

! " # \$: 1002-2724(2021)06-0030-07

# GHI J K L M N, -

OMw, = ; <

(! " ~ 7wxmdeb! H,! " ad HB[CDD)

%&;2019 r 10 Y, ' Z [ (Accipiter gentilis)\ ] ^ \_ ' ' ab7,\cWdL! 4eZ[ fg=hi j k ),l k 78 a ^ \_ m { l ^ \_ ab7。 a " :3eZ[ ns= 2019 r \ \ 2020 r o ] l \ ] 3pq ^ \_ ,1eZ[ rns= 2019 r \ ] l 2020 r o ] ^ \_ .hi j k - bP#:Z[ s' Z" # \ <r 7l t " DL,EuZv' wxw- l " # E. 7L;s' 7l Eu7y! Dz z \*。 Z [ o ] l \ ] ^ \_ m { A6Fs,cd { | q } 7m-- E! -" E# c-\ <r 77gR. ^ \_ , \$ ^ \_ m { ^ X % & , % d " ' ab7H' yM+ ( \ o D, ) \* D, \ D+c, , DO,q } 7m! \ @- . ab7。 s 3eZ[ 4- o ] l \ ] ^ \_ / O l ' dkDX# \_ ; ' o ] l \ ] , Z [ ABXs 3 ^ \_ J 1 ^ s 2mm3。 45,j km > , Z [ ' 6TL / ab l 7+89# \_ z Z Gc . . : \ 4mO9N。 ' ( ) : Z [ ; ^ \_ J 1 ; hi j k \* + , - \$ : ! " # \$ ! . / O 1 : %

## Satellite Tracking on the Migration of *Accipiter gentilis*

&% ' ( ) \* + , - . / 0 , 1 2 3 % \* 4 5 +

(6.5+,75/ ' 58\*/+59 ' 580; <;=:>? @5+85\* 1.5+7/+, AB#CDD)

**Abstract:** 3+ EF8/G; HDI"? J/O: *Accipiter gentilis* 58 8.; 6.5+,75/ ;=:>; K;:; J\*88;7 K\*8. =58;99\*8; 8:5FL;:= 8/ 8:5FL 8.;\*: M\*,:58\*/+ :/O8;= 5+7 :;=8\*+, N95F;= 70:\*+, 8.;\*: J599 M\*,:58\*/+0 %M/+, 8.;M? 8.;:; *Accipiter gentilis* F/MN9;8;7 8.; :/O+7 P8:\*N M\*,:58\*/+ \*+ 5080M+ HDI"? =N:\*+, HDHD 5+7 5080M+? 5+7 /+; /+9Q F/MN9;8;7 8.; :/O+7 P8:\*N M\*,:58\*/+ \*+ 5080M+ HDI" 5+7 =N:\*+, HDHDRS.; :;=098= /J =58;99\*8; 8:5FL\*+, =./K;7 8.58 ,/= .5KL />;:K\*+8;:;7 \*+ 8.; 9/K;:; :5F.;= /J 8.; @5+,8-; <\*>;: 5+7 8.; M/O+85\*/+O= 5;:5= \*+ F;+8:59 1.5+7/+, T:/>\*+F; /J 6.\*+5? 5+7 G;:7 \*+ U/=F/K /J <O=\*5 5+7 +/;.8.;5=8 6.\*+5RS.; K\*+8;:\*+, 5+7 G;:;7\*+, ,:/O+7= 5;: +;5: 8.; M/O+85\*/+=R S.; M\*,:58\*/+ :/O8;= /J 8.; *Accipiter gentilis* \*+ =N:\*+, 5+7 5080M+ 5;: G5=\*F599Q 8.; =5M;? M5\*+9Q 59/+, 8.; 7\*;;F8\*/+ /J 1/+,+;+ T95\*+ P V\*5/7/+, W5Q P X\*5/7/+, T;+\*+=O95 P 8.; 9/K;:; :5F.;= /J 8.; @5+,8-; <\*>;? G08 8.; M\*,:58\*/+ :/O8;= 7/ +/8 />;:95NR S.; \*MN/:85+8 =8/N/>;: =\*8;= \*+F907; 8.; (:;58 2\*+, ,5+ U/O+85\*+? 6.5+,G5\* U/O+85\*+? V5/8\*; U/O+85\*+? 6.5+, ,5+ 3=95+7=? V5/= .5+ U/O+85\*+? ;8F? K.\*9; 1/+,+;+ T95\*+ \*+ 8.; 9/+, P8;:M =ONN9Q =8/N/>;: =\*8;RS.; M\*,:58\*/+ 7\*=85+F; 5+7 8\*M; /J 8.; =5M; ' /:8.;:;+ (/=.5KL= \*+ =N:\*+, 5+7 5080M+ K;:;+ /8 =\*,+\*J\*F5+89Q 7\*JJ;:;+8R3+ =N:\*+, 5+7 5080M+? ' /:8.;:;+ (/=.5KL= 0=; 7\*JJ;:;+8 M\*,:58\*/+ =8:58; ,\*= 8/ J9Q 5F;/= 8.; W/.5\* 18:5\*8R 3+ 577\*8\*/+? \*8 K5= J/O+7 8.58 8.; J;:YO;+FQ /J :;=8\*+, 5+7 M/>\*+, /J Northern Goshawks \*+ J/;:=8 5;:5 K5= =\*,+\*J\*F5+89Q . \* . . : 8.5+ 8.58 \*+ J5:M95+7? K58;:=\*7; 5+7 ,:5=95+7R

**Keywords:** *Accipiter gentilis* l M\*,:58\*/+ =8:58; ,\*=l =58;99\*8; 8:5FL\*+,

## I uv3+j a - 1

### 1.1 , - ~ OP

~ 7wxmdeb! H3? U\bc 7C\Bed66e,/\_O #DRI# LM<sup>H</sup>,K5w" L&f g h l B ) & , } ( ) 1 D- f } H l v \ D / ] ] ] O , M H : V i H v ^ / ^ D O , S H w V i O } ^ l \_ , S g h V i O } \ ] \_ .

### 1.2 OPGQR

HDI" p I D E C T - I D E I \ T , c ~ 7 b ! H % j ! Q k = ( I H D ° ) B ' ' , ] \ ° [ ' ' ' ) , ] & f Q k & I I m n o H , a } l w ≥ C D D , p r n o d ≥ \ D D , q r s r n o 9 t u v e w ( E I ) , t M t u \ v . w a x y b , ] G Q I B z / O 1 2 3 4 - P , X c : 2 ! W ( I [ I H 1 .

= > ? @ : HDHI PD" PIB

· ] D ·

\ ! QRJ KLSTU7VW										
* y 6C	Qk c	* y b c	r [	p +	[ l	[ ~	# ~	N ~	, ~	- . ~
!"4-"&-65Gs	/&"0101	89"&&6	♀	/ [	4&&:	1#0 ; ;	03" ; ;	!#& ; ;	!7 ; ;	61 ; ;
!"4-"&-""5Gs	/&"010#	89"&""	♀	g [	441:	11& ; ;	031 ; ;	!11 ; ;	!0 ; ;	6" ; ;
!"4-"&-35!&!&-1-""	2&!#131	89"&"3	♂	g [	7&&:	361 ; ;	0!& ; ;	!!& ; ;	!" ; ;	7! ; ;
!"4-"&-75Gs	2&!#133	89"&"7	♂	g [	7&&:	36& ; ;	0&& ; ;	!"" ; ;	!& ; ;	71 ; ;

= ; ♂ > 2 , ♀ ? 2 .

!"# RJSTX > GUV

{ } QI Bz waxy 8CF Gvd (\$!%&), | = xy ? 8g, xyba ? Vk ^ 6i } Gvd . ] x y 8CF Gvd \* + U\$ 8C, - g. J ! G, k ~ 79 ' () \* + , "&! FGH, # \$ % d p n o g h ! " 6 C, g h r . , , . u s , , , , !!% F G e y } 8C3% - ! : ; ; .

! \ ] : ; ;

/&"0101 c , /&"010# c , 2&!#133 c n o V Y g !&"4 p s W g h % !&!& p f J 35 ^ \_ 3 C Y # g h . 2&!#131 c n o n Y g s !&"4 p s W % !&!& p \$ W g h , M O !&!& p 3 E !& T # ~ % & ' ( ' / g , 1 E "" c B c ) y , O S d v .

\$! MNYZ

!%"%' /&"0101 c n o g h 1 J

5 n o !&"4 p "& E "& T G g , "& E !& T # ~ f J 3 . !&!& p 3 E ! T P g , 1 E "& T # ~ ^ \_ 3 . !&!& p 4 E 0 T G g , "& E ! 6 T # ~ f J 3 ( E ! ) .

\ \$ %&!#'#' \$ K L M N Y Z z \* [ \ ] ^ P

j O ! " H ' ! " 3 C o g h				g h ! " 3 F F C 3		
p f 6 C 5 # ~ 6 C	p f 3 = 5 # ~ 3 =	q 6 <	r . - ;	H ' ! " 3	! " } X	F C 3 }
!"4-"&-65"&-&	~ 7 b ! H	5	5	~ 7 % j !	W S B g	! ' }
!"4-"&-""5"&-!"	~ 7 b ! H 5 ! " G H	0	1!%3	G H I ! b ! H	? C ! "	! ' }
!"4-"&-05"&-3	! " G H 5 ! " K 7	"&	"0#%1	K 7 < ! - . 3 <	A ? ! V	! ' }
!"4-"&-15"&-1	! " K 7 5 ! " T '	6	"!7%0	T ' ; J !	? C ! "	! ' }
!"4-"&-#5"&-6	! " T ' 5 D E 3 g	"0	"6"%7	3 g + d !	A ? ! V	! ' }
!"4-"&-!&5!&!&-3-"	D E 3 g 5 * O 1 l	""	00!%1	1 l ( ~ D H k D )	f J	! ' , D Z , # B ,
!&!&-3-!53-!	* O 1 l 5 * O 2 z	7	"36%#	2 z 8 9 !	? C ! V	! ' }
!&!&-3-053-1	* O 2 z 5 D E 3 g	"&	"4&%"	3 g ; ; ]	A ? ! V	] Z
!&!&-3-#53-"0	D E 3 g 5 ! " K 7	"1	!44%"	K 7 < !	W S B g ! "	! ' , C 6
!&!&-3-"353-"#	! " K 7 5 ! " 4 W	6	"3!%"	4 W & !	A ? ! V	! ' }
!&!&-3-"753-"6	! " 4 W 5 ! " ~ 7	#	"!1%#	~ 7 b ! H	A ? ! V	! ' }
!&!&-3-"453-!!	! " ~ 7 5 b 2 f >	!	#&%3	= > ! b ! H	W S B g ! "	D ' }
!&!&-3-!053-!0	b 2 f > 5 b 2 E "	"!	!60%7	E "	? C ! "	D Z
!&!&-3-!353-!#	b 2 E " 5 - ' ) >	""	!00%1	) >	A ? ! V	! ' }
!&!&-3-!753-!6	- ' ) > 5 Y E D	"6	3!7%#	Y E D ? E @	? C ! "	! ' }
!&!&-3-!453-0&	j 5 D Y E D 5 6 \$	"#	014%7	6 \$	? C ! "	! ' }
!&!&-1-"51-4	j 5 D 6 \$ 5 7 p	!!	167%7	7 p	W S B g	! H
!&!&-1-"&54-!	j 5 D 7 p 5 ' p	4	"#3%4	' p ' / _ ! 3 H	{ A	! ' , p E , D Z ,

a \ 2

j O2" H' ! " 3Cogh				gh! " 3FFC3		
pf 6C-# ~ 6C	pf 3=-# ~ 3=	q 6/h	r . /km	H' ! " 3	! " } X	FC3}
	j 5D' p-KD	23	460.3	j 5DKD		! 3,>O,
2020/9/3-10/2	j 5DKD-] %j z	3	102.2	j 5D] %j z	~SBg	pE,Ov,
	j 5D] %j z-L >	5	214.2	j 5DL >		- 3,] @,
2020/10/2-10/2	j 5DL >-- ' oO	7	230.7	- ' oO	?C! "	! '
2020/10/3-10/4	- ' oO-- ' bQ	8	245.6	- ' bQ	A?! V	! '
2020/10/5-10/6	- ' bQ-b2E"	10	322.9	b2E"	?C! "	! ' ,DZ
2020/10/6-10/8	b2E" -b2f >	9	294.6	=>! b! H	A?! V	! ' ,6E
2020/10/9-10/18	b2f >-! " ~7	2	87.1	~7b! H	WSBg	! '
2020/10/19-10/22	! " ~7-! " K7	7	250.8	! " K7<! "	A?! V	! '
2020/10/23-10/25	! " K7-DEj } M	11	198.9	DEj } M	A?! V	! ' ,6E
2020/10/26-10/27	DEj } M-*ONG	18	307.9	*ONG	?C! "	! '
2020/10/28-2021/3/9	*ONG-*O1I	12	198.5	*O1I	fJ	! ' ,DZ,#B,

2.1.2 K013536 cnogh1J

5no 2019 p 10 E 16 TGg ,10 E 28 T# ~ f J 3。2020 p 4 E 8 TPg ,5 E 20 T# ~ ^ \_ 3。2020 p 9 E 10 TGg ,11 E 4 T# ~ f J 3(E 3)。

\ 3 K013536 \$KLMNYZz \* [ \ ] ^P

j O2" H' ! " 3Cogh				gh! " 3FFC3		
pf 6C-# ~ 6C	pf 3=-# ~ 3=	q 6/h	r . /km	H' ! " 3	! " } X	FC3}
2019/10/11-10/16	~7b! H	-	-	~7%j !	WSBg	! '
2019/10/16-10/16	~7b! H-! " F\$	2	65.9	F\$o!	?C! "	! '
2019/10/17-10/18	! " F\$-! " Uz	8	138.1	! " Uze	?C! "	! '
2019/10/19-10/20	! " Uz-! " T'	5	88.3	T' ] Q!	?C! "	! '
2019/10/20-10/22	! " T' -DE3g	16	203.4	3g+d!	A?! V	! '
20019/10/25-10/27	DE3g-*O2z	12	210.0	2z89!	A?! V	! '
2019/10/28-2020/4/8	*O2z-*OP8	10	170.7	*OP83H	fJ	! ' ,DZ,pE,
2020/4/8-4/8	*OP8-*OR]	8	109.1	*OR]	?C! "	] @
2020/4/9-4/10	*OR] -*O2z	6	83.2	2z89!	?C! "	] Z
2020/4/11-4/12	*O2z-DEj } M	18	271.0	DEj } M	?C! V	! ' ,C6
2020/4/13-4/15	DEj } M-! " K7	21	214.0	! " K7<! "	A?! V	! '
2020/4/16-4/16	! " K7-! " ~7	16	211.7	~7b! H	?C! "	! '
2020/4/17-4/18	! " ~7-b2f >	16	98.5	=>! b! H	A?! V	! '
2020/4/17-4/18	b2f >-b2E"	22	290.2	b2E"	?C! "	DZ
2020/4/18-4/19	b2E" --' ) >	26	240.0	-' ) >	A?! V	! '
2020/5/20-9/10	-' ) >--' ~L!	17	169.5	-' ~L!	{ A	! '
2020/9/11-10/8	-' ~L! --' ) >	21	182.8	-' ) >	~SBg	! '
2020/10/9-10/12	-' ) >-b2SQ	33	337.8	b2SQ	A?! V	6E,! '
2020/10/13-10/15	b2SQ-b2f >	18	225.8	=>! b! H	A?! V	! '
2020/10/16-10/22	b2f >-! " ~7	10	105.2	~7b! H	WSBg	! '
2020/10/23-10/23	! " ~7-! " 4W	3	58.0	! " 4W&!	?C! "	! '
2020/10/24-10/25	! " 4W-! " v{	10	92.1	! " v{	?C! "	! '
2020/10/25-10/28	! " v{ -! " K7	6	83.6	! " K7<! "	A?! V	! '
2020/10/29-11/1	! " K7-DEN*	36	304.2	N* 3v]	A?! V	] Z
2020/11/2-11/4	DEN*-*O2z	28	174.0	2z89!	?C! "	! '
2020/11/4-2021/3/9	*O2z-*OP8	22	162.3	*OP83H	fJ	! ' ,DZ,pE,

2.1.3 J026544 cnogh1J

5no 2019 p 10 E 18 TGg ,10 E 24 T# ~ f J 3。2020 p 4 E 5 TPg ,5 E 26 T# ~ ^ \_ 3。2020 p 9 E 8 TGg ,10 E 29 T# ~ f J 3(E 4)。

\ 4 J026544 \$ K L M N Y Z z \* [ \ ] ^ P

j O 2 " H ' ! " 3 Cogh

gh! " 3 F F C 3

pf 6C-# ~ 6C	pf 3=-# ~ 3=	q 6/h	r . /km	H' ! " 3	! " } X	FC3}
2019/10/17-10/18	~ 7 ! H		-	~ 7%j !	A?! V	! ' .
2019/10/19-10/23	~ 7 b! " Hz	2	65.9	! " Hz	A?! V	! ' .
2019/10/23-10/24	! " Hz " Kz		138.1	Kz } W!	? C! "	! ' .
2019/10/24-2020/4/5	! " Kz " UQ	5	88.3	! " UQV!	f J	! ' ,DZ ,pE ,
2020/4/6-4/6						
2020/4/7-4/8						
2020/4/9-4/12						
2020/4/13-4/18						
2020/4/19-4/21						
2020/4/22-4/26						
2020/4/27-5/25						
2020/5/26-9h525204.-5/4/13-4/184m.-7/h-5204.-5204.-5204.-54/6-4/64m.-7hh520204.-5/4/7-4/84524.504k/-m7hhmm7hhmm4/184m.-7/h-5204.-5204.-5						

2.1.4 J026545 cnogh1J

5no 2019 p 10 E 14 T " Tg ,OTXGg ,10 E 25 T# ~ f J 3。2020 p 3 E 26 TPg ,5 E 1 T# ~ ( ' / 3H,5 E 11 TBc) y ,OSdv ,gTr . 4901.7 km(E 5)。

\ 5 J026545 \$ K L M N Y Z z \* [ \ ] ^ P

**2.2 MN\* b****2.2.1 gh6C**

2019 ps Wgh \ NO 10 E 20 T -28 T ; 2020 p \$ Wghf O 3 E 26 T -4 E 8 T , \ NO 5 E 1 T -26 T 。 2020 ps Wghf O 9 E 2 T -9 E 8 T , \ NO 11 E 28 T -11 E 4 T (E 6)。

\ 6 RJ K L M N c Y

w

**2.2.2 gh6CaJ {**

\* yno 2020 p \$ W. pf J 36vVal bJ 12°C、akbJ 20°C, # ~ ^ \_ 36vVal bJ 8°C、akbJ 20°C; 2020 ps W. p ^ \_ 36vVal bJ 5°C、akbJ 19°C, # ~ f J 36vVal b J 11、akbJ 20°C (E 7)。

\ 7 M N c Y G d Z ' L \

**2.2.3 T%} { aex**

46\* yno A + 549 " 1cf6T%} { , 50~60 km/h { j x 8aY , t 84 x ; MxK 30~40 km/h、40~50 km/h、20~30 km/h、10~20 km/h、60~70 km/h、5~10 km/h, : [ t 73 x、70 x、63 x、57 x、54 x ; } { kO 140 km/h n { j 1 x , } { l O 70 km/h T % 461 x , akf 6 } { 144.8 km/h。 \* ynoghSpg cLWT% , hi N+ ? j gh : 8:00—19:00 o T % V k O 20 x , 3:00—7:00 % 20:00 V l O 20 x , 12:00 T % ex ak , t 90 x ; 3:00 o T % ex al , t 5 x (E 8)。

\ 8 R J K L e f g h

2.3.4 T%6k

nogh\* VH,100–200 m 6k gh ex a Y, ~ 142 x;M! 6k VI O 60 x。6k c 1000 m # T 1 71 x。T%6k a k t 2968.5 m,VO%&' ? R' uMT 6(E 9)。

\ 9 RJ KLMNBi gh, j

6k/m	ex	6k/m	ex	6k/m	ex
0-100	41	1000-1100	10	2000-2100	2
100-200	142	1100-1200	7	2100-2200	4
200-300	56	1200-1300	5	2200-2300	2
300-400	38	1300-1400	6	2300-2400	2
400-500	35	1400-1500	4	2400-2500	1
500-600	25	1500-1600	3	2500-2600	0
600-700	26	1600-1700	4	2600-2700	1
700-800	21	1700-1800	4	2700-2800	0
800-900	20	1800-1900	4	2800-2900	1
900-1000	19	1900-2000	3	2900-3000	1

3 \ {

3.1 MN Y Z

\* ynof J OHw~ Dk D%VH! H,: [ t \* OP8,1I %! " UG,UQ;^\_O" NvO HLaHw" P,: [ t %&' ( ' / %j 5D%Y\* Z,-' ~L! 。~SBg! " 3VOoKvO" G ! 3pF," GqY\* Z,PG%Y\* Z。2020 p\$Wgh6,] f J 3G^\_3oghr。2074.8 km,g h6C 40.7 d;2020 psWgh6,] ^\_3Gf J 3ghr。2233.3 km,gh6C 53.7 d;@{ Kg hr . ZKgh6C,\$Wgh%\$Wgh@wQ! " ;gh1J oSI I ,1J ; e2, ,@{ K^\_3,f J 3ZKI BoghH' ! " 3\* W1q- wQV>。

3.2 \* [ \ ]

no~SBg! " 3H1 36/xcqY\* Z,G; 6\$,] %j z ,L>j CoI ! kI ! 3。cqY \* Z! " o\* yno\$WU\$bsWU\$: E,4KU\$Hb! " ' dwQ。46\*y nogh' H,Km s 8xWSBg! " , \$W%\$W: [ t 3x%5x ,Bg3=t! " K7<! ,! " ~7,b2=>! ,% Y\* Z, 。

nogh1J: K1 [ YnC! " 3,] =Yt?C! " ,! " 6C) Mc 0.35~0.96 d,3=Yt! ' 。46\*y nogh' H,Vms?C! " ,K 33x ,MH 2019 ps W! " 7x ,2020 p\$W%\$W: [ ! " 16x%10x。! " ~7%b2=>! KnoghI BnC! " 3,@{ K\$WZKsW,V1noc r! " 。

3.3 MN\* b

no\$Wgh6. pf J 3o6Cc 4ETc,# ~ ^\_3o6Ct 5EHc;sWO9ETc pf Gg,10EZ 11E4oO# ~f J 3。: ; \* ynoghpf 6CaO3bJ Q\,- t Of J 3vVb J kO 12°C,aI J { ~# 8~14°C6,pf Pg;O^\_3vVbJ I O5°C,aI J { ~# 8~14°C6,pf Gg。

\* ynoc ^\_3af J 3j Cogh\* VH, Y86C?O! " k. ,2020 p\$Wgh6CH' ! " 6C 34W,S/gh6Co 83.54%;sWH' ! " 47.3 W,S/gh6Co 88.08%;! " 6Ca ~o3 =Knom~SBg! " ooKvO" GL,53o! " 6CS/! " 6Co 60.6%。

noT%f 6} { ) Mc 50~60 km/h, u + 8CHK O 70 km/h od # 15%, aqT%} { 7 ~ #

27705 BJ8E。nogh\* VH,T%6k) Mc 266—%66 J,2666 J # ToSbd# 20P,( ) # akT% 6kt %(\*Q0- J。8eT%f 6} { %T%6ko\* ynon1 76,4KcCo8C8wY,b#mUn ooT%f 6} { %T%6k ,@t w2QxXr oeomUnogh\* VHo} { a6k。

7 z {

) \* r swaxyb,8#sv \* yno\$s > WYOgh1J ,4=pqsMgh" 9 \<=%U\$ 9~。 \ ] Ev:PgnooSgh9~W1q- r %f V,4Ggono' W1{ z Wby | NOGg, FKVc~DkDfJ , wC#YQk9cpqoBC, yWnor 5c 2% EZ t gh# ~D#Go] P,DR,m" ,6G, 3\* J ,Avno@Ggh1J %f J 3} cq- sf V,yKI O^I b&Vs, ZKM] OSf Vsno%Mgh9~, [ B3p=\* yu+uv。

} ~! . >

- [2] z I MR} Z 3ROj RyDHS' } ~a ^ \_m{ 3hi I k "1\$0 +V. 78R%663R+67,>)-.) \*'0
- [6] ! I " RX [ ! RX! M0hi I kFG' - # ^ \_78" 3VB"1\$0 +V. 78R %66QR%/+),>73.) -'0
- [1] 2W#RPr \$R} Z 30hi I k 3oao | I \ ] ^ \_m{ "1\$0 %7- . R%6' \*R' 7+),>73.) -'0
- [7] OcSRuqXRqg) RO0hi I kn. &' 3 \ ] ^ \_m{ "1\$0 +V. 5+ R%6%6+67,>' \*% .7\*30



(t CC7D)

- [!] . @3,23# ,) PA,O.i B' ( [ | CDE39: t V: O12TU"#\$. 9V. 5+ ,%&' (,)\*+),:--.-/0
- [-] FGH,/O,B[ 1,O.\* ' (?>I ' | CDEr 3tV: O12kD"1\$. " RTH- Fy. . ; ,%&23,)4+/,:/). /50
- [\*] bJ K,B[ 1,/O,O.S" ' (?>I O19: ?@LM: TU." RTH- Fy. . ; "1\$0 %6' 5,)5+,-./.\*70
- [4] L?R,&M; ,ONO,O.UVO12- <: a9: 90j W78\ ( "1\$. Cz TH78 ,%6%6,)+' ,:%4.)0
- [5] PP,! I ,Q# .UVO1239: 90. j W78\ ( "1\$. TH- . ,%664,7)+7,;55. /70
- [/] qj h,) \$} , \R7,O.UV) \* no- . ' OS78" 3VB\ ( "1\$. n. GH- . ,%6' 5,%6+),:-6.-)0
- [6] 2Tj ,B[ 1,bUV,O.\* \$I WXUVO12GH/ ' ; TU"1\$. VB9O. ; ,%6' 4,%5+,-:'7\*7.'74%0
- ['] X. Y,I OP,Z < [ ,O.' \* 4X\$ \ ) \* +, - . / ] ' O12345"1\$. TH- . ,%6' -, '-+5,;)). 7%0
- ['%] z ^ , \ \_ ,O' a,O.AZsQ9\ @I s' @) \* +, - . QR34 \$ %bXUVO18"189: \$. VB/ MN 9V. ; ; <=> 2&02(\*3-870@AB-0266C. C54D0%6%606/6720
- [2] cT,I md,I ' } ,O.se) \* no- . : a/O12345.MTGHy. . ; "1\$0 %66-,%4+2,;75. -60
- [27] f P' ,gpY,h( h,O.Xs \$gi j { 3O12"1\$. TH- . ,%664,7)+7,;%7.)60
- [2-] = ( } ,k' I ,O' ,O.264mX\$) \* - . : a/O1245"1\$. Di GHy. . ; ,%62-,)- +C,;C%- .C%/0
- [2C] OO,h( p,ABn.@\$o ) \* - . i : GH: a/O12TU378"1\$. i . T. { . ; ,%62),%5+7,;7). 7/0
- [24] qp,kI q,r,s,O.2% 4j Rt &U\ X\$) \* +, - . : aO12' ; TU"1\$. dEGH- . ,%62C,7)+,;--.-/0
- [25] I ] 1, &&' ,u\$ v ,O.AZwAU\ XsX\$) \* no- . 3O12UG"1\$. b] . ; ,%62%,%/ +%,;%6-. %220
- [2/] ugW,XOY,&x,O.XsO123yX\$) \* no- . i : "1\$. n. Tb78,%662,2C +%,;27-. 2740
- [6%] bz z ,B[ 1, { \ | ,O.- \$I WXUV) \* O1- . ? @3LM/O12TU"189: \$. di UV ,EFFGH-88BAHO @AB-0AIF8B@JH8KIFL=07-022) 70N0%6%66%6%6C022%/066%0EFJM0

.) \* .