

ficjcfnqx|dnpcqm ffn|*J { o gpprvgtc<Cewngvc+Lk|gtum ej"jqt" c"Ht fncpvumc

**Cewngvc*J { o gpprvgtc+qh"vjg" Lk|gtum²"jqt{"Ovu"cpf"Ht fncpv"tgikqp"
*pqtvjgtp"Dqjg okc."E|gej" Tgrwdnke+**

Jakub STRAKA¹⁾, Libor!EWP ŃL²⁾ & Petr BOGUSCH³⁾

¹⁾ Mcvgftc|qqnqikg."R f{tqfqx fgem^a"hcmwnc."Wpkxgt|kvc"Mctnqxc.
Xlpx p^a9."CZ – 34:"66"Rtcjc"4; e-mail: straka-lcmwd B xqnlle|

⁴⁾ Urt^axc"PR"e"JMQ"mwo cxc."Uw-kem^a5; ; ."E \ " 6'563"; 4"Mc-rgtum²" Jqt{;
g/ o ckn<nkd0fxqtem Bug|pc o 0e|

⁵⁾ Mcvgftc|dknqikg."Rgfciciqikem^a"hcmwnc."Wpkxgt|kvc"J tcfge"Mt^anqx²."Tqmkcpcum²jq"84."
E \ " 6'725"22" J tcfge"Mt^anqx²=g/o ckn<dqiwuejcm Bug|pc o 0e|

Cduvtevl Vjg"nkuv"qh"49;"urgeku"qh"cewngvcg" J { o gpprvgtc|htq o "vjg" Lk|gtum²" jqt{"Ovu"cpf"Ht fncpv"tgikqp"
ku"rtgugpvgf|Cvqigvjgt"35"etkvecm{"gpfcpigtg"urgeku."44"gpfcpiigtg"urgeku."cpf"49"xwmpgtcdng"urgeku"qh"vjg"
E|gej" Tgrwdnke" ygte" hqwpf|Vjg" Epfkpiu"qh" *Andrena tarsata* P {ncpfgt."3:6:." *Anopler tenuicornis*"*Vqwtpkgt."
3::+." *Anthocopa villosa*"*Uejgpem."3:75+." *Crabro lapponicus*" \ gvgtvvgf."3:5:." *Crossocerus walkeri*"*Ujwemctf."
3:59+." *Dryadella femoralis*"*Oqect{"3:99+." *Evagetes alamannicus*"*DnAvjgip."3:66+." *Hylaesus annulatus*"*Nkp/
pcgwu."397:+" *H. gracilicornis*"*Oqcykv|."3:89+." *Passaloeus monilicornis*" Fcjdqo."3:64." *Sphcodes spinulosus*
Jcigpu."3:97." *Lasioglossum subfulvicorne austriacum*" Gd ogt."3:95."cpf" *Mimumesa beaumonti*"*Xcp"Nkvj."3:6;+
ctg"qh"jki j "hcvpkvke" k o rqtcepgl

Mg|yqtfu<J { o gpprvgtc."Cewngvc."Lk|gtum²"jqt{"Ovu."Ht fncpv"tgikqp."hcwplvkeu."dknqiqi {

—XQF

ficjcfnqx|dnpcqm ffn|*J { o gpprvgtc<Cewngvc+rcv f| o g|k"xgn ok"rq gvp²" c"gmqq o kem{ "
x |pc o p²"umwrkp{j o { |w0|Rcv f|m'pk o "x |pc p|qr{nxqc k"x gn{"o"Crqkfgc+k"rtgfa"vq k"ut-pk"
c"xqu{"o"Xgurkfcg+0"X"rqungfp|fqd "ug"wmc|wlg" k"xgnm "x |pc o "v²vq"umwrkp{"rtq"kp fkmcek"mxc/
nk v{"hqmckv0" cfc"ftwj "lg"pc"A|g o f| gum²"tgrwdnkm{"dw "mtkvkem{"qj tqfipc"x {jwdgp| o."pgdq"
luqw"lkb"rqxcflqx"p {"|c"tg"ikqp"np "x {ok|gn²"Uvtcm"4227c."d."e=0" P c"A|g o f| gum²"tgrwdnkm{"
d{nq"fqwf|lk-v pq"3"565"ftwj "x"fxcegvk" gngf|ej" *Dqi wuej"gv"cn0"4229+0"

Vcvq"umwrkpc" |c|tpwlg" xgn ok" tq|f|np²" ftwj {"qf" rctc|kvkem ej" gngf| jdkv pmqxkv ej"
*Dgvj{nkfcg+."ncv pmqxkv ej" *Ejt{ukfkfcg+."hcrmqxkv ej" *Ft{kpfcg+."xgl gpmqxkv ej" *G o dq/
ng okfcg+."vtp pmqxkv ej" *Vkr jkfcg+."mqfwnmqxkv ej" *O wvknkfcg+."ftxgpmqxkv ej" *Ucr {ikfcg+."
r gu" gngfk" |c|tpwl|e|" r gx"flp "ftcx²"jp|f|e|" ftwj {"lcmq"luqw" j tcdcmqxkv f| *Rq o rknkfcg+."
o tcxgpeqxkv f| *Hqt o kefcg+."xquqxkv f| *Xgurkfcg+."c"mwvknm {"*C o rwnkefcg."Urjgekfcg" c" Etd/
tqpkfcg+."cf"rq" gngfk"urgeknk|qxcp²"pc"ud t'r|nw."mvg t o "ug"uqw jtp " f| m^a "x gn {"*Ognkvkfcg."
Ogicejknkfcg."Crkfcg."Cpftgpkfcg."Eqnngkfcg" c" J cnkewkfcg+0" \ "f xqfw"xgnm²"qfnk-pquvk"ungf/
xcp ej"umwrkp"pgd{nk"fq"v²vq"uwvfk" |c|gpk" o tcxgpeqxkv f| *Hqt o kefcg+."mvg f| o c|f| a tqxg "
tq|f|npq" o gvqfkmw"ud tw0"Egnmqx "rq gv" |c|tpwv ej"ftwj "vcn" kp|3"45:0"

Mq o rngzpf|x |mw o "ficjcfnqx ej"dnpcqm ffn ej."lgjqd|x ungf|. "fqrnp p²"qud t|"rtxp|jq"
cwwqtc" c"O0" Mqn|umc|" tqmw"3; ; 9."luqw"wxgfgp {"x"v²vq"rt"ek."d {"n"x" Lk|gtum ej"jqt" ej" c"pc" Ht f/
ncpvumw" wumwvg p p"x"ngvej"4225642290" Fq"v²"fqd {"pgd{n {"|p^a o {"|g" |mqw o cp²"qdcuik"fi^a fp²"
nkvtg^a tp| "Afcld" P^ang| {"p mqnkmc"x |pc o p ej"ftwj ."x gvp "rtxp"ang| "rtq" T" c"rtq" gej {"
wumwvg p p²"x^a o ek"vjqvq"x |mw o w."rwdnkmqxcnk|kfl" f {xg" Dqi wuej"gv"cn0" *4227."4229+0

OGVQFKMC" C" OCVGTKfN

Xg-mgt " o cvgtk"n d{n"udf"p" r q o qe" p"ungfwlfe"ej" o gvqf" *wxgfgp2" |mtevm{ "luqw" r qvfwk{ 'x' r g jngfw" ftwj +< EHV"6"eq o dkpgf" fki j"vteru"6"uvtmq"vteru" *p"ac |qx2" r cuwk+. "GV"6" g o gti gpeg"vteru" *g o gti gvpf" r cuwk+. "OV"6" O"Ociclug" vteru" *O"Ociclug j" r cuwk+. "R | T"6" r { t c o k f c n"vteru" *r | t c o k f " n p" r cuwk+. " | RV"6" { g m q y" r c p" v" t c r u" * f l n w" 2" o k u m { +. 'x- g L" R t g k u n g" (" R" X q p m c" n i w" U Y " 6" u y g r k p i" * f g p p" k p q p" f u o m a" p f" x g i g v c e g" g p v q o q n q i k e m q w" u f y f+. " L" R t g k u n g" n i w" . " r q m w f" p g p f" w x g f g p q l k p c m l" R q f t q d p l k v { v q " o g v f { " r q r k u w i g" X q p k m c" 422: +0" O c v g t k" n f g v t o k p q x c n" r t x p f" c w q u t" u x l k o m q w" v - k p { " l g f k p e" t q f w" B o m b u s. m v g t" 2 w k n C" R k f c n l" F q m c f q x " o c v g t k" n l g" w n q f g p p" x g u d f t m" e j" r t x p f j q" c w q u t c. " U g x g t q u m" 2 j q" o w l g c" x" N k d g t e k" c" C" R k f c n l" X { o g l p f" c" e j c t c m v g t k u v i m c" u n g f q x c p 2 j q" A | g o f" x k | " X q p k m c" (" X k- a m" * 422: +0

R g jngf"nqmcnv

— f c l g" m" n q m c n v" a " l u q w" w x g f g p { " x" p" a u n g f w l f e" o " r q c f" k" f l u n q" c" p" a | g x" n q m c n v { " * q d g e. " a u v" q d e g. " e j t" p p 2" A | g / o f" . x t e j q n" c r q f l o t. " h c w p k u v k e m " o c r q x " v x g t g e" * R t w p g t" (" O f m c 3 ; ; 8 +. " p e f o q u m" x - m c. " d k v q r" P m v g t" 2" n q m c n v { " l u q w" t q l f n g p { " p c" x t e g" d k v q r . " m v g t" 2" l u q w" q l p c e g p { " r f u o g p { 0" R q v f w k v 2" | m t e v m { < " P R T" 6" p" t q f p f" r { t q f p f" t g | g t x c e g. " R T" 6" r { t q f p f" t g | g t x c e g. " R R" 6" r { t q f p f" r c o" v m c l" }

[1] Dfñ "Rqvqm."7379<]3e_t{dpf m{"uxl"qf"flgm"uvcpkeg."672"o *rtcogpk-v . "oqm cf+=]3d_."oqm cf"cxnjm2"nqwm{"pcf" mqwrcnk-v o"klfp "qf"qdeg."632"o=]3e_d gj{" gm{"Uo f2" c" gtp2jq"rqvqmc"klfp "qf"qdeg."632"o}[2] Dwmqxe"RT."737: .";22/;42"o . "ngupf"rtcogpk-v "pe"lxl"uxcjw."Rtcnqwmc"jqtum"nqwmc."rtcogpk-v +0[3] gtp"jqtc"RT."7379."3272"o."X"ap p"nqwmc"tc-gnkp-v +0[4] gtpqwu{/XRqmk."7278."472"o . "uquwvxc"t{dpf m" x ejqfp "qf"qucf{"*oqm/ cf" w" r f"qmw"fq"t{dpfmc+0[5] Hqlvmc" *qdge"Opf-gm+. "7378."672"o . "rqvqm" Hqlvmc}[6] Ht fncpv."7278."542"o . "d gj {" gm{"Uo f2"0[7] Jqtpf" Nw cp{" *qdge" Nw cp{" pcf" Pkuq+."7479."892"o . "t{dpf m" M f u" a m" n q w m c . " o q m c f + 0 [8] J q t p f" Rgtvqnkveg" *qdge" Rgtvqnkveg+."7278."522"o . "Rgtvqnkem" "rqvqm" c" Jtcpk p f t { d p f m" * o q m c f . " q n - k p c + 0 [9] J q t p f" cupkeg."7279."622"o . "q r w - p" r" f u m q x p c" r q f" M c o g p p " o * x t e j q o 0 [1 0] L g f n q x " f n" R T . " 7 4 7 9 . " 8 9 2 " o . " r q v q m" L g f n q x" * n g u + 0 [1 1] L k p f k e j q x u m " o q m c f" R R . " 7 4 7 9 . " 8 2 2 " o * o q m c f { . " n q w m { + 0 [1 2] M q g p q x . " 7 4 7 : . " 8 : 2 " o . " r q v q m" c" o q m k p { " r q f" flgn" uvcpke" 0 [1 3] M flq x " x t e j" R T . " 7 2 7 8 . " 5 4 2 " o * " n g u . " o q m c f + 0 [1 4] M w p t c k e g . " 7 2 7 8 . " 4 : 2 " o . " o q m c f . " r c u v x k p c l" [15] Nidgtge/Xguge."7478."582"o . "Afqn" Xgugem2jq" r q v q m c " * o q m c f + 0 [1 6] O e n" a" U v t e p c" R T . " 7 4 7 9 . " 9 2 2 / 9 4 2 " o . " x n j m 2" n q w m { . " o q m c f { . " t { d p f g m . " r q v q m 0 [1 7] O c t k" p u m" a" J q t c" * q d g e" C n d t g e j v k e g" x" L k | g t u m e j" j q t" e j + . " 7 4 7 9 . " 9 7 2 " o 0 [1 8] O g e p f t { " U o f 2" R T . " 7 2 7 8 . " 4 4 2 " o <] 3 : e _ t { d p f m" F w d" m" c" t { d p f g m" u x l" q f" t { d p f m w" F w d" m" * n k v q t" a" n p f" r q t q u v { . " o q m c f . " r q f o a" g p" a" q n - k p c + =] 3 : d . " q u e f c" H k n r q x m c . " d g j " g m { " U o f 2 . " n q w m c" x" p l x 0 [1 9] O k p m q x k e g" * q d g e" X k - q x" a + . " 7 2 7 8 . " 6 5 2 " o . " r q v q m . " o q m c f 0 [2 0] O p f - g m . " 7 3 7 8 . " 5 : 2 " o . " n q w m { " x" q d e k" r q f 2" n" flgn" v t c k l 0 [2 1] Q n f k e j q x u m 2" u f n q f . " 7 3 7 8 . " 7 2 2 " o . " X i p k p" e g u v c" * d w k p c + 0 [2 2] Q n f k e j q x" x" J" l f e j . " 7 3 7 8 . " 6 2 2 " o . " n q w m { " x" q m q n f" q d e g" 0 [2 3] R q g f p f m" * x t e j q n . " P R T" L k | g t u m j q t u m 2" d w k p { + . " 7 3 7 8 . " : 7 2 " o . " d w k p c l 0 [2 4] T e u r g p e x c . " 7 3 7 8 . " 5 7 2 " o <] 4 6 e . " q u e f c" X" N w m" e j . " H c t u m" n q w m c -] 4 6 d < t { d p f m" J c m g p" c" r q v q m" t m q n r k e j" * r c u v x k p { + 0 [2 5] T e - g n k p k - v " L k | g t m { " P R T . " 7 3 7 : . " : 7 2 / : 9 2 " o . " M w i g j" q" n q w m c" * t e - g n k p k - v + . " d g j { " U c h f t q x 2 j q" r q v q m c 0 [2 6] T e - g n k p k - v " L k | g t { " P R T . " 7 3 7 9 / 7 3 7 : . " t e - g n k p k - v . " t e - g n k p p 2" u o t k p { . " d g j " g m { " L k | g t { 0 [2 7] T g l f k e g" * q d g e" M q g p q x + . " 7 4 7 : . " 8 7 2 " o . " r q v q m" L g - m t c d g e" * r t c o g p k - v + 0 [2 8] T w f n q h x * q d g e" N k d g t g e . " 7 4 7 8 . " 8 5 2 " o . " A f q n f" g t p 2" P k u { 0 [2 9] T { d f" n q w m { " R T . " 7 3 7 : . " : 7 2 " o . " t e - g n k p k - v 0 [3 0] U o t m" * o c u k x" j q t { + . " 7 3 7 9 <] 5 2 e _ u o t k p c" p e l | 0" u x c j w . " 3" 3 2 2 " o =] 5 2 d . " M n g q x k - v . " 3" 2 7 2 " o * j n k p c . " u o t m q x" a" o n c | k p c" p e l | 0" u x c j w + =] 5 2 e . " X n c - u m " j d g v . " : 2 2 " o * d w k p c + =] 5 2 f . " N k d x g t f u m " o q u w . " 9 2 2 " o . " d g j " \ v t c e g p 2 j q" r q v q m c" * n g u p f" r t c o g p k - v + 0 [3 1] M q u e x t { d p f m" * k l f p " q f" T e u r g p e x { + . " 7 3 7 8 . " 5 7 2 " o . " J q n w d f" r q v q m" * o q m c f . " q n - k p c + 0 [3 2] M r k a m" c" U v t f l q x " x t e j " * x t e j q n { . " P R T" L k | g t u m j q t u m 2" d w k p { + . " 7 3 7 8 . " 8 2 2 " o * d w k p c . " r q v q m + 0 [3 3] V k e j" a" f m c" R R . " 7 4 7 9 . " 9 7 2 " o . " x n j m 2" n q w m { . " t e - g n k p k - v 0 [3 4] W M { u g m { * k l f p " q f" P q x 2 j q" O u c" r q f" U o t m g o + . " 7 4 7 9 . " 8 2 2 " o . " A f q n f" \ v t c e g p 2 j q" r q v q m c" * o q m c f . " r t c o g p k - v . " n g u . " d g j " r q v q m c + 0 [3 5] X a" r g p p " x t e j" R T . " 7 3 7 8 . " 5 : 2 / 6 2 2 " o . " q r w - v p " n q o . " n g u 0 [3 6] n c v" a" Q n g - p k e g . " 7 4 7 : . " 6 8 2 " o . " F t e f" r q v q m" r g f" A u f" o" f q" \ n c p f" m w" * o q m k p { + 0

X UNGFM [" C" FKUMWUG

R g jngf" |lk-v p ej"ftwj

Mqpm2vpf" fcv" luqw" wxgfgpc" lgp" w" x | a" ep ej . " h c w p k u v k e m { " x | p c o p e j " p g d q" x g | m q w o c p 2" o " A | g o f" o" a" n q | c u v q w r g p e j " f t w j 0" W" d f l p e j " c" x g u w f q x c p 2" o " o c v g t k" n w" r q g p e j " f t w j " l g" w x g f g p" l g p" u q w r k u" n q m c n v" u" r f u n w - p o k" f u n { . " k p v g t x c n" q d f q d f" x u m { v w . " e g n m q x " r q g v" f g v g t /

okpqxcp ej"uc oe ."uc oke."tgr0"f npke+"c"|mtcvm{"rqwflk ej"o gvf"ud tw0"W"o cvgtk^anw"tqfw"
Bombus."wt qxcp²j q"C0R kfcng o."pgd{nc|cejqx^apc"mqpmt²vp"fcvc."luqw"|fg"vgf{"wxgfgp{"lgp"
nqmcnkv{"c"rq gv"mwu 0"Fcⁿ-f"rqwflk²"|mtcvm{< U"o"mcvq|qtkg"| gtxgp²j q"ug|pc o w"qj tqflgp ej"
ftwj "dg|qdtcv ej" T"*Uvtcmc"4227c."d."e+<"**ET**"o"mtkvkem{"qj tqflgp ."GP"o"qj tqflgp ."
XW"o"|tcpkvgnp "ftwj0" Pq o gpmmcvwtc"lg"rqfng"Dqi wuej"gv"cn0"*4229+0

Crqkfgc<Crkhqt o gu<Cpftgpkf cg

Andrena alfenella Rgtmkpu."3;36

Tq|vtqw-gp "ug"x{um{vwl|e"ftwj"rq|fp|jq"lctc"cfll" cup²j q"n²vc."r gfgx-f|o"pc"zgtqyvt op"fej"
nqmcnk^aej0

Qnf kejqx"x"J^alfej [22]<460X04225."3" *UY+0" **Jqtp"Rgtvqvkcg** [8]<360X0/360X04229."3" *OV+0

Andrena bicolor"Hcdtkekku."3997

Lgfgp|"pgljqlp l-fej"ftwj"tqfw."pcrtquvq"pgp^atq p "pc"uvcpq^{xk}-v "c"pcf o q umqw"x -mw0"
Xⁿ2v "n²v^a"r gfgx-f|o"pc"|xqpm{"**Campanula*"urr0+."pc"lc g"lg"rqn{ngmvkem 0"X" T"v²o "x-wfg"
c"xflf{"jqlp .fx "igpgtceg"x"tqeg0

Jqtp"Rgtvqvkcg [8]."Ocn^a"Uvtcpe"RT [16]."Ogcpft{"Uo f²"RT]3:c."Qnf kejqxum²ugfnq [21]."Tc-gnkp^k-v "
Lk|gtm{"PRT [25]."T{d"nqw m{"RT [29]."W^{rk} "m^c"Uvtflqx "xtej"]54."Vkej^a f mc"RR [33]."W^M{ugm{ [34]0"X um{v"
x"X0/XKKK0."egmg o"7" .35" *OV." [RV."UY+0

Andrena carantonica"R²tg|.3;24

D flp "ftwj"flklfe"mq o wp^anp "xg"urqng gpvux0"Rtghgtwlg"r gfgx-f|o"vgrngl-hqmcnkv{"xg"uv gfpfej"
rqnqj^aej."n²v^a"|gl o²pc"pc"qxqep²"uvtq o {"c"mg gl

Qnf kejqxum²ugfnq [21]."Rqngfpfm"]45."Tc-gnkp^k-v "Lk|gtm{"PRT [25]."Tc-gnkp^k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."
T{d"nqw m{"RT [29]."Vkej^a f mc"RR [33]."W^M{ugm{ [34]0"X um{v"x"X0/XKKK0."egmg o"9" .6" * [RV+0

Andrena cineraria *Nkppcgwu."397:+

O"uv{"d flp "ftwj."jqlp l-fej"xg"uv gfpfej"rqnqj^aej."pc"r"uefej."x"o qm c fgej"l"ngufej0

Qnf kejqxum²ugfnq [21]<80/390X04225."3" * [RV+0

Andrena clarkella *Mktd{."3:24+

D flp "lctp"ftwj."qnk|qngmvkem "pc"*Salix*urr0."*Tussilago*urr0"o"*Anemone*urr0"Qd x^a"|gl o²pc"
qmtclg"ngu "xg"uv gfpfej"cx{|fej"rqnqj^aej."mfg"o flg"d v"nqmaⁿp "jqlp 0

Vkej^a f mc"RR [33]<80X0/40X04226."3" * [RV+0

Cpftgpc"eqpLpku"G0"Uv³emjgtv."3;52"

U<"GP

Lgfpqvnkx "pcn²|cp "pgp^arcfp "ftwj."qd xclfe"tq|o cpk²v{r {"uvcpq^{xk}- "ngquvgrk."r"um{."
uvt^ap ."cng"l"|cjtcf{+0"X" T"x|^aep 0

Tc-gnkp^k-v "Lk|gt{"PRT [26]<480X0/450X04225."5" *EHV+0"**T{d"nqw m{"RT [29]**<0XKK0/70XKKK04225."3" .3" "
*OV." [RV+0"**Uo tm"]52f**<470X0/330X04228."5" * [RV+0"**W^M{ugm{ [34]**<330X0/40X04228."3" * [RV+0

Andrena denticulata"*Mktd{."3:24+"

U<"XW

X"rq|f l-fe"o"n²v "ug"x{um{vwl|e"ftwj"xg"x{|fej"rqnqj^aej"cx{|fej"rqnqj^aej"o"pc"r"kv ej"nqmcnk^aej0"X" T"
x|^aep "c"lgfpqvnkx "pcn²|cp 0

Tc-gnkp^k-v "Lk|gt{"PRT [26]<340/420X04225."3" *OV+0"**W^M{ugm{ [34]**<350X0/50X04228."3" *OV+0

Andrena dorsata *MktD{."3:24+

Lgfgp| "pgljqlp l-^lej"ftwj "tqfw."o^afx "igpgtceg"x"tqeg⁰lctp^l igpgtceg^{n2v^a}r gfgx-^lo"
pcⁿvtpmwⁿ**Prunus spinosa*+cⁿqxqep²uvtqo {0"

Tc-gnkp-k-v "Lk|gt{"**PRT [26]**<450XKK0/70XKK04225."3" *EHV+0" **Ogcpft{"Uo f²RT]3:c_<**60/3;0X04227."3" *
*[RV+0

Cpftgpc"hcrukLec"Rgtmkpu."3;37

Ftwj"zgtqvgto p^lej"nqmcnk.v"x |pcop "rtghgtwl^le^l"x{j^av²"umcp^l"uvgrk."mfg"o flg^d v^k"jqlp 0"
Xgⁿuv gfp^lej"e"x{-^lej"rqnj^aej"lgp"x|^aep 0"

Ogcpft{"Uo f²RT]3:c_<3;0/530X04227."3" .440XK0/70XKK04227."3" *x-g" [RV+0"**Tglfkeg [27]**<50/3;0X04227."3"
3" * [RV+0

Cpftgpc"tckrgu"Rcp|gt."39; ;"

Cukⁿpgljqlp l-^lftwj"tqfw."o^afx "igpgtceg"x"tqeg⁰X{|pc wlg^ug"ocuqx oⁿ"mqowp^anp^loⁿ"pgdq"
citigixcp oⁿ"jpl|f p^loⁿ"

Ocn^a"Uvtcpe"RT [16].Tc-gnkp-k-v "Lk|gt{"**PRT [26].T{d^l"hqw m{"RT [29]**0ⁿX um{vⁿ"X0/XKK0."egnmgoⁿ8" *EHV."
[RV+0

Andrena fucata"Uokvj."3:69

Jqlp "ftwj"x{-^lej"rqnj."x"p^lflkp^aej"ug"x{um{vwl^g"x|^aep 0

Dⁿ"Rqvqm]3c.e."Dwmqxe"RT [2]." gtp^a"jqt^c"RT [3]." gtpqwu{/X"Rqk [4].Lgfnqx "f n"RT [10]."**Ocn^a"**
Uvtcpe"RT [16].Ogcpft{"Uo f²RT]3:c_."Qnf kejqxum²ugfnq [21].Rqngfp^lm]45_."Tc-gnkp-k-v "Lk|gtm{"**PRT**
[25].T{d^l"hqw m{"RT [29].^mrk^am^c"Uvtflqx "xtej]54_."Vkej^a" f mcⁿRR [33].WⁿM{ugum{ [34]0ⁿX um{vⁿ"X0/XKK0."
egnmgoⁿ95" .";" *EHV."OV." [RV+0

Andrena fulva"*OÄngt."3988+

D flp "lctp^l"ftwj^{n2vcl^le^l}"pcⁿqxqep²uvtqo {"x"rqungfp^lej"ngvgej"ug"-^ll⁰"

Tc-gnkp-k-v "Lk|gt{"**PRT [26].T{d^l"hqw m{"RT [29].Uo tm]52d.e_."Vkej^a" f mcⁿRR [33]0ⁿX um{vⁿ"X0/XK0."egnmgoⁿ**
7" .4" *EHV."OV." [RV+0

Andrena fulvago *Ejtkuv."39;3+

Jqlp "ftwj"uv gfp^lej"e"x{-^lej"rqnj."x"pkfl-^lej"rqnj^aej"x|^aep l-^l"mtqo "r^lu kv ej"nqmcnk.v"
pcr 0ⁿx u{rm{"pcⁿOquvgemw+0ⁿN^{2v^a}"pcⁿAdqt{"jx |fpkeqxkv ej"ⁿCuvgtcegcg+0"

Tc-gnkp-k-v "Lk|gt{"**PRT [26]**<4;0X0/320XK04225."3" *EHV+0

Andrena fulvicornis Uejgpem."3:75

Rqo tp "x|^aep "vgrnqo knp "ftwj"x{um{vwl^le^l"ug"x"lctp^lo"qdfqd^l."n^{2v^a}"pcⁿd^lngⁿmxgvqwe^lok^l/
mqxkv²*Crkecg^g-^cdⁿtwmxqxkv²*Dtcuukecg^g+0ⁿX"pkfl-^lej"rqnj^aej"o pqjgoⁿ cuv l-^l0

Ogcpft{"Uo f²RT]3:c_<440XK0/70XKK04227."3" * [RV+0

Andrena gravida Kojqhh."3:54"

Jqlp "lctp^l"ftwj^{n2vcl^le^l}"pcⁿxtd {"**Salix*"ur r0+kⁿqxqep²uvtqo {0ⁿX{um{vwl^g"ug"xgⁿ-gej"qdcuvgej."
rtghgtwl^g"x-cmⁿpkfl-^lcⁿuv gfp^l"rqnj {0ⁿPgrtcxkfgnp^a"ftwj^a"igpgtceg0

gtp^a"jqt^c"RT [3]<520XKK0/390XKK04226."3" * [RV+0" **Tc-gnkp-k-v** "Lk|gtm{"**PRT [25]**<480KX0/60X04225."3" *
*[RV+0

*Andrena haemorrhoa**Hcdtkek.wu."39:3+

D flp "ngup"ftwj"rq"egn²o"À|g o" T"x gvp "x{--fej"rqnj0"N²v^a"|g l o²pc"pc"qxqep²uvtq/ o {0

Dfn "Rqvm j3c_."Dwmqxe"RT [2]." gtpqwu{/X"Rqk [4]."Ogcpft{U o f²RT]3:c_."Qnf kej qxum²ugfnq [21]." Rqngfp{m"}45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d{hqw m{"RT [29]." Vkej^a" f mc"RR [33]."W"M{ugm{ [34]}X um{v"xg"KX0/XKKK0."egnm g o"45" .54" *EHV."OV." [RV.UY+0

*Andrena helvola**Nkppcgwu."397:+

D flp "lctp"ftwj."jqlp "xg"x-gej"qdcuvgej" T"x gvp "x{--fej"rqnj0

Dwmqxe"RT [2]."Ogcpft{U o f²RT]3:c_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d{hqw m{"RT [29]."W"M{ugm{ [34]}X um{v"x"X0/XK0."egnm g o"5:" .6" *EHV."OV." [RV+0

Andrena chrysoceles *Mktd{."3:24+

Jqlp "ftwj"k"x{--fej"rqnj"x{um{vwl{e"ug"r gfgx-f"o"pc"qmtcl{fej"ngu ."mfg"n²v^a"pc"qmqlm{" o k {mqxk v ej"*Crkcegcg+0

M flqx "xtej"RT [13]:"520KX0/4226."3" *UY+0"Ogcpft{U o f²RT]3:c_<530X0/440XK0/4227."3" * [RV+="]3:d_<360X0/360XK0/4229."3" *OV+0

Andrena labiata Hcdtkek.wu."39:3"

Jqlp "ftwj"uvgr"c"vgr n ej"uvcpqk- ."xg"x{--fej"rqnj^aej"ug"rtcmvkem{"pgx{um{vwlg0

M flqx "xtej"RT [13]:"520KX0/4226."3" *UY+0

Andrena lapponica \ gvwgtvgfv."3:5:

D flp "jqtum "ftwj."x"pkf-f"ej"rqnj^aej"ug"qdlgxwlg"l gfpqvnkx "pgdq"ug"rtcmvkem{"pgx{um{vwlg0

Dwmqxe"RT [2]." gtp^ajqtc"RT [3]."Mq gpqx [12]."Ogcpft{U o f²RT]3:c_."Qnf kej qxum²ugfnq [21]."Rqngf/ p{m"}45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."T{d{hqw m{"RT [29]."U o tm"}52d."e."f_."TMrk^a m"e"Uvflqx "xtej"}54_."Vkej^a" f mc"RR [33]."W"M{ugm{ [34]}X um{v"xg"KX0/XKKK0."egnm g o"78" .344" *EHV."OV." [RV.UY+0

Andrena lathyri Cnhmgp."3: ; ; "

U<"XW

Lgfpqvnkx "pcn²|cp "ngup"c"nguquvgrp"ftwj"n²vcl{e"pc"j tcejqt{"*Lathyrus"ur r0+."x" T"x|^aep 0"

Dfn "Rqvm j3c_<50/380XK0/4227."3" *OV+0

*Andrena minutula**Mktd{."3:24+

Xgn o k"jqlp "ftwj"xg"x-gej"pcf o q um ej"x -m^aej."o^afx "igpgtceg0

Dfn "Rqvm j3c_." gtp^ajqtc"RT [3]."M flqx "xtej"RT [13]."Ocn^a"Uvtcpc"RT [16]."Ogcpft{U o f²RT]3:c_." d_."Qnf kej qx"x"J^al{fej [22]."Tcrgpcxc [46c_."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d{hqw m{"RT [29]." U o tm"}52f_."Vkej^a" f mc"RR [33]." \ncv^a"Qng-pkeg [35]}X um{v"xg"KX0/XKKK0."egnm g o"48" .78" *EHV."OV." [RV.UY+0

Andrena minutuloides Rgtmkpu."3:36"

Jqlp "ftwj"ug"uknpqw"ngvp"igpgtcef."n²vcl{e"pc"ftqdp²"d nqmx v²"tquvnk{"c"qmqlm{" o k {mqxk/ v ej"*Crkcegcg+0" Jqlp l-{"lg"x"vgr n ej"qdcuvgej0

Dfn "Rqvm j3c_." gtp^ajqtc"RT [3]."M flqx "xtej"RT [13]."Opf-gm [20]."Vkej^a" f mc"RR [33]." \ncv^a"Qng-pkeg [35]}X um{v"xg"KX0/XK0."XKKK0/KZ0."egnm g o"8" .9" *OV." [RV.UY+0

*Andrena nigroaenea**Mktd{.3:24+

Xgnok"jqlp .p^arcfp "ftwj."x{um{vwlf[e]"ug"xg"x-gej"qdnucvgej" T0"Lcmq"lfggp|"o^anc"ftwj "tqfw"lg"jqlp "k"x"jqtaej0

Dfn "Rqvqm]3c."e." gtpqwu{/X"Rqk [4].}Ocn^a"Uvtcpc"RT [16].}Ogcpft{"Uo f²"RT]3:c."W"M{ugm{ [34]}0" X um{v"x"X0/XK0."egnmgo"6" .3" *OV." [RV+0

Andrena nitida *OÄmgt."3998+

D flp "lctp"ftwj"n²vcl[e]"r gfgx-¶o"pc"qxqep²"uvtq o {0

Dwmqxe"RT [2].} gtp^a"jqtc"RT [3].}Qnf kejqxum²"ugfnq [21].}Qnf kejqx"x"J^aIfej [22].}Tc-gnkp-k-v "Lk|gt{"PRT [26].}Tglfkeg [27].}T{d¶"nqw m{"RT [29].}Vkej^a" ¶ mc"RR [33]}0"X um{v"x"X0/XK0."egnmgo"34" .32" *EHV." OV." [RV:UY+0

*Andrena ovatula**Mktd{.3:24+

Jqlp "ftwj"k"xg"x{--fej"rqnqj^aej."n²vcl[e]"pc"|c^avmw"n²vc0"

Jqtp" cupleg [9]<4;0XK0/420XK04229."4" * [RV+0"Uo tm"]52e_<40/430XK04228."3" * [RV+0

Andrena propinqua Uejpgem."3:75"

Jqlp "ftwj"u"clpkqw"m"vgrn o"qdnucvgo."lfgpqvnx "ug"x{um{vwlg"k"xg"uv gfpfej"cx{x{--fej"rqnqj^aej0

Qnf kejqxum²"ugfnq [21]<50/370XK04225."3" * [RV+0

*Andrena proxima**Mktd{.3:24+

Jqlp "ftwj"rq|fppjq"lctc"n²vcl[e]"pc"qmtclfej"ngu ."x"rctefej"cx|cjtcfaej"pc"d¶ng"mxgvqwe"tquvnp{0"

Ogcpft{"Uo f²"RT]3:c."Qnf kejqxum²"ugfnq [21].Uo tm"]52f_."ncv^a"Qng-pkeg [35]}0"X um{v"xg"X0/XK0."egnmgo"3" .:" * [RV:UY+0"

Andrena pusilla R²tg|.3:25

Jqlp ."cng"x"ocn²o"opqfluvx"ud¶tcp "ftqdp "ftwj."qd xcl[e]"cuvq"u{pcpvtqrp"uvcpqk-v ."|cjtcf{."|^ajqp{."rctm{0"

gtpqwu{/X"Rqk [4]<30/470XK04229."3" *OV+0"Qnf kejqxum²"ugfnq [21]<80/390X04225."4" * [RV+0"Te-gnkp-k-v "Lk|gt{"PRT [26]<320/480XK04225."3" *OV+0

Cpftgpc"twLetwu"P {ncpfgt."3:6:"

O^anq"ud¶tcp "ftwj"x{--fej"cx"uv gfpfej"rqnqj0"Rtghgtwlg"r¶u kv "uudvta^av0

Vkej^a" ¶ mc"RR [33]<80X0/40XK04226."4" * [RV+="40/470XK04226."3" *OV+0

Andrena saundersella Rgtmkpu."3:36

Pgjqlp "ftwj"ud¶tcp "r gx^aflp "xg"uv gfpfej"rqnqj^aej"pc"nguquvgrfej0

Ocn^a"Uvtcpc"RT [16]<450XK04225."3" * [RV+0"Ogcpft{"Uo f²"RT]3:c.<440XK0/70XK04227."3" * [RV+0"Qnf kejqxum²"ugfnq [21]<50XK0/50XK04225."3" .3" * [RV+0"Te-gnkp-k-v "Lk|gt{"PRT [26]<4;0X0/320XK04225."3" *EHV+0"T{d¶"nqw m{"RT [29]<450XK0/70XK04225."3" * [RV+0

Andrena strohella"Uv³4emjgtv."3:4:

Jqlp "ftwj"r gfgx-¶o"vgrn ej"qdnucv¶c"nqmcnk0"N²v^a"jncxp "pc"qxqep²"uvtq o {."fx "igpgtceg0"

Dfn "Rqvqm]3e."Rqgfp¶m]45.. Tc-gnkp-k-v "Lk|gtm{"PRT [25].}Tglfkeg [27].}T{d¶"nqw m{"RT [29].}Uo tm"]52f_."Vkej^a" ¶ mc"RR [33].}W"M{ugm{ [34]}0"X um{v"xg"X0/XK0."egnmgo"; .8" * [RV+0

Andrena subopaca P {ncpfgt."3:6:

Jqlp "ngup"ftwj"x{um{vwl|e"ug"r gfgx-|o"pc"lc g|o"

Dfn "Rqvm]3c."e."Dwmqxe"RT [2]. Jqtp"Nw cp{ [7].M flqx "xtej"RT [13].Ogcpft{"Uo f²"RT]3:c."d." Qnf kej qxum²"ugfnq [21].Qnf kej qx"x"J "Iej [22].Rqngfp"m]45."Tcrgpcxc]46d."Tc-gnkp-v "Lk|gtm{"PRT [25].Tc-gnkp-v "Lk|gt{"PRT [26].Tglfkeg [27].T{d"nqw m{"RT [29].Uo tm]52f..™rk "am"e"Uvflqx "xtej"]54." Vkej" " mc"RR [33].W"m{ugnm{ [34]o"X um{v"xg"X/XKK0."egnmgo"82" .94" *EHV.OV." [RV.UY+0

Andrena tarsata P {ncpfgt."3:6:"

U<ET

Xgnok"x|ep "ngup"ftwj."x" T"lgp"qlgfkp n²"p"ang|{"r gfgx-|o"xg"x{—|ej"rqnj"aej0"

Ocn"Uvtcpc"RT [16]<480XK0/450XKK04225."5" *x-g" [RV+0"

Andrena tibialis *Mktd{."3:24+"

Jqlp "lctp"ftwj"n²vcl|e"r gfgx-|o"pc"qxqep²"uvtq o {0"

Tglfkeg [27]<50/3;0X04227."3" * [RV+0"Vkej" " mc"RR [33]<80X0/40XK04226."3" * [RV+0

*Andrena varians**Mktd{."3:24+

Jqlp "lctp"ftwj"x{um{vwl|e"ug"r gfgx-|o"pc"uvgr|ej"clkp ej"zgtqvgto p|ej"nqmcnkva ej0"

T{d"nqw m{"RT [29]<4;0X0/320XK04225."3" *EHV+0"W"m{ugnm{ [34]<330X0/40XK04228."3;" * [RV+0

*Andrena wilkella**Mktd{."3:24+

Jqlp "ftwj"x-gej"qdcuv" T."r gfgx-|o"x"lctp|o"qdfqd|o"

Dfn "Rqvm]3c." gtp"jqtc"RT [3].Qnf kej qxum²"ugfnq [21].Rqngfp"m]45."W"m{ugnm{ [34]o"Egnmgo": " .3" *OV." [RV+0

Panurgus banksianus *Mktd{."3:24+"

Rqo tp "x|ep "ftwj"r gfgx-|o"x{—|ej"rqnj."x lkog p "k"x"pkf-|ej"rqnj"aej."mfq"qd x" r|u kv"uvcpxk-v 0

gtp"jqtc"RT [3]<360/520XKK04226."7" 0"Tc-gnkp-v "Lk|gtm{"PRT [25]<30/70XKK04226."3" *UY+0

Panurgus calcaratus *Ueqrqnk."3985+"

O|uv{"jqlp "ftwj"r|u kp"x{um{vwl|e"ug"tq|vtqw-gp "xg"x-gej"qdcuvgej" T0"

gtp"jqtc"RT [3]<470XK0/360XKK04226."3" 0"

Crkfeg

Apis mellifera Nkppcgwu."397:

D flp "ftwj" cuvq"ejqxcp "nkfo k|o"

Dfn "Rqvm]3c." gtp"jqtc"RT [3]. gtpgwu{/X"Rqnk [4].Ocn"Uvtcpc"RT [16].Ogcpft{"Uo f²"RT]3:c." Qnf kej qxum²"ugfnq [21].Tcrgpcxc]46c."Tc-gnkp-v "Lk|gtm{"PRT [25].Tc-gnkp-v "Lk|gt{"PRT [26].Tglfkeg [27].T{d"nqw m{"RT [29].Vkej" " mc"RR [33]o"X um{v"x"X0/Z0."egnmgo"352"f npke"EHV.OV." [RV.UY+0

Bombus bohemicus"Ugkfn."3:59

Uqek"np "rctc|kvkem "ftwj0"X"gmqngikem ej"p"aqe|ej"p"angfwlg"ux²jq"jqvkvngng"*Bombus lucorum* *Nkppcgwu."3983+0

Dwmqxe"RT [2]<7" 0"Qnf kej qxum²"ugfnq [21]<4" 0"Tc-gnkp-v "Lk|gt{"PRT [26]<3" 0"T{d"nqw m{"RT [29]<4" .4" 0™rk "am"e"Uvflqx "xtej"]54<5" .3" 0

*Bombus ruderarius**OÄnngt."3998+

Ftwj"x unwpp ej"qvqx gp ej"uvcpxk- 0"™ktqeg"tq|-¶ gp ."cng" x{um{vwlg"ug"lgp" x" ocn ej" r q vgej0

Dwmqxe"RT [2]<3" 0"™c-gnkp-v "Lk|gt{"PRT [26]<3"f npkeg0

*Bombus rupestris**Hcdtkekwi."39;5+

D flp "uqek^anp "rctc|kvkem "ftwj0" P^aungfwlg"ux²jq"jqvkvgn" *Bombus lapidarius*0

gtp^a"jqt"RT [3].¶Qnf kej qxum²ugfnq [21].U o tm)52c_."™rk ^am"e"Uvflqx "xtej"54_0"X um{v"x"XKK0/KZ0."egnmg o" 3:" *OV." [RV+0

Bombus soroensis"uur0)"proteus" Igtuvcgemt."3:8;

D flp "ftwj"jqtum ej"ngu 0

Dwmqxe"RT [2].¶Qnf kej qxum²ugfnq [21].™c-gnkp-v "Lk|gtm{"PRT [25].™c-gnkp-v "Lk|gt{"PRT [26].™Tglfkeg [27].T{d¶"nqw m{"RT [29].U o tm)52c_."Vkej^a" ¶ mc"RR [33].W" M{ugnm [34]0"Egmg o":."6" .33"f npke *EHV."GV."OV." [RV."UY+0

Bombus sylvestris *Ngrngvkggt."3:54+

Rq o tp "d flp "uqek^anp "rctc|kvkem "ftwj0" Gmqnqikem{" p^aungfwlg"jqvkvgn" *Bombus pratense*0

Qnf kej qxum²ugfnq [21].<370XKK0/50XKK04225."3" * [RV+0]T{d¶"nqw m{"RT [29]<3" 0"Vkej^a" ¶ mc"RR [33]<360/4;0 XKK04226."3" 0

Bombus terrestris *Nkppcgwu."397:+

D flp "ftwj"qvqx gp ej"uvcpxk- .mvggt "pguvqr^a"fq"x{--¶ej"rqnqj0

Dwmqxe"RT [2]<4"f npkeg0" gtp^a"jqt"RT [3]<520XKK0/390XKK04226."3" .4"f npkeg"OV." [RV+0]¶Qnf kej qxum²ugfnq [21]<50/370XKK04225."3" =390XKK0/40KZ04225."3"f npkeg0

Bombus vestalis *I gqhhtq{"."39:7+

D flp "uqek^anp "rctc|kvkem "ftwj" w" o gn^amc"ftwj w" *Bombus terrestris*0" J lqp "x"p{flkp^aej." kf-¶" xg"uv gfp¶ej"rqnqj^aej0" P^ang|"pc"tc-gnkp-vk"x"3"272" o"p0"o0"lg"cl¶o cx" |"jngfkumc"rq|p^ap¶" gmqnqikg"ftwj w0

gtp^a"jqt"RT [3]<360/520XKK04226."3" 0"¶Qnf kej qxum²ugfnq [21]<50/370XKK04225."6" 0

Dqo dwu"ywt ¶gpkk"™Tcfqu|mqy umk."3:7;+ "

U<"GP

Dqtgqcnrkpp¶"ftwj"x^a|cp "pc"jqtum^a"dg|ngu¶0

Dwmqxe"RT [2]<4"f npkeg0"™c-gnkp-v "Lk|gt{"PRT [26]<3"f npkeg0

Clisodon furcatus *Rcp|gt."39;:+

D flp "ngup¶"ftwj."jp¶|f{e¶"xg" f gx 0"X" T"tq|vtqw-gp "pc"nguquvgr¶ej" c"qmtcl¶ej"ngu 0"

Ogcpft{"U o f²"RT [3]:d.<360X0/360X04229."3" *OV+0" T{d¶"nqw m{"RT [29]<480X00;0XKK04225."3" * [RV+0

Epeoloides coecutiens *Hcdtkekwi."3997+ "

U<"GP

O^anq"ud¶tcp "ftwj"mwmc ¶"x gn{"x" T"r gfgx-¶o"pc"r¶u kp^aej" c" o qm cfgej0" Rctc|kwlg" w"uc o qv^a um ej"x gn"tqfw" *Macropis0*

gtpqw{/X"Rqk [4]<30/470XKK04229."3" *OV+0" Ogcpft{"U o f²"RT [3]:d.<30/470XKK04229.;;" .3" *OV+0

Melecta albifrons *H34tuvgt."3993+

D flp "lctp"ftwj."rctc|kv"ftwj "tqfw"Anthophora."|xn^a-v "w"pgljqlp l-fjq"ftwjw"A. plumipes
*Rcmcu."3994+0

Tc-gnkp-k-v "Lk|gt{"PRT [26]<70/390X04225."3" *EHV+0"T{d"nqw m{"RT [29]<390/4;0X04225."3" * [RV+0

Nomada eh0"conjungens J gttkej/Uej@hhgt."3:5;

D flp "mwmc "ftwj"x{um{vw|e"ug"r gfgx-f"o"x"vgrn ej"qdncuvej0"Rctc|kv"ftwjw"Andrena
proximal0

Ogcpft{"Uo f²RT]3:d_<360X0/360XK04229."4" *OV+0

*Nomada fabriciana**Nkppcgwu."3989+

D flp "mwmc "ftwj."rctc|kwlg"w"ftwjw"Andrena bicolor0

M flq "xtej"RT [13]<520KX04226."3" *UY +0"Rqngfpm"45.<80X0/40XK04226."3" 0"Uo tm"52d.<330X0/40XK04228."
3" * [RV+0"Vkej" " mc"RR [33]<80X0/40XK04226."3" 0"W" M{ugm{ [34]<330X0/40XK04228."3" * [RV+0

Pqocfc"txc"Rcp|gt."39; :

D flp "mwmc "ftwj."rctc|kwlg"w"ftwjw"Andrena fulval0

D"n "Rqvqm]3c_."Dwmqxe"RT [2]."Ogcpft{"Uo f²RT]3:c_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "
Lk|gt{"PRT [26]."T{d"nqw m{"RT [29]."Uo tm"52f_."W" M{ugm{ [34]0"X um{v"xg"KX0/XK0."egmgo"55" .5" "
*EHV."OV." [RV."UY+0

*Pqocfc"tcxi*wwwvc"*Mktd{."3:24+

D flp "mwmc "ftwj."rctc|kwlg"w"ocn ej"ftwj "tqfw"Andrena |g"umwrkp{"A. minutula0

D"n "Rqvqm]3e_." gtp"jqt"RT [3]."Ht fncpv [6]."M flq "xtej"RT [13]."Ogcpft{"Uo f²RT]3:c_."Opf-gm
[20]."Qnf kejqxum²ugfnq [21]."Qnf kejqx"x"J"fej [22]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d"nqw m{"
RT [29]."Uo tm"52d."f_."Vkej" " mc"RR [33]."W" M{ugm{ [34]0"X um{v"xg"KX0/XK0."egmgo" :; ."64" *OV."
[RV."UY+0

Nomada fucata Rcp|gt."39; :

D flp "mwmc "ftwj."jp|fp|mngrvqrctc|kv"ftwjw"Cpftgpc"tckrgul0

Ocn"Uvtcpc"RT [16]<380/4;0X04225."4" * [RV+0"Tc-gnkp-k-v "Lk|gtm{"PRT [25]<480KX0/60X04225."3" * [RV+0

Nomada furva Rcp|gt."39; :

Mngrvqrctc|kv"ftqdp ej"ftwj "tqfw"Lasiglossum"x{um{vw|e"ug"pgjqlp "pc"x v-kp "À|g o".
r gfgx-f"o"x"vgrn ej"qdncuvej0

gtpqwu{/X"Rqnk [4]<360X0/360XK04229."3" *OV+0

*Nomada goodeniana**Mktd{."3:24+

Jqlp "ftwj."mngrvqrctc|kv"ftwj "Andrena nigroaenea."A. carantonica."A. tibialis c" oqflp"
k"A. cineraria0

D"n "Rqvqm]3c_."M flq "xtej"RT [13]."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Uo tm"52c.e_."
Vkej" " mc"RR [33]."W" M{ugm{ [34]0"X um{v"xg"KX0/XK0."egmgo"9" .4" *OV." [RV."UY +0

Nomada integra Dtwm²."3:54

U<XW

O"nq"ud"tcp "ftwj."x" T"rqo tp "x|^aep 0" Jqukvngno"lg"rtcx f r qf qdp "ftwj"Andrena
humilis Ko jqhh."3:540

T{d"nqw m{"RT [29]<4;0X0/320XK04225."3" * [RV+0

Nomada leucophthalma *Mktd{.3:24+ U<"XW
O^anq"udf{tcp "ftwj"qd xclf{e" |glo²pc"uv gfpf"rqnj j {0"Mngrvqrctc|kv"ftwjw" *Andrena clarkella*0
Tc-gnkp-k-v "Lk|gtm{"PRT [25]<50XK0/70XKK04227."4" * [RV+0]Tc-gnkp-k-v "Lk|gt{"PRT [26]<70/390X04225."3" *EHV+="
4;0X0/320XK04225."3" * [RV+0]T{d{nfqw m{"RT [29]<70/390X04225."3" *OV+="390X0/;0XKK04225."7" * [RV+0

Nomada marshamella *Mktd{.3:24+
D flp "mwmc f"ftwj."mngvrqrctc|kv"ftwj " *Andrena carantonica*."A. nigroaenea c"A. nitida0
Qnf ke j qxum²"ugfnq [21]."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."T{d{nfqw m{"RT [29]0"
X um{v"x"X0/XK0."egmng o "8" .7" *EHV." [RV+0

Nomada moeschleri Cnhmgp."3;47" U<"ET
Rwdnkmqxcp²"Áfclg<T{d{nfqw m{"J4;_:"Dqiwuej"gv"cn0"4227+1cmq"pqx "ftwj"rtq" ge j {0
Vgpvq"ftwj"ug"x"uqw cup²"fqd "-f"q."x"tqeg"4227"d{n"cnq"rqxcflqx^ap" |c"mtkvkem{"qj tqflgp ." "
c"rtqvq"d{n" |c |g|p"fq" gtxgp²j q"ug|pc o w"qj tqflgp ej"ftwj " T0"
D{fn "Rqvqm]3c_." gtpqwu{/X"Rqk [4]."Ogcpft{"U o f²"RT]3:c_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Vkej^a" f mc"
PP [33]0"X um{v"x"X0/XKK0."egmng o "6" .8" *OV." [RV+0

Nomada panzeri"NgrgnvkgT."3:63
J qlp "ftwj"r gfgx-flo"vgrngl-f"ej"qdnucvfl."mfg"ug"x{um{vwlg"x"fqd "mx vw"qxqep ej"uvtq o 0"
J pfl f pfl"mngvrqrctc|kv"rflumqt{ rgm" *Andrena helvola* c"A. varians0
D{fn "Rqvqm]3c_." gtp"jqtc"RT [3].Lgfnqx "f n"RT [10].Rqngfpm"45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-g/
nkp-k-v "Lk|gt{"PRT [26]."T{d{nfqw m{"RT [29]."Vkej^a" f mc"RR [33]."W"m{ugnm{ [34]0"X um{v"x"X0/XKK0."egmng o "
54" .8" *OV." [RV+0

Pqocfc"twLeqtpku"*Nkppcgwu."397:+
D flp "mwmc f"ftwj"r gx^aflp "ngu "c"lgkej"qmtcl 0"Mngrvqrctc|kv"ftwjw" *Andrena haemo-*
*rrhoa*0
D{fn "Rqvqm]3c_."Dwmqxe"RT [2]."Ogcpft{"U o f²"RT]3:c_."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d{nf
qw m{"RT [29]."U o tm"j52c_."Vkej^a" f mc"RR [33]."W"m{ugnm{ [34]0"X um{v"x"X0/XKK0."egmng o "32" .4" *EHV."
OV." [RV+0

Pqocfc"twLrgu"HcdtkekWu."39;5
D flp "mwmc f"ftwj" w"ngvpf"ej" x gn"tqfw" *Andrena*." r gfgx-flo" *A. fuscipes*"*Mktd{.3:24+
c"*A. denticulata*0
W"m{ugnm{ [34]<350XKK0/50XKK04228."3" .3" *OV+="460XKK0/320ZK04228."3" *UY+0

Nomada signata Lwtkpg."3:29"
D flp "mwmc f"ftwj."mngvrqrctc|kv"ftwjw" *Andrena fulva*0
Rqngfpm [23]<80X0/40XK04226."4" 0" Tglfkeg [27];<50/3;0X04227."3" * [RV+0]T{d{nfqw m{"RT [29]<4;0X0/320
XK04225."3" *EHV+0

Nomada sheppardana *Mktd{.3:24+
D flp "ftwj"mwmc f"q gn{r gfgx-flo"pc"nguquvgrf"ej0" J qukvgnk"luqw"ftqdp²"ftwj {"tqfw" *Lasio-*
*glossum*0
Qnf ke j qxum²"ugfnq [21]<80/390X04225."4" .7" * [RV+0

Nomada striata Hcdtkekwu."39;5"

Pgjqlp "mwmc ¶ fwtj"x{um{vwl¶e¶ug"r gfgx-¶o"pc"uvgr¶ej" c"nguqvgr¶ej0" Jqukvngng o"luqw"
fwtj{"|g"umwrkp{"*Andrena ovatula*0"
gtp"jqtc"RT [3]<80X0/40XK04226."3" =360/520XKK04226."3" 0"

Nomada succincta Rcp|gt."39; :

Jqlp "mwmc ¶ fwtj"x"vgrn ej"qdcuvgej."rqfqdp "fwtjw" *N. goodeniana*."u"p¶o fl" k"uf¶n¶ jqu/
vkvngng0"
T{d¶nqw m{"RT [29]<4;0X0/320XK04225."3" * [RV+0"¶Vlej" ¶ mc"RR [33]<40/470XK04226."3" 0

Eqmgvkeg

Colletes daviesanus Uokvj."3:68"

Jqlp "c"pc"nqmcnkvaej"rq gvp "fwtj"jp¶|f¶e¶rqurqkv "x"r¶u kv ej"uv paej0
gtp"jqtc"RT [3]<520XKK0/390XKK04226."3" 0

Hylaeus annulatus"*Nkppcgwu."397:+"

U<ET

Rwdnkmqxcp2"Àfclg<Lk|gtmc"gpX0."Rtcnqwmc"*?"Dwmqxcge"RT" J4,+<320XK0/;0XKK04225."3" .3" *EHV+0"Qnf kejqx"
x" J"¶e.j."Xkpk p"eguc"*?"Qnf kejqxum2"ugfnq" J43,+<50XK0/370XKK04225."8" .5" * [RV+0"¶Tc-gnkp-v "Lk|gt{"
PRT" J48.<4;0X0/420XKK04225."33" .3:" *EHV."OV." [RV+0"¶T{d¶nqw m{"RT" J4;.<4;0X0/340XKK04225."8" ."
6" * [RV+0"¶Dqi wuej"gv"cn0"4229+0"
Xgnok"x|aep ."x{nqflgp "jqtum "fwtj"u"v{rkem o" gwtqukd k um o"tq| -¶gp¶o0" \ " T"gzkvqxcn{"
lgp"urqtp2"nkvgt"ap¶|Afclg."x"uqw cup2"fqd "lg"mtqo "Lk|gtum ej"jq" |p" a o"vcm2" |g"2Mwocx{"
*Dqi wuej"gv"cn0"4229+0"
gtp"jqtc"RT [3]<360XK0/390XKK04226."7" .36" * [RV+0"¶Rqgfp¶m" J45.<470XK0/360XKK04226."3" 0"¶Tc-gnkp-v "
Lk|gtm{"PRT [25]<450XK04227."3" *U Y+=380XK0/4;0XKK04227."4" * [RV+0"¶Vlej" ¶ mc"RR [33]<4;0XKK0/380
KZ04226."3" 0"¶W" M{ugm{ [34]<420XK0/350XKK04228."3" *OV+0

Hylaeus brevicornis"P{ncpfgt."3:74

D flp "fwtj"|gl o 2pc"x"vgrn ej"qdcuvgej0
gtp"jqtc"RT [3]<520XKK0/390XKK04226."3" 0"

Hylaeus communis"P{ncpfgt."3:74

D flp "fwtj"|gl o 2pc"x"vgrn ej"qdcuvgej0

D¶n "Rqvqm J3c."e."Dwmqxcge"RT [2]." Jqtp¶Nw cp{ [7]." Jqtp¶Rgtvqvkcg [8]." Mwptcvkcg [14]." Ocn"¶Uvtcpc"RT
[16]." Qnf kejqxum2"ugfnq [21]." Qnf kejqx"x" J"¶e.j [22]." Tcurgpcxc J46c."¶Tc-gnkp-v "Lk|gtm{"PRT [25]." Tc-g/
nkp-v "Lk|gt{"PRT [26]." T{d¶nqw m{"RT [29]."¶mqne x"t{dp¶m [31]."¶mrk "m" c"Uvtfqcx "xtej" J54."¶Vlej" ¶ mc"RR
[33]." W" M{ugm{ [34]0" X um{v"x"X0/XKK0."egnmgo"5:" .36" *EHV."OV." [RV.UY+0

Hylaeus confusus"P{ncpfgt."3:74

Xgnok"jqlp "fwtj"x{um{vwl¶e¶ug"d flp "k" xg"x{--¶ej" rqnqj" aej0

D¶n "Rqvqm J3c."e." gtp"jqtc"RT [3]." gtpqw{/X"Rqk [4]." Mwptcvkcg [14]." Ocn"¶Uvtcpc"RT [16]." Ogcpft{"
Uo f2"RT J3:d." Qnf kejqxum2"ugfnq [21]." Rqgfp¶m" J45."¶Tc-gnkp-v "Lk|gt{"PRT [26]." T{d¶nqw m{"RT [29]."¶
Vlej" ¶ mc"RR [33]." W" M{ugm{ [34]0" X um{v"x"X0/XKK0."egnmgo"57" .4:" *EHV."OV." [RV.UY+0

Hylaeus gracilicornis *Oqtcykv|.3:89+ U<"ET
Xgnok'x|^aep "ftwj"uvgr|"c"nguquvgr|"x"vgrn ej"qdnucvgej."qlgflkp ng"l"pc"vgrn ej"o"fuvegej"uv gf/
p|ej"rqnj0"X" T"lgp"p mqnkm"nqmcnk"v"tgegvp|ej"p^ang| 0
gtpqwu{/X"Rqnk [4]<"360X0/360XK04229."3" *OV+0"Ogcptf{"Uo f²"RT]3:d_<"30/470XKK04229."3" *OV+0

Hylaeus gredleri H³4tuvgt."3:93
D flp "ftwj"|glo²pc"pc"r|fu kv ej"vgrn ej"nqmcnk^aej0
Tc-gnkp-kv "Lk|gt{"PRT [26]<"480XK0/450XKK04225."3" .3" * [RV+0"Vkej" " | mc"RR [33]<"360/4;0XKK04226."3" 0

Hylaeus hyalinatus Uokvj."3:64
D flp ."r gfgx-|o"uvgrp|"ftwj0
Ocn^a"Uvtcpc"RT [16]<"4;0X0/320XK04225."3" *OV+0"X^argpp "xtej"RT [35]<"430XK03;:9."4" .3" *UY+."
O|Mqnfumq"niv0

Hylaeus moricei *Htkgug."3:;:+"" U<"GP
O^anq"ud|tcp "oqm cfp|"ftwj0"X"uqw cup²"fqd "d{ng"|lk-v pq."flg"lg"jqlp l-|"pgl"d{ng" f |xg"
wx^a f pq0"
gtpqwu{/X"Rqnk [4]<"360X0/360XK04229."6" .5" *OV+0"Ogcptf{"Uo f²"RT]3:c_<"530X0/70XKK04227."4" "
*OV+0

Hylaeus rinki *Iqtumk."3:74+ U<"GP
O^anq"ud|tcp "oqm cfp|"ftwj."x" T"x-gqdgep "nqma"np|"c"x|^aep 0"
gtpqwu{/X"Rqnk [4]<"360X0/360XK04229."3" *OV+0

Jcnkevfcg

Halictus rubicundus *Ejtkuv."39;3+
D flp "ftwj"r|fu kv ej"uvcpqkx- "r gfgx-|o"vg"uv gfp|ej"rqnj^aej0
Qnf kejqxum²"ugfnq [21]<"50XKK0/50XKK04225."3" .4" * [RV+0

Halictus tumulorum"*Nkppcgwu."397:+"
D flp "c"pc"nqmcnk^aej"rq gvp "ftwj0
Dfn "Rqvqm]3c_." gtpqwu{/X"Rqnk [4]."Ogcptf{"Uo f²"RT]3:c.d_."Qnf kejqxum²"ugfnq [21]."X^argpp "xtej"
RT [35]0"X um{v"x"X0/KZ0."egnmgo"3" .8" *OV." [RV."UY+0

Lasioglossum albipes"*Hcdtkekku."39:3+
D flp "ftwj"xg"uv gfp|ej"v"x{|-|ej"rqnj^aej0
Dwmqxe"RT [2].M flqx "xtej"RT [13].Ocn^a"Uvtcpc"RT [16].Qnf kejqxum²"ugfnq [21].Rqngfp|fm]45_."Twfqnqx
[28].T{d|nqw m{"RT [29].Uo tm]52d.f_."Mrk "m"e"Uvtflqx "xtej"]54_."Vkej" " | mc"RR [33].W"M{ugnm{ [34]0"
X um{v"xg"KX0/KZ0."egnmgo"8" .56" *EHV."OV." [RV."UY+0

Lasioglossum calceatum *Ueqrqnk."3985+
D flp "ftwj"|glo²pc"uv gfp|ej"rqnj0
Dfn "Rqvqm]3c_."Jqtp|"Nw cp{ [7].Ocn^a"Uvtcpc"RT [16]."Ogcptf{"Uo f²"RT]3:c_."Rqngfp|fm]45_."Tglfkeg
[27]0"X um{v"x"X0/XKK0."egnmgo"3" .49" *OV." [RV."UY+0

Lasioglossum costulatum *Mtkgejdcwogt."3:95+" U<XW
X" T"x-gqdgep "x|^aep "c"qlgfkp ng"pcn2|cp "ftwj0"Rtghgtwlg"qmtclg"ngu "c"nguquvgrk0"
Jqtp^a cupkeg [9]<4;0XK0/420XKK04229."3" * [RV+0]

*Lasioglossum fratellum**R²tg|. "3:25+
Egnmg o "d flp "ftwj" xg"uv gfp|ej "c"x{|--|ej" rqnqj^aej "c"pc"ejncfp l-|ej"nqmcnk^aej" pkfl-|ej"
rqnqj0
Dwmqxe"RT [2]." gtp^ajqt c"RT [3]."Lgfnqx "f n"RT [10]."Ocn^a"Uvtcpc"RT [16]."Ogcpft{"Uo f²"RT]3:c."
Qnf kejqxum²ugfnq [21]."Qnf kejqx"x"J^a|^aej [22]."Rqngf^ap^am"]45_."Tcurgpcxc]46c_."Tc-gnkp-k-v "Lk|gtm{"PRT
[25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Twfqnqhx [28]."T{d^a"nqw m{"RT [29]."Uo tm]52d.f_."^ark^a m^ac"Uvflqx "xtej"
[32]."Vkej^a" | mc"RR [33]."W"M{ugnm{ [34]0"X um{v"x"X0/KZ0."egnmgo"32;" .52:" *EHV."OV." [RV+0]

Lasioglossum fulvicorne *Mktd{."3:24+
Nqm^anp^a."cng"pc"nqmcnk^aej"rq gvp "ftwj"r gfgx-|o"xg"uv gfp|ej"rqnqj^aej0
gtpqwu{/X"Rqk [4]."Ocn^a"Uvtcpc"RT [16]."Qnf kejqxum²ugfnq [21]0"X um{v"x"X0/KZ0."egnmgo"4" .32" "
*EHV."OV." [RV+0]

*Lasioglossum laevigatum**Mktd{."3:24+
D flp "ftwj"pc"vgrn ej"uvcpqkx-k-|^aej0
Jqtp^aNw cp{ [7]."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfkeg [27]."T{d^a"nqw m{"RT
[29]."W"M{ugnm{ [34]." \ncv^a"Qng-pkeg [35]0"X um{v"x"X0/KZ0."egnmgo"4" .;" *EHV."OV." [RV+0]

*Lasioglossum laticeps**Uejgpem."3:92+
Jqlp "ftwj"qf"p^aflkp"fq"jqt."pc"nqmcnk^aej" cuvq"rq gvp 0
D^an "Rqvqm]3c.e_."Jqtp^aRgtvqnqkeg [8]."Ocn^a"Uvtcpc"RT [16]."Ogcpft{"Uo f²"RT]3:c_."Tc-gnkp-k-v "Lk|gt{"
PRT [26]."Tglfkeg [27]."rk^a m^ac"Uvflqx "xtej"]54_."X^argpp "xtej"RT [35]0"X um{v"xg"X0/KZ0."egnmgo"5" ."
37" *OV." [RV.UY+0]

Lasioglossum lativentre *Uejgpem."3:75+
Jqlp "ngup^aftwj."rq gvp l-|^axg"uv gfp|ej "c"x{|--|ej" rqnqj^aej0
gtp^ajqt c"RT [3]."Qnf kejqxum²ugfnq [21]."Rqngf^ap^am"]45_."Tc-gnkp-k-v "Lk|gt{"PRT [26]."T{d^a"nqw m{"RT [29]."
^ark^a m^ac"Uvflqx "xtej"]54_."Vkej^a" | mc"RR [33]0"X um{v"x"X0/KZ0."egnmgo"47" .45" *EHV." [RV+0]

*Lasioglossum leucopus**Mktd{."3:24+
Rqo tp "jqlp "ftwj"xnj |ej"nwm"cqmtcl "ngu "r gfgx-|o"x"pkfl-|ej"cu"uv gfp|ej"rqnqj^aej0
W"M{ugnm{ [34]<350XKK0/50XKK04228."3" *OV+0

Lasioglossum lucidulum *Uejgpem."3:83+
Jqlp "ftwj"r gfgx-|o"x"vgrn ej"qdnucvej"pc"r^al^akv ej"nqmcnk^aej0
Ogcpft{"Uo f²"RT]3:c_<3;0/530X04227."3" * [RV+=]3:d_<360X0/360X04229."3" =30/470XKK04229."3" *x-g"
OV+0

Lasioglossum malachurum *Mktd{."3:24+
Gwuqek^anp^aftwj"jqlp "l|o²pc"x"vgrn ej"qdnucvej0
^aqe x^a{dp^am [31]."Vkej^a" | mc"RR [33]." \ncv^a"Qng-pkeg [35]0"X um{v"x"X0/KZ0."egnmgo"3" .5" 0

*Lasioglossum morio**Hcdtkekwu."39;5+

D flp "gwuqek^anp^lftwj."| gl o "pqljqlp l-^l|^auwvreg"tqfw0

Dfn "Rqvm]3c_." gtpqwu{/X^Rqnk [4]."Ogcpft{U o f²RT]3:d_."^lrk ^am^cUvflqx "xtej"]54_0^X um{v^xX0/XKKK0."egnmgo"4" .;" *OV." [RV+0]

*Lasioglossum nitidiusculum**Mktd{."3:24+

D flp "ftwj"pc^vgrn ejⁿqmcnk^vej^a."uvgr^eej^cuv^ta^pej0

^lrk ^am^cUvflqx "xtej"]54_<420XKK0/70XKKK04225."3" * [RV+0]

*Lasioglossum nitidulum**Hcdtkekwu."3:26+

cuv "ftwj"vgrn ejⁿqmcnk^vc^qdcuv^l0

M flqx "xtej"RT [13]<50XKKK04226."3" *UY+0

*Lasioglossum parvulum**Uejgpem."3:75+

D flp "ftwj"|gl o²pc^xlctp^lo"qdfqd^lpc^qxqep ej^vvtq o ge j0

Dfn "Rqvm]3c_e_."Dwmqxe^{RT}]4_."Ht fncpv [6]."Jqtp^l cupleg [9]."M flqx "xtej"RT [13]."Nldgtge/Xguge [15]."Ogcpft{U o f²RT]3:c.d_."Qnf kejqxum²ugfnq [21]."T{d^lhqw m{RT [29]}.^lrk ^am^cUvflqx "xtej"]54_0^X um{v^xX0/XKKK0."egnmgo"39" .44" *EHV."OV." [RV+0]

*Lasioglossum pauxillum**Uejgpem."3:75+

D flp "ftwj"qf^pflkp^fq^jqt0

gtpqwu{/X^Rqnk [4]."Jqtp^lRgtvqnveg [8]."M flqx "xtej"RT [13]."Ogcpft{U o f²RT]3:c_0"Egnmgo"3" ."
6" * [RV.UY+0]

*Lasioglossum quadrinotatum**Uejgpem."3:83+

U<"GP

O^anq^{ud}l^{tep} "r^lumq o knp "ftwj."x" T^xgn o kⁿqm^anp^lc^x|^aep "lgp"pc[|]cej^qxcn ej^rfu kp^aej0

gtpqwu{/X^Rqnk [4]<470XKK0/390XKKK04229."3" *OV+0"Ogcpft{U o f²RT]3:d_<360X0/470XKK04229."33" ."
6" *OV+0

*Lasioglossum quadrinotatum**Mktd{."3:24+

D flp "uvgrp^lcⁿguquvgrp^lftwj."x" T^{pc}vgrn ej^vucp^qxk-v^eej0

^lrk ^am^cUvflqx "xtej"]54_<420XKK0/50XKKK04225."3" * [RV+0]

Ncukinquw o"twLvc^{tug}*\gwgtuv^{gf}v."3:5:+

X|^aep l-^lngup^lftwj"|gl o²pc^xr^qfj 0

gtp^aj^{qtc}RT [3]."gtpqwu{/X^Rqnk [4]."Ogcpft{U o f²RT]3:c.d_."Qnf kejqxum²ugfnq [21]."Rqgfp^m]45_."T{d^lhqw m{RT [29]}.^lrk ^am^cUvflqx "xtej"]54_."Vkej^a" f mc^{RR}[33]."W^M{ugm [34]."X^argpp "xtej"RT [35]0^X um{v^xX0/XKKK0."egnmgo"34" .66" *EHV."OV." [RV.UY+0]

*Lasioglossum sabulosum**Yctpemg."3;:8+

D flp "r^lumq o knp "ftwj"qd xcl^el^rfgx-^lo^rflug p²r gu{r {0

gtpqwu{/X^Rqnk [4]<30XKK0/390XKKK04229."4" *OV+0"Jqtp^lRgtvqnveg [8]<30/470XKK04229."3" *OV+0

*Lasioglossum subfasciatum**K o j qhh."3:54+

X|^aep l-^lftwj^vgr^l."nguquvgr^lc^qmtcl "ngu ."x" T^{tq}|vtqw-gp 0

gtp^aj^{qtc}RT [3]."Qnf kejqxum²ugfnq [21]."Rqgfp^m]45_."Tc-gnkp^v "Lk|gt{"PRT [26]."T{d^lhqw m{RT [29]}.
U o tm]52c.d_."W^M{ugm [34]0^X um{v^xX0/KZ0."egnmgo"42" .64" *EHV." [RV+0]

Lasioglossum subfulvicorne austriacum"Gd o gt."3;95"

U<E**T**

Rwdnkmqxcp2Àfc|g<Lk|gtmc"gpXl."Rtcnqwmc*?"Dwmqxcge"RT"]4_+="J qtpf"Oczqx."Ocn^"Uvtcpc*?"Ocn^"Uvtcpc"RT"]38_+=" Qnf kejqx"x"J^"Ej."Xkpk p^"eguvc*?"Qnf kejqxum2"ugfnq"]43_+="Tc-gnkp-k-v "Lk|gt{"PRT"]48_="T{d^"nqw m{"RT"]4;_ " *Dqiwuej"gv^cn0"4229+0"

X|^ep "x{uqmjqqtum "gwtqukdum "ftwj0"Lcmq"pqx "ftwj"rtq" T"d{n"rwdnkmqxcp "vgrtxg" pgf^"xpxq."o l0^"pc|^"amncf "Àfcl "|"Lk|gtum ej"jqtc*"Dqiwuej"gv^cn0"4229+0"Rtcxf rqqfqp "dwfg"Xg" x{--"Ej"pcf o q um ej"x -m^"ej"jqlp l-^"pgfl"ug"r gfrqmn^"fcnc"*xk|"Fxxq ^"m" ("Dqiwuej"422: +0)" gtp^"jqtc"RT [3]."Lgfnqx "f n"RT [10]."Rqngfpm"]45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Twfqnqhx [28]."Vkj^"a" { mc"RR [33]."W"m{ugum{ [34]0"X um{v"x"XK0/XKKK0."egnmgo"545" .4:8" "x gvp "rwdnkmqxcp ej"Àfcl "EHV." OV." [RV+0"

Lasioglossum eh0 subfulvicorne austriacum"Gd o gt."3;95"

Fgvgto kpcceg"p mvgt ej"uc o ke"vqjqqv"ftwjw"lg"pglkuv^."rtqvq"luqw"wxgfgp{"qff ngp 0" Tc-gnkp-k-v "Lk|gt{"PRT [26]."T{d^"nqw m{"RT [29]0"X um{v"x"X0/KZ0."egnmgo"66" "EHV." OV." [RV+0"

Lasioglossum villosulum"*Mktd{."3:24+

D flp "ftwj"|gl o 2pc"vgrn ej"r^"u kv ej"nqmcnk0

D^n "Rqvqm]3c_." gtp^"jqtc"RT [3]."M flqx "xtej"RT [13]."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."W"m{ugum{ [34]0" X um{v"x"XK0/XKKK0."egnmgo"3" .5" "OV." [RV+0"

Lasioglossum zonulum *U o kvj."3:6:+

D flp "ftwj"r^"u kp"c"oqm cf 0

Jqtpf^"Nw cp{ [7]<40XKKK04226."3" *U Y +0" Jqtpf^"Rgtvqvkeg [8]<360X0/360XK04229."3" *OV+0"

Lasioglossum xanthopus *Mktd{."3:24+"

X|^ep l-^"ftwj."rq gvp l-^"lgp"x"vgrn ej"qdnucvgej"pc"uvgr^"ej0

T{d^"nqw m{"RT [29]<4;0X0/320XK04225."3" *EHV+0"

Sphecodes crassus"Vj q o uqp."3:92

D flp "mwmc fl"ftwj."mngrvqrctc|kv"ftqdp ej"ftwj "tqfw"*Lasioglossum*0

Qnf kejqxum2"ugfnq [21]<390XKKK0/40KZ04225."3" * [RV+0" Tc-gnkp-k-v "Lk|gt{"PRT [26]<450XKK0/70XKKK04225."3" " *EHV+0" W"m{ugum{ [34]<350XKK0/50XKKK04228."3" *OV+0"

Sphecodes ephippius *Nkppcgwu."3989+

D flp "mwmc fl"ftwj."rctc|kv"p mvgt ej"ftwj "tqf "Andrena."*Lasioglossum*"c"*Halictus*0

D^n "Rqvqm]3c_." Jqtpf^"Rgtvqvkeg [8]."Ogc pft{"U o f^"RT]3:d_."Qnf kejqxum2"ugfnq [21]."Tc-gnkp-k-v "Lk|gt{" PRT [26]."Mrk ^"m^"c"Uvtflix "xtej"]54_0"X um{v"x"X0/KZ0."egnmgo"9" .32" *EHV." OV." [RV+0"

Sphecodes ferruginatus"J c igpu."3::4

Pgjqlp "mwmc fl"ftwj."j p fl"fp fl"mngrvqrctc|kv"ftwjw"*Lasioglossum fulvicorne*0

Ogc pft{"U o f^"RT]3:c_<440XK0/70XKK04227."3" * [RV+0" W"m{ugum{ [34]<50/460XKKK04228."3" *OV+0"

Sphecodes geofrellus *Mktd{."3:24+

D flp "ftwj."rctc|kv"p mvgt ej"ftqdp ej"ftwj "tqfw"*Lasioglossum*0

D^n "Rqvqm]3c_." Dwmqxcge"RT [2]."Qnf kejqxum2"ugfnq [21]."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{" PRT [26]."T{d^"nqw m{"RT [29]0"X um{v"x"XK0/XKKK0."egnmgo"6" .4" *EHV." OV." [RV+0"

Sphcodes longulus J cigpu."3: :4

X|^aep "mwmc ¶|ftwj."jqvkvgnk"luqw" | glo "ftqdp²"ftwj{"tqfw"*Lasioglossum*0"X" T"lgp" lfpqvnkx "c"nqm^anp 0

Ogcpft{"Uo f²RT]3:d_<360XK0/470XKK04229."6" *OV+0

Sphcodes miniatus J cigpu."3: :4

D flp "ftwj."rctc|kv"p mvgt ej"ftwj "tqfw"*Lasioglossum*0

Ogcpft{"Uo f²RT]3:d_<360XK0/470XKK04229."66" .3;" *OV+0"X^argpp "xtej"RT [35]<430XK03; ;9."4" " *UY+.L0"Uvtcmc"ni v0"

Sphcodes monilicornis *MktD{"3: 24+

Jqlp "ftwj."rctc|kv"p mvgt ej"ftwj "tqf "*Lasioglossum*"c"*Halictus*0

Ocn^a"Uvtepc"RT [16]."Ogcpft{"Uo f²RT]3:d_."Tc-gnkpk-v "Lk|gt{"PRT [26]."Vkej^a" ¶ mc"RR [33]0"X um{v" x"XK0/XKK0)."egmng o"3" .7" *EHV." [RV+0

Sphcodes niger J cigpu."3: 96

D flp "mwmc ¶|ftwj."jqvkvngng o"lg"xgn ok"jqlp "ftwj"*Lasioglossum morio*0"Ok o q"pglvgrngl-¶ qdncuvk"cnq"pgp¶r ¶nk-"rq gvp ."

Qnf kejqxum²"ugfnq [21]<50/3; 0XK04225."3" * [RV+0

Sphcodes spinulosus J cigpu."3: 97"

U<ET

Xgn ok"x|^aep "ftwj"lgp"u"v g ok"tgegpv¶ o k"nqmcnkvc o k"x" T"*Dqi wuej"gv"cn0"4229+0"J quvkvngng o" lg"uvgrp¶x gnc"*Lasioglossum xanthopus*.

Vkej^a" ¶ mc"RR [33]<470XK0/360XKK04226."3" 0"

Ogicejknkfcg

Anthidium manicatum *Nkppcgwu."397: +

D flp "ftwj"x^a|cp "pc"jnwejcxmqxkv²"tquvnp{"*Nc okcecg+0

D¶n "Rqym]3c_<70XK0/3; 0XKK04227."6" *OV." [RV+0"

Anthocopa villosa *Uejgpem."3: 75+"

U<ET

X|^aep "jqtm "ftwj."x" T"lgp"urqtcfkem{"pcn²|cp ."tgegpv¶ "|c|pcogpcp "rqw|g"x"EJMQ"

Mqm¶ ¶pumq"*R0"Dqi wuej."pgrwdn0"Áfcl+0"

gtp"jqt"RT [3]<360/520XK04226."4" 0"

Heriades truncorum *Nkppcgwu."397: +

Jqlp "ftwj"jp¶|f¶e¶xg"fgx 0

Vkej^a" ¶ mc"RR [33]<360/520XK04226."3" 0"

Hoplitis claviventris *Vjqouqpp."3: 94+"

Tq|vtqw-gp "ug"x{xum{vw|¶e¶ngup¶c"nguquvgrp¶ftwj"jp¶|f¶e¶xg"fgx 0"X" T"pgp¶pkmfg"jql/ p 0

Vkej^a" ¶ mc"RR [33]<470XK0/360XKK04226."3" 0"

Hoplitis leucomelana *Mktd{."3:24+
Jqlp "ftwj"r gfgx-|o"x"vgrn ej"qdnucvgej0
Ogcpft{"Uo f²RT J3:d_<360X0/360XK04229."3" 0"

Chelostoma campanularum *Mktd{."3:24+
Jqlp "ftwj"n²vcl|e"pc"|xqpm{"*Campanula urr0+0
gtpqwu{/X'Rqk [4]<360X0/360XK04229."4" *OV+0"Ogcpft{"Uo f²RT J3:d_<360X0/360XK04229."3" *OV+0

Chelostoma distinctum *G0"Uv³4emjgtv."3;4;+
Ftwj"ug"uvglpqw"gmqniqik|"lcmq"r gfej|q|f"fxg"x|^aep l-|."x"rqungfp|ej"ngvgej"rq gvp *| glo " ug"-| |0"
Dn "Rqvqm J3c_<380X0/70XK04227."3" *OV+0" gtpqwu{/X'Rqk [4]<360X0/360XK04229."3" *OV+0"Ogcpft{"Uo f²RT J3:d_<360X0/360XK04229."4" .6" .30/470XK04229."3" *x-g"OV+0

*Ejgnqwwqoc"tqtkuopg**Nkppcgwu."397:+
Xgnok"jqlp "nw p|"ftwj"rq|fp|jq"lctc"cu"cu^v2jq"n²vc."n²vcl|e"pc"rt{um{ p|m{"*Ranunculus urr0+0
Dn "Rqvqm J3c_." gtp^a"jqtc"RT [3]."Ogcpft{"Uo f²RT J3:c_."Tc-gnkp-k-v "Lk|gt{"PRT [26]."T{d|nqw m{"RT [29]"X um{v"x"X0/XK0."egmg o"33" .3" *OV." [RV."U Y+0

Chelostoma rapunculi *Ngrngvkg."3:63+
D flp "ftwj"x^a|cp "pc"|xqpm{"*Campanula urr0+0
Ocn^a"Uvtcpc"RT [16]."Qnf kejqxm²ugfnq [21]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Vkej^a" f mc"RR [33]"X um{v"x"X0/XK0."egmg o"7" .3" *EHV."OV." [RV+0

Coelioxys rufescens Ngrngvkg."3:47
T^mktqeg"tq|-|gp ."cng"pgjqlp "mngrvqrctc|kvkem "ftwj."fkl|e|"ur|-g"xg"uv gfp|ej"rqnj^aej0
Qnf kejqxm²ugfnq [21]<50/3;0XK04225."3" * [RV+0

Megachile centuncularis *Nkppcgwu."397:+
Jqlp "ftwj"r gfgx-|o"x"vgrn ej"qdnucvgej0
Ogcpft{"Uo f²RT J3:c_<440X0/70XK04227."3" * [RV+0

Megachile ligniseca *Mktd{."3:24+ U<XW
Pgjqlp "ftwj"uv gfp|ej"cx{-|ej"rqnj."jpf|f|e|xg"fgx 0"
Tc-gnkp-k-v "Lk|gt{"PRT [26]<420XK0/40KZ04225."3" * [RV+0

Megachile willughbiella *Mktd{."3:24+
D flp "ftwj"|gl o²pc"pc"uvgr|ej0
Ogcpft{"Uo f²RT J3:d_<360X0/30XK04229."3" *OV+0

*Osmia rufa**Nkppcgwu."397:+
Xgnok"jqlp "ftwj"n²vcl|e"pc"lc g0
Dn "Rqvqm J3c_."Dwmqxe"RT [2]." gtp^a"jqtc"RT [3]."Ocn^a"Uvtcpc"RT [16]."Rqngfp|m"45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gt{"PRT [26]."Tglfieg [27]."T{d|nqw m{"RT [29]."Vkej^a" f mc"RR [33]."W"M{ugm{"[34]"X um{v"x"X0/XK0."egmg o"67" .3" *EHV."OV." [RV+0

Stelis minuta NgrgngvkgT ("Ugtxknng."3:74"

U<"XW

X|^aep "mngvrqrctc|kvkem "ftwj⁰"Jqukvgn²"luqw"x gn{"vtkdw"Qu o kkpkl

Ocn^a"Uvtcpc"RT [16]<320/480XKK04225."3" *OV+0

Trachusa byssina *Rcp|gt."39; : +

Jqlp "ftwjⁿ²vcl|e|"pc"dqdqxkv²"*Hcdcegcg+"c"jnwejcxmqxkv²"*Nc o kcegcg+0

Dfn "Rqvqm]3c_<4;0XKK0/3;0XKK04227."3" *OV+0

Ognkvkf cg

Macropis europaea "Yctpeng."3;95

O|uv{"jqlp "oqm cfp|"ftwjⁿ²vcl|e|"r gfgx-|o"pc"xtdkpw"**Lysimachia* ur r0+0

Dfn "Rqvqm]3c_<4;0XKK0/60KZ04227."4" .7" *OV+0" gtpqwu{/X"Rqk [4]<30/470XKK04229."3" *OV+0"Nkdg/tge/Xguge [15]<90XKK04226."3" *UY+0"Ogepft{"Uo f²RT]3:d_<30/470XKK04229."5" .5" *OV+0"TC-gnkp-v " Lk|gt{"PRT [26]<450XKK0/70XKK04225."3" * [RV+0

Macropis fulvipes"*Hcdtkekwu."3:26+

O|uv{"jqlp "oqm cfp|"ftwj"ug"uyglp o"tq|-|gp|o"c"gmqnik|"lcmq"r gfej|q|0

Dfn "Rqvqm]3c_ gtp^a"jqtc"RT [3]." gtpqwu{/X"Rqk [4]."Jqtp|"Nw cp{ [7].Lkpf kejqxum "oqm cf"RR [11]." Ocn^a"Uvtcpc"RT [16]."Qnf kejqxum²ugfnq [21]."Vkej^a | mc"RR [33]."W"M{ugnm{ [34]}0X um{v"x"XK0/XKK0."egnmg o" 43" .39" *OV." [RV+0

Ur jgekht o gu<"Ur jgekfcg

Ammophila sabulosa *Nkppcgwu."397: +

D flp "vgrnq o knp "ftwj"rtghgtwl|e|"r|u kv "uwdvut^av0

T{d|"nqw m{"RT [29]< ;0/450XKK04225."3" *EHV+0"X^argpp "xtej"RT [35]<430XK03; ;9."3" *UY+."L0"Uvtcmc"niv0

Etcdtqpkfcg

Alysson spinosus *Rcp|gt."3:23+

D flp "r|umq o knp "ftwj"r gfgx-|o"x"vgrn ej"qdnucvgej0

Jqtp|" cupleg [9]<4;0XK0/420XKK04229."3" * [RV+0"Ogepft{"Uo f²RT]3:d_<360X0/360XK04229."3" *OV+0

Argogorytes mystaceus"*Nkppcgwu."3983+" U<"GP

Tq|vtqw-gp "ug"x{um{vwl|e|"ftwj"qmtcl "ngu "c"nguquvgr|0

Dwmqxe"RT [2]<450XKK0/70XKK04225."3" *EHV+0"Dfn "Rqvqm]3c_<380XK0/70XKK04227."7" *OV+0" gtpqwu{/ X"Rqk [4]<360XK0/30XKK04229."3" *OV+0" T{d|"nqw m{"RT [29]<4;0X0/320XK04225."3" *OV+0" W"M{ugnm{ [34]< 420XK0/50XKK04228."32" *OV+0

Cerceris rybyensis *Nkppcgwu."3993+"

D flp "ftwj"rq"egn² o"À|g o|" T0

Hqlvmc [5]<90XKK04226."3" *UY+0

Crabro cribrarius *Nkppcgwu."397: +

D flp "ftwj"ngu "c"lgk|ej"qmtcl 0

Dfn "Rqvqm]3c_."Ocn^a"Uvtcpc"RT [16]."Vkej^a | mc"RR [33]}0X um{v"x"XKK0/KZ0."egnmg o"32" .5" *EHV." [RV+0

Crabro lapponicus \ gwgtuwgfv."3:5:" U<"ET
Xgn o k"x | ^ep "dqdtgq o qpva pp" ftwj."fquwf | lk-v p "lgp"x"Mtmppq-^fej" c"Lgugp^fm^aej"x"p mqnkmc"
lgfkpe^fej⁰"
Tc-gnkp^k-v "Lk|gt{"PRT [26]<"480XK0/450XKK04225."4" *EHV+0" Tc-gnkp^k-v "Lk|gtm{"PRT [25]<"450XK04227."3" *
*U Y +=70/4:0XKK04227."3" * [RV+0]

*Crabro scutellatus**Uejgxgp."39:3+" U<"GP
O^a nq'ud^ftcp "r^fumq o knp "ftwj."x" T"xgn o k'nqm^anp^f"c"x | ^ep⁰"
gtpqw{/X'Rqnk [4]<"30/470XKK04229."3" *OV+0

Crossocerus annulipes *Ngrgngvkt" ("Dtwm²."3:56+"
D flp "ftwj"vgrn ej"m qxkp" c"ngup^fej" qmtcl⁰"
Qnf kej qxum²ugfnq [21]<"50/390XKK04225."3" .40/3;0ZK04225."3" *x-g" [RV+0]

Crossocerus assimilis *H"U o kvj."3:78+"
Pgjqlp "ftwj"x {um {vw^fe^fug"ur^f-g"xg"uv gfp^fej" rqnqj^aej⁰"
Tc-gnkp^k-v "Lk|gt{"PRT [26]<"0/450XKK04225."4" *EHV." [RV+0]

*Crossocerus barbipes**Fcjndqo."3:67+" U<"GP
Ftwj"x {--^fej" rqnqj."mf g"ug"x {um {vwlg"pc"qmtcl^fej"ngu "c"rcugm^aej⁰"Pc"xjqfp ej" o^fuvgej"lg"
jqlp⁰"
Dfn "Rqvqm]3e_."Dwmqxe"RT [2]." gtp^a"jqtc"RT [3]."Ogcpft{"Uo f²"RT]3:c_."Qnf kej qxum²ugfnq [21]."
Rqngfp^fm]45_."Tc-gnkp^k-v "Lk|gt{"PRT [26]."^mrk^am" c"Uvflqx "xtej"]54_."W" M{ugm { [34]0" X um {v" x"XK0/KZ0."
egmg o"6" .39" *EHV."OV." [RV+0]

Crossocerus binotatus Ngrgngvkt" ("Dtwm²."3:56"" U<"XW
Ftwj"nkuvpcv ej"ngu "jp^f|f^e"x" f gxp^fej"ejqfd^aej"z {nqh^a ip^fjq"j o { |w."x" T"x | ^ep⁰"
Qnf kej qxum²ugfnq [21]<"390XKK0/40KZ04225."3" * [RV+0]

Crossocerus capitosus *Ujwemctf."3:59+" U<"GP
Ftwj"ejncfp ej" o^fuv" c"x {--^fej" rqnqj"rtghgtwl^fe^fngu { "c"nguquvgrk."x" T"x | ^ep⁰"
Hqlvmc [5]<"90XKK04226."3" *U Y +0

*Crossocerus cetratus**Ujwemctf."3:59+" U<"XW
Jqlp "ftwj"nguquvgr^f"c"qmtcl "ngu "r fgx-^fo"x"pkfl-^fej" c"vgrn ej"uv gfp^fej" rqnqj^aej⁰"
Dfn "Rqvqm]3e_<"380XK0/3;0XKK04227."8" .7" *OV." [RV+0]"3e_<"3;0X0/50XK04227."3" * [RV+0]" gtp^a"jqtc"RT
[3]<"520XKK0/390XKK04226."3" .380KZ0/70Z04226."3" *x-g"OV+0" Ht fncpv [6]<"50XKK04227."3" *U Y +0" Ogcpft {"
Uo f²"RT]3:d_<"360X0/360XK04229."4" *OV+0" Qnf kej qxum²ugfnq [21]<"50/390XKK04225."3" * [RV+0]" Tglfkg
[27]<"70XKK0/380XKK04227."4" *GV+0

*Crossocerus cinxius**Fcjndqo."3:5:+" U<"XW
Ftwj"ngu "uv gfp^fej" c"x {--^fej" rqnqj."lgp" o^fuv { "jqlp⁰"
Mq gpqx [12]<"3;0XK04228."3" *U Y +0" Tc-gnkp^k-v "Lk|gtm{"PRT [25]<"3;0X0/50XK04227."3" * [RV+0]" Vlej^a" f mc"
PP [33]<"40/470XK04226."3" 0

Crossocerus congener *Fcjndqo."3:67+ U<"GP
Ftqdp "ftwj"ngupf[ej"eguv"cqmtcl "c"nguquvgrf|."x" T"x|^aep "c"lgfppqvnkx "pcn²|cp 0
Dfñ "Rqvqm]3c_<4:0XKK0/60KZ04227."4" *OV+0" Dwmqxe"RT [2]<70/420XKK04225."3" * [RV+0" Rqgfppm"]45_<
470XK0/360XKK04226."3" 0" Tglfkeg [27]<380XKK0/30KZ04227."3" *GV+0

Crossocerus elongatulus *Xcpfgt"Nkpfgp."3:4;+
Jqlp "ftwj"r gfgx-fo"vgrn ej"pkfl-fej"rqnqj0
Ocn^a"Uvtcpc"RT [16]<320XK0/;0XKK04225."5" *OV+0"Vlej^a" f mc"RR [33]<520XKK0/360XKK04226."3" 0"X^argpp "
xtej"RT [35]<430XK03; ;9."5" *UY+.L0"Uvtcmc"niv0

*Crossocerus exiguus**Xcpfgt"Nkpfgp."3:4;+
D flp "vgrnqo knp "ftwj"qmtcl "ngu "c"nguquvgrf0
Dfñ "Rqvqm]3c_<3;0XKK0/60KZ04227."3" * [RV+0

Crossocerus leucostoma (Nkppcgwu."397;+
Xg^uv gfp[ej"cx{|-fej"rqnqj^aej"d flp "ftwj"jp||f[e]"xg"f gx "pgdq"x"fwv ej"rtwvej"Rubus
urr0c"Sambucus urr0
Dwmqxe"RT [2]." gtp^a"jqt"RT [3].Nldgtge/Xguge [15].Rqgfppm"]45_."Tc-gnkp-v "Lk|gtm{"PRT [25].Tc-gnkp-v "
Lk|gt{"PRT [26].T{d}nqw m{"RT [29]0"X um{v"x"X0/XKK0."egmgo"35" .:3:" *EHV.OV." [RV+0

Crossocerus megacephalus *Tquuk."39;2+
D flp "vgrnqo knp "ftwj"jp||f[e]"xg"f gx "c"fwv ej"uv²dngej0
Dfñ "Rqvqm]3c_."Ocn^a"Uvtcpc"RT [16].Rqgfppm"]45_."Tglfkeg [27].Vlej^a" f mc"RR [33]0"X um{v"x"X0/XKK0."egmgo"
5" .:5" *GV.OV." [RV+0

Crossocerus nigritus *Ngrngvkg"t" ("Dtwm²."3:56+
Pgjqlp "ftwj"qmtcl "ngu ."rcugm"cm qxkp"x{um{vw|e|e|"ug" | glo "pc"x v-kp "À|g o|" T."cng"lgp"
lgfppqvnkx "pcn²|cp 0
Dwmqxe"RT [2]<320/480XK04225."3" *EHV+0

Crossocerus ovalis Ngrngvkg"t" ("Dtwm²."3:56
D flp "ftwj"jp||f[e]"xg"f gx "c"fwv ej"uv²dngej"r gfgx-fo"pc"vgrn ej"rfu kv ej"nqmcnk^aej0
Dfñ "Rqvqm]3c_."Jqtp"Rgtvqvkeg [8].Ogcpft{"Uo f²"RT]3:d_."X^argpp "xtej"RT [35]0"X um{v"x"X0/XKK0."
egmgo"3" .:33" *OV." [RV."UY+0

Crossocerus podagricus *Xcpfgt"Nkpfgp."3:4;+
D flp "ngupf|ftwj"jp||f[e]"xg"f gx "c"fwv ej"uv²dngej0
Dfñ "Rqvqm]3c_<4;0XKK0/60KZ04227."4" *OV+0"Teurgpexc]46c_<520XKK04225."3" *UY+0" Tglfkeg [27]<380XK0/70
XKK04227."3" *GV+0

*Crossocerus quadrimaculatus**Hcdtkekwu."39;5+
Xgnok"jqlp "ftwj"r gfgx-fo"x"pkfl-fej"rqnqj^aej."cng"pgx{j d^a"ug"jqt^ao0"Qd x^a"qvgx gp "
vgt²p"kn"ngupf|qmtclg"cm rcugm{."jp||f|x" |gok"pgdq"xg" |fgej0
Dfñ "Rqvqm]3c_<380XK0/70XKK04227."3" *OV+=3;0XKK0/60KZ04227."3" * [RV+0

Crossocerus styrius *Mqjn."3: ;4+" U<"GP

Rwdnkmqxcp2Àfclg<Dwmqxe"RT"4_<70/420XKKK04225."3" * [RV+0]Qnf kej qx"x"J^Ifej."Mrk^am"O0??"Mrk^am"Uvtfqx^" xtej"]54_<440XK04225."3" *UY+0"TCurgpcxc"gpXl."Mqne x"t{dpfm"rqpF"??"Mqne x"t{dpfm"]53_<80XKK04226."3" *UY+?"Dqi wuej"gv"cn0"4229+0

O^anqud{tcp "ftwj"j p|| f|e|| xg" f gx ."x{um{vwl|e||ug"r gfgx-|o"x"ngu|ej"vgrngl-|ej"rqnj0"
Qnf kej qx"x"J^Ifej [22]<370XKK04225."3" *UY+0

Crossocerus varus"NgrngvkgT" ("Dtwm^."3: 57

Jqlp "ftwj"rq|fp||jq"n^2vc."r gfgx-|o"pc"vgrngl-|ej"qmtcl|ej"ngu 0

Dfn "Rqvqm]3c_."Dwmqxe"RT [2].Ht fncpv [6].Lgfngx "f n"RT [10].Nkdtge/Xgxe [15].Qnf kej qxum^"ugfnq [21].Tc-gnkp-k-v "Lk|gtm{"PRT [25].Tc-gnkp-k-v "Lk|gt{"PRT [26].Tglfkeg [27].Twfqnqhx [28].T{d^nqw m{"RT [29].Mqne x"t{dpfm [31].Vkej^a" | mc"RR [33]0X um{v"x"XK0/KZ0."egnmgo"35" .46" *EHV."OV." [RV+0

*Crossocerus walkeri**Ujwemctf."3: 59+" U<"ET

X|^ap "ftwj"rqvtcxp "x^a|cp "pc"lgrkeg*Grjgogtqrvgtc+."x" T"lgp"lgfpqvnkx "c"r gfgx-|o"
w"xgnm ej" gm0

Okpmqxkeg [19]<440XK04228."3" *UY+0

Crossocerus wesmaeli *Xcpfgt"Nkpfgp."3: 4;+" U<"XW

Egnmgo"x|^ap "r|umqoknp "ftwj"x^a|cp "pc"|cejqxcn^2"r|u kp0"

Ogcpftf"Uo f^2"RT]3:d_<30/470XKKK04229."4" *OV+0

*Dryudella femoralis**Oqeuct{."3: 99+" U<"ET

Xgnok"nqm^anp|| ftwj"ngup|ej"rcugm"c"qmtcl "ngu "x{--fej"rqnj0"X|eg"kphqtocel|xk|"Fqx^am"
("Dqi wuej"*422: +0

Dwmqxe"RT [2]<480XK0/;0XKK04225."3" *EHV+0" gtp^ajqtc"RT [3]<360/520XKK04226."3" 0"Ocn^a"Uvtcpc"RT [16]<4;0X0/320XK04225."7" .3" *OV+0"Rqngfpm [23]<360/520XKK04226."3" * [RV+0]Tc-gnkp-k-v "Lk|gtm{"PRT [25]<380XK0/390XKKK04227."4" .6" * [RV+0]T{d^nqw m{"RT [29]<0/450XKK04225."4" *EHV." [RV+0]Vkej^a" | mc" PP [33]<360/520XKK04226."3" 0

Ectemnius borealis * \ gwgtuvgfv."3: 5: +

Xg"uv gfp|ej"cx{x--|ej"rqnj^aej"jqlp "ftwj"0"V{rkem "gwtqukd um "rtxgm0

Ocn^a"Uvtcpc"RT [16].Qnf kej qxum^"ugfnq [21].Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d^nqw m{"RT [29].Vkej^a" | mc" PP [33]0X um{v"x"X0/XKKK0."egnmgo"37" .3:" *EHV."OV." [RV+0

Ectemnius cavifrons *Vjqouqp."3: 92+

Pgr^nk-"jqlp "ftwj"j p|| f|e|| xg" f gx 0

Dfn "Rqvqm]3c_<70/4;0XKK04227."3" * [RV+0]Qnf kej qxum^"ugfnq [21]<50/390XKKK04225."3" * [RV+0]Tglfkeg [27]<4;0XKK0/380XKKK04227."3" * [RV+0]T{d^nqw m{"RT [29]<0/450XKK04225."4" *OV+?"70/340XKKK04225."3" *EHV+0

Ectemnius cephalotes *Qnkxkgt."39; 3;+"

Jqlp "ftwj"j p|| f|e|| xg" f gx ."x{um{vwl|e||ug"k"x"jqt^aej0

Ocn^a"Uvtcpc"RT [16]<480XK0/;0XKK04225."3" *OV+0" Tglfkeg [27]<380XK0/70XKK04227."3" .30/440KZ04227."3" *x-g"GV+0

Ectemnius continuus *Hcdtkekww."3:26+

D flp "vgrnqoknp "ftwj"jpf||f|e||xg" f gx 0

Dfn "Rqvm j3c_."Ocn^Uvtepc"RT [16].Ogcpft{"Uo f^2"RT j3:d_."Qnf kejqxum^2"ugfnq [21].Tcrgpexc j46c_."Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d^"nqw m{"RT [29]}X um{v"x"X0/KZ0."egnmgo"32" .39" *EHV."OV." [RV." UY+0

Ectemnius dives *NgrgngvkgT ("Dtwm^2."3:57+

D flp "ftwj"|glo^2pc"pc"vgrn ej"uvcpqxxk-v|ej0

Dwmqxe"RT [2].Ocn^Uvtepc"RT [16].Tc-gnkp-k-v "Lk|gtm{"PRT [25].T{d^"nqw m{"RT [29].Vkej^a" f mc"RR [33]}X um{v"x"X0/KZ0."egnmgo"6" .6" *EHV."OV." [RV+0

Ectemnius lapidarius *Rcp|gt."3:26+

D flp "ftwj"|glo^2pc"xg"uv gfp|ej"rqnj^aj."jpf||f|e||xg" f gx 0" Pc"nqmcnkva^ej" cuvq"rq gvp 0

Dfn "Rqvm j3c_." gtp^ajqtc"RT [3].Qnf kejqxum^2"ugfnq [21].Tc-gnkp-k-v "Lk|gt{"PRT [26].Tglftieg [27].Vkej^a" f mc"RR [33]}X um{v"x"X0/XKK0."egnmgo"9" .6" *GV."OV." [RV+0

*Gevg opkwu"twLeqtpku"** \gvgtuygfv."3:5:+

D flp "ftwj"jpf||f|e||xg" f gx 0"Qd x^a"|glo^2pc"uv gfp|"c"x{-"rqnjj|.mfg"o flg"d v"jqlp 0

Dfn "Rqvm j3c_."Dwmqxe"RT [2]. gtp^ajqtc"RT [3].Hqlvmc [5].Ocn^Uvtepc"RT [16].Qnf kejqxum^2"ugfnq [21].Rqgfpm"j45_."Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d^"nqw m{"RT [29].Uo tm"j52c_."Vkej^a" f mc"RR [33].W^M{ugm{ [34]}X um{v"x"X0/KZ0."egnmgo"96" .94" *EHV."OV." [RV+0

Ectemnius sexcinctus *Hcdtkekww."3997+

U<"XW

X|^aep "ftwj"vgrn ej"qmtcl "ngu ."x" T"lgp"nqm^a"np|"c"l gfpqvnkx "pcn^|cp 0

Ocn^Uvtepc"RT [16]<"70/420XKK0/4225."3" * [RV+0" Tc-gnkp-k-v "Lk|gtm{"PRT [25]<"4:0XKK0/390XKK0/4227."3" * [RV+0

Entomognathus brevis *Xcpgft"Nkpfgp."3:4;+

Jqlp "vgrnqoknp "ftwj"x{um{vwl|e||ug" k"xg"uv gfp|ej"rqnj^aj0

Dfn "Rqvm j3c_<"4:0XKK0/3:0XKK0/4227."3" *OV+0" Ogcpft{"Uo f^2"RT j3:d_<"360X0/360XK0/4229."3" *OV+0

Gorytes fallax Jcpfntuej."3:::"

U<"GP

X|^aep "ftwj"nguquvr|"c"qmtcl "ngu "r gfgx-|o"pc"r|u kv^2 o"uwduvt^avw0

gtpqwu{"X"Rqk [4]<"360XK0/30XKK0/4229."3" *OV+0" Jqtp|" cupleg [9]<"4:0XK0/420XKK0/4229."4" * [RV+0" Ogcpft{"Uo f^2"RT j3:d_<"360XK0/30XKK0/4229."3" *OV+0

Gorytes laticinctus *NgrgngvkgT."3:54+

Jqlp "ftwj"qvxx gp ej"uvcpqxxk- "k"qmtcl "ngu 0

Dwmqxe"RT [2]<"480XK0/0XKK0/4225."3" *EHV+0" Jqtp|" cupleg [9]<"420XKK0/90XKK0/4229."3" * [RV+0" Ogcpft{"Uo f^2"RT j3:d_<"360X0/360XK0/4229."3" *OV+0

Lestiphorus bicinctus *Tquuk."39;6+""

U<"GP

X|^aep "c"nqm^a"np|"ftwj"qmtcl "ngu ."pc"À|g o|" T"lgp"l gfpqvnkx^2"p^ang |{0

Dfn "Rqvm j3c_<"70/4:0XKK0/4227."3" * [RV+0

Lindenius albilabris *Hcdtkekku."39;5+

D flp "ftwj | gl o 2pc"vgrn ej "qdnucv{|."cng"x {uvwrwlg" k" fq" j qt0

Jqtp"Nw cp{ [7]<390XK0/4225."3" *UY+0 **Ocn**"Uvtcpc"RT [16]<450XKK0/70XKK04225."3" * [RV+0]"Tc-gnkp-k-v" Lk|gt{|"PRT [26]< ;/450XKK04225."3" *EHV+0

Lindenius panzeri *Xcpfgt"Nkpfgp."3:4;+

D flp "ftwj"x"vgrn ej "qdnucvgej0

Dfn "Rqvqm j3c_<70XKK0/60KZ04227."3" .4" *OV+0

Mellinus arvensis"*Nkppcgwu."397:+

D flp "ftwj"ngup|ej"qmtcl "uv gfp|ej" c"x{--|ej" rqnqj0"Rtghgtwlg" rflu kv "uwdvut"av0

Dfn "Rqvqm j3c_" gtp" jqt c"RT [3]. **Jqtp**" cupleg [9]. **Qnf** kejqxum"ugfnq [21]. **W**"M{ugm{ [34]0" X um{v" x"XKK0/KZ0."egnmg o"36" .55" *OV." [RV."UY+0

Mimumesa atratina *H0"Oqtcykv|.":;3+

D flp "ftwj" rflu kp."flng|pk p|ej"paur "k"m qxkp."r fgx-|o"x"vgrn ej "qdnucvgej0

Xargpp "xtej"RT [35]<430XK03; ;9."3" *UY+."L0"Uvtcmc"ni v0

Mimumesa beaumonti *Xcp"Nkvj."3;6;+"

Rwdnkmqxc2"Àfclg< gtpqwu{"*?" Ogcptf{"Uo f2"RT"}j3:c_+<3;0X0/440XK04227."3" .3" *OV+*"Dqi wuej"gv"cn0" 4229+0

Xgn ok"x|aep "ftwj0"Ud t{|"Ht fncpvumc"luqw"og|k" rtxp|o k" rwdnkmqxc ok"Àfclk"|" gum2" tgrwdnkm{0

gtpqwu{/X"Rqnk [4]<360X0/360XK04229."3" .470XKK0/390XKK04229."3" *x-g"OV+0

Mimumesa dahlbomi"*Ygu o cgn."3:74+

Pgjqlp "uvgrp|"c"nguquvgrp"ftwj0

Ogcptf{"Uo f2"RT j3:c_<440XK0/70XKK04227."3" *OV+0" **T**{d"fqw m{"RT [29]<70/340XKK04225."3" .3" * [RV+0" **Uo tm**"j52c_<350XKK0/50XKK04228."3" *OV+0" **Vkej**"a" | **mc**"RR [33]<360/520XKK04226."3" 0

Nysson maculosus * I o g n k p ." 3 9 ; 2 + ""

U<"XW

Pgr |nk-"jqlp "mwmc "r"lumq oknp "ftwj."jqvkvgnk"luqw"mwvknm{"tqf "Harpactus c"Gorytes0

Ogcptf{"Uo f2"RT j3:d_<30/470XKK04229."3" *OV+0

Nysson spinosus"*L0"H34tvtgt."3993+

Jqlp "mwmc "ngup"ftwj."jncxp|o"jqvkvngng o"lg"ftwj"Argogorytes mystaceus0

Dfn "Rqvqm j3c_."Mq gpqx [12]. **Qnf** kejqxum"ugfnq [21]. **T**{d"fqw m{"RT [29]. **Vkej**"a" | **mc**"RR [33]. **W**"M{ugm{ [34]0" X um{v"x"X0/XKK0."egnmg o"35" .9" *OV." [RV."UY+0

Oxybelus bipunctatus Qnkxkgt."3:33

D flp "r"lumq oknp "ftwj."pc"xjqfpej "hqmcnkv"aj" xgn ok"rq gvp 0

Ogcptf{"Uo f2"RT j3:d_<360XK0/470XKK04229."4" .6" *OV+0

Oxybelus trispinosus *Hcdtkekku."39:9+

Rqo tp "cuv "ftwj"|cejqxcn ej "rflu kp"r fgx-|o"x"pkf-|ej" rqnqj"ajej0

Ogcptf{"Uo f2"RT j3:d_<360XK0/470XKK04229."8" .3" *OV+0

Oxybelus uniglumis *Nkppcgwu."397:+

D flp "ftwj"nwm."uvgr"c"qmtcl "ngu "c"eguv0

Ogcpft{"Uo f²RT]3:c_<440XK0/70XKK04227."3" * [RV+=]3:d_<360X0/470XKK04229."34" .4:" *OV+0

Passaloeus borealis Fcjndqo."3:67""

U<XW

O^anq"ud"tcp "ngup"ftwj"uv gfp"ej"cx{-"fej"rqnqj0

gtp"jqtc"RT [3]<360XKK0/390XKK04226."4" .4;0XKK0/380KZ04226."3" 0"Twfqhgx [28]<520XKK04226."3" *UY+0

Passaloeus brevilabris Yqnh."3;7:""

U<XW

X|^aep l-"ftwj"r fgfx-"o"pc"nqmcnk^aej"u"r"fu kv o"uwdvta"vg o0

Tc-gnkp-k-v "Lk|gtm{"PRT [25]<380XK0/70XKK04227."3" * [RV+0

Passaloeus clypealis Hcgugt."3;69""

U<XW

O^anq"ud"tcp "ftwj"nguquvgr"c"qmtcl "ngu "x"vgrn ej"qdcuvgej0"

gtp"jqtc"RT [3]<470XK0/360XKK04226."3" 0

Passaloeus corniger Ujwemctf."3:59

D flp "ftwj"jp|"f"e"fg"fx "r fgfx-"o"x"vgrn ej"ngu"fej0

Dwmqxe"RT [2]<320XK0/0XKK04225."4" *EHV+0" T{d"nqw m{"RT [29]<0/450XKK04225."3" *EHV+0"Vkej" " mc" PP [33]<4;0XKK0/380KZ04226."3" 0

Passaloeus eremita Mqjn."3:;5"

U<GP

X"ngu"fej"pkf-"fej"c"uv gfp"fej"rqnqj"o"fu{"jqlp "ftwj0

Tc-gnkp-k-v "Lk|gtm{"PRT [25]<70/4:0XKK04227."3" *OV+0

Passaloeus insignis"*Xcpfgt"Nkpfgp."3:4:+

R gx^aflp "ngup"ftwj."jp|"f"e"fg"fx "r X" T"x-wfg"tq|-|gp ."cng"pkmfg"pgd x^ar "f"nk-"rq gvp 0

D"n "Rqvqm]3c_."Dwmqxe"RT [2].Lgfnqx "f n"RT [10].M flqx "xtej"RT [13].Nkdtge/Xguge [15].Ocn^a"Uvtcpe" RT [16].Ogcpft{"Uo f²RT]3:c_."Qnf kejqxum²"ugfnq [21].Qnf kejqx"x"J^a"fej [22].Rqngfp"m"]45_."Tc-gnk/pk-v "Lk|gt{"PRT [26].Twfqhgx [28].T{d"nqw m{"RT [29].M"rk "am"c"Uvflqx "xtej"]54_."Vkej" " mc"RR [33].W"M{ugm{ [34]0"X um{v"x"XK0/Z0."egmng o"6" .52" *EHV."OV." [RV."UY+0

Passaloeus monilicornis"Fcjndqo."3:64"

U<ET

Xgn o k"x|^aep "c"nqm^anp"ftwj"qmtcl "ngu ."x" T"lgp"lfgpqnkx²"p^ang|{0"

gtpqwu{/X"Rqk [4]<360X0/360XK04229."3" .470XKK0/390XKK04229."3" *x-g"OV+0" W"M{ugm{ [34]<350XKK0/50XKK04228."3" *OV+0

Passaloeus singularis"Fcjndqo."3:66

Vgrnq o kmp "ftwj"pc"r "ljqfp ej"nqmcnk^aej"xgn o k"jqlp 0

D"n "Rqvqm]3c_." gtpqwu{/X"Rqk [4].Ogcpft{"Uo f²RT]3:d_."Qnf kejqx"x"J^a"fej [22]0"X um{v"x"X0/XKK0." egmng o"8" *OV."UY+0"

Pemphredon fabricii *O^Ängt."3;33+"

D flp "oqm cfp"ftwj"jp|"f"e"fg"xt^amq"0

gtpqwu{/X"Rqk [4]<30/470XKK04229."3" *OV+0" Ogcpft{"Uo f²RT]3:c_<530X0/70XKK04227."5" *OV." [RV+0

Pemphredon inornata"Uc{.":3:46"

D flp "ftwj|glo²pc"x"vgrn ej"qdnucvgej0

Dfn "Rqvqm]3c.e." gtpqwu{/X/Rqnk [4].Ogcpft{"Uo f²RT]3:c.d."Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d}hqw m{" RT [29].Vkej^a ¶ mc"RR [33].W"M{ugnm{ [34].X^argpp "xtej"RT [35]}X um{v"x"X0/XKKK0."egnmgo"9" .": " *OV." [RV.UY+0

Pemphredon lethifer *Ujwemctf."3:59+

\ glo "pgljqlp l-¶ftwj"tqfw."d flp " |glo²pc"x"vgrn ej"qdnucvgej0

Ogcpft{"Uo f²RT]3:d.<360X0/360XK04229."3" *OV+0"Tc-gnkp-k-v "Lk|gt{"PRT [26]<450XKK0/70XKKK04225."3" *EHV+0

Pemphredon lugens Fcjndqo."3:64

Pgjqlp "ftwj"jpf||f{e}"xg"f gx .r gfgx-¶o"x"vgrngl-¶ej"qdnucvgej0

gtp^ajqtc"RT [3]. gtpqwu{/X/Rqnk [4].Tc-gnkp-k-v "Lk|gtm{"PRT [25].Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d}hqw m{" RT [29]}X um{v"x"X0/XKKK0."egnmgo"4" .38" *OV." [RV+0

*Pemphredon lugubris**Hcdtkekwu."39;5+

X{um{vwlg"ug"x"ngu"ej"c"pc"lglkej"qmtcl"fej"x"pkfl-¶ej"k"x{---¶ej"rqnqj^aej0}O¶uv{"lg"jqlp "c"|glo²pc" xg"uv gfp"fej"pgdq"x{---¶ej"rqnqj^aej"lg"pgljqlp l-¶o" |^auvwreg o"tqfw0

Dfn "Rqvqm]3c.e."Dwmqxe"RT [2]. gtpqwu{/X/Rqnk [4].Jqtp"Rgtvqnkge [8].Jqtp" cupkge [9].Ocn^aUvtcpc" RT [16].Rqngfp"m]45."Tc-gnkp-k-v "Lk|gt{"PRT [26].T{d}hqw m{"RT [29].Uo tm]52c.e."Vkej^a ¶ mc"RR [33].W"M{ugnm{ [34]}X um{v"x"X0/KZ0."egnmgo";" .42" *EHV."OV."R [T." [RV+0

Pemphredon montana Fcjndqo."3:67"

U<"XW

X|^aep "ftwj"uv gfp"fej"cx{---¶ej"rqnqj."x" T"lgp"urqtcfkem{"pcn²|cp 0"

Ocn^aUvtcpc"RT [16]<4;0X0/320XK04225."3" *OV+0Ogcpft{"Uo f²RT]3:c.<530X0/440XK04227."4" *OV+0

Pemphredon morio Xcpfgt"Nkpfpg."3:4;

Pgjqlp "ftwj"uv gfp"fej"cx{---¶ej"rqnqj"jpf||f{e}"xg"f gx 0

Dwmqxe"RT [2].Tc-gnkp-k-v "Lk|gtm{"PRT [25].Vkej^a ¶ mc"RR [33]}X um{v"x"X0/XKKK0."egnmgo"3" .5" *EHV." [RV+0

Pemphredon rugifer *Fcjndqo."3:67+

O^anq"ud"tcp "ftwj"x{um{vwl"fe"ug"|glo²pc"pc"vgrn ej"nqmcnk^aej0

Ogcpft{"Uo f²RT]3:d.<360X0/360XK04229."3" *OV+0

*Psenulus concolor**Fcjndqo."3:65+

D flp "ftwj"vgrn ej"ngu 0

Ogcpft{"Uo f²RT]3:d.<360XK0/30XK04229."3" *OV+0W"M{ugnm{ [34]<350XKK0/50XKKK04228."3" *OV+0

Psenulus meridionalis"Dgcw o qpv."3;59

Rwdnkmqxc²"Àfclg< gtpqwu{"*?"Ogcpft{"Uo f²RT"]3:c.<530X0/70XKK04227."4" .3" *OV+*Dqiwuej"gv"cn0" 4229+0

O^anq"|p^a o " oqm cfp"ftwj0"Ud t{"|Ht fncpvumc"luqw"og|k"rtxp"ok"rwdnkmqxc² ok"Àfclg" |" gum²"tgrwdnkm0

gtpqwu{/X/Rqnk [4]<360X0/30XK04229."9" *OV+0

Psenulus schencki *Vqwtpkgt."3: : ; +

Jqlp "ftwj"ngupf|ej"qmtcl "r gfgx-|o"pc"vgrn ej"uwcpqkx-v|ej0

gtpqwu{/X/Rqnk [4]. "Ocn"^aUvtcpc"RT [16]. "Ogcpft{"Uo f²RT]3:d_."T{d|^hqwm m{"RT [29]0^X um{v"x"XK0/XKK0." egmng o"4" .6" *EHV."OV."UY +0

Rhopalum clavipes *Nkppcgwu."397: +"

U<"XW

O^anq"ud|tcp "ngup|"ftwj"x{um{vw|f|e|"ug"r gfgx-|o"yg"uv gfp|ej"rqnqj^aej0

Lgfnqx "f n"RT [10]. "Ogcpft{"Uo f²RT]3:c_."Qnf kejqxum²ugfnq [21]. "Tc-gnkpk-v "Lk|gt{"PRT [26]. "Tglfleg [27]. "W"m{ugm{| [34]0^X um{v"x"XK0/KZ0." egmng o"6" .5" *GV."OV." [RV."UY +0

Rhopalum coarctatum *Ueqrqnk."3985+

D flp "ftwj"vgrn ej"ngu 0

Dfn "Rqvm]3c_." gtpqwu{/X/Rqnk [4]. Ht fncpv [6]. Jqtpf|Rgtvqkqg [8]. "Ocn"^aUvtcpc"RT [16]. "Ogcpft{"Uo f²RT]3:d_0^X um{v"x"X0/KZ0." egmng o"6" .32" *OV." [RV."UY +0

Spilomena beata "Dn^Åvj i gp."3; 75

Pgrq gvp ."cng" cuvq"pcn²|cp "ftwj"n²vcl|e|"pc"ux|"|gng *Galium"ur r0+0

Dfn "Rqvm]3c_." gtp"jqtc"RT [3]. Jqtpf|Nw cp{| [7]. "Vkej"^a | mc"RR [33]0^X um{v"x"XK0/KZ0." egmng o"9" " *OV."UY +0

Spilomena differens Dn^Åvj i gp."3; 75"

U<"XW

Rwdnkmaqcp²Åfclg<Qnf kejqx"x"J^a|e|j."^mrk^am"Ov0?"^mrk^am"Uvtflqx "xtej"]54_<420XKK0/50XKK04225."4" * [RV+0^X Lk|gtmc"gp^x0."Dwmq^xge?"^Dwmq^xge"RT"]4_<450XKK0/70XKK04225."3" .7" * [RV+0^X Lugh x"F n."Lgfnqx "f n"xcmg{|." Lgfnqx^auvtgc o"?"^Lgfnqx "f n"RT"]32_<340XKK04227."3" *UY+^aDqi wuej"gv"cn0"4229+0

X|^aep "ftwj"x{|-|ej"rqnqj"jp|"|f|e|"xg"fgx 0"

Jqtpf|Nw cp{| [7]<390XKK04225."3" *UY+0^X Twfqh^qx [28]<520XKK04226."3" .5" *UY+0^mrk^am"Uvtflqx "xtej" [32]<50/390XKK04225."3" * [RV+=530XKK04226."3" *UY+0

Stigmus solskyi C0⁰Oqtcykv|."3: 86"

D flp "ftwj"ngu "c"lglkej"qmtcl "x"vgrn ej"qdnucvgej0

Dfn "Rqvm]3c_." gtpqwu{/X/Rqnk [4]. "Nkdgtge/Xguge [15]. "Ogcpft{"Uo f²RT]3:c_."Tglfleg [27]0^X um{v"x"XK0/XKK0." egmng o"3" .6" *OV."UY +0

Tachysphex pompiliformis *Rcp|gt."3: 27+

D flp "ftwj"|gl o²pc"pc"uvgr|ej0

Dfn "Rqvm]3c_."380XK0/70XKK04227."3" .3" *OV+0

Trypoxylon attenuatum H0⁰Uokvj."3: 73

D flp "ftwj"nwm."r^fu kp"k"oqm cf 0

Dfn "Rqvm]3c_." gtpqwu{/X/Rqnk [4]. Hqlvmc [5]. Jqtpf|Nw cp{| [7]. Jqtpf|Rgtvqkqg [8]. "Ocn"^aUvtcpc"RT [16]. "Ogcpft{"Uo f²RT]3:c_."Qnf kejqxum²ugfnq [21]. "Qnf kejqx"x"J^a|e|j [22]. "Vkej"^a | mc"RR [33]0^X um{v"x"X0/KZ0." egmng o"5; " .323" *OV." [RV."UY +0

Trypoxylon clavicerum Ngrgngvkg^t ("Ugtxknng."3: 47

D flp "ngup|"ftwj"r gfgx-|o"vgrn ej"qdnucvgej0

Dfn "Rqvm]3c_." gtpqwu{/X/Rqnk [4]. "Ocn"^aUvtcpc"RT [16]. "Ogcpft{"Uo f²RT]3:c_."Qnf kejqxum²ugfnq [21]. "Tglfleg [27]0^X um{v"x"XK0/XKK0." egmng o"4" .9" *GV."OV." [RV+0

Trypoxylon deceporium"Cpvtqrqx."3 ; ; 3

Rwdnkmqxc²"àfcig<"J qtp"⁰oczqx"*?"Ocn"^aUvtcpc"RT"]38_+*"Dqiwuej"gv"cn0"4229+0

D flp "oqm cfp"⁰ftwj" f "xg"|co qxc⁰p "u"ftwjgo"*T. attenuatum*)

Dfn "Rqvm]3c_." gtpqw{/X"Rqn [4]. "J qtp"⁰Rgtvqnveg [8]. "Ogcpft{"Uo f²"RT]3:d_."W"^M{ugm{ [34]}⁰X um{v"x"Xl/KZ0."egmgo"3" .65" *OV." [RV+0

Vt{r qz{ nqp"Liw⁰wu"*Nkppcgwu."397 : +

J qlp ."cng"pc"⁰nqmcnk^v"^aej" qdx{mng}pgrq gvp "ftwj."x{um{vwl{e"⁰ug"r gfgx-⁰o" xg"uv gfp{ej"⁰rqnqj^aej0

gtpqw{/X"Rqn [4]. "Ogcpft{"Uo f²"RT]3:d_."Tc-gnkp^v "Lk|gt{"PRT [26]. "T{d"⁰nqw m{"RT [29]}⁰X um{v"x"Xl/KXK0."egmgo"9" .32" *OV." [RV+0

Trypoxylon kostylevi Cpvtqrqx."3 ; : 7

Fquw⁰f"o"^anq"|p"^ao "ngup"⁰ftwj0

gtpqw{/X"Rqn [4]<"360XK0/390XKX04229."3" .4" *OV+0

Trypoxylon medium Dgcw o qpv."3 ; 67

D flp "vgrnq o knp "ftwj"uvqwrcl{e"⁰k"fq"jqt0

Ogcpft{"Uo f²"RT]3:d_<"360XK0/30XKX04229."3" *OV+0

Trypoxylon minus"Dgcw o qpv."3 ; 67

Pgljqlp l-⁰"|^auvwreg"tqfw"flkl{e"⁰qf"p{flkp"fq"jqt0

Dfn "Rqvm]3c_."d_."Dwmqxe"RT [2]. "gtp"^ajqtc"RT [3]. "gtpqw{/X"Rqn [4]. "Mwptcvkeg [14]. "Ocn"^aUvtcpc"RT [16]. "Ogcpft{"Uo f²"RT]3:d_."Qnf kejqxum²"ugfnq [21]. "Rqngfpm]"45_."Tc-gnkp^v "Lk|gtm{"PRT [25]. "Tc-g/nkpk^v "Lk|gt{"PRT [26]. "Tglfkeg [27]. "T{d"⁰nqw m{"RT [29]. "Uo tm]"52d_."Vkej"^a " me"RR [33]}⁰X um{v"x"Xl/KZ0."egmgo"84" .58" *EHV."GV."OV."UY." [RV+0

E j t { u k f q k f g e < " D g v j { n k f e g

Bethylus fuscicornis *Lwtkpg."3 : 29+ "

J qlp "rctc|kvkem "ftwj0

Ocn"^aUvtcpc"RT [16]<"450XKX0/70XKX04225."3" *EHV+0

E j t { u k f k f e g

Cleptes semiauratus"*Nkppcgwu."3983+ "

D flp "ftwj"rctc|kwl{e"⁰pc"t |p ej"-ktqrcu ej"dncpqm flfn ej"*J {ogpqrvtc<"U{orj{vc+0

Dfn "Rqvm]3c_."Hqlvmc [5]. "J qtp"⁰Rgtvqnveg [8]. "Twfqnqhx [28]}⁰X um{v"x"Xl/KXK0."egmgo"6" * [RV."UY+0

Hedychridium coriaceum *Fcjndqo."3 : 76+ "

D flp "ftwj"uvgr"^cvgrn ej"nqmcnk^v."qlgfkp ng"kvk"xg"uv gfp{ej"cx{--{ej"rqnqj^aej0

Tc-gnkp^v "Lk|gt{"PRT [26]<";0/450XKX04225."3" *EHV+0

Chrysis ignita"Nkppcgwu."3983

J qlp "ftwj"rq"egn²o"À|go"⁰ T0

Dfn "Rqvm]3c_<"3 ; 0XKX0/60KZ04227."6" * [RV+0 "Ogcpft{"Uo f²"RT]3:d_<"360Xl/360XK04229."4" *OV+0"

Rqngfpm]"45_<"470XK0/360XKX04226."3" 0

Chrysis ruddii Ujwemctf."3:59" U<"GP
Pgjqlp "ftwj"x{um{vwl|e|ug"|glo²pc"xg"uv gfp|ej"rqnpj^aej0"
X^argpp "xtej"RT [35]<430XK03;;9."3" *UY+."L0"Uvtcmc"niv0"

Chrysis rutiliventris Cdgkng"fg"Rgttkp."3:9;" U<"XW
O^anq"ud|tcp "x|^aep "ftwj0"
Ocn^a"Uvtcpc"RT [16]<4;0X0/320XK04225."3" *OV+0

Chrysis viridula Nkppcgwu."3983
D flp "ftwj"vgrn ej"qvgx gp ej"uvcpqkx- 0
X^argpp "xtej"RT [35]<430XK03;;9."3" *UY+."L0"Uvtcmc"niv0"

Pseudomalus auratus *Nkppcgwu."397:+
D flp "ftwj"nguquvgr|"c"qmtcl "ngu 0
Jqtp|"Rgtvqvkcg [8]<30/470XK04229."3" *OV+0

Trichrysis cyanea *Nkppcgwu."3983+
Jqlp "rctc|kvqkf"t |p ej"dncpqm |fn ej"jp|f|e|ej"xg"f gx 0"X" T"qf"p|flkp"fq"jqt0
Ogcpft{"Uo f²RT]3:d.<360X0/360XK04229."3" *OV+0

Xgurqkfge<"Owvknkfcg

Mutilla marginata Degt."3:6:
D flp "ftwj"rctc|kvwl|e|"w" ogn^am 0"Lgfkp^a"mqfwnmc."mvg^a"lg"jqlp^a"pc"jqt^aej0
Dwmqxe"RT [2].Lgfnqx "f n"RT [10].Qnf kejqxum²"ugfnq [21].TMrk ^am"c"Uvflqx "xtej"]54.Vkej^a" f mc"RR
[33]0"X um {v"x"XKK0/XKK0."egnmgo"8" *EHV."OV." [RV+0

Myrmosa atra Rcp|gt."3:23
D flp "ftwj."jp|fp|rctc|kvqkf"ftqdp ej"mwvknmg0
gtpqwu{/X"Rqnk [4]<470XK0/390XK04229."3" *OV+0"Ogcpft{"Uo f²RT]3:d.<30/470XK04229."5" *OV+0

Rqo rnkfcg

*Agenioideus cinctellus**Urkpqc."3:2:+
D flp ."x tc|p "vgrnqoknp "ftwj"umcn"|"f|fgm0
W"M{ugum{ [34]<420XK0/350XK04228."3" *OV+0"X^argpp "xtej"RT [35]<430XK03;;9."3" *UY+."L0"Uvtcmc"niv0"

Anoplius caviventris *Cwtkxknkku."3;29+"" U<"GP
X|^aep "oqm cfp|ftwj."x" T"lgfpqvnkx "c"pgrq gvp 0"
Ogcpft{"Uo f²RT]3:c.<3;0/530X04227."3" *OV+="440XK0/70XK04227."3" * [RV+="]3:d.<360XK0/470XK04229."3" .3" *OV+0

Anoplius concinnus *Fcjndqo."3:65+
Lgp"o|uv{"jqlp "ftwj."qo {ngo"pgwxgfgp "x"Ejgem/nkuvw"flcjcfnqx ej"dncpqm |fn ej" gum²"
tgrwdnkm{"c"Unqxpumic*Diqwuej"gv"cn0"4229+0"Vgrnqoknp "ftwj"qd xcl|e|"r|nqej {"dg|"xgigvceg."
|glo²pc"pc"r|umw0
X^argpp "xtej"RT [35]<430XK03;;9."3" *UY+."L0"Uvtcmc"niv0"

*Anoplius nigerrimus**Ueqrqnk."3985+

Rqo tp " cuv "ftwj"nguquvgr"q"qmtcl "ngu 0

Dfn "Rqvqm]3c_."Dwmqxe"RT [2]." gtp^a"jqtc"RT [3]." gtpqwu{/X"Rqk [4]." Ocn^a"Uvtcpe"RT [16]."Qnf kejqxum²"
ugfnq [21]."Rqngfpm"]45_."Tc-gnkp-k-v "Lk|gtm{"PRT [25]."Tc-gnkp-k-v "Lk|gtm{"PRT [26]."T{d^e"nqw m{"RT [29]."
Uo tm"]52e_."Vkej^a" ¶ mc"RR [33]0"X um{v"x"X0/KZ0."egmg o"3;" .66" *EHV."OV." [RV+0

Anoplius tenuicornis *Vqwtpkt."3 : ; +"

U<"ET

Rqw|g"rwdnkmqxcp²"Àfc|g<"tc-gnkp-k-v "X^apq p^l"ngwmc"*?" gtp^a"jqtc"RT"]5_+<"360/520XKK04226."3" *OV+0"Lk|gtum²"
dw kp{"*?"Rqngfpm"]45_+<"360/520XKK04226."3" *OV+0"TC-gnkp-k-v "Lk|gtm{"*ej {dp 'wxgfgp^a"nqmcnkvc"?TC-gnkp-k-v "
Lk|gt{"PRT"]48_+<";0/450XKK04225."3" *OV+0"Dqiwuej"gv"cn0"4229+0"

Xgn o k"x|^aep "x{uqmjqjtum "ftwj0" Fquwf"gzkuvqxcn"lgp"lglfkp "uvct "p^ang|"|"Mtmqpq-^a*Yqnh"
3;93+<"tgegpvp^l"p^ang|"|"F ¶pum²jq"Up flp^lmw*^aMwnc ("V{tpgt"4225c."d+0"X"uqw cup²"fqd "lg"
mtqo "Lk|gtum ej"jqt"^ap^a o "k|"|Qtnkem ej"jqt" c"Mt^ankem²jq"Up flp^lmw*^aDqiwuej"gv"cn0"4229+0

Arachnospila abnormis *Fcjndqo."3: 64+ "

U<"XW

O^anq"ud^ltcp "r^lumq o knp "ftwj0"

Ocn^a"Uvtcpe"RT [16]<";0/450XKK04225."3" * [RV+0

Arachnospila anceps *Yguo cgn."3: 73+

D flp "vgrnq o knp "ftwj"qvqx gp ej"uvcpqkx- 0

Dfn "Rqvqm]3c_<"380XK0/70XKK04227."3" *OV+0"TC-gnkp-k-v "Lk|gt{"PRT [26]<"420XKK0/40KZ04225."3" * [RV+0

*Arachnospila spissa**Uejk34fvq."3: 59+

D flp "ngup^l"ftwj0

gtpqwu{/X"Rqk [4]." Ocn^a"Uvtcpe"RT [16]."Qnf kejqxum²"ugfnq [21]."Vkej^a" ¶ mc"RR [33]."W^aM{ugm{ [34]0"
X um{v"x"X0/XKK0."egmg o": .3" *OV." [RV+0

*Auplopus carbonarius**Ueqrqnk."3985+

D flp "ftwj."rtcmvkem{"wdkmxkuvcl

Ocn^a"Uvtcpe"RT [16]."Tcrgpexc"46c_."W^aM{ugm{ [34]0"X um{v"x"X0/XKK0."egmg o"4" .4" *OV."UY+0

Caliadurgus fasciatellus *Urkpqc."3: 2: +

D flp "ftwj"dg|"xc|d{"pc"wt kv "dkqvqr0

Dfn "Rqvqm]3c_<"70/4;0XKK04227."3" * [RV+0

Dipogon bifasciatum * Iqghhtq{"39: 7+

Ftwj"rtghgtwl^le^l"vgrngl-"ngu{"pcn²|^ap"lgp"lglfpqvnx 0

Dfn "Rqvqm]3c_<"50/380XK04227."3" *OV+0

*Dipogon subintermedius**Oc itgvk."3: : 8+

U<"XW

Rqo tp "jqlp ."cng" o 2p " cuvqpcn²|cp "ngup^l"ftwj"r fgfx-^lo"vgrn ej"qdnucv^l0"

Dfn "Rqvqm]3c_<"70/4;0XKK04227."3" * [RV+0" gtpqwu{/X"Rqk [4]<"360X0/360XKK04229."5" *OV+0"Qnf kejqxum²"
ugfnq [21]<"3;0XK0/50XKK04225."3" * [RV+0"Mrk^am" c"Uvflqx "xtej"]54_<"420XKK0/50XKK04225."6" * [RV+0

Evagetes alamannicus *Dn^avji gp."3: 66+ "

U<"ET

Xgn o k"x|^aep "mngrvqrctc|kvkem "ftwj0

X^argpp "xtej"RT [35]<"430XK03; ;9."3" *UY+."L0"Uvtcmc"ni v0

Homonotus sanguinolentus *Hcdtkekwu."39;5+" U<"XW
O^anq"ud[tc p " o qm cfp]"ftwj"nqx[e]"rcxqwm{"tqfw"*Cheiracantium*)
Dⁿ "Rqvqm]3c_<50/380XK04227."3" *OV+0" Ocn"^a"Uvtepc"RT [16]<320/480XK04225."4" .";0/450XKK04225."4" "
*x-g" [RV+0

Priocnemis coriacea *Fcjndqo."3:65+
D flp "ngup]"ftwj0
Qnf kejqxum²"ugfnq [21]<80/390X04225."3" * [RV+0

Priocnemis exaltata *Hcdtkekwu."3997+
D flp "vgrnqoknp "ftwj0
M flq^x "xtej"RT [13]<50XKK04226."3" *UY+0" Tc-gnkp-v "Lk|gt{"PRT [26]<70/340XKK04225."3" .70/420XKK04225."
3" *x-g"OV+0

Priocnemis fennica Jcwr v."3:49
Pgjqlp "ngup]"ftwj0
gtpqwum{"X^Rqnk [4]."Jqtp]"Rgtvqnvleg [8]."Ogcpft{"Uo f²"RT]3:d_."Tcurgpcx [46c_."M^rk "m" c"Uvflq^x "xtej"
[32]0"X um{v"x"XK0/XKK0."egmgo"8" .4" * [RV."UY+0

Priocnemis perturbator *Jcttku."39:2+
D flp "ngup]"ftwj0
Dⁿ "Rqvqm]3c_."Qnf kejqxum²"ugfnq [21]."Tc-gnkp-v "Lk|gt{"PRT [26]."Uo tm"]52d."e_."Vkej " " fl mc"RR [33]."
W"M{ugm [34]0"X um{v"x"X0/XK0."egmgo"35" .34" *EHV."OV." [RV+0

Priocnemis pusilla *Uejk³/fvq."3:59+
Ftwj"ngup[ej"qmtcl "pgdq"qvqx gp ej"rtquvqt"uvgrp[ej" c"rqnquvgrp[ej"nqmcnk v0
Ogcpft{"Uo f²"RT]3:c_<440XK0/70XK04227."3" * [RV+0

Priocnemis schioedtei Jcwr v."3:49
D flp "ngup]"ftwj0
Dⁿ "Rqvqm]3c_."Qnf kejqxum²"ugfnq [21]."Rqngfp[m"]45_."Tc-gnkp-v "Lk|gtm{"PRT [25]."T{d[ⁿqwm {"RT [29]0"
X um{v"x"XK0/KZ0."egmgo"8" .6" *OV." [RV+0

Ucr { ikfcg

Sapyga quadripunctata Hcdtkekwu."3997
O^luv{"jqlp "rctc|kv"w"x gn" gngfk" cnqwpkeqxkv ej"*Ogicejknkfcg+0
Ocn^a"Uvtepc"RT [16]<4;0X0/320XK04225."3" *OV+0

Vkrjkkfcg

Tiphia femorata Hcdtkekwu."3997
D flp "ftwj"qvqx gp²"mtclkp{"nwm" c" r"u kp0
Dⁿ "Rqvqm]3c_."Ocn^a"Uvtepc"RT [16]."Qnf kejqxum²"ugfnq [21]."Tcurgpcx [46c_."T{d[ⁿqwm {"RT [29]."^Mqne "x"
t{dp^m [31]0"X um{v"x"XK0/KZ0."egmgo"3" .58" *EHV."OV." [RV."UY+0

Tiphia minuta Xcpfgt"Nkpfgp."3:49"

U<"GP

Rqw|g"rwdnkmqxc²Àfclg"Dfn "Rqvqm]3c_<50/380XK04227."3" *OV+0"X^argpp "xtej"RT]57_<430XK03; ;9."3" *UY+.

O0"Mqmumq"ni v0"*Dqiwuej"gv"cn0"4229+0
X|^aep "ftwj"ngu "c"lgkej"qmtcl 0"

Xgurkfcg

Ancistrocerus antilope *Rcp|gt."39; ;+"

U<"GP

X|^aep "ftwj"ux vn ej"ngu "c"lgkej"qmtcl "x"pflkpa^aej." kf glk"kv gfpfej"rqnj^aej0"

X^argpp "xtej"RT [35]<430XK03; ;9."3" *UY+."L0"Uvtcmc"ni v0

Ancistrocerus claripennis Vjqouqp."3:96

D flp "ftwj"qf"pflkp"fq"jqt"r rthgtwlfe"m qxkp{"c"ngupfl"qmtclg0

Dfn "Rqvqm]3c_<4; 0XK0/3; 0XK04227."3" * [RV+0

Ancistrocerus nigricornis *Ewtvku."3:48+"

D flp "ftwj"qf"pflkp"fq"jqt"r gfgx-fo"x"ngufej"c"pc"lgkej"qmtclfej0

Dfn "Rqvqm]3c_." gtpqwu{/X"Rqnk [4]. "Tc-gnkp-v "Lk|gtm{"PRT [25]. "Tc-gnkp-v "Lk|gt{"PRT [26]. "T{d"nqw m{"RT [29]. "X^argpp "xtej"RT [35]"X um{v"x"XK0/KZ0."egmgo"4" .7" *EHV."OV." [RV."UY+0

Ancistrocerus oviventris *Yguocgn."3:58+"

D flp "ftwj"qf"pflkp"fq"jqt"r gfgx-fo"x"ngufej"c"pc"lgkej"qmtclfej0

Vkej^a" f mc"RR [33]<470XK0/360XK04226."3" 0

Ancistrocerus parietum *Nkppcgwu."397: +

D flp "ftwj"|gl o 2pc"pkfl-fej"cu"uv gfpfej"rqnj0

Ocn^a"Uvtcpc"RT [16]<4; 0X0/320XK04225."3" *OV+0

Ancistrocerus trifasciatus *OÄnngt."3998+

Jqlp "ngupfl"ftwj"r gfgx-fo"uv gfpfej"cx{--fej"rqnj0"

Dfn "Rqvqm]3c_." Dwmqxe"RT [2]. "gtpqwu{/X"Rqnk [4]. "Ogcfft{"Uo f²"RT]3:d_."Tc-gnkp-v "Lk|gtm{"PRT [25]. "Tc-gnkp-v "Lk|gt{"PRT [26]. "Tglfkeg [27]. "T{d"nqw m{"RT [29]. "Vkej^a" f mc"RR [33]"X um{v"x"XK0/XK0."egmgo"6" .;" *EHV."GV."OV." [RV+0

Discoelius zonalis *Rcp|gt."3:23+"

U<"GP

X|^aep "vgrnq o kmp "ngupfl"ftwj0"

Dfn "Rqvqm]3c_<4; 0XK0/3; 0XK04227."3" * [RV+0

Dolichovespula adulterina *Dw{uuqp."3:27+"

U<"XW

Uqek^anp "rctc|kvkem "ftwj0"p cn²|^ap"lg"r gfgx-fo"x"ngufej." kf glk"x"kpvtcxkn^apgej0"pc"jqt^aej"
lg" cuv l-fl0

Dwmqxe"RT [2]<450XK0/70XK04225."3" .3" *EHV+0"Ocn^a"Uvtcpc"RT [16]< ; 0/450XK04225."5" *EHV." [RV+0"
T{d"nqw m{"RT [29]< ; 0/450XK04225."3" *EHV+0"Vkej^a" f mc"RR [33]<40/470XK04226."3" 0" W" M{ugum{ [34]<
350XK0/50XK04228."3" * [RV+0

Dolichovespula media *Tgy|kwu."39:5+" U<XW
F {xg|x|^ep .p{p{x-gqdgpep "tq|-|gp "ftwj"ngu "c"rctm 0"X"jqt^ej"o^2p " cuv 0
Dwmqxe"RT [2].Qnf kej qxum^2ugfnq [21].TMrk ^m"c"Uvflqx "xtej"54_.Vkej^an { mc"RR [33]0"X um{v"x"X0/XKKK0."egnmgo"4" .34" *EHV." [RV+0

*Dolichovespula norwegica**Hcdtkewu."39:3+" U<XW
Dqtgqcnrkpp"ftwj."pc"jqt^ej"x"ngu|ej"pc"tc-gnkp-kv|ej" cuvq"fq okpepvpf0
Dwmqxe"RT [2]. gtp^anjqt^c"RT [3].Ocn^Uvtcpc"RT [16].Qnf kej qxum^2ugfnq [21].Rqngfpf"m]45_.Tc-gnkp-kv " Lk|gtm{"PRT [25].Tc-gnkp-kv "Lk|gt{"PRT [26].T{d|nqw m{"RT [29].Uo tm"]52c."d_.TMrk ^m"c"Uvflqx "xtej" [32]0"X um{v"x"X0/XKKK0."egnmgo"3:" .388" *EHV."OV." [RV+0

Dolichovespula omissa (Dkuejqhh."3:53+" U<GP
Uqek^np "rctc|kvkem "ftwj0Rqo tp "x|^ep "qd x^am qxkp{"c"ngu{"jqlp l-|l"lg"x"pkfl-|ej"cu v gf/p|ej"rqngj^ej."pcn2|^p"d x^cng"k"x{uqm"q"x"jqt^ej0
Ock^pum^Jqtc [17]<460XK03; ;9:3" *UY+.L0"Uvtcmc"ni v0T{d|nqw m{"RT [29]< ;0/450XKK04225."3" *OV+0

*Dolichovespula saxonica**Hcdtkewu."39:5+
D flp "ngup"ftwj0
Dfn "Rqvqm]3c_.Dwmqxe"RT [2]. gtp^anjqt^c"RT [3]. gtpqw{/X"Rqnk [4].Qnf kej qxum^2ugfnq [21].Qnf kej qx^x"J^l|ej [22].Teurgpcxc]46c_.Tc-gnkp-kv "Lk|gtm{"PRT [25].Tc-gnkp-kv "Lk|gt{"PRT [26].Tglfkeg [27].Twfqnqhx [28].T{d|nqw m{"RT [29].TMrk ^m"c"Uvflqx "xtej"54_.Vkej^an { mc"RR [33].W"m{ugm{ [34]0"X um{v"x"X0/KZ0."egnmgo"46" .74" *EHV."OV." [RV.UY+0

*Dolichovespula sylvestris**Ueqrqnk."3985+
D flp "ftwj"|gl o^2pc"pkfl-|ej"cu v gfp|ej"rqngj"rtghgtwl|e"ux vn^2ngu{"c"m qxkp{0
gtp^anjqt^c"RT [3].Ocn^Uvtcpc"RT [16].Qnf kej qxum^2ugfnq [21].Tc-gnkp-kv "Lk|gt{"PRT [26].Tglfkeg [27].T{d|nqw m{"RT [29].Uo tm"]52c_.Vkej^an { mc"RR [33]0"X um{v"x"X0/XKKK0."egnmgo": .34" *EHV."OV." [RV+0

Eumenes coronatus *Rcp|gt."39: ;+
D flp "ftwj"x unwpp ej"uvepqxk- 0Lgfkp "ftwj"tqfw"uejqrp "qd xcv"pkfl-|rqngj{"jqt0
Dfn "Rqvqm]3e_.Teurgpcxc]46c_.Tc-gnkp-kv "Lk|gt{"PRT [26].Twfqnqhx [28]0"X um{v"x"X0/XKKK0."egnmgo"6" .3" *EHV." [RV.UY+0

*Odynerus spinipes**Nkppcgwu."397:+
D flp ."x"|g o^kjp|f|e"ftwj."jqlp l-|l"xg"x{-|ej"rqngj^ej0
Dwmqxe"RT [2]<320/480XK04225."3" *EHV+0 gtp^anjqt^c"RT [3]<470XK0/360XKK04226."3" 0

*Polistes nimpha**Ejtkuv."39:3+" U<XW
O^anq"ud|tcp "ftwj"rtghgtwl|e"qvqx gp^anvepqxk-v "p|flk"p"cqfj {0
Dfn "Rqvqm]3c_.Dwmqxe"RT [2].Ocn^Uvtcpc"RT [16].Qnf kej qxum^2ugfnq [21].Tc-gnkp-kv "Lk|gt{"PRT [26].Uo tm"]52c."d_.W"m{ugm{ [34]0"X um{v"x"XKK0/KZ0."egnmgo"4" .6" *EHV."OV." [RV+0

Symmorphus allobrogus *Ucwuuwtg."3:78+" U<GP
V{rkem "jqtum "ftwj.tgcnkxp "jqlp "x"jqtum ej"ngu|ej"pc"lglkej"qmtcl|ej0
Dwmqxe"RT [2]<320XK0/;0XKK04225."3" .5" *EHV+0Tc-gnkp-kv "Lk|gt{"PRT [25]<70/4:0XKK04227."3" *OV+0
Tglfkeg [27]<50/520X04227."3" .5" * [RV+=380XK0/70XKK04227."3" *GV+0

*Symmorphus bifasciatus**Nkppcgwu."3983+

D flp "ngup"ftwj"qf"pflkp"fq"jqft)

Dfn "Rqvm]3c_"Dwmqxe"RT [2]. Jqtp"Rgtvqvkqeg [8]. Ocn"Uvtepc"RT [16]. Ogepft{"Uo f"RT]3:c_"Tcurgpcxc]46c_"Tc-gnkp-v "Lk|gt{"PRT [26].W"M{ugm{ [34]X um{v"x"X0/KZ0."egmg o"9" .:" *EHV."GV."OV." [RV.UY+0

Symmorphus crassicornis *Rcp|gt."39; :+

D flp "ftwj"vgrngl-|ej"uvcpqxx- 0

Jqtp" cupqeg [9]<460X0/4;0XK04229."3" * [RV+0

*Symmorphus debilitatus**Ucwwwtg."3: 78+

Ouv{"jqlp "ftwj"x"m qxpa"ej"pkf-|ej"cu"v gfp|ej"rqngj)0

Dwmqxe"RT [2].Ht fncpv [6].W"M{ugm{ [34]X um{v"x"XK0/XKKK0."egmg o"3" .5" *EHV."OV."UY +0

*Symmorphus gracilis**Dtwm2."3: 54+

D flp "vgrng o kmp "ftwj)0

Ogepft{"Uo f"RT]3:d_<360X0/360XK04229."3" .30/470XKK04229."3" *x-g"OV+0"W"M{ugm{ [34]<420XK0/350XKK04228."3" *OV+0

Vespa crabro Nkppcgwu."397:

Jqlp "ftwj"pflkpp ej"ngu ."|cjtcf"crctm 0"Xg"uv gfp|ej"cx{--|ej"rqngj aej"u{pcpvtqrp)0

Tglfkeg [27]<520X0/380XK04227."3" *GV+0

*Vespula germanica**Hcdtkekwu."39;5+

D flp "ftwj"qvqx gp ej"uvcpqxx- .pc"vgrn ej"nqmcnkva"ej" cuvq"fq o kpcvp)0

Dwmqxe"RT [2].Ocn"Uvtepc"RT [16]. Ogepft{"Uo f"RT]3:d_"T{d"nqw m{"RT [29]X um{v"x"XK0/XKKK0."egmg o"7" *EHV."OV." [RV+0

*Vespula rufa**Nkppcgwu."397: +

Ftwj"ngu "c"m qxkp0X{um{vwlg"ug"qf"pflkp"fq"jqft." cuvq"qd x"klgjnkc pcv2"ngu)0

Dwmqxe"RT [2]. gtp"jqtc"RT [3]. gtpqwu{/X"Rqk [4].Lgfngx "f n"RT [10].Ocn"Uvtepc"RT [16].Ogepft{"Uo f"RT]3:c_"Qnf kejqxum2"ugfnq [21].Rqngfpm]45_"Tc-gnkp-v "Lk|gtm{"PRT [25].Tc-gnkp-v "Lk|gt{"PRT [26].T{d"nqw m{"RT [29].Uo tm]52c_"f_ "rk am"e"Uvflqx "xtej]54_"Vkej" a" f mc"RR [33].W"M{ugm{ [34]X um{v"x"X0/KZ0."egmg o"3" .:7" *EHV."OV." [RV+0

*Vespula vulgaris**Nkppcgwu."397: +

D flp "gwt{vqrp"ftwj"u"qrvkogo"x um{vw"ur"-g"xg"x{--|ej"rqngj aej)0

Dfn "Rqvm]3c_"Dwmqxe"RT [2]. gtp"jqtc"RT [3]. gtpqwu{/X"Rqk [4].Lkpf kejqxum "o qm cf"RR [11].Ocn"Uvtepc"RT [16].Qnf kejqxum2"ugfnq [21].Rqngfpm]45_"Tcurgpcxc]46c_"Tc-gnkp-v "Lk|gt{"PRT [26].Tglfkeg [27].Uo tm]52c_"f_ "rk am"e"Uvflqx "xtej]54_"Vkej" a" f mc"RR [33].W"M{ugm{ [34]X um{v"x"X0/KZ0."egmg o"3" .356" *EHV."GV."OV."R [T." [RV."UY+0

\jqfpqegp"x ungf m

Vcvq"rt aeg"ujtpwlg"Àfclg" |c'r vknv2"qdfqd"kpvgp|kxp"jq"x |mw o w"pc"v kegvk"-guk"mqmknkva"ej" Lk|gtum ej"jqtc"ht fncpvumc0"Egmg o"d{ngpcud"t"apq"v2 o "8"222"mwu "4:6"ftwj "uwvfxcp ej"

umwrkp"dncpqm ffn²jqj o { |w."eqfl"r gfuvxwlg44.; "' "x-gej"ftwj |p^a o ej|" gum²tgrwdnkm{0
D{nc" |c|pc o gp^apc" cfc"xgnok"x |pc o p ej"ftwj ."mvg²"luqw" |c |gp²"x" gtxgp² o"ug|pc/
o w"qj tqflgp ej"ftwj " T"*Uvtcmc"4227c."d."e." |"vqjq"35"ftwj "urf^a"fq"mcvgi qtkg"mtkvem{"
qj tqflgp²*ET+<"*Andrena tarsata*."*Anoplius tenuicornis*."*Anthocopa villosa*."*Crabro lapponicus*."
Crossocerus walkeri."*Dryudella femoralis*."*Evagetes alamannicus*."*Hylaeus annulatus*."*H. gra-*
cilicornis."*Lasioglossum subfulvicorne austriacum*." *Nomada moeschleri*." *Passaloecus monili-*
cornis"c"*Sphecodes spinulosus*-44"ftwj "fq"mcvgi qtkg"qj tqflgp²*GP+<"*Ancistrocerus antilope*."
Cpftgpc"eqpLpku."*Anoplius caviventris*."*Argogorytes mystaceus*."*Bombus norvegicus*."*Crabro*
scutellatus."*Crossocerus barbipes*." *C. capitosus*." *C. congener*." *C. styrius*." *Discoelius zonalis*."
Dolichovespula omissa." *Epeoloides coecutiens*." *Gorytes fallax*." *Hylaeus moricei*." *H. rinki*."
Chrysis ruddii." *Lasioglossum quadrinotatum*." *Lestiphorus bicinctus*." *Passaloecus eremita*."
Symmorphus allobrogus"c"*Tiphia minuta*-49"ftwj "fq"mcvgi qtkg" |tcpkvgp²*XW+<"*Andrena*
denticulata." *A. lathyri*." *Arachnospila abnormis*." *Dq o dwu*" ywt ltpk." *Crossocerus binotatus*."
C. cetratus." *C. cinxius*." *C. wesmaeli*." *Dipogon subintermedius*." *Dolichovespula adulterina*."
D. media." *D. norwegica*." *Ectemnius sexcinctus*." *Homonotus sanguinolentus*." *Chrysis rutili-*
ventris." *Lasioglossum costulatum*." *Megachile lignisebra*." *Nomada integra*." *N. leucophthalma*."
Nysson maculosus." *Passaloecus borealis*." *P. brevilabris*." *P. clypearis*." *Pemphredon montana*."
Polistes nimpha." *Rhopalum clavipes*." *Spilomena differens*"c"*Stelis minuta*0"

Og|k"pglx |pc o p l-^ap^ang|{ "rcv f"x|^aep²"jqtum²"c"x{uqmjqjqtum²"ftwj {"lcmq"lg"x gnc"
r"umqt{|rmc"*Andrena tarsata*."mvg²"lg"rqvtexp "x^a|cp^a"pc"mx v{"dq^t xgm."jtedcnmc"*Anoplius*
tenuicornis."mwvknmc"*Crabro lapponicus*"c"x gnc"mx vkp^a mc"*Anthocopa villosa*."mvg²"d{n{"fquwf"
|k-v p{"lgp"pc"p mqnkmc" o^anq" o"fuvej"x" T"*Yqnh"3;93="Mwnc" ("V{"tpgt"4225c."d="Dqi wuej"
gv"cn0"4229+c"qdcuv"Lk|gtum ej"jqt" c"Ht fncpvumc"vcn"r gfuvxwlg"x |pc o pqw"uq^a uv"lglkej"
ctg^anw"tq|-^agp"|"x" T0"\xn^a-v |cl"o cx²"luqw"dqjcv²"p^ang|{"jqtum ej"ftwj "x gn."ocumqpqum{"
Hylaeus annulatus"c"rnqumq gnm{"*Lasioglossum subfulvicorne austriacum*."mvg²"d{n{"fnqwj q"
rqxcflqx^ap{"|c"pg|x uvp²."tcurgmvkxg"pgrqvxt|gp²"x" T*^aDqi wuej"gv"cn0"4229+0"Qdcv{"vq"ftwj {"
d{n{"x"rqungf"p"ej"ngvgej" |c|pc o gp^ap{"k"x"fcn-^aej"jqtum ej"qdcuvgej" T^o"rtxp" |o"p p "
x"PRTMw o cxc"*Fxq^am"gv"cn0"4228+."ftwj "rcn"vc o v²fl."x"PR^TMt^ankem "Up flp"m"*Fxq^am"gv"
cn0."kp"rtguu0+c"x"Mtmaq-p-um² o "p^atqfp"o"rctmw"*R0"Dqi wuej."pgrwdn0"Åfclg+0"Fc n-^ao" |cl"o c/
x o "p^ang|g o "lg"mwvknmc"*Mimumesa beaumonti*."mvg²"d{nc"pqx o"ftwj g o"rtq" T*^aDqi wuej"
gv"cn0"4229+0

X"vcmvq"tq|u^a jn² o" o cvgtk^anw."mvg² "d{n" d jg o" rt |mw o w" |rtceqx^ap."ug"uc o q| glo "
x{um{vn{"mtq o "jqtum ej"ftwj "k"fcn-^aftwj {"x^a|cp²"pc"pglt |p l-^adkvqr{"c"uvcpqxk-v 0"
Rqmwl"og"ug"|fg" |o"pkv"cngrq "v{"pglx |pc o p l-⁰Lk|gtum²"jqt{"luqw"uc o q| glo "tgnckxp "
x{uqm o" c"fqvkv" |cngup p o"rqjq f"o."rtqvq"pgr gmxcrlwg."flg"og|k"x|^aep ok^cx" |pc o p ok"
ftwj {"r gxcflwl"v{"ug" |gvgnpqw"xc|dqw"pc"x{-^a |cngup p²"rqnqj {"0"lgf^a"ug"|gl o²pc"q"ftwj {"
Andrena lapponica." *A. tarsata*." *Anoplius tenuicornis*." *Anthocopa villosa*." *Bombus jonellus*."
B. norvegicus." *Crabro lapponicus*." *Dolichovespula adulterina*." *Dryudella femoralis*." *Hylaeus*
annulatus." *Lasioglossum subfulvicorne austriacum*." *Panurgus banksianus*." *Passaloecus bore-*
alis." *Pemphredon montana*." *Spilomena differens*"c"*Symmorphus allobrogus*0" Pglx v-^a |o"pqfluvx"
|v ejvq"ftwj "d{nq" |c|pc o gp^apq"pc"nqmcnk^aej"RT" gtp^a"jqt"5-."Tcurgpcxc"o"Hctum^a"hqwmc"
]46c_c"PR^TTc-gnkp-k-v "Lk|gt{"]48_0" |cl"o cx o" |^auvwreg o"jqtum²"hcw p{"lg"*Bombus* ywt ltpk."
x^a|cp "pc"dg|ngu⁰"Pc"ftwj²"uvtcp "ftwjqx²jq"urgmvtc"luqw"ftwj {"x tc|p "zgtqvgt o p".x^a|cp²"
r gfgx-^a |o"pc"šuvgrp"o"nqmcnk{0" \ "pkej"pglx |pc o p l-^a"luqw"x gn{"*Andrena alfkenella*." *A. ful-*
vicornis." *A. saundersella*." *Hedychridium coriaceum*." *Lasioglossum nitidulum*." *L. xanthopus*

c'r fgx-**f**o"x" T"xgnok"x|^aep "ftwj"*Hylaeus gracilicornis*0"X v-**f**o pqlfluvx|^aep ej^cejc/
 tcmvgtkvek em ej^cftwj "ug^qdlgxwlg^{pc}rtqux vngp ej^hgup^fej^qmtcl^fej^cfl^hnguqvgr^fej⁰\c| o^fpmw
 uvq|^fr fgx-**f**o"*Ancistrocerus antilope*."*Andrena lathyri*."*Crossocerus congener*."*Discoelius*
zonalis."*Ectemnius sexcinctus*."*Gorytes fallax*."*Lasioglossum costulatum*."*L. subfasciatum*."
Lestiphorus bicinctus."*Nomada striata*"c"*Passaloeus monilicornis*0"X^feg^cftwj "x^a|cp ej^{pc}
 r^qf^qdp^auvcpqxk-v "qd x^a"o qm c^fp^fh^qmcnk^v{^Dhⁿ "R^qv^qm"}3c_c" gtpqwu{/X^Rqⁿk"}6_0"Mtq o "
 v ejv^qr^qo tp "x tc|p "x{og|gp ej^{dk}qv^r "lg^op^qjq^cftwj "x^a|^ap^qp^cr⁰pc^rf^u kv "u^udw^ut^av"
 (*Andrena denticulata*."*C0*"*twLetwu*."*Arachnospora abnormis*."*Crabro scutellatus*."*Crossocerus*
wesmaeli."*Lasioglossum quadrinotatum*."*L. sabulosum*."*Nysson maculosus* nebo *Panurgus*
calcaratus."pcng|gp²r fgx-**f**o"pc^hmcnk^v "Ogcpft{"Uo f²RT⁰d gj{" gm{"Uo f²}3:d_+."
 pgdq^{pc}t |p²v{r{" o qm cf " **Anoplius caviventris*."*Homonotus sanguinolentus*."*Hylaeus*
morcei."*H. rinki*."*Lasioglossum leucopus*."*L. zonulum*."*Megachile ligniseca*."*Psenulus meridio-*
nalis."*Trypoxylon deceptorium*."*Macropis europaea*, *M. fulvipes* c^lgl^kej^jp^f|^fp^fmng^rv^rc^rtc|^{kv}
Epeoloides coecutiens."pcng|gp²x |pc o p lk^{pc}h^qmcnk^aej^c " gtpqwu{/X^Rqⁿk"}6_c"Ogcpft{"
 Uo f²RT⁰"o qm cf{"}3:c_+0

\g"|lk-v p²j^qurgmvtc^{ftw} |lg"| gl o². flg^xq^dncv^klk|gtum ej^jqt^cHt fncpvmc^{lg} cfc"
 xgnok^jq^jfp^qp ej^A|g o^f."mvgt^ad^{nc}"| "r^qjng^fw^dncp^qm^ffn²j^qj o{|w^x"okpwnq^uk|pc p "
 qrqo^flg^p"c^urgmvtw o^{ftwj} "|fg"|lk-v p ej^{lg}oko^q a^fp "ktqm²c^rguvt⁰

Rqf mxq^ap^f0 F mwlgo^gLk^fow^Rt^gkung^tqx^cRcxⁿw^Xq^k mxk^c|c^rrtquv^fgm^qx^ap^fc^ud^eeg^p2^jq^ocv^gt^anw."^alg o "
 c^x-g^uvtcp^qw^rq o^qe^xv^gt²p^w0^C0^R kfcⁿqx^krcv^fr^qf mxq^ap^f|c^ffg^vg^ok^pcek^au^wk^ocv^gt^anw" o^gm^am⁰R^wdn^kmc^glg^o
 r^qf^rq^gp^cx |mw o p o^a o^g t^go^R t^qf^qx^fgem²hcmw^v{^Wpkx^gt|^{kv}{^Mctn^qx^f{^xR^tc|^gOUO²243842:4:0

NKVGTCVWTC

DQ I WUE J ^Rl. "OCEGM⁰L" ("UVTCMC⁰L⁰4227<Hcw^{pk}uvke^tgeqt^{fu}htq o^vj^gE|gej^Tgrwdnke⁰3: :0⁰ J {o^gp^qr^vg^tc<
 Crk^fcg⁰*Klapalekiana*."63<3660

DQ I WUE J ^Rl. "UVTCMC⁰L" ("MOGPV⁰L⁰4229<C^{pp}qv^cg^fe^jgemⁿku^qh^vj^gCewngvc^{*J} {o^gp^qr^vg^tc<^qh^vj^gE|gej^T
 Tgrwdnke^cp^fUn^qxcm^k0^Mq o^gp^qx^cp "ug|pc o^fic^jc^fn^qx^ej^dncp^qm^ffn²j^qJ {o^gp^qr^vg^tc<Cewngvc+^{gum}2"
 tgrwdn^km{^cUn^qxgp^umc⁰*Acta Ent. Mus. Nat. Pragae*."Uw^rn⁰33<3/5220

FXQ f^MN⁰& DQ I WUE J ^Rl.422: <fic^jc^fn^qx^fdncp^qm^ffn²J {o^gp^qr^vg^tc<Cewngvc+d^xn²r^fum^qx^p{^wRc o^hgt^qx^f
 J^wk^a |^arc^fp^f0^wo^cx^c+0^{*J} {o^gp^qr^vg^tc<Cewngvc^qh^ch^qt o^gt^ucp^fr^kv^or^co^hgt^qx^f J^w *y^guv^gtp^Dq^jg o^kcp^o
 Hqt^guv+0^{Silva Gabreta}.Xl o^rg^tm."36*4<36;/384*^kp^E|gej^T.G^pinkuj^uw o o⁰+0

FXQ f^MN⁰.DQ I WUE J ^Rl.& UOGVPC^X0^{4228<fic}j^cfⁿq^x^fdncp^qm^ffn²tc-gⁿk^p ej^uvc^pqxk-^{Nw}|g^pum²j^qA^fq^m
 *eg^pt^anp^f0^wo^cx^c+0^{*Cewngvc}g^J {o^gp^qr^vg^tc<^qh^rg^cv^uvc^pfu^qh^vj^gNw|g^pum²A^fq^m^fx^cmn^g{^{*eg}p^tcn^Dq^jg o^kcp^o
 Hqt^guv+0^{Silva Gabreta}.Xl o^rg^tm."34*4<323/32: *^kp^E|gej^T.G^pinkuj^uw o o⁰+0

FXQ f^MN⁰.DQ I WUE J ^Rl.& UOGVPC^X0^{4228<fic}j^cfⁿq^x^fdncp^qm^ffn²J {o^gp^qr^vg^tc<X^gur^qk^fgc^cC^rq^kfc⁺
 PRT^Mt^an^kem^Up^fl^mo^x u^gf^m|^oq^pv^tq^ti^wu^rq^wl^kv^oOcⁿck^ug^jq^rcu^v0^{*Cewngvc}g^J {o^gp^qr^vg^tc<^{*J} {o^g/
 p^qr^vg^tc<X^gur^qk^fgc^cp^fC^rq^kfc⁺q^hv^jg^Mt^an^kem^Up^fl^mP^cv^kq^pcn^Pc^wtg^Tg^utx^go^tg^uw^uv^qh^vj^go^qp^kv^tq^ti^w
 w^ukⁱv^jg^oOcⁿck^ug^vt^cru+0^{Rt^aeg^cu^wv^fkg^ow/g^cDg^um^f.R^tq^fp^fx^f^{*k}p^E|gej^T.G^pinkuj^uw o o⁰+0}

MWNC⁰G⁰ ('V |TPGT⁰R⁰4225c<J {o^gp^qr^vg^tc<Cewngvc+^kp^dkte^ju^{vc}p^ufu^qh^vj^gckt/r^qm^wg^fct^gc^qh^Pqt^vj^gtp^Dq^jg/
 ok⁰*Journal of Forest Science*. 6: <36: /37: 0

MWNC⁰G⁰ ('V |TPGT⁰R⁰4225d<J {o^gp^qr^vg^tc<Cewngvc+^qh^urt^weg^uvc^pfu^qh^vj^gckt/r^qm^wq^kp^{tg}i^kq^hP^qtv^jg^{tp}
 D^jg^ok⁰*Journal of Forest Science*. 6: <422/4290

RTWPGT^N ("O⁰MC⁰R⁰3: ;8<U^g|pc o^qde^fc^lgl^kej^au^vf^x" gum²tgrwdnke^gu^fun⁰o^cr^qx^{ej}r^qm^{rt}q^uq^x2"
 o^cr^qx^ap^fh^cw^p{0^{*N}ku^vq^hu^gw^go^gp^uk^pv^jg^E|gej^Tgrwdnke^ykv^jcu^uq^ekv^gf^ocr^Lgn^feq^gu^hq^th^cw^{pk}uvkeⁱtk^f
 o^crc^rk^pi^u{u^go⁰*Klapalekiana*."54*Uw^rn⁰+<3/337*^kp^E|gej^T.G^pinkuj^uw o o⁰+0

UVTCMCL⁰4227c<E^jt^uk^fq^kfc^{nc}v^{pn}{+.r^r0⁵:4/6270^kp<HCTMC⁰L⁰.MT⁰f^NF⁰ ("^MMQTR⁰M⁰0^{*g}fu+^gtx^gp
 ug|pc o^qj^tq^lgp^{ej}ftwj " gum²tgrwdnke⁰D^g|q^dt^{cn}0^Tg^fh^{ku}v^qh^vj^gtc^vg^pg^fur^gek^gu^kp^vj^gE|gej^Tgrwdnke⁰
 Invertebrates. Cⁱg^pw^tc^qe^jtc^p{^rt^qf^t{^cmt^lck^p T⁰.R^tc^jc."982^rr^{*k}p^E|gej^Tcp^fG^pinkuj⁰

UVTCMC^l04227d<Xguruqkfgc*xqu{+.rr⁰5:9/5;30⁰kp<HCTMC "L0.MTfN⁰F0⁰ ("MQTR⁰M⁰O⁰*gfu<+ gtxgp " ug/pc o'qj tqlgsp ej'ftwj " gum²tgrwdnkml⁰Dg/qd⁰cvn⁰Tgf'nkuv'qh'vj tgcvgpgf'urgekku'kp'vj g'E/gej'Tgrwdnk⁰l⁰Invertebrates⁰Ci gpwtc'qej tcp{r'ftqf{'c'mtclp{ T.Rtcjc.'982'rr*⁰kp'E|gej'cpf'Gpiku j+0

UVTCMC^l04227e<Crqkfgc*x gn{+.rr⁰5;4/6270⁰kp<HCTMC "L0.MTfN⁰F0⁰ ("MQTR⁰M⁰O⁰*gfu<+ gtxgp "ug/pc o' qj tqlgsp ej'ftwj " gum²tgrwdnkml⁰Dg/qd⁰cvn⁰List of threatened species in the Czech Republic. Invertebrates⁰ Ci gpwtc'qej tcp{r'ftqf{'c'mtclp{ T.Rtcjc.'982'rr*⁰kp'E|gej'cpf'Gpiku j+0

XQPK MC^R0422:<Gp⁰q o qn⁰q⁰ikem "x |mw o Lk|gtum ej'jqt'c'Ht fncpvmc'x'hgvyg'4222/42290⁰Gp⁰q o qn⁰q⁰ikecn'uwtxg{" qh'vj g'Lk|gtum²jqt{"Ovu'cpf'Ht fncpv'tg ikqp'kp'4222/4229+0⁰Udqt⁰Ugxgtg gud⁰Ow/l.'R'f⁰X ff.'Nkdgtge.'48<5/34*⁰kp'E|gej.'Gpiku j'uw o o+0

XQPK MC^R0422:<X^KM⁰ fM⁰T⁰422:< "mcfp⁰'ejctcmvgtkuvkmc|mqw o cp²j q'À|g o⁰Lk|gtum ej'jqt'c'Ht fncpvmc⁰ *I gpgtcn'ejctceygtkuvku'qh'vj g'uwf{"ctgc'kp'vj g'Lk|gtum²jqt{"Ovu'cpf'Ht fncpv'tg ikqp+0⁰Udqt⁰Ugxgtg gud⁰ Ow/l.'R'f⁰X ff.'Nkdgtge.'48<35/55*⁰kp'E|gej.'Gpiku j'uw o o+0

YQNH⁰J⁰3;93<Rtqftq o wu'kpugetw o'Daj g o qunqxcmkc⁰J { o gpprvgtc.'Rctu'32'6⁰Rq o rknqkfgc⁰Acta Faun. Ent. Mus. Nat. Pragae. 36<5/980

UWOOC [

Vjg⁰r⁰cr⁰gt'uw o o ctkugu'tguvnu'qh'c'Lxg/{gct'gzvpgkxg'uwtxg{"qh'cewngcyg⁰J { o gpprvgtc⁰ kp'vj g'Lk|gtum²jqt{"Ovu'cpf'Ht fncpv'tg ikqp⁰Vj g'uwf{"eq o rtkugu'pgetcn{ '8222'urgek o gpu'qh' 4:6'urgekku'htq o'vj ktv{"ukz'uwfkgf'nqecnkvgu⁰Vj ku' o cmgu'wr'440; ' 'qh'vj g'vqcn'fkxgtukv{"qh'vj g' i tqw'kp'vj g'E|gej'Tgrwdnke."y j kng'c'jki j'pw o dgt'qh'urgekku'y kv j'hcwpkuvke'cpf'eqpugtxcvkqp' dkqni {"k o rqtvcpeg' y cu'tgeqtf g f⁰

Vjg⁰h⁰q⁰mq y kpi'urgekku'kpenwfgf'kp'vj g'tgf'nkuv'qh'gpfcp i g tgf'urgekku'qh'vj g'E|gej'Tgrwdnke⁰ *Uvtcmc'4227c.'d.'e+ y gtg'tgeqtf g f<35'Etkvkecn {"gpfcp i g tgf'urgekku'*ET+<'Andrena tarsata." Anoplius tenuicornis."Anthocopa villosa."Crabro lapponicus."Crossocerus walkeri."Dryudella femoralis."Evagetes alamannicus."Hylaeus annulatus."H. gracilicornis."Passaloeus montilicornis."cpf' Sphecodes spinulosus⁰45'Gp fcp i g tgf'urgekku'*GP+<'Ancistrocerus antilope." Cpftgpc'eqp⁰Lku."Anoplius caviventris."Argogorytes mystaceus."Bombus norvegicus."Crabro scutellatus."Crossocerus barbipes."C. capitatus."C. congener."C. styrius."Discoelius zonalis." Dolichovespula omissa."Epeoloides coecutiens."Gorytes fallax."Hylaeus moricei."H. rinki." Chrysis ruddii."Lasioglossum quadrinotatum."Lestiphorus bicinctus."Nomada moeschleri." Passaloeus eremita."Symmorphus allobrogus."cpf' Tiphia minuta⁰49'Xwvpgtcdng'urgekku' *XW+<'Andrena denticulata."A. lathyri."Arachnospila abnormis."Dq o dwu'y wt l gpkk."Crossocerus binotatus."C. cetratus."C. cinxius."C. wesmaeli."Dipogon subintermedius."Dolichovespula adulterina."D. media."D. norvegica."Ectemnius sexcinctus."Homonotus sanguinolentus." Chrysis rutiliventris."Lasioglossum costulatum."Megachile ligniseca."Nomada integra." N. leucophthalma."Passaloeus borealis."P. brevilabris."P. clypearis."Pemphredon montana." Polistes nimpha."Rhopalum clavipes."cpf' Spilomena differens⁰

Vjg⁰o quv'k o rqtvcpv'Łpfkpi u'ctg'vj g' hqmq y kpi' o qpvcpg'urgekku'<vj g'dgg'Andrena tarsata qnki qngevke'qp' d⁰nwgdgtt {"l qygtu."urkfgt' y cur' Anoplius tenuicornis." fki i g t' y cur' Crabro lapponicus."cpf' o cuq⁰dgg'Anthocopa villosa." y jke j' y gtg'tgrqtv g f' p⁰pn {"htq o'c' hgy'nqec/ nkvgu'kp'vj g'E|gej'Tgrwdnke*Yqnh⁰3;93="Mwnc" ("V{tpgt'4225c.'d="Dq i wue j'g'v'cn⁰4229+0⁰ Xgt {"pw o g t q w u' r q r w n c v k p p u' q h' v y q' o q p v c p g' u r g e k k u'."Hylaeus annulatus'cpf' Lasioglossum subfulvicorne austriacum."ctg' jki j n {"kpygtg⁰u⁰kp i⁰Vj g'urgekku' y gtg' eqpukf g t g f' g z v k p e v' k p' v j g' E | g e j' T g r w d n k e' h q t' c' n q p i' v k o g' *Dq i wue j' g v' c n⁰4229+." j q y g x g t. " u g x g t c n' n q e c n k v k g u' j c x g' d g g p' h q w p f' t g e g p v n { 0' V j g' Ł p f k p i' q h' v j g' u r j g e k f' y c u r' M i m u m e s a b e a u m o n t i k u' v j g' Ł t u v' t g e q t f' h t q o' v j g' E | g e j' T g r w d n k e. ' t g e g p v n { ' r w d n k u j g f' d { ' D q i w u e j' g v' c n⁰*4229+0

Vjg⁰uwf {"ctgc' y cu'qxgtnqmgf'd {"j { o gpprvgtkuvu'htq'c' hqpi'vk o g'dwv'vj g'fkxgtukv {"tgeqtf/ fgf'fwtkpi'qwt'uwtxg {"eqp⁰Łt o'v'j cv'vj g'ctgc'qh'vj g'Lk|gtum²jqt {"Ovu'cpf'Ht fncpv'tg ikqp' eq o rtkugu'xgt {"xcnwcdng'nqecnkvgu."eqegetpkipi' dqv'vj g' J { o gpprvgtc'fkxgtukv {"cpf'pcwntcn' gpxktq o gpv'kp' i gpgtcn⁰

