

7KLV DUWLFOH LV UHSULQWHG RQ WKH &DUWHU &HQWHU V ZHEVLWH Z
0HGLFLQH DQG +\JLHQH

\$P - 7URS OHG +\J SS
GRL DMWPK
&RS\ULJKW [7KH \\$PHULFDQ 6RFLHW\ RI 7URSLFDO 0HGLFLQH DQG +\JLHQH](#)

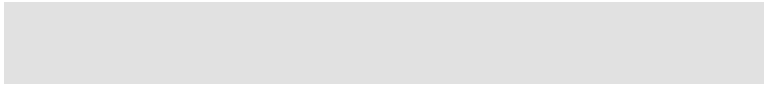
CASE-REPORT

Emergence of 2 QFKRFHUF From Skin Mincing
'UDFXQFXOLDVLV PHGLQHQLV

Mark L. Eberhard 0.11.18.2018 of H[(3(e)7(alth/G)Mahana0 41He)4(alth)C005-361.24 -11.52 Dracunculus medinensis QIHE @ LZR
ZRUP UHFRYHUHG ZDV LGHQWLILHG DV

*XLQHD ZRUP GLVH7KDYHUE SRIQWUB FMDYHOG/ DQG IXUWKH
SURYILXGHWKHU LQVLJKW LQWR WKH ELRDRS OIRF DRQLFRQV HIRU L*
ZRUP HUDGLFDWLRQ SURJUDPV

(OHYHQ DGGLWLRQDO V. S. H. A. S. K. D. Y. H. U. E. S. R. I. Q. W. U. B. F. M. D. Y. H. O. G. / D. Q. G. I. X. U. W. K. H. ±
7KHVH VSHFLPHQVE DHHJWSEJHWHHQQWLRP *KDQD RQH LQ
DQG WZR LQ DQG RQH HDFK IURP BQDQGDVH G ,Y&I
6HYHQ RI WUKHSRQWHVGZIHURP 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 XQGHU D PLFURVFRS K D WWWZDWH PPHVSHFWPH
QRW *XLQHD ZRUPH DDVQ @ WLGHQZVBLVHIGs ENFIDXPDOIRI WKH GLV
QDWXUH RI)WJKXU FIX WHL FFXHWL FODV RUSKHP/DFOHD UDFWHULVWLF IH
LQFOXGLQJ H[WEMQDDU BXG CHW KWK DRG\ DQG LQWHUQDO ED
GLIIHUHQW VSHFLHV KDYH GLVWDOGF WXPHE HUL JRI DQQVMSQ BIOQ
ULGJH vol, Qlus W KHUHWZR VWULDH SHU ULGJH RQH XQGHU DG

\$ FRQVSLFXRXV IHDWXUHORvbiwixsP DVQ HL Q RHUPVDVRLQ 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 ID QUDQFH RI VXFK QRGXC
QRGXOHV PD\ RFFXU LQ GHHS W LQRMUIS V EDHGL Q R W EXHWKRDV
QRWHG RU VSHRFXQDWHG FRQRW D G XOW ZRUPV QRW EHLQJ HG
ORKDPPHG VSHFXODWHG WKDW DRGXOSRQRUP DWRLEQDZFDWL SQ
GHJHQHUDWLQJ ZRIULPQ/MXUA DV R HWKXO WRUP DQ H[SODQDWR
SUHVHGW RYHU E-RQ L S URPHL RUI Q G FWDN Q RLW W RI HFF FRRX QW WKI
\RXQJ IHPDOH ZRUP E VFDUQ IRGWLHQ QERHGXOHV +RZHYWU D W W LV
QRGXOHV FDQ EH SDOSDWHG LQ IHZHU FV KDOG UHQ I ZRW Q JDP
SUHVXPHG \RXQJHU SRS XOKDWWL R Q LVI ZIR S PRU WELXVQ LQFUHDV
PLFURILOD S HDU S R Q V VPLRYH WKDQ \HDUV RI DJH

:RUWK QRWLQJ EXW RI XQFHUWDLQQY DVX M ED WAKVHMUDIOV ZH
DQG WKDW PRV WDDMSUHD E M W WRX Q H EDVHG RQ RUJM KHRZHY
VSHFLPHQV FRQWDLQH G PL FFRWIXQDULDRHQ L D G G FFDWHLQ JV KD Q
ZLWKRXW WR H DRQFR QVLR Q% DVHG RQ SHUVR Q DVK HRE V HU Y DW
ZRUNLQJ LQ WKH ILHOG RI R Q F QRFG KLOFLD VIL W LD Q G WWHIGH DQDS
SURJUDPV RSW RWR RFB O F K LW VHHPV QHDUO\ LPSIR RYIHEJHG W G
WKH SUHVHGW FDVHV ZHUN Q R G W D B O DQ G F RVK W D L Q R IGH Z R W K L H
WKDW QR GAKIOH FRRXULQJ RI H[WUDFWL R Q

8QIRUWXQDWHO\ DGGLWLRQDO L Q R G J F D V L R Q O R Q E H V K B M A X F O
:H EHOLHYH WKDFV D 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 WRQVXUV S JHFDV P G U X X W Z H D
FDXVH RI ZRUP H S S X H O V L R W R F 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 X O H F F R 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 H V R P Z R U P V Z H U H H [W U D F W L H G K D G
WKH VNLQ LQGLFDWLQJ WKH SURHUPHQ FRU R Z I K R I W W K H W D Q G L S D I O
QRGXOHV ZHUN SHU 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 U H L Q R J V Z K B W K H Q D
FDVHV D * X L Q H D R Z R V 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 VFUDWFKHG I R V V R W W W K H 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
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),*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 DWKDWZRGHPWHVWKDW DHPH UJHG IURP WKH VNLQ
ZRUPV :LWK WKH KHLJKWHQHG LQWIDWIDVMDVGVGRFXRHOVLDQ
GLVHVVH WR VXSSUHQWNSUNSDVLRQGRDWWXNDQVPLVVLRQ WK
RQFKRFHFDQNLZALWVQNZEHUFRHGLQJWR RSDUDVAFQWLRQ FV

QRGXOHV :H DUH QRLW KHEW HR IWRKDI G B UTHXHW WLRQV RWKHU V
GRFXPHQWHG RFFXUUHQFH RI WKH FDVUHWJ DRGLVQS UZKYLVG 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 V D W I K I R
FROOD B Q W L W Q D Q V S R U W R I 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 \$ 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 # H 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 U 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 R R Q B H Q W H U 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 H 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 # U W R Q U ' & (P D L O

\$GGUHV FRUUHVSRRGHQFH WR 0DU'NVHD EHV KDQG 0DLYDMLBQ &HQWHDW
&RQWURO DQGD BDNWRSWLRQ %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 Rep8 ±
>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 medinensisU DPinsignis E\ WKH VHTXHQFH DQDO\VLV RI W
JH Ann Trop Med Parasitol9 ± >&URV>:5HEI@I 6BDHGH@H@

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

\$OELH] (- %XWWQHU ': 'XNH %2 'LDJQRVLV DQG H
RQFKRFHTopMedParasito89 ± >0HGOLQH@

'XNH %2 2QFKRFHUFLDVLV GHHS ZRUMed Parasito95 EXQGOHV F
Trop Med Hyg64 ± >:HE RI 6EDHGDL@H@

0RKDPPHG \$6 &RQWULEXWLRQ WR WKH VWXG\ RI W
RI KXPDQ DQG ERYLAOnTropMed Parasito95 LDV±V

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

%HFNHU & . \$GKOnCaMblOUs LDHH LAnVdcBMgMed
Trop30 ± >0HGOLQH@

'XNH %2 7KH UHDSHDUDQFH UDWH RI LQFUHDVH
RI
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