

1 Richmond et al.

2 A diverse suite of pharmaceuticals contaminates stream and riparian food webs

3 **Supplementary information:**

4 **Authors:**

5 Erinn K. Richmond^{1*}, Emma Rosi², David. M. Walters³, Jerker Fick⁴, Stephen K.

6 Hamilton^{2,5}, Tomas Brodin⁴, Anna Sundelin⁴ and Michael R. Grace¹

7 **Affiliations:**

8 ¹Water Studies Centre, School of Chemistry, Monash University, Clayton Victoria, Australia

9 ²Cary Institute of Ecosystem Studies, Millbrook, New York 12545, USA

10 ³U.S. Geological Survey, Fort Collins, Colorado 80526, USA

11 ⁴Umeå University, Sweden

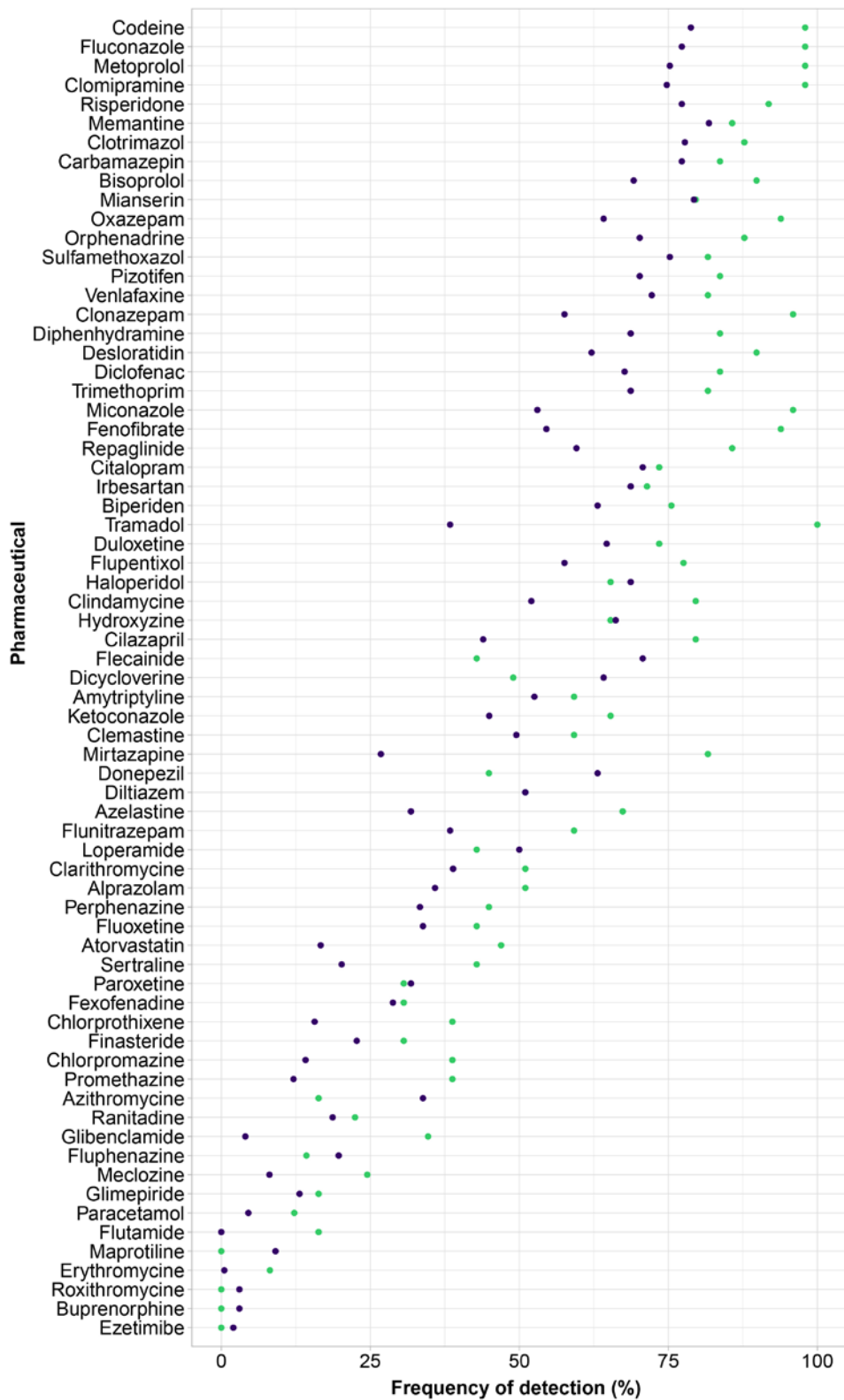
12 ⁵Kellogg Biological Station and Dept. Integrative Biology, Michigan State University,

13 Hickory Corners, Michigan 49060, USA

14 * Corresponding author: erinn.richmond@monash.edu

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18 **Supplementary Figure 1.** Frequency of detections for larval insects with emergent adult
 19 stages (purple circles) and riparian spiders (green circles) across all six study sites arranged
 20 from most to least frequently detected.

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| Site | Suburb/ locality | Latitude/ Longitude coordinates |
|---------------------|--------------------------------|---------------------------------|
| Brushy Creek | Churnside Park | -37.759363, 145.292702 |
| Mullum-Mullum Creek | Donvale | -37.794465, 145.203102 |
| Scotchmans Creek | Mount Waverley | -37.886777, 145.134560 |
| Ferny Creek | Upwey | -37.915742, 145.325717 |
| Sassafras Creek | Monbulk | -37.877138, 145.403029 |
| Lyrebird Creek | Dandenong Ranges National Park | -37.850140, 145.384924 |

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25 **Supplementary Table 1.** Location of study streams in eastern Melbourne, Victoria,
26 Australia. Sites are ordered based on sewage influence (as indicated by biofilm $\delta^{15}\text{N}$) from
27 highest to lowest

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30 **Supplementary Table 2.** Physicochemical properties at all sites based on two sampling dates in 2014-2015. (EC = electrical conductivity
 31 mS/cm, Turb = turbidity in NTU (Nephelometric Turbidity Units), DO= dissolved oxygen, Temp = temperature, FRP = filterable reactive
 32 phosphorus, DOC = dissolved organic carbon, TOC = total organic carbon). SD = standard deviation. Water samples were collected and
 33 analysed in triplicate.

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| 2014 | | Flow | pH | EC | Turb | DO | Temp | NH ₃ | FRP | NO ₂ ⁻ | NO ₃ ⁻ | DOC | TOC | Total P | Total N |
|---------------|------|--------|------|---------|-------|-------|-------|-----------------|-------|------------------------------|------------------------------|------|-------|---------|---------|
| | | (ML/d) | | (mS/cm) | (NTU) | mg/L | (°C) | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Brushy | Mean | 10.13 | 6.69 | 0.57 | 14.40 | 4.85 | 15.52 | 0.50 | 0.17 | 0.09 | 3.51 | 6.55 | 6.53 | 0.28 | 5.40 |
| | SD. | - | 0.01 | 0.00 | 0.55 | 0.05 | 0.04 | 0.01 | 0.00 | 0.00 | 0.10 | 0.03 | 0.04 | 0.01 | 0.36 |
| Mullum-Mullum | Mean | 1.50 | 7.23 | 0.31 | 19.20 | 10.12 | 10.10 | 0.03 | 0.03 | 0.01 | 0.88 | 4.12 | 4.22 | 0.08 | 1.40 |
| | SD. | - | 0.01 | 0.00 | 0.45 | 0.01 | 0.00 | 0.002 | 0.00 | 0.00 | 0.02 | 0.09 | 0.11 | 0.01 | 0.00 |
| Scotchmans | Mean | 22.91 | 6.59 | 0.24 | 22.00 | 8.27 | 12.60 | 0.03 | 0.02 | 0.01 | 0.61 | 5.51 | 6.38 | 0.08 | 1.53 |
| | SD. | - | 0.01 | 0.00 | 0.00 | 0.12 | 0.00 | 0.01 | 0.00 | 0.00 | 0.18 | 0.04 | 0.18 | 0.02 | 0.15 |
| Ferny | Mean | 1.94 | 5.77 | 0.13 | 13.40 | 10.51 | 9.81 | 0.02 | 0.02 | 0.01 | 1.09 | 8.69 | 11.21 | 0.07 | 1.67 |
| | SD. | - | 0.02 | 0.00 | 0.55 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.10 | 0.33 | 0.06 | 0.01 | 0.49 |
| Sassafrass | Mean | 6.19 | 5.77 | 0.13 | 13.40 | 10.51 | 9.81 | 0.01 | 0.05 | 0.00 | 1.81 | 1.63 | 1.92 | 0.07 | 2.30 |
| | SD. | - | 0.02 | 0.00 | 0.55 | 0.02 | 0.01 | 0.002 | 0.004 | 0.00 | 0.34 | 0.06 | 0.23 | 0.01 | 0.26 |
| Lyrebird | Mean | 2.82 | 7.02 | 0.88 | 39.60 | 9.29 | 11.60 | 0.03 | 0.003 | 0.01 | 0.40 | 4.64 | 6.12 | 0.04 | 0.80 |
| | SD. | - | 0.01 | 0.00 | 1.14 | 0.09 | 0.00 | 0.003 | 0 | 0.00 | 0.02 | 0.07 | 0.07 | 0.01 | 0.27 |

| 2015 | | Flow | pH | EC | Turb | DO | Temp | NH₃ | FRP | NO₂- | NO₃- | DOC | TOC | Total P | Total N |
|---------------|------|---------------|-----------|----------------|--------------|-------------|-------------|-----------------------|-------------|------------------------|------------------------|-------------|-------------|----------------|----------------|
| | | (ML/d) | | (mS/cm) | (NTU) | mg/L | (°C) | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Brushy | Mean | 5.24 | 6.17 | 0.63 | 2.82 | 4.92 | 21.14 | 1.87 | 0.01 | 0.15 | 5.62 | 282 | 378.00 | 0.05 | 7.70 |
| | SD. | - | 0.00 | 0.00 | 1.58 | 0.06 | 0.00 | 0.06 | 0.00 | 0.01 | 0.32 | 286.4 | 101.39 | 0.00 | 1.48 |
| Mullum-Mullum | Mean | 0.87 | 8.37 | 0.30 | 6.20 | 10.72 | 22.61 | 0.05 | 0.03 | 0.01 | 0.26 | 42.3 | 44.67 | 0.07 | 0.67 |
| | SD. | - | 0.00 | 0.00 | 0.20 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 10.6 | 5.77 | 0.00 | 0.01 |
| Scotchmans | Mean | 0.43 | 7.06 | 0.45 | 0.00 | 3.99 | 17.68 | 0.10 | 0.02 | 0.01 | 0.10 | 24.33 | 43.33 | 0.09 | 0.50 |
| | SD | - | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.35 | 22.37 | 0.00 | 0.05 |
| Ferny | Mean | 1.40 | 7.24 | 0.45 | 0.00 | 4.27 | 18.95 | 0.05 | 0.03 | 0.01 | 0.56 | 119.8 | 52.33 | 0.08 | 1.10 |
| | SD. | - | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 33.26 | 40.53 | 0.00 | 0.00 |
| Sassafras | Mean | 3.62 | 6.69 | 0.13 | 4.91 | 5.57 | 16.80 | 0.09 | 0.37 | 0.01 | 0.52 | 20.5 | 16.67 | 0.26 | 2.43 |
| | SD. | - | 0.00 | 0.00 | 3.16 | 1.84 | 0.00 | 0.02 | 0.07 | 0.00 | 0.02 | 14.5 | 7.09 | 0.02 | 0.06 |
| Lyrebird | Mean | 0.28 | 7.04 | 0.09 | 31.96 | 7.55 | 14.09 | 0.02 | 0.00 | 0.00 | 0.21 | 7.07 | 11.83 | 0.03 | 0.51 |
| | SD. | - | 0.01 | 0.00 | 0.23 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.46 | 3.88 | 0.00 | 0.03 |

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37 **Supplementary Table 3.** List of target pharmaceuticals tested, including ATC (anatomical
38 therapeutic chemical) code, pharmaceutical name, therapeutic class, ATC level, maximum
39 recommended defined daily dose for humans (Max DDD), and limit of quantification (LOQ).
40 Footnotes denote additional therapeutic uses. Note that Max DDD per class was averaged to
41 estimate what percentage dose a platypus or brown trout may be exposed to in this study.

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| ATC Code | Pharmaceutical | Class | ATC Level | Max. DDD (mg/day) | LOQ (ng g ⁻¹) |
|----------|-----------------|---|-----------|-------------------|---------------------------|
| G04CA01 | Alfuzosin | Urologicals | 2 | 7.5 | 0.1 |
| N05BA12 | Alprazolam | Psycholeptics | 2 | 1 | 10.0 |
| C01BD01 | Amiodarone | Antiarrhythmics | 3 | 200 | 50.0 |
| N06AA09 | Amitriptyline | Antidepressants | 2 | 75 | 5.0 |
| C07AB03 | Atenolol | Beta blocking agents | 3 | 75 | 5.0 |
| C10AA05 | Atorvastatin | Lipid modifying agents | 3 | 20 | 10.0 |
| M03AC04 | Atracurium | Muscle relaxants | 3 | ND | 0.5 |
| R01AC03 | Azelastine | Antihistamines ¹ | 3 | 4 | 5.0 |
| J01FA10 | Azithromycin | Antibiotics ² | 4 | 500 | 5.0 |
| R01AD01 | Beclometasone | Corticosteroids ³ | 4 | 1.5 | 10.0 |
| N04AA02 | Biperiden | Anti-Parkinson | 2 | 10 | 0.1 |
| C07AB07 | Bisoprolol | Beta blocking agents | 3 | 10 | 0.1 |
| N04BC01 | Bromocriptine | Anti-Parkinson ⁴ | 2 | 40 | 5.0 |
| A07EA06 | Budesonide | Corticosteroids ³ | 4 | 9 | 10.0 |
| N07BC01 | Buprenorphine | Opioids | 3 | 8 | 10.0 |
| N06AX12 | Bupropion | Antidepressants | 3 | 300 | 0.1 |
| N03AF01 | Carbamazepine | Antiepileptics | 3 | 1000 | 1.0 |
| N05AA01 | Chlorpromazine | Psycholeptics | 2 | 300 | 5.0 |
| N05AF03 | Chlorprothixene | Psycholeptics | 2 | 300 | 10.0 |
| C09AA08 | Cilazapril | Agents acting on the renin-angiotensin system | 2 | 2.5 | 1.0 |
| J01MA02 | Ciprofloxacin | Antibiotics ⁵ | 4 | 1000 | 10.0 |
| N06AB04 | Citalopram | Antidepressants | 3 | 20 | 5.0 |
| J01FA09 | Clarithromycin | Antibiotics | 4 | 1000 | 1.0 |
| R06AA04 | Clemastine | Antihistamines | 2 | 2 | 0.5 |
| J01FF01 | Clindamycin | Antibiotics ⁶ | 4 | 180 | 1.0 |
| N06AA04 | Clomipramine | Antidepressants | 3 | 100 | 0.5 |
| N03AE01 | Clonazepam | Antiepileptic | 3 | 8 | 5.0 |
| D01AC01 | Clotrimazol | Antifungal | 3 | 100 | 1.0 |
| R05DA04 | Codeine | Analgesics ⁷ | 3 | 100 | 0.5 |
| R06AX02 | Cyproheptadine | Antihistamines | 2 | 12 | 5.0 |
| R06AX27 | Desloratadine | Antihistamines | 2 | 5 | 0.5 |
| M01AB05 | Diclofenac | NSAID | 3 | 100 | 10.0 |

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|---------|-------------------|---|---|------|------|
| A03AA07 | Dicycloverine | Drugs for functional gastrointestinal disorders | 3 | 80 | 5.0 |
| N02CA01 | Dihydroergotamine | Analgesics | 2 | 4 | 15.0 |
| C08DB01 | Diltiazem | Calcium channel blockers | 2 | 240 | 0.5 |
| R06AA02 | Diphenhydramine | Antihistamines | 2 | 300 | 0.1 |
| B01AC07 | Dipyridamole | Antithrombotic agent | 3 | 400 | 1.0 |
| N06DA02 | Donepezil | Psychoanaleptics | 2 | 7.5 | 0.5 |
| N06AX21 | Duloxetine | Antidepressants | 3 | 60 | 1.0 |
| C09CA02 | Eprosartan | Agents acting on the renin-angiotensin system | 2 | 600 | 5.0 |
| J01FA01 | Erythromycin | Antibiotics ² | 4 | 200 | 20.0 |
| C10AX09 | Ezetimibe | Lipid modifying agents | 3 | 10 | 50.0 |
| C10AB05 | Fenofibrate | Lipid modifying agents | 3 | 200 | 10.0 |
| N01AH01 | Fentanyl | Analgesics ^{8, 15} | 2 | 1.2 | 0.5 |
| R06AX26 | Fexofenadine | Antihistamines | 2 | 120 | 5.0 |
| G04CB01 | Finasteride | Urological ⁹ | 2 | 5 | 10.0 |
| C01BC04 | Flecainide | Antiarrhythmics | 3 | 200 | 0.1 |
| J02AC01 | Fluconazole | Antifungal | 2 | 200 | 0.5 |
| N05CD03 | Flunitrazepam | Psycholeptics | 2 | 1 | 10.0 |
| N06AB03 | Fluoxetine | Antidepressants | 3 | 20 | 5.0 |
| N05AF01 | Flupentixol | Psycholeptics | 3 | 6 | 5.0 |
| N05AB02 | Fluphenazine | Psycholeptics | 3 | 10 | 10.0 |
| L02BB01 | Flutamide | Anti-Androgens | 4 | 750 | 5.0 |
| A10BB01 | Glibenclamide | Blood glucose lowering drugs | 3 | 10 | 10.0 |
| A10BB12 | Glimepiride | Blood glucose lowering drugs | 3 | 2 | 10.0 |
| N05AD01 | Haloperidol | Psycholeptics | 3 | 8 | 0.1 |
| N05BB01 | Hydroxyzine | Psycholeptics | 3 | 75 | 0.5 |
| C09CA04 | Irbesartan | Agents acting on the renin-angiotensin system | 2 | 150 | 0.5 |
| J02AB02 | Ketoconazole | Antifungal ¹⁰ | 3 | 200 | 10.0 |
| N05AA02 | Levomepromazine | Psycholeptics | 2 | 300 | 50.0 |
| A07DA03 | Loperamide | Anti propulsives | 4 | 10 | 0.5 |
| N06AA21 | Maprotiline | Antidepressants | 3 | 100 | 5.0 |
| R06AE05 | Meclizine | Antihistamines | 3 | 50 | 5.0 |
| N06DX01 | Memantine | Psychoanaleptics | 2 | 20 | 0.5 |
| C07AB02 | Metoprolol | Beta blocking agents | 3 | 150 | 5.0 |
| N06AX03 | Mianserin | Antidepressants | 3 | 60 | 1.0 |
| D01AC02 | Miconazole | Antifungal ¹¹ | 3 | 1000 | 5.0 |
| N06AX11 | Mirtazapine | Antidepressants | 3 | 30 | 10.0 |
| V03AB15 | Naloxone | Antidotes | 4 | ND | 1.0 |
| N06AX06 | Nefazodone | Antidepressants | 3 | 400 | 0.5 |
| J01MA06 | Norfloxacin | Antibiotics ⁵ | 4 | 800 | 10.0 |
| J01MA01 | Ofloxacin | Antibiotics ⁵ | 4 | 400 | 10.0 |
| N04AB02 | Orphenadrine | Muscle relaxants | 3 | 200 | 0.1 |
| N05BA04 | Oxazepam | Psycholeptics | 2 | 50 | 5.0 |

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|---------|------------------|--|---|------|------|
| J01AA06 | Oxytetracycline | Antibiotics ¹³ | 4 | 1000 | 10.0 |
| N02BE01 | Paracetamol | Analgesics | 2 | 3000 | 10.0 |
| N06AB05 | Paroxetine | Antidepressants | 3 | 20 | 10.0 |
| N05AB03 | Perphenazine | Psycholeptics | 2 | 30 | 10.0 |
| N02CX01 | Pizotifen | Analgesics | 2 | 1.5 | 0.5 |
| R06AD02 | Promethazine | Antihistamines | 2 | 25 | 10.0 |
| A02BA02 | Ranitidine | Drugs for peptic ulcer and gastro-oesophageal reflux disease | 3 | 300 | 5.0 |
| A10BX02 | Repaglinide | Blood glucose lowering drugs | 3 | 4 | 0.5 |
| N05AX08 | Risperidone | Psycholeptics | 2 | 5 | 0.1 |
| C10AA07 | Rosuvastatin | Lipid modifying agents | 3 | 10 | 10.0 |
| J01FA06 | Roxithromycin | Antibiotics ² | 4 | 300 | 15.0 |
| N06AB06 | Sertraline | Antidepressants | 3 | 50 | 10.0 |
| C07AA07 | Sotalol | Beta blocking agents | 3 | 160 | 0.5 |
| J01EC01 | Sulfamethoxazole | Antibiotics ¹⁶ | 4 | 2000 | 5.0 |
| J01EE01 | Tamoxifen | Endocrine therapy | 2 | 20 | 5.0 |
| L02BA01 | Telmisartan | Agents acting on the renin-angiotensin system | 2 | 40 | 1.0 |
| C09CA07 | Terbutaline | Adrenergics | 3 | 20 | 0.5 |
| R03CC03 | Tetracycline | Antibiotics ¹³ | 4 | 1000 | 50.0 |
| J01AA07 | Tramadol | Analgesics | 2 | 300 | 5.0 |
| N02AX02 | Trihexyphenidyl | Anti-Parkinson | 2 | 10 | 0.1 |
| N04AA01 | Trimethoprim | Antibiotics ¹⁴ | 4 | 400 | 0.1 |
| N06AX16 | Venlafaxine | Antidepressants | 3 | 100 | 0.5 |
| C08DA01 | Verapamil | Calcium channel blockers | 2 | 240 | 10.0 |
| N05CF02 | Zolpidem | Psycholeptics | 2 | 10 | 0.5 |

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44 **Table notes:**

45 ¹ Decongestants and anti-allergenic

46 ² Macrolides

47 ³ Glucocorticoids

48 ⁴ Prolactin inhibitors

49 ⁵ Fluoroquinolones

50 ⁶ Lincosamide

51 ⁷ Cough suppressants

52 ⁸ Aesthetic

53 ⁹ Dermatological applications

54 ¹⁰ Gynaecological anti-infective

55 ¹¹ Stomatological and topical

56 ¹² Anti-Parkinson's

57 ¹³ Tetracycline

58 ¹⁴ Trimethoprim derivatives

59 ¹⁵ Opioid

60 ¹⁶ Sulphonamides

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62 **Supplementary Table 4.** Summary comparison of pharmaceutical concentrations (ng g⁻¹) in
 63 filter-feeding Hydropsychid caddisfly larvae and grazing snails (*Physa* sp.) at Brushy Creek.
 64 Total concentrations for the entire population and averages per individual are shown. *Note:*
 65 *Snail concentration is for tissue only; shells were removed.*

| | Total pharm. Concentration (ng g⁻¹) | Average pharm. Concentration (ng g⁻¹) | ± SE | Number of compounds |
|---------------------|---|---|-------------|--------------------------------|
| Hydropsychid | 264,299 | 699 | 113 | 63 |
| <i>Physa</i> | 190,818 | 505 | 67 | 63 |

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Supplementary Table 5. List of benthic invertebrate taxa at each site

| Site | Order | Family |
|----------------------|---------------|---------------------------------------|
| Brushy | Trichoptera | Hydropsychidae, <i>Cheumatopsyche</i> |
| | Trichoptera | Hydropsychidae, <i>Diplectrona</i> |
| | Trichoptera | Ecnomidae |
| | Trichoptera | Hydroptilidae |
| | Trichoptera | Hydrobiosidae |
| | Trichoptera | Conoesucidae |
| | Trichoptera | Leptoceridae |
| | Trichoptera | Helicophidae |
| | Trichoptera | Philorheithridae |
| | Trichoptera | Calocidae |
| | Diptera | Chironomidae, non-Tanypodinae |
| | Diptera | Chironomidae, <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Coleoptera | Psephenidae |
| | Physidae | Physidae |
| Mullum-Mullum | Trichoptera | Hydropsychidae, <i>Cheumatopsyche</i> |
| | Trichoptera | Ecnomidae |
| | Trichoptera | Hydrobiosidae |
| | Diptera | Chironomidae, non-Tanypodinae |
| | Diptera | Chironomidae, <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Diptera | Tipulidae |
| | Diptera | Psychodidae |
| | Ephemeroptera | Baetidae |
| | Coleoptera | Psephenidae |
| | Hemiptera | Corixidae |
| | Hemiptera | Velidae |

| | | |
|-------------------|--------------------|---------------------------------------|
| | Physidae | Physidae |
| | Hygrophila | Planorbidae |
| | Pholadida | Sphaeriidae |
| | Oligochaeta | |
| Scotchmans | Trichoptera | Hydropsychidae, <i>Cheumatopsyche</i> |
| | Trichoptera | Ecnomidae |
| | Trichoptera | Hydroptilidae |
| | Diptera | Chironomidae, non- <i>Tanypodinae</i> |
| | Diptera | Chironomidae <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Odonata, Zygoptera | Megapodagrionidae |
| | Neotaenioglossa | Bithyniidae |
| | Physidae | Physidae |
| | Hygrophila | Planorbidae |
| | Hygrophila | Lymnaeidae |
| | Veneroida | Sphaeriidae |
| | Oligochaeta | |
| | Hirudinea | |
| Ferny | Trichoptera | Hydroptilidae |
| | Trichoptera | Hydrobiosidae |
| | Trichoptera | Leptoceridae |
| | Diptera | Chironomidae, non- <i>Tanypodinae</i> |
| | Diptera | Chironomidae, <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Diptera | Tipulidae |
| | Diptera | Ceratopogonidae |
| | Ephemeroptera | Baetidae |
| | Plecoptera | Gripopterygidae |
| | Coleoptera | Elmidae larva |
| | Coleoptera | Elmidae adult |
| | Hemiptera | Velidae |
| | Neotaenioglossa | Potamopyrgys |
| | Physidae | Physidae |
| | Hygrophila | Planorbidae |
| | Veneroida | Sphaeriidae |
| | Oligochaeta | |
| | Hirudinea | |
| | Nematoda | |
| Sassafras | Trichoptera | Hydropsychidae <i>Cheumatopsyche</i> |
| | Trichoptera | Hydrobiosidae |
| | Trichoptera | Conoesucidae |
| | Trichoptera | Leptoceridae |
| | Trichoptera | Helicophidae |
| | Trichoptera | Philorheithridae |

| | | |
|-----------------|---------------|---------------------------------------|
| | Diptera | Chironomidae, non- <i>Tanypodinae</i> |
| | Diptera | Chironomidae <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Diptera | Tipulidae |
| | Diptera | Tabanidae |
| | Diptera | Ceratopogonidae |
| | Diptera | Athericidae |
| | Ephemeroptera | Baetidae |
| | Ephemeroptera | Leptophlebiidae |
| | Plecoptera | Gripopterygidae |
| | Plecoptera | Austroperlidae |
| | Plecoptera | Notonemouridae |
| | Coleoptera | Psephenidae |
| | Coleoptera | Elmidae larva |
| | Coleoptera | Elmidae adult |
| | Coleoptera | Ptilodactylidae |
| | Coleoptera | Scirtidae |
| | Hemiptera | Velidae |
| | Mecoptera | Nannochoristidae |
| | Hygrophila | Planorbidae |
| | Hygrophila | Lymnaeidae |
| | Amphipoda | Eusiridae |
| | Oligochaeta | |
| | Isopoda | |
| Lyrebird | Trichoptera | Hydropsychidae <i>Cheumatopsyche</i> |
| | Trichoptera | Hydropsychidae <i>Diplectrona</i> |
| | Trichoptera | Hydrobiosidae |
| | Trichoptera | Philorheithridae |
| | Trichoptera | Calocidae |
| | Diptera | Chironomidae, non- <i>Tanypodinae</i> |
| | Diptera | Chironomidae <i>Tanypodinae</i> |
| | Diptera | Simuliidae |
| | Diptera | Tipulidae |
| | Diptera | Tabanidae |
| | Diptera | Ceratopogonidae |
| | Diptera | Dolichopodidae |
| | Ephemeroptera | Leptophlebiidae |
| | Ephemeroptera | Oniscigastridae |
| | Plecoptera | Gripopterygidae |
| | Plecoptera | Austroperlidae |
| | Plecoptera | Notonemouridae |
| | Coleoptera | Psephenidae |
| | Coleoptera | Elmidae larva |
| | Coleoptera | Elmidae adult |

| | | |
|--|--------------------|------------------|
| | Coleptera | Ptilodactylidae |
| | Odonata, Epiprocta | Corduliidae |
| | Odonata, Epiprocta | Aeshniidae |
| | Mecoptera | Nannochoristidae |
| | Megaloptera | Sialidae |
| | Veneroida | Sphaeriidae |
| | Amphipoda | Eusiridae |
| | Amphipoda | Talitridae |
| | Oligochaeta | |
| | Nematomorpha | Gordioidea |

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