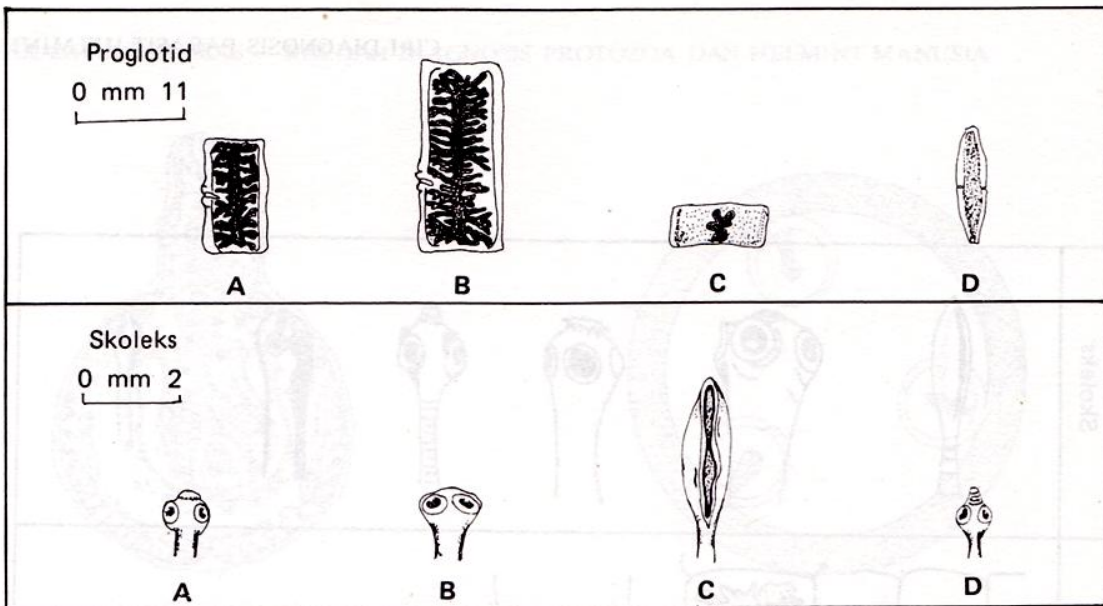
Telur *Fasciola* mengandungi mirasidium.



Rajah 48

Ciri-ciri pembeza cacing pita manusia.

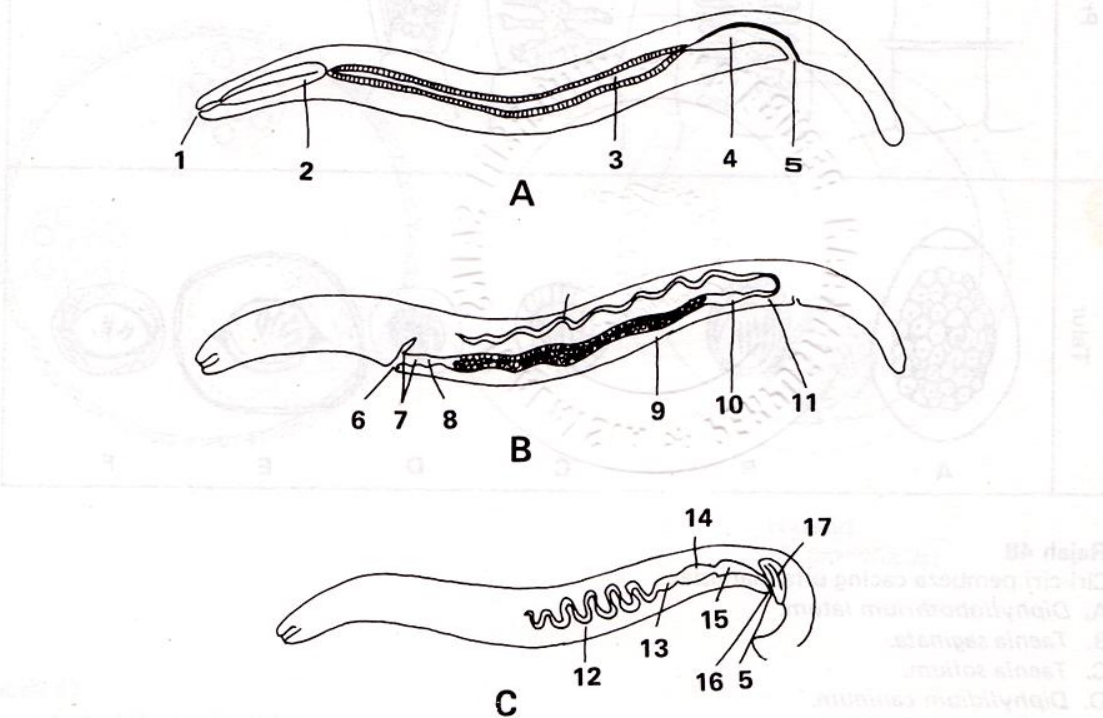
- A. *Diphyllobothrium latum*.
- B. *Taenia saginata*.
- C. *Taenia solium*.
- D. *Diphylidium caninum*.
- E. *Hymenolepis diminuta*.
- F. *Hymenolepis nana*.



Rajah 49

Sestod manusia - scoleks dan proglotid gravid.

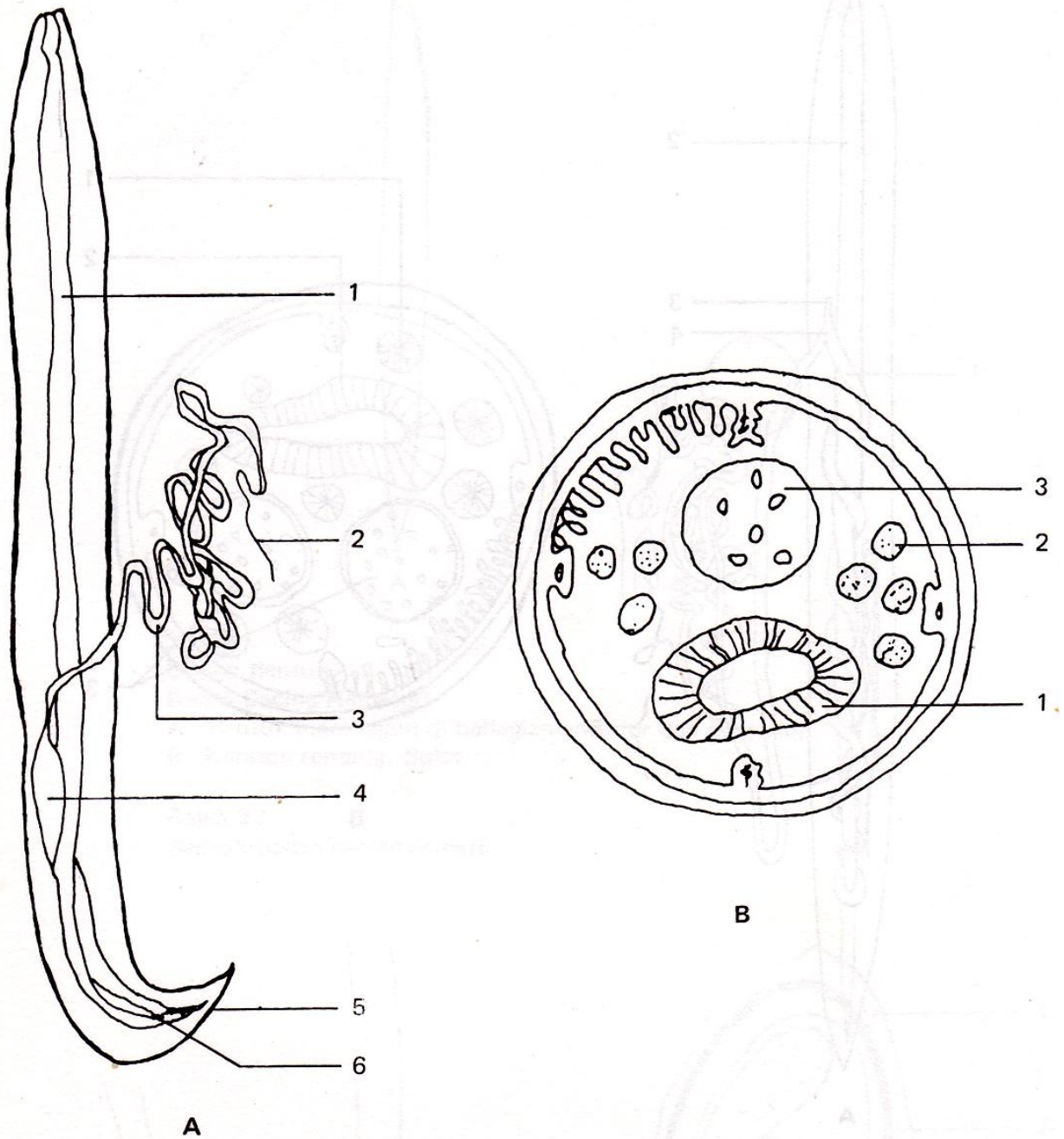
- A. *Taenia solium*.
- B. *Taenia saginata*.
- C. *Diphylobothrium latum*.
- D. *Dipylidium caninum*.



Rajah 50

Morfologi cacing nematoda.

- A. Sistem pencernaan.
 - B. Sistem pembiakan ♀.
 - C. Sistem pembiakan ♂.
1. Mulut. 2. Esofagus. 3. Usus. 4. Rektum. 5. Anus. 6. Valva. 7. Vagina. 8. Ovipositor. 9. Uterus. 10. Reseptakel semen. 11. Oviduktus. 12. Testis. 13. Vas deferens. 14. Vasikal semen. 15. Duktus pemancutan. 16. Kloaka. 17. Spikula.



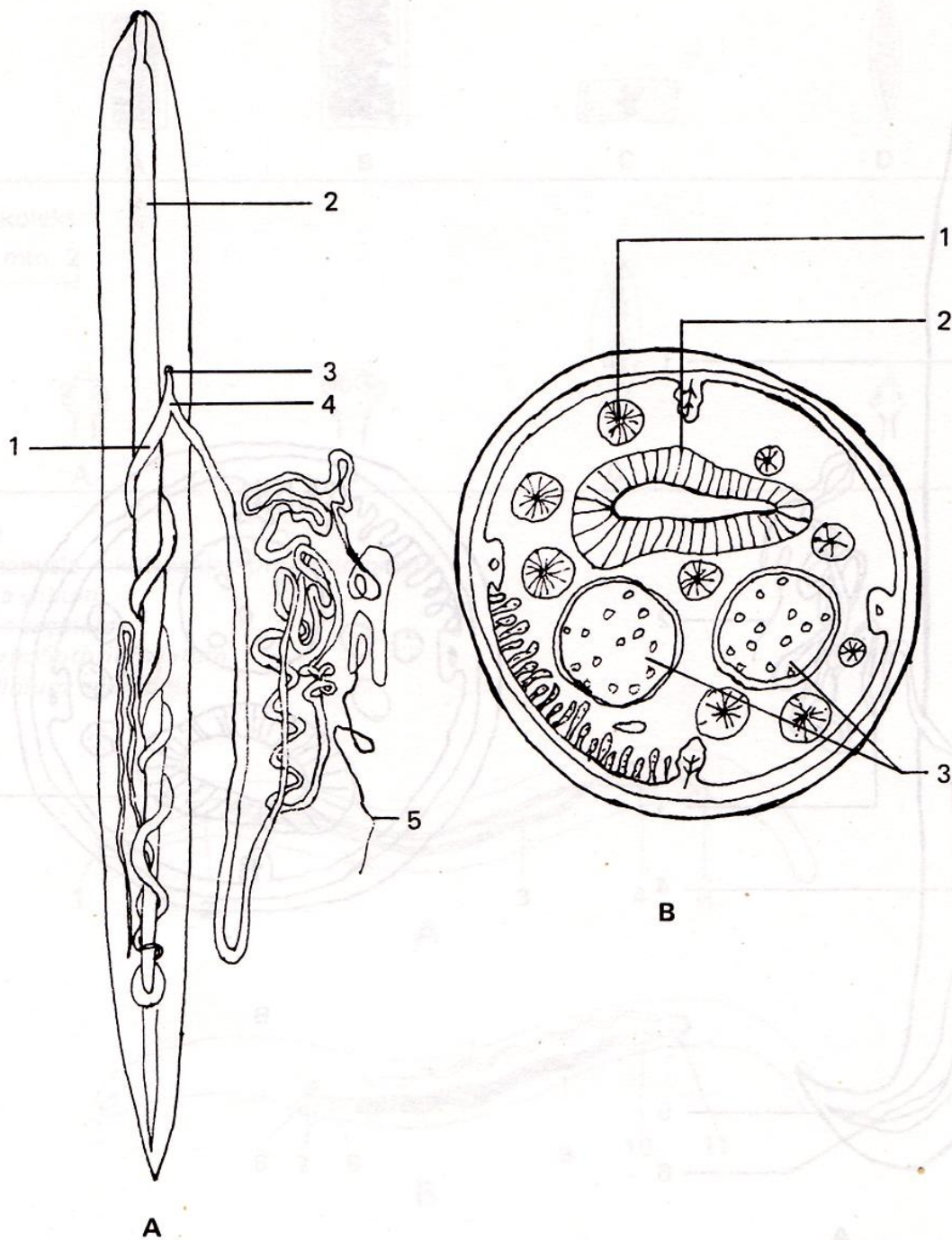
Rajah 51

Nematoda: Sistem pembiakan cacing jantan.

A. Pembedahan; mendedahkan testis dan duktus-duktus yang berkaitan dengannya.

1. Usus. 2. Testis. 3. Vas deferens. 4. Vesikel seminal. 5. Spikula. 6. Kloaka.

B. Keratan lintang. 1. Usus. 2. Testis. 3. Vesikel seminal.

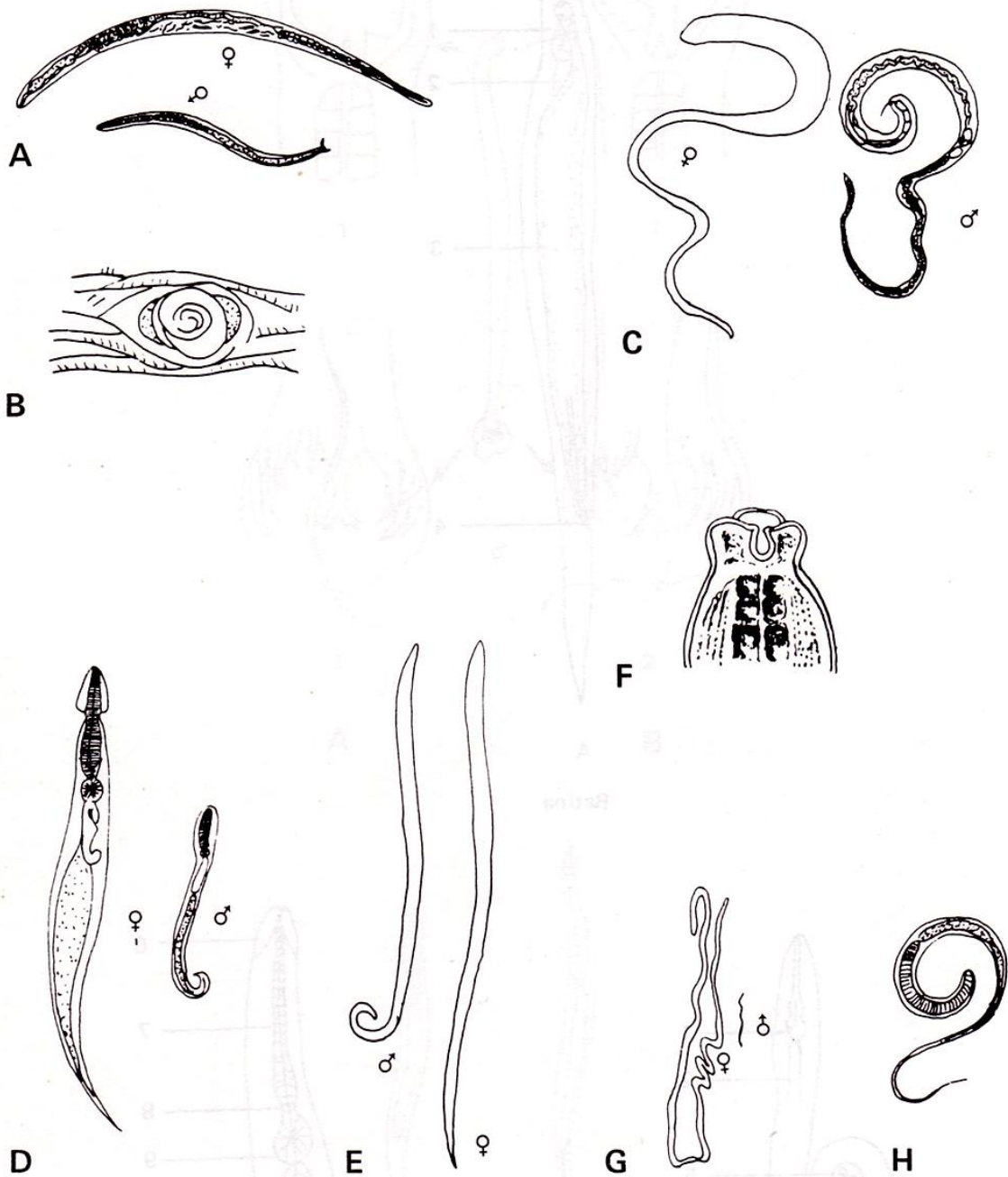


Rajah 52

Nematoda: Sistem pembiakan cacing betina.

A. Pembedahan menunjukkan ovari dan uterus. 1. Uterus. 2. Usus. 3. Vulva. 4. Vagina
5. Ovari.

B. Keratan Lintang. 1. Ovari. 2. Usus. 3. Uterus.



Rajah 57

Morfologi dan anatomi beberapa cacing nematod penting manusia.

A. *Trichinella spiralis*.

B. *T. spiralis* di otot lidah.

C. *Trichuris trichura*.

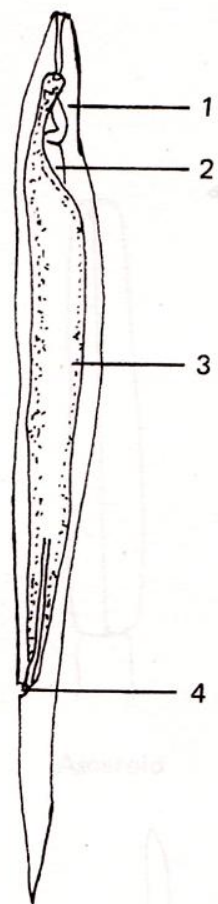
D. *Enterobius vermicularis*.

E. *Ascaris lumbricoides*.

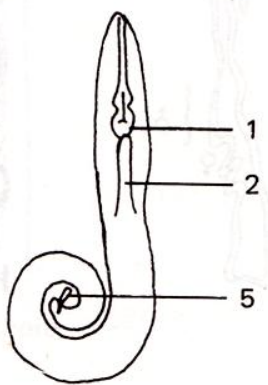
F. *A. lumbricoides*, bahagian kepala menunjukkan tiga bibir.

G. *Pracunulus medinensis*, betina.

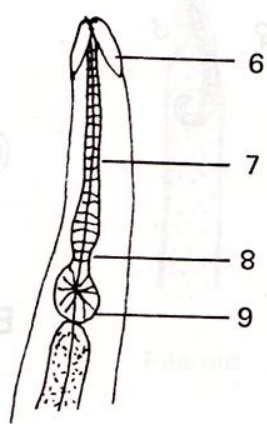
H. *D. medinensis*, larva



A
Betina



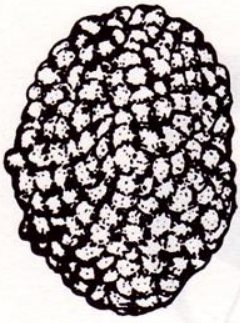
B
Jantan



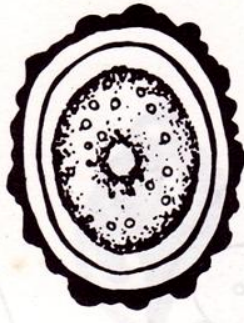
C
Bentuk Esofagus

Rajah 58

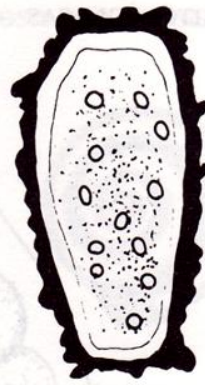
Enterobius vermicularis. 1. Bonjol esofagus. 2. Usus. 3. Uterus. 4. Anus. 5. Spikul. 6. Serviks alea. 7. Esofagus. 8. Genting. 9. Bonjol.



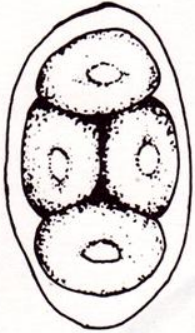
1



2



3



4



5



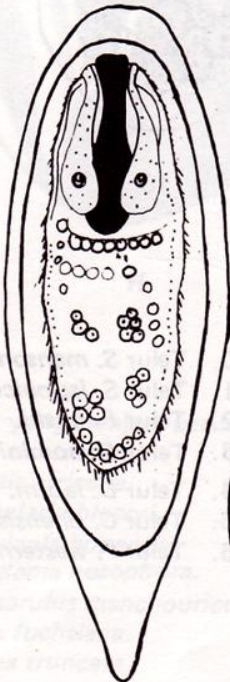
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7

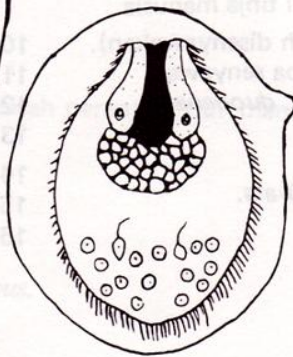


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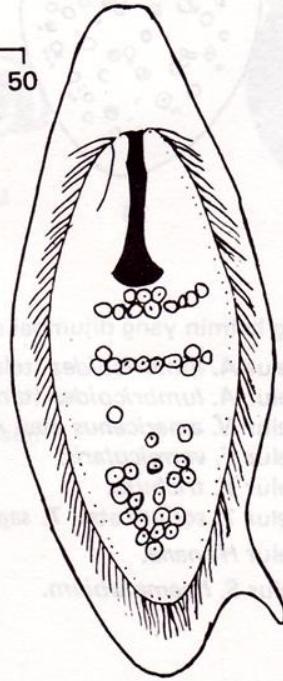


9

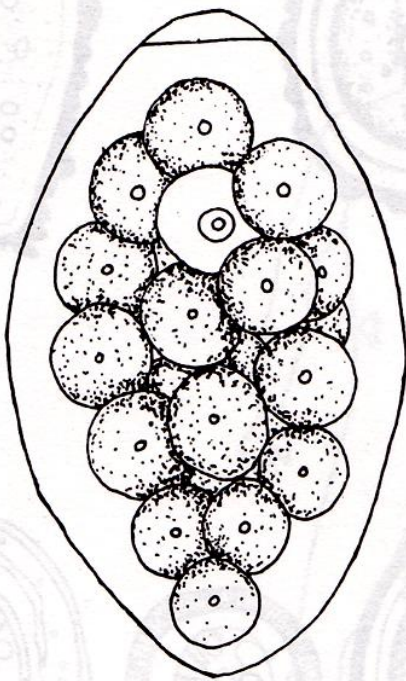
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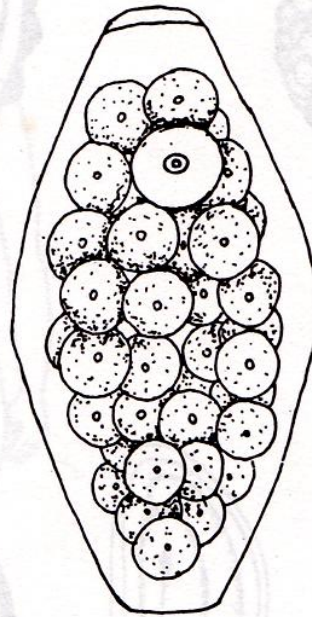
11



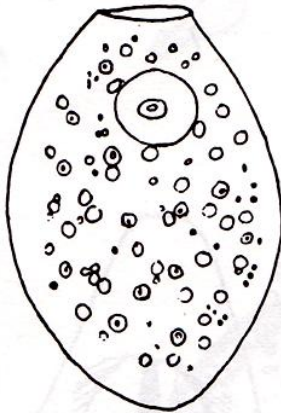
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12



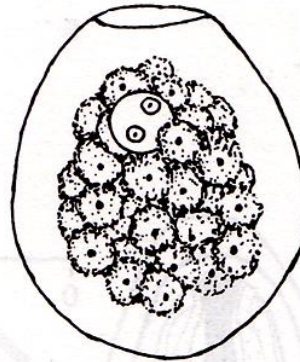
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14



15

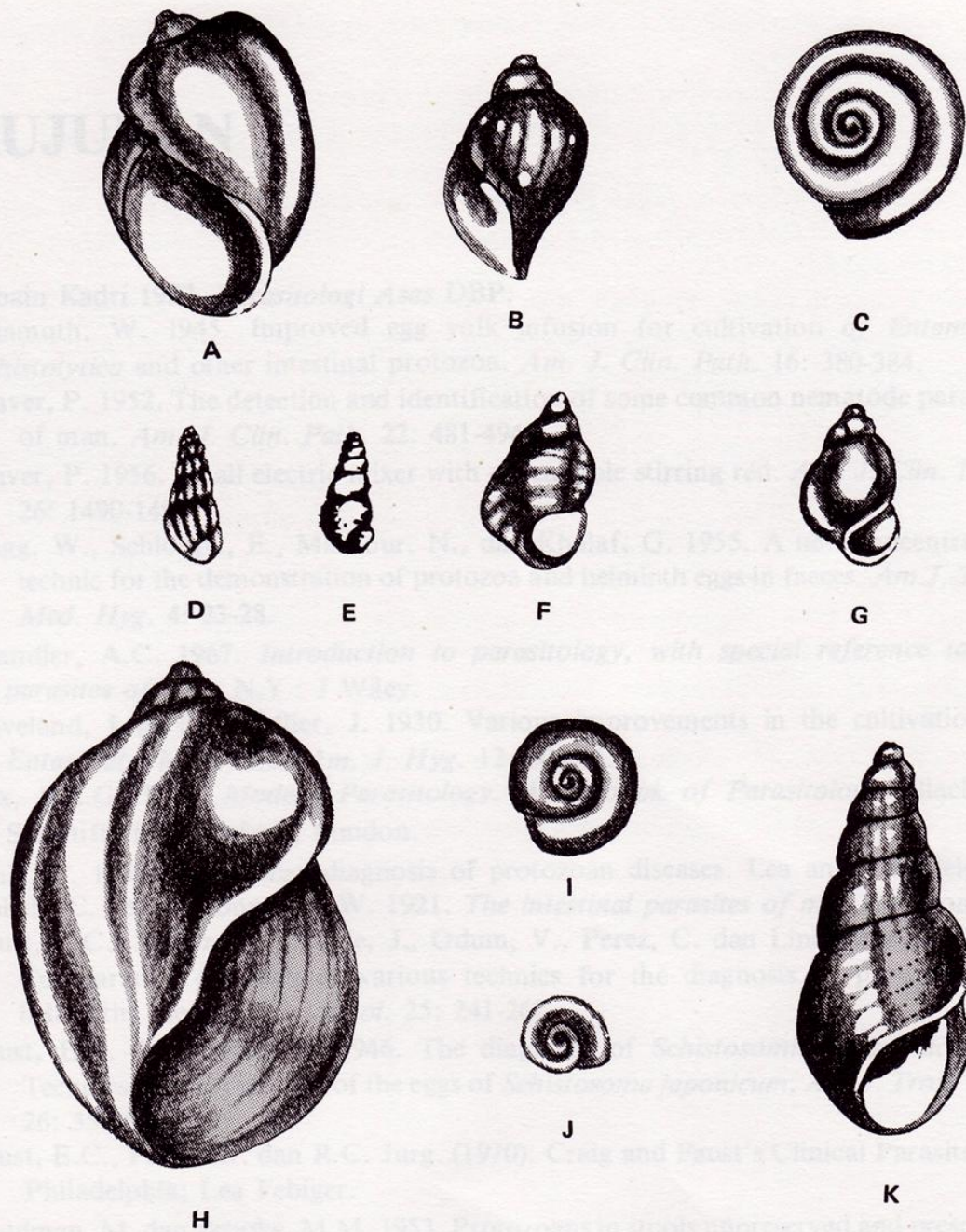


16

Rajah 68

Telur cacing helmin yang dijumpai di tinja manusia.

- | | |
|---|----------------------------------|
| 1 & 2. Telur <i>A. lumbricoides</i> (telah disenyawakan). | 10. Telur <i>S. mansoni</i> . |
| 3. Telur <i>A. lumbricoides</i> (tanpa senyawa). | 11. Telur <i>S. japonicum</i> . |
| 4. Telur <i>N. americanus</i> atau <i>A. duodenale</i> . | 12. Telur <i>F. buski</i> . |
| 5. Telur <i>E. vermicularis</i> . | 13. Telur <i>G. hominis</i> . |
| 6. Telur <i>T. trichura</i> . | 14. Telur <i>D. latum</i> . |
| 7. Telur <i>T. solium</i> atau <i>T. saginata</i> . | 15. Telur <i>C. sinensis</i> . |
| 8. Telur <i>H. nana</i> . | 16. Telur <i>P. westermani</i> . |
| 9. Telur <i>S. haematobium</i> . | |



Rajah 69

Siput-siput yang menjadi perumah perantara fluk manusia.

A. *Bulinus contortus*.

B. *Physopsis africana*.

C. *Biomphalaria bioxsi*.

D. *Oncomelania hupensis*.

E. *Oncomelania nosophora*.

F. *Parafossarulus manchouricus*.




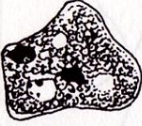









G. *Bulimus fuchsiana*.

H. *Lymnaea truncata*.

I. *Hippeutis schmackeri*.

J. *Gyraulus prashadi*.

K. *Thiara libertina*.

	A	B	C	D	E	F	G
Trofozoit							
Sista							Tiada sista

Rajah 17

Beberapa spesies *Amoeba* (protozoa) yang selalu dijumpai di tinja manusia.

- A. *Entamoeba histolytica*.
- B. *Entamoeba hartmani*.
- C. *Entamoeba coli*.
- D. *Entamoeba polecki*.
- E. *Endolimax nana*.
- F. *Iodamoeba butschlii*.
- G. *Dientamoeba fragilis*.

	FLAGELAT	SILIAT	KOKSIDIA
Trofozoit	<p>A B C</p>	<p>D</p>	<p>E</p>
Sista			

Rajah 18

Protozoa yang selalu dijumpai di tinja manusia.

- A. *Trichomonas hominis*.
- B. *Chilomastix mesnili*.
- C. *Giardia lamblia*.
- D. *Balantidium coli*.
- E. *Isospora* sp.

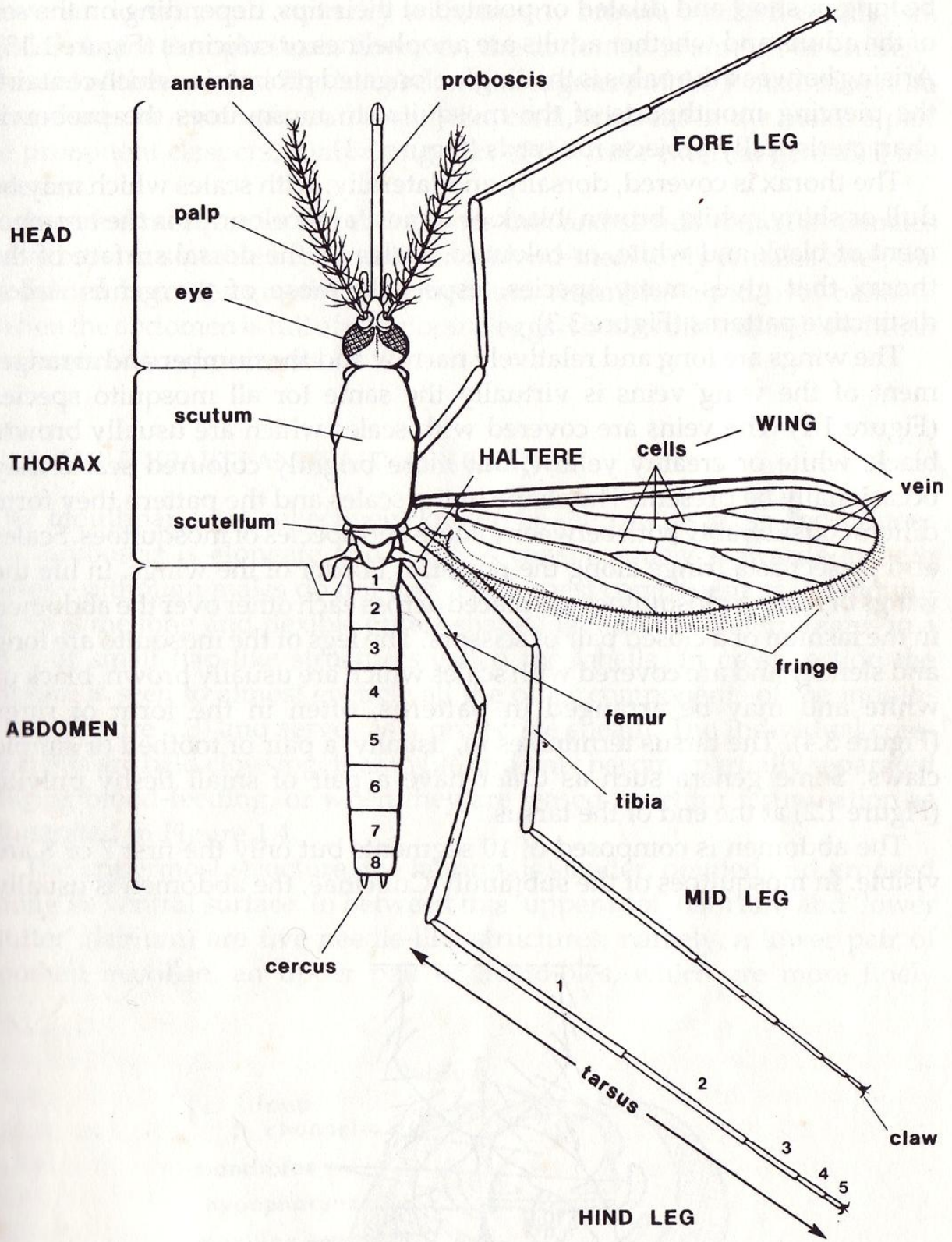


Figure 1.1 Diagrammatic representation of a female adult mosquito.

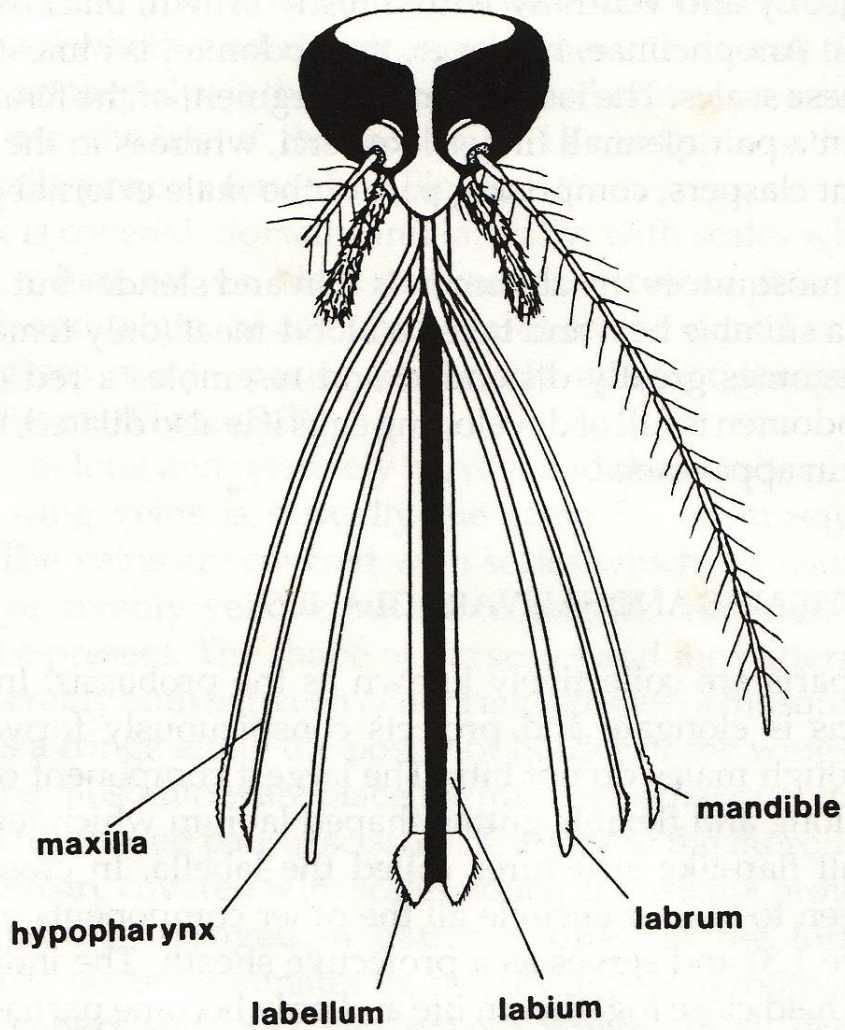


Figure 1.4 Diagram of the head of a female culicine mosquito showing the components of the mouthparts dissected from the labium.

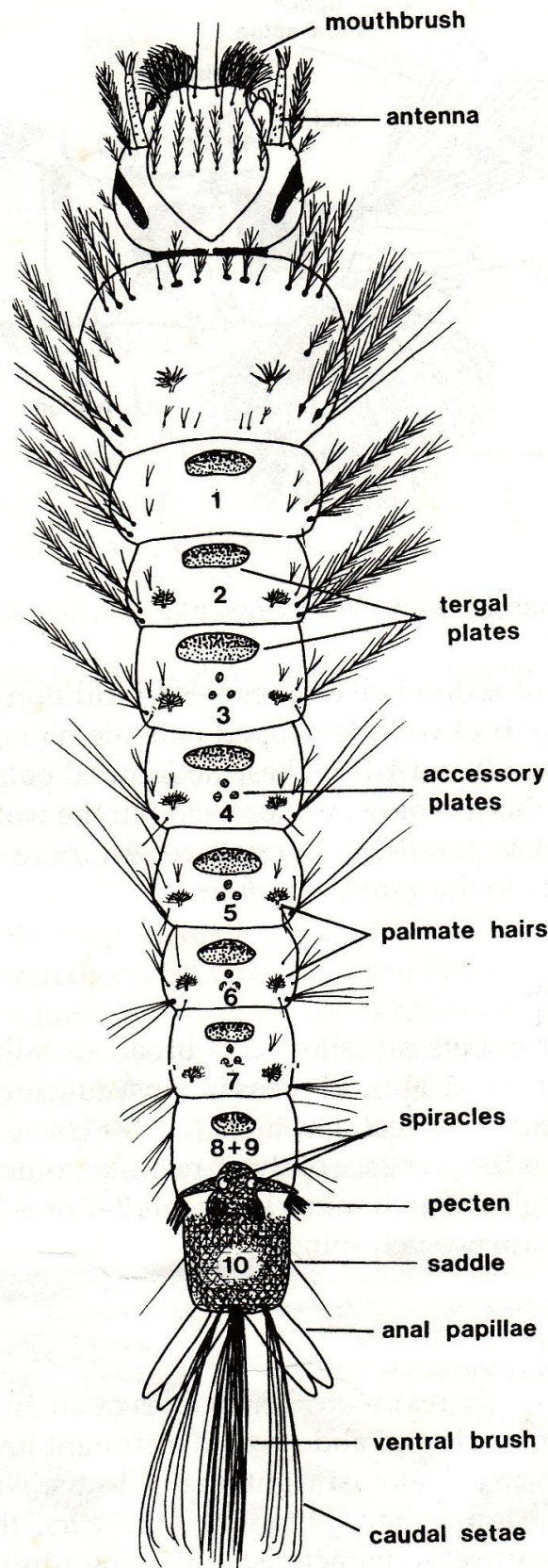


Figure 1.9 *Anopheles* larva, dorsal view.

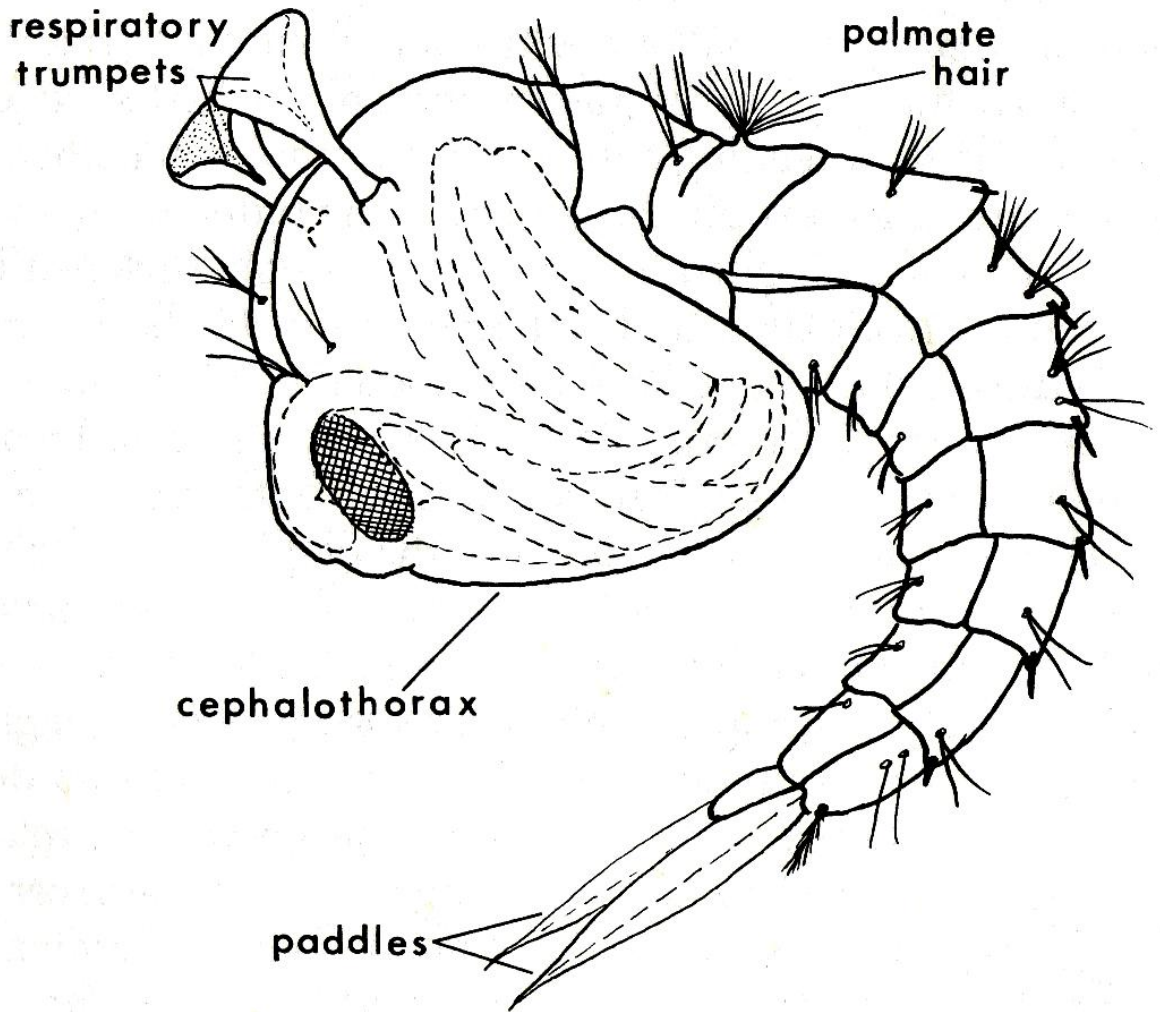
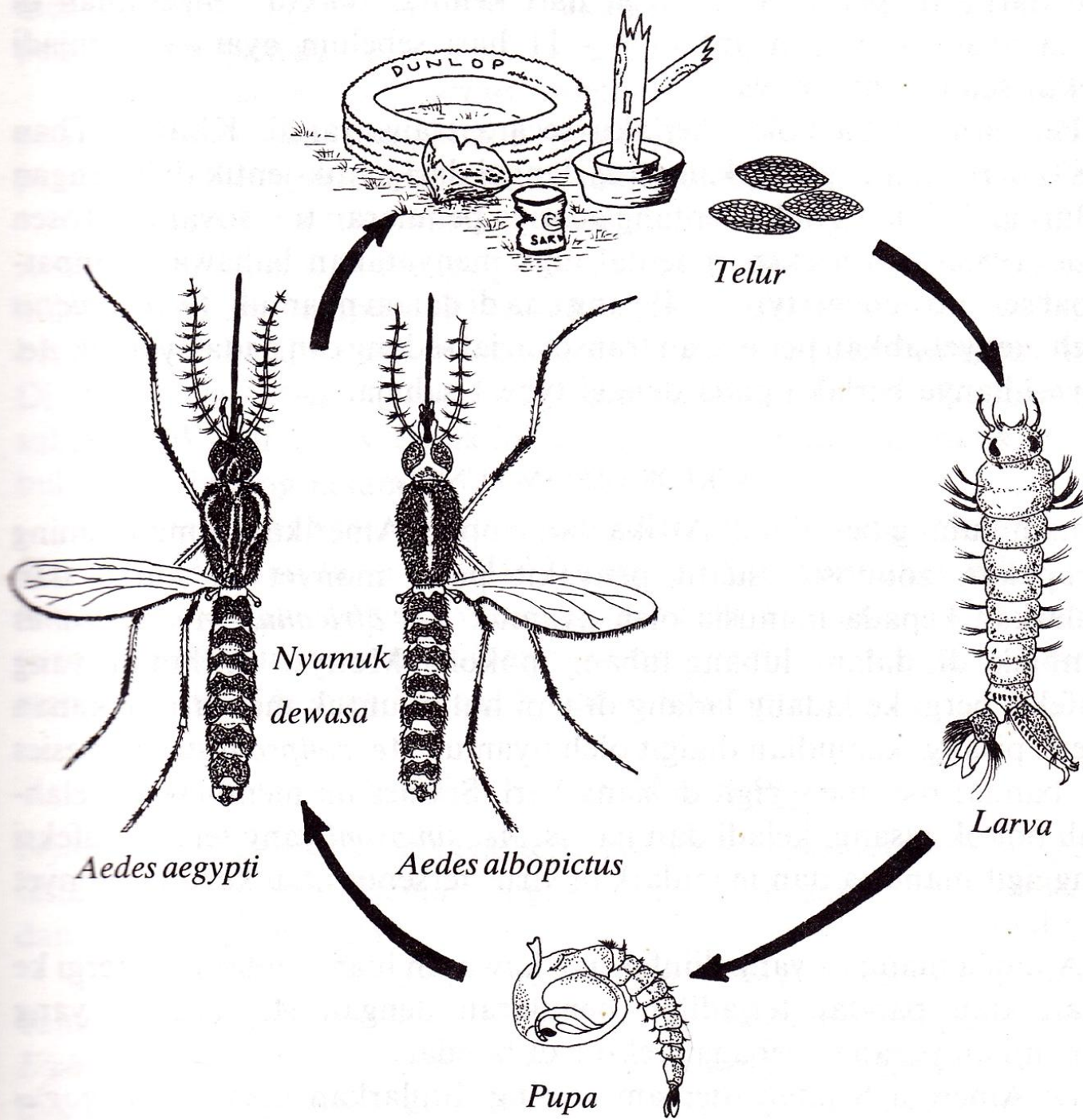
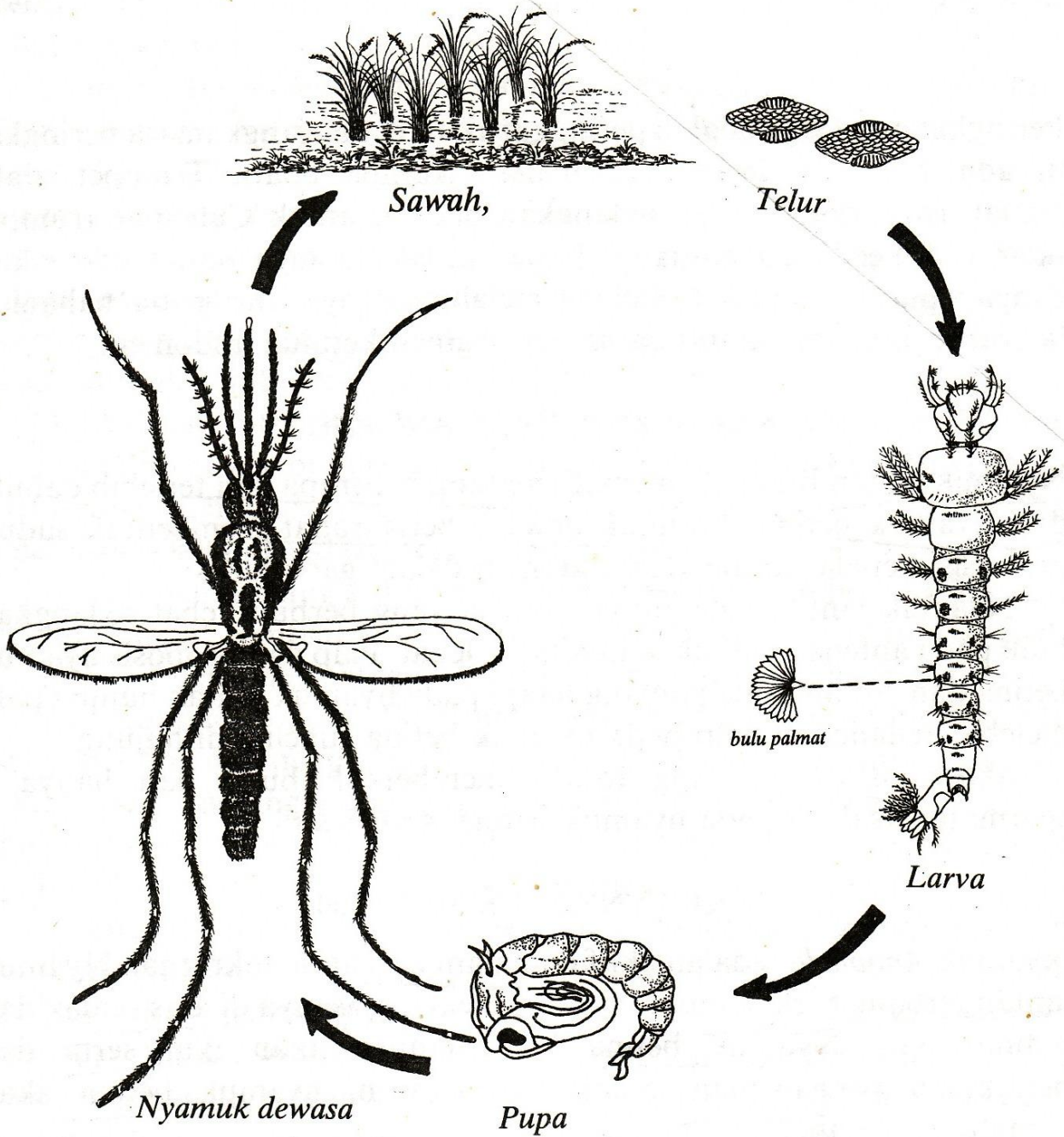


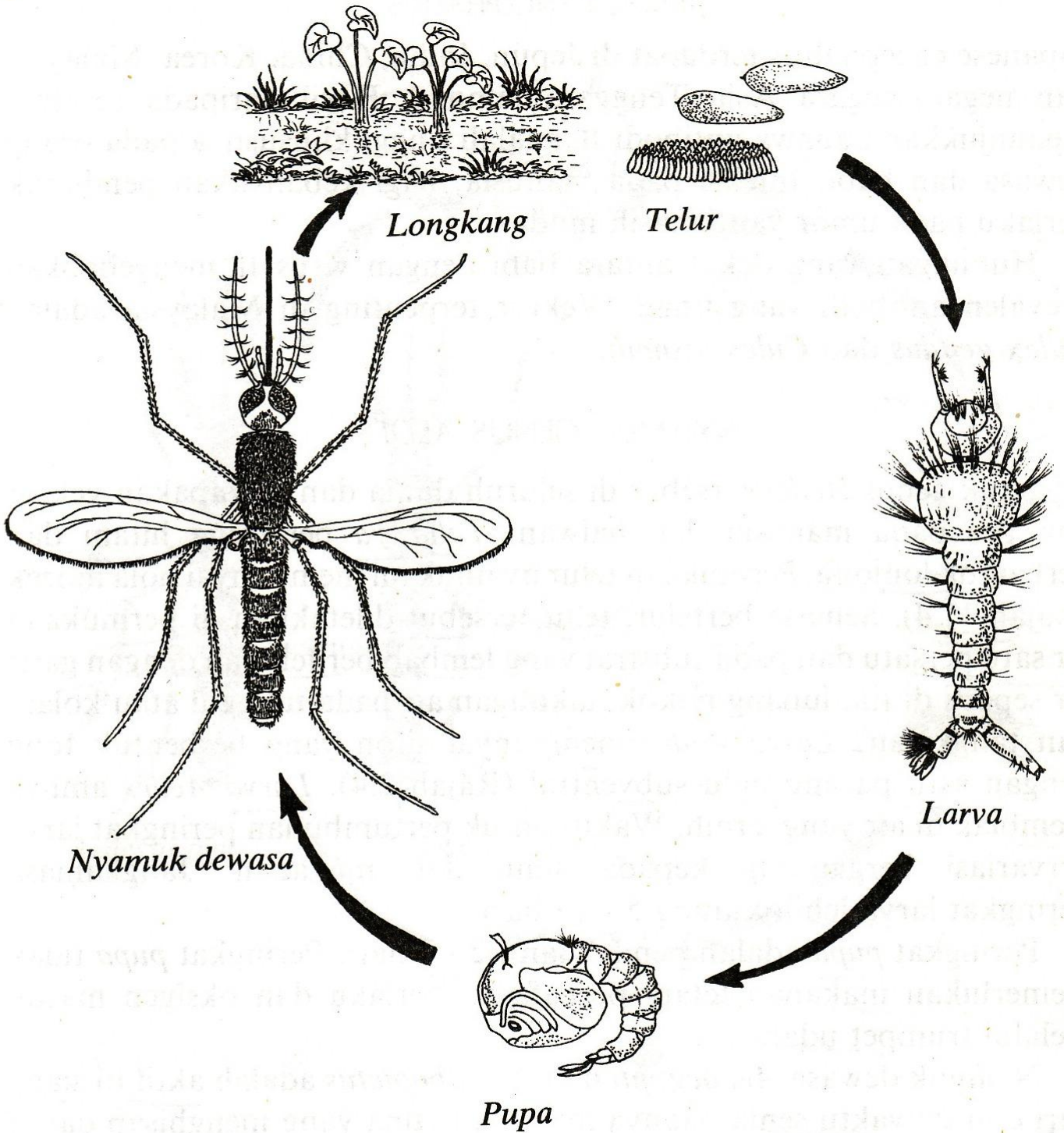
Figure 1.6 *Anopheles* pupa.



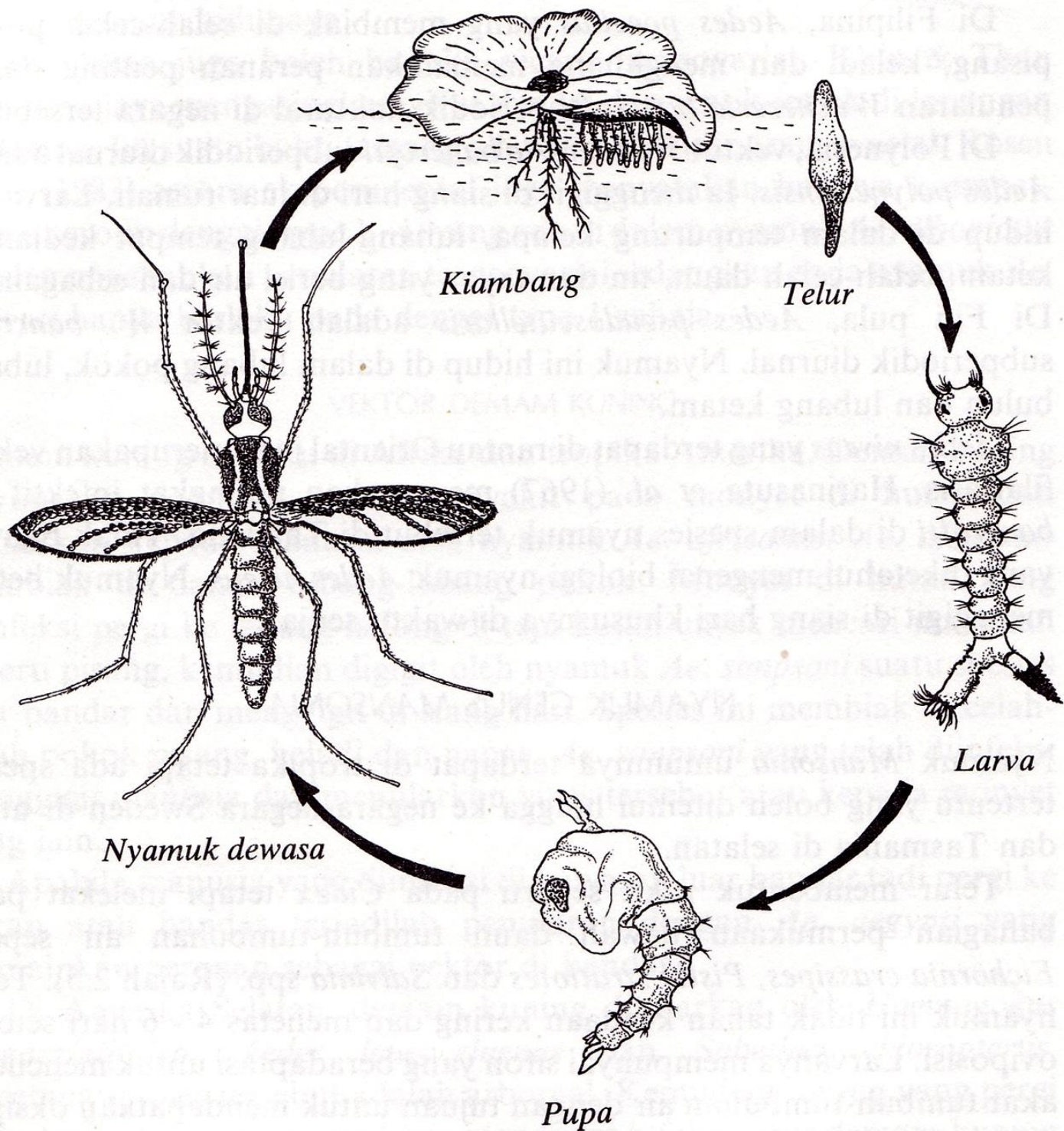
RAJAH 2.4 Kitaran hidup nyamuk *Aedes aegypti*/*Aedes albopictus*



RAJAH 2.2 Kitaran hidup nyamuk *Anopheles campestris*



RAJAH 2.3 Kitaran hidup nyamuk *Culex quinquefasciatus*



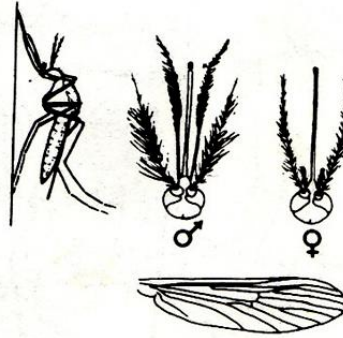
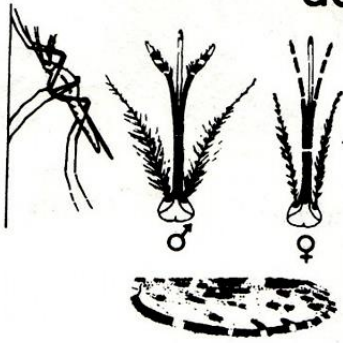
RAJAH 2.5 Kitaran hidup nyamuk *Mansonia uniformis*

ANOPHELINES

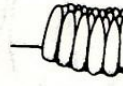
CULICINES

Anopheles

adults



eggs

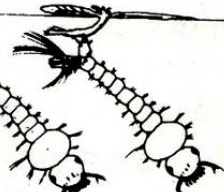
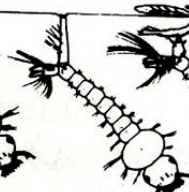
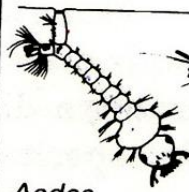


Aedes

Culex

Mansonia

larvae

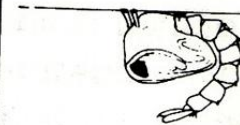


Aedes

Culex

Mansonia

pupae



Aedes
and *Culex*

Mansonia

Figure 1.13 Diagrammatic representation of the principal characters separating the various stages in the life cycle of anopheline and culicine mosquitoes.

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