UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

December 22, 2017

Jonathan Gilbert
Chief Executive Officer
Scythian Biosciences Corp.
200-366 Bay Street
Toronto, Ontario
Canada M5H 4B2

Re: Scythian Biosciences Corp.
Amendment No. 2 to Registration Statement on Form 20-F
Filed December 6, 2017
File No. 000-55830

Dear Mr. Gilbert:

We have reviewed your amended filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our November 14, 2017 letter.

Amendment No. 2 to Registration Statement on Form 20-F

Risk Factors
We are dependent on the success of our product candidates..., page 14

1. The risk factor appears to be incomplete. Please expand to describe your dependence on the success of your product candidates.

Business Overview
Proprietary Methodology, page 28

2. Please revise to disclose the results of prior Phase II and Phase III clinical trials involving dexanabinol that are referenced in the collaboration agreement with the University of Miami. We note this agreement indicates that these trials failed to provide adequate support for the use of dexanabinol as a single agent for the treatment of concussions.

3. We note the disclosure stating that a CBD-based drug application is pending before the FDA for the treatment of seizures associated with epilepsy. Please specify the CBD-based drug that is referenced and disclose the type of drug application that has been filed.

4. We note your disclosure that the drug Marinol has been approved by the FDA. Please disclose the indication for which the drug was approved by the FDA and specify that the Combination Therapy does not include a drug containing THC.

Major Shareholders and Related Party Transactions
Related Party Transactions, page 49

5. Please tell us why you removed the private placement transaction between SBI and directors and officers of SBI from this section. It appears that the transaction occurred within the time period specified in Item 7.B of Form 20-F and we note that the disclosure is included in Note 7 to the financial statements on page 182.

For the Three and Six Months Ended September 30, 2017
Condensed Consolidated Interim Financial Statements
Notes to Condensed Consolidated Imterim Financial Statements
2. Basis of Presentation, page 75

6. Please expand your disclosure to describe your significant accounting policies, such as those governing research and development activities, collaborative research arrangements and stock compensation.

5. Reverse Takeover Transaction, page 77

7. Please refer to prior comment 23. On page 196, in the section "Accounting for RTO," you state that the Transaction was accounted for in accordance with IFRS 2. However, the specific assertions in this section appear to reference guidance in IFRS 3 (paragraphs B19 through B27). Please expand your disclosure to describe how you applied guidance in both IFRS 2 and IFRS 3 in determining your accounting treatment for the RTO transaction.

Management's Discussion and Analysis
Critical Accounting Estimates, page 98

8. Please refer to prior comment 16. While we acknowledge the new information provided, we continue to believe that it does not adequately describe those critical accounting estimates and assumptions used in the preparation of your financial statements, such as those related to research and development activities, stock compensation and collaborative research agreements. Please expand your description of critical accounting estimates accordingly.

Unaudited Pro Forma Combined Financial Statements, page 196

9. Please refer to prior comment 21. Please explain why you presented a pro forma combined statement of loss and comprehensive loss for the four month period ended July 31, 2017. Article 11 of Regulation S-X requires that the pro forma income statements be based on the latest fiscal year and interim period included in the filing. Accordingly, the interim pro forma combined statement of loss and comprehensive loss would be for the six month period ended September 30, 2017. Please revise accordingly.

10. Please refer to prior comment 21. Article 11 of Regulation S-X indicates that adjustments related to the pro forma condensed income statement shall be computed, assuming the transaction was consummated at the beginning of the fiscal year and carried through any interim period presented. In your pro forma presentation, the assumed consummation date would be April 1, 2016. However, as stated on page 197, your interim pro forma presentation assumes a second consummation date of April 1, 2017. Please revise accordingly. Also, in your response, explain your basis for making each pro forma adjustment, particularly those factors that you considered in determining whether or not these adjustments were directly-related and/or non-recurring.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Franklin Wyman at 202-551-3660 or Kevin Vaughn at 202-551-3494 if you have questions regarding comments on the financial statements and related matters. Please contact Chris Edwards at 202-551-6761 or Mary Beth Breslin at 202-551-3625 with any other questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Harvey J. Kesner, Esq.