

7KLV DUWLFOH LV UHSULQWHG RQ WKH &DUWHU &HQWHU V ZHEVLWH Z
OHGLFLQH DQG +\JLHQH

\$P - 7URS OHG +\J SS
GRL DMWPK
&RS\ULJKW [7KH \\$PHULFDQ 6RFLHW\ RI 7URSLFDO OHGLFLQH DQG +\JLHQH](#)

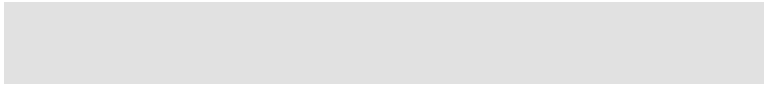
CASE-REPORT

Emergence of 2 QFKRFHUF From Skin Mincing
'UDFXQFXOLDVLV PHGLQHQLV

Mark L. Eberhard 0.11.F#3.8 Žü of H[(3(e)7(alth/G)Mahana0 41He)4(alth)C005-361.24 -11.52 Dracunculus medinensis Q I H E @ LZR
ZRUP UHFRYHUG ZDV LGHQWLILHG DV

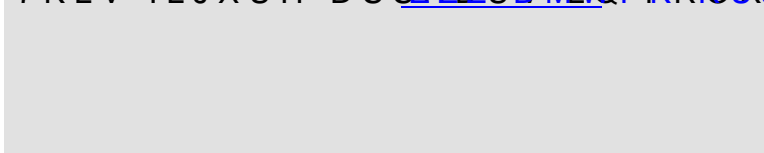
*XLQHD ZRUP GLVHDVH7KDYHUE SRIQWU6FMDYHOG/ DQG IXUWKH
SURYILXGHWKHU LQVLJKW LQWR WKH ELRDRS OIRF DRVQFRKRV HIRU L*
ZRUP HUDGLFDWLRQ SURJUDPV

(OHYHQ DGGLWLRQDO Q. SchuilsKDYH UHIBIOLHYHOG G KQJ QJ ±
7KHVH VSHFLPHQVE DHHJ K WSEJHWHH VWRP *KDQD RQH LQ
DQG WZR LQ DQG RQH HDFK IURP BQDQGDVH G ,Y&I
6HYHQ RI WUKHSRQW HVGZIHURP PDOHV WkuHHZIDVRP IHPD
QRW UHFRUGHG \$JHV UDQJHGF DURPV WKR DJHHZDV QERW UQF
7KH ZRUPV HPHUJHG IURP YDULRXV VLWHV RQ WKH ERG\ L



), * 85(&DPHURRQLDQ ZRPDQ IUI
Onchocerca volvulus HPDOH ZRUP ZDV U
KHHO RI AWK, PDJR W V GUHVVLQJ
B , PDJH RI ZRUP EHLQJ H[WUDF
7KLV ILJXUH DSSZDZUMLVQPKROR.

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[>LQ D QHZ ZL](#)



:KHQ H[DPLQHG XQG HU D PLFURVFRS K D WWWZDWH PPHVSHFWPH
QRW *XLQHD ZRUPH DDVQ @ WLG H QZVLUH HIGS ENFIDXP DOR I WKH GLV
QDWXUH RI)WJKXU FIX WHL FFXHW LFOV RUSKHP/DFOKD UDFWHULVWLF IH
LQFOXGLQJ H[W H M Q DDJ R X G CHW KWK DRG\ DQG LQWHUQDO ED
GLIIHUHQW VSHFLHV KDYH GLVWDOG WXPHE HUL JRI DQQVMSQ BQQ
ULGJH vol, Qlus W KHUHWZR VWULDH SHU ULGJH RQH XQG HU DG

\$ FRQVSLFXRXV IHDWXUHORvbiwixsP DQK HL Q RHUPVDLRLQ Q LRM KV X E F X V
QRGXOHV LQ ZKZRKJ FVR IPDN GE HD GXOPR QVWUDWHG 7KH SDUDV
GHVFULEHG LQ E\ /HXFNDUW DU S PI UVRGX O G V * KDOGDH U' HWKSH
ZHOO GRFXPHQWHGL R WRXORUJH Q FHS S IDUDQFH RI VXFK QRGXC
QRGXOHV PD\ RFFXU LQ GHHS WIQRMUIS D FODHGL Q R W EXHWKRDQ/L
QRWHG RU VSHRFXQDWHG FRIQRW D G XOW ZRUPV QRW EHLQJ HG
ORKDPPHG VSHFXODWHG WKDW DRGXOSRQRUP DWRLB QDZFDWL SQ
GHJHQHUDWLQJ ZRIULPQ/MXUA DV R HWKHO WRUP DQ H[SODQDWLK
SUHVHQW RYHU E-RQ L S URPHL RUI Q G FWDN Q RLW WRI HFF FRRX QW WKI
\RXQJ IHPDOH ZRUP E VFDUQ IRGWLHQ QERHGXOHV +RZHYWU D W W LV
QRGXOHV FDQ EH SDOSDWHG LQ IHZHU FV KDOG UHQI ZR W Q JDP
SUHVXPHG \RXQJHU SRS XOKDWWL R Q LVI ZIR S PRU WELXWQ LQFUHDV
PLFURILOD S HDU S R Q V VPLRYH WKDQ \HDUV RI DJH

:RUWK QRWLQJ EXW RI XQFHUWDLQQY D Q X M ED WAKDMDUDID ZH
DQG WKDW PRV WDDMSUHD E M W WRX Q H EDVHG RQ RUJMKHRZHY
VSHFLPHQV FRQWDLQHG PL FFDRLXQDULDRHQ L D G G FFDWHLQ JV KD Q
ZLWKRXW WR H DROPR QXLR Q% DVHG RQ SHUVR QDVK RIE V HU YDW
ZRUNLQJ LQ WKH ILHOG RI R Q F IQRG KLOFLD VIL W LD Q G WWHIGH DQDS
SURJUDPV RSW RWR RFB O F K LW VHHPV QHDUO\ LPSIR RYIHEJHG W G
WKH SUHVHQW FDVHV ZHUN Q R G W D B O D Q G F R V K W D L Q R I G H Z R W K L H
WKDW QR GAKIOH FRRXULQJ RI H[WUDFWL R Q

8QIRUWXQDWHO\ DGGLWLRQDO L Q R G J F D W L R Q O R Q E H W K B M A X F O
:H EHOLHYH WKDFD V D Q P B I W B Y H F R P H I U R P D U H D V U H F H L Y
SDUW RI PDVV GUXJ DGPLQLVWUDW WR R Q V X V S J H F D P G U X X W Z H D
FDXVH RI ZRUP H S S X H O V L R W Q F L D V W K H D Q G Z H G R Q R W V X V S H F V
ZLWK QRGXOH IRUPDWLRQ DQG WR H W H Q R I G H X O H F F R I X O V M B G R R L
L I D R I W K H S H Z U K R R Q W K I H V I P Z R U P V Z H U H H [W U D F W L H G G K D G
WKH VNLQ LQGLFDWLQJ WKH SZRHUPHQ RRU RZIKRWWKHW D Q G L S D I O
QRGXOHV ZHUH ZH H F D Q Q R W / V D W O L W K D Q \ F H U W D L Q W \ Z K H W
IRUPDWLRQ RI WKH VNLQ OHVLRQ D R G H R I S H U C L Q J V Z K B W K H Q D
FDVHV D * X L Q H D R Z R U R S H R O X L Q W R H H D Q R W K H U K H D O W K Z R U N I
KLPVHOI RU KHUVHOI VFUDWFKHGI R V V R W W W K I R V N K Q Z O Q F K F V
HPHUUHG +RZHYH V H Y L Q U M D L S R U L Q J D V U G D Q E H P D G H Q R M H P D Q
KDYH FHUWDLQ KDOOPDUN I H Z R V X P J G V V R I D D V H V U X K H B B V Z D R I Q * R
D F O D V V U E J E Q I H V W H F D X V H P D r a c u n d u s Z H R P O V H V H F U H D W H R U U H O H
V X E V W D Q F H W K D W F U H D W H V W Z R U I R W F D W L Y R I O \ R H I P W K H J H E O L V M
H Q V X L Q J O H V L R Q W K Z H F R X Q B H S W D Q G W W H U P L Q R O R J \ E R I W D + Z I R ' U
Z R U V W T p
@A

),*85(*XLQHD ZRUP OHVLRQ IURP
XWHULQH WXEH LV SURWUXGLQJ
WUDQVSDUHQW DSSHDUDQRH DWKL
[ZZZ DMWPK RUJ](#)

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[>LQ D QHZ Z](#)

\$OWKRXJK WKH SUHVHQWDWLRQ RIIRZURKRPDWKRQRFKR FMKIFLDM
H[SHULHQFH LW ILQFEHLDQJLQHCSR BWHHG WKH SDVW WCKIEVGH E
SUHVHQWDWLRQ LV FDXVHG E\ WZKHU BHFUMHDMHQJDLQF IZGNQV
OXPSHG ZLWKLQ DWKDWZRGHPWHVWKDWDQHPHUJHG IURP WKH VNLQ
ZRUPV :LWK WKH KHLJKWHQHG LQWIDWIDVMDVGVGRFXRHOVLDQ
GLVHDSVH WR VXSSUHQWNSUNSDVLRQGRDWWXNDQVPLVVLRQ WK
RQFKRFHFDQNLZALWVQNZEHUFRHGLQJWR RSDUDWVAFQWLRQ FV

QRGXOHV :H DUH QRLW KHEW HR IWRKDI G B UTHXHW WLRQV RWKHU V
GRFXPHQWHG RFFXUUHQFH RI WKH FDVUHWJ D R G V QS UZKYDLG HP D
PD\ QRW EH DQ XQXVXDO DVSHFW RI RQFKRFHUFLDVLV

5HFHLYHG \$XJXVW

\$FFHSWHG IRU SXEOLFDWLRQ 6HSWHPEHU

\$ & . 1 2 : / (' * 0 (1 7 6

:H WKDQN DOO 0LQLVWU\ RI +HD B WKG W K B Q W K W H J D Q H Q W H L U R Q D Q G D W K I R
FROOD B Q W L W Q D Q V S R U W RI V S H F L P H Q V & R R O W B E R : U R D W I G Q J H S C Q W K H D U D D Q & J

\$XWKRUV DGGUHVHV 0DUN / (EVHUKDUG D Q G L O D L R D U R D 3 B H Q W L H W L F I R U
3UHYH Q W O B Q W P O H P # F L G F (U R Y H V W R 5 X L] 7 L E H Q G U B F W Q R X O 3 W R J L V D P 7 K H
& H Q W H U \$ W O D E W X D L T W L # P S R Q S U H G X 6 . R U N R U * K D Q D * X U B H W D : F R U P (U D G
* K D Q D + H D O W K 6 H U Y L F H V H D P O X I R U K R Q B # K P R D I O S R U J ' L Y L V L R Q R I) R R
: D W H U E R U Q H D Q G L V G D W U R Q B H Q W H O V I R U ' L V H D V H * & R Q W U R O D Q G 3 U H Y
V W U # F G B K I R O L S ' R Z Q V 1 H J O H F V U R G J U D I R S & F I D O V H L V H P W H Q W H U Q D W L R Q D C
' H Y H O R S U P R X S V 5 7 , , Q W H U Q D W L R Q D C S G : B Z Q L Q U W R Q U ' & (P D L O

\$GGUHV FRUUHVSRRGHQFH WR 0DU'NVHD EHV KDQG 0DLYDMLBQ &HQWHDW
&RQWURO DQGD B ONVHRSWLRQ %XIRUG +LJKZD\ 1((P\$WODQWD *\$
PHEHUKDUG#FGF JRY

5 () (5 (1 & (6

+RSNLQV '5)RHJH :+ *XScento2ZRUP GLVHDVH

&HQWHUV IRU 'LVHDTVH &RQWURO DQG 3UHYHQWLRQ
GUDFXQFXOLDVL-XQ+D QMVRJ Morb Mortal Wkly Rep58 ±
>HGOLQH@

&HQWHUV IRU 'LVHDTVH &RQWURO DQG 3UHYHQWLRQ
ZZZ FGF JXLQHDZRUP UHV RYZZFHFVZJXLSQ M B ZRUP UHV RX
XS JZ \$FFHVHVG 6HSWHPEHU

%LPL /)UHHPDQ \$5 (EHUKDUG 0/ 5XL] 7LEHQ (3LHQL
Dracunculus medinensis U R P insignis E\ WKH VHTXHQFH DQDO\VLV RI W
JH Ann Trop Med Parasitol99 ± >&URV>:5HEI@I 6 B D H G F H L @ H @

(EHUKDUG 0/ 0HOHPRNR * =HH \$. :HLVVNRSI 0* 5XL] 7
0LVLGHQW IOnChFDeWLVRIQUS DIV JXLQHADn ZpUMed Parasito95
± >&URV>:5HEI@I 6EDHGDL@H@

\$OELH] (- %XWWQHU ': 'XNH %2 'LDJQRVLV DQG H
RQFKRFHtopMedParasito89 ± >0HGOLQH@

'XNH %2 2QFKRFHUFLDVLV GHHS TansPScEXQGOHV F
Trop Med Hyg64 ± >:HE RI 6EDHGDL@H@

0RKDPPHG \$6 &RQWULEXWLRQ WR WKH VWXG\ RI W
RI KXPDQ DQG ERYLAOnTropMed Parasito25

9DQ GHQ %HUJKH / 5HFKHUFKHV VXU O RQFKRFHUF
DGXOWHV HW OHXU O RAnSocBelgMedTropFKH]±O KRPPH

%HFNHU & . \$GKOnCaMblQdsJLDHH LAnSocBelgMed
Trop30 ± >0HGOLQH@

'XNH %2 7KH UHDS SHDUDQFH UDWH RI LQFUHDVH
RI
A¾.-R" ñ 4s•00