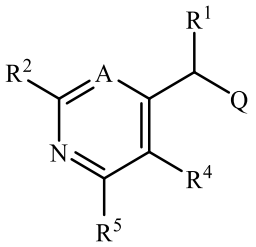
CLAIMS

What is claimed is:

1. A compound selected from Formula **1**, an *N*-oxides or salt thereof,



1

wherein

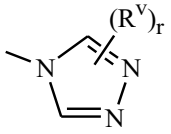
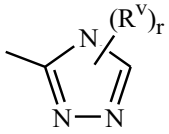
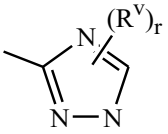
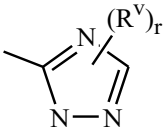
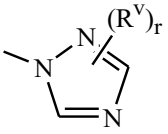
R^1 is F;

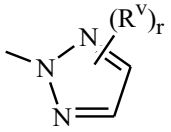
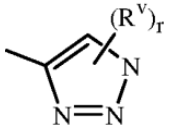
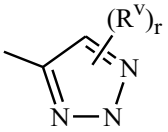
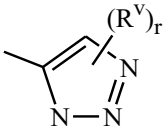
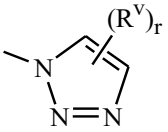
A is N or CR^3;

R^2 is H, halogen, CN, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_3–C_4 cycloalkyl, C_3–C_4 halocycloalkyl, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;

R^3 is H, halogen, CN, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_3–C_4 cycloalkyl, C_3–C_4 halocycloalkyl, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;

R^4 is selected from U-31 to U-35 and U-44 to U-48


U-31 ,

U-32 ,

U-33 ,

U-34 ,

U-35 ,


U-44 ,

U-45 ,

U-46 ,

U-47 ,

U-48 ;

each R^v is independently H, cyano, halogen, C_1-C_6 alkyl, C_1–C_6 alkoxy, C_1–C_6 haloalkoxy, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_3-C_6 halocycloalkyl, C_2-C_6 cyanoalkyl, C_1-C_6 hydroxyalkyl, C_4-C_{10} alkylcycloalkyl, C_4-C_{10} cycloalkylalkyl, C_3-C_6 cycloalkenyl, C_3-C_6 halocycloalkenyl, C_2-C_6 alkoxyalkyl, C_4-C_{10} cycloalkoxyalkyl, C_3-C_{10} alkoxyalkoxyalkyl, C_2-C_6 alkylthioalkyl, C_2-C_6

alkylsulfinylalkyl, C_3-C_6 cycloalkoxy, C_3-C_6 halocycloalkoxy, C_4-C_{10} cycloalkylalkoxy, C_2-C_6 alkenyloxy, C_2-C_6 haloalkenyloxy, C_2-C_6 alkoxyalkoxy, C_2-C_6 alkylcarbonyloxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio, C_3-C_6 cycloalkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 haloalkylsulfinyl, C_1-C_6 alkylsulfonyl, C_1-C_6 haloalkylsulfonyl, C_3-C_6 cycloalkylsulfonyl, C_1-C_6 alkylamino, C_2-C_6 dialkylamino, C_1-C_6 haloalkylamino, C_2-C_6 halodialkylamino or C_3-C_6 cycloalkylamino;

r is 1, 2, 3, 4 or 5;

R^5 is H, halogen, CN, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_3–C_4 cycloalkyl, C_3–C_4 halocycloalkyl, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;

Q is a six membered aromatic ring containing ring members selected from carbon atoms and up to 2 nitrogen atoms, each ring unsubstituted or substituted on carbon atom ring members with up to 5 substituents independently selected from one or more R^w; and s is the number of the substituents;

R^w is independently H, cyano, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1–C_6 alkoxy, C_1–C_6 haloalkoxy, C_2-C_6 alkenyl, C_2-C_6 haloalkenyl, C_2-C_6 alkynyl, C_2-C_6 haloalkynyl, C_3-C_6 cycloalkyl, C_3-C_6 halocycloalkyl, C_2-C_6 cyanoalkyl, C_1-C_6 hydroxyalkyl, C_4-C_{10} alkylcycloalkyl, C_4-C_{10} cycloalkylalkyl, C_3-C_6 cycloalkenyl, C_3-C_6 halocycloalkenyl, C_2-C_6 alkoxyalkyl, C_4-C_{10} cycloalkoxyalkyl, C_3-C_{10} alkoxyalkoxyalkyl, C_2-C_6 alkylthioalkyl, C_2-C_6 alkylsulfinylalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, C_3-C_6 cycloalkoxy, C_3-C_6 halocycloalkoxy, C_4-C_{10} cycloalkylalkoxy, C_2-C_6 alkenyloxy, C_2-C_6 haloalkenyloxy, C_2-C_6 alkoxyalkoxy, C_2-C_6 alkylcarbonyloxy, C_1-C_6 alkylthio, C_1-C_6 haloalkylthio, C_3-C_6 cycloalkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 haloalkylsulfinyl, C_3-C_6 cycloalkylsulfinyl, C_1-C_6 alkylsulfonyl, C_1-C_6 haloalkylsulfonyl, C_3-C_6 cycloalkylsulfonyl, C_1-C_6 alkylamino, C_2-C_6 dialkylamino, C_1-C_6 haloalkylamino, C_2-C_6 halodialkylamino or C_3-C_6 cycloalkylamino; or two R^w on adjacent carbon atoms together can form a -OCF2O-, -OCH2O-, -OCF2S-, -OCH2CH2)-, OCF2CF2O- cyclic ether ring;

s is 1, 2, 3, 4 or 5.

2. The compound of claim 1 wherein each ring is substituted on carbon atom ring members with up to 5 substituents independently selected from one or more R^w; and s is the number of the substituents.

3. The compound of Claim 1 or 2 wherein

A is CR^3;

4. The compound of Claim 2 wherein:
R^2 is H, halogen or C_1-C_4 alkyl;
R^3 is H, halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;
r is 1 or 2;
R^5 is H, halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;
R^w is C_1–C_6 haloalkoxy, C_1-C_6 haloalkyl, C_2-C_6 haloalkenyl, C_2-C_6 haloalkynyl, C_1-C_6 haloalkylthio, C_1-C_6 haloalkylsulfinyl, C_1-C_6 haloalkylsulfonyl.
s is 1 or 2.

5. The compound of Claim 4 wherein:
R^2 is H;
R^3 is H or halogen;
R^v is H;
R^5 is H or halogen;
Q is a phenyl, pyridinyl, pyrimidinyl or pyrazinyl ring, each ring unsubstituted or substituted on carbon atom ring members with up to 5 substituents independently selected from R^w;
R^w is OCF_3, SCF_3, CF_3, CF_2CF_3, $SOCF_3$ or SO_2CF_3.

6. The compound of Claim 4 wherein:
R^2 is C_1-C_4 alkyl;
R^3 is H or halogen;
R^v is H;
r is 2;
R^5 is H.

7. The compound of claim 1 wherein the compound is selected from the group consisting of:
3-Fluoro-4-[fluoro[4-(trifluoromethoxy)phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;
3-Chloro-4-[fluoro[4-(trifluoromethoxy)phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;
3-Fluoro-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;
3-Chloro-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Fluoro-4-[fluoro[4-(trifluoromethyl)phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Fluoro-4-[fluoro[4-[(trifluoromethyl)sulfinyl]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Bromo-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine.

8. The compound of Claim 7 wherein the compound is selected from the group consisting of:

3-Fluoro-4-[fluoro[4-(trifluoromethoxy)phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Chloro-4-[fluoro[4-(trifluoromethoxy)phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Chloro-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Fluoro-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine;

3-Bromo-4-[fluoro[4-[(trifluoromethyl)thio]phenyl]methyl]-5-(2*H*-1,2,3-triazol-2-yl)pyridine.

9. A composition comprising a compound of any one of claims 1-8 and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents, said composition optionally further comprising at least one additional biologically active compound or agent.

10. The composition of Claim 9 wherein the at least one additional biologically active compound or agent is selected from the group consisting of abamectin, acephate, acequinocyl, acetamiprid, acrinathrin, afidopyropen, amidoflumet, amitraz, avermectin, azadirachtin, azinphos-methyl, benfuracarb, bensultap, bifenthrin, bifenazate, bistrifluron, borate, bromantraniliprole, buprofezin, carbaryl, carbofuran, cartap, carzol, chlorantraniliprole, chlorfenapyr, chlorfluazuron, chlorpyrifos, chlorpyrifos-methyl, chromafenozide, clofentezin, clothianidin, cyantraniliprole, cyclaniliprole, cycloprothrin, cycloxaprid, cyflumetofen, cyfluthrin, beta-cyfluthrin, cyhalodiamide, cyhalothrin, gamma-cyhalothrin, lambda-cyhalothrin, cypermethrin, alpha-cypermethrin, zeta-cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, dichlorantraniliprole, dieldrin, diflubenzuron, dimefluthrin, dimehypo, dimethoate, dinotefuran, diofenolan, emamectin, endosulfan, esfenvalerate, ethiprole, etofenprox, etoxazole, fenbutatin oxide, fenitrothion, fenothiocarb, fenoxycarb, fenpropathrin, fenvalerate, fipronil, flometoquin, flonicamid,

flubendiamide, flucythrinate, flufenerim, flufenoxuron, flufenoxystrobin, fluensulfone, fluopyram, flupyradifurone, fluvalinate, tau-fluvalinate, fonophos, formetanate, fosthiazate, halofenozide, heptafluthrin, hexaflumuron, hexythiazox, hydramethylnon, imidacloprid, indoxacarb, insecticidal soaps, isofenphos, lufenuron, malathion, meperfluthrin, metaflumizone, metaldehyde, methamidophos, methidathion, methiocarb, methomyl, methoprene, methoxychlor, methoxyfenozide, metofluthrin, monocrotophos, monofluorothrin, nicotine, *N*-[1,1-dimethyl-2-(methylthio)ethyl]-7-fluoro-2-(3-pyridinyl)-2*H*-indazole-4-carboxamide, *N*-[1,1-dimethyl-2-(methylsulfinyl)ethyl]-7-fluoro-2-(3-pyridinyl)-2*H*-indazole-4-carboxamide, *N*-[1,1-dimethyl-2-(methylsulfonyl)ethyl]-7-fluoro-2-(3-pyridinyl)-2*H*-indazole-4-carboxamide, N-(1-methylcyclopropyl)-2-(3-pyridinyl)-2H-indazole-4-carboxamide, *N*-[1-(difluoromethyl)cyclopropyl]-2-(3-pyridinyl)-2*H*-indazole-4-carboxamide, nitenpyram, nithiazine, novaluron, noviflumuron, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, profluthrin, propargite, protrifenbute, pyflubumide, pymetrozine, pyrafluprole, pyrethrin, pyridaben, pyridalyl, pyrifluquinazon, pyriminostrobin, pyriprole, pyriproxyfen, rotenone, ryanodine, silafluofen, spinetoram, spinosad, spirodiclofen, spiromesifen, spirotetramat, sulprofos, sulfoxaflor, tebufenozide, tebufenpyrad, teflubenzuron, tefluthrin, tetrachlorantraniliprole, tetrachlorvinphos, tetramethrin, tetramethylfluthrin, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium, tioxazafen, tolfenpyrad, tralomethrin, triazamate, trichlorfon, triflumezopyrim, triflumuron, *Bacillus thuringiensis* delta-endotoxins, entomopathogenic bacteria, entomopathogenic viruses and entomopathogenic fungi.

11. A composition for protecting an animal from an invertebrate parasitic pest comprising a parasiticidally effective amount of a compound of any one of claims 1- 8 and at least one carrier.

12. A method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound or composition of any one of claims 1-11, provided that the method is not a method of treatment on the human or animal body.

13. The method of Claim 12 wherein invertebrate pest comprises stink bugs from the family Pentatomidae.

14. A treated seed comprising a compound of any one of claims 1-10 in an amount of from about 0.0001 to 1 % by weight of the seed before treatment.